Leadership in a Transitioning Higher Education Landscape from Traditional to Digitalisation of Teaching and Learning: A Case of Open, Distance and eLearning in Uganda

by

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DECLARATION

I Resty Mwogeza Kamya, student registration number 58554491, declare that this thesis titled Leadership in a Transitioning Higher Education Landscape from Traditional to Digitalisation of Teaching and Learning: A Case of Open, Distance and eLearning in Uganda is my original work that I have submitted to the University of South Africa, Faculty of Education for the ward of degree of Philosophy of Education in accordance with the requirements of the University. This thesis has not been submitted to any other university for an academic award

Mwogeza Resty Kamya

2022

DEDICATION

I dedicate this work to my father Mr. John Mulero and late mother, Mrs. Jane Mulero, who have inspired me to climb as high as I can dream.

To my father, Mr. John Mulero, I know that you have not been able to hide your happiness ever since you learnt of my PhD journey.

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ABSTRACT

Integration of technology into teaching and learning is not new in Uganda, but the rapid rate and pace of technological advancement, especially regarding the emerging educational technologies, corresponding pedagogical and leadership requirements, is. The COVID-19 pandemic has exacerbated the problem by necessitating all Higher Education Institutions (HEIs) to go online. The main objective of this study was to explore the lived experiences and adaptations of leaders in a transitioning HE landscape to develop a framework that would aid leadership reinvention from traditional face to face to Digitalisation Teaching and Learning (DTL). Using the Interpretative Phenomenological Analysis and specifically the idiographic approach, qualitative data was collected through interviews of seven purposively selected senior managers in the Ugandan higher education sector. The study was also guided by the Complexity leadership theory, Distance Education System Theory and Bridges transition framework. The findings established that while there had existed various digital strategies pre-COVID-19 amongst all HEIs in Uganda, HE leadership struggled iteratively to leverage them in the face of the COVID-19 pandemic for a complete transition. Three master themes, twelve themes and thirteen subthemes emerged. Master theme 1- 'Digital experiences' comprised four themes including visioning for digital strategies pre-COVID-19, leveraging existing digital strategies, rethinking institutional strategies post-COVID-19 and the neutral state of transition. Master theme 2- virtual institutional landscape characterised by four themes including new channels of institutional social interaction, mechanisms of institutional culture, operations and practices, leadership roles and power structures and knowledge and social competencies. Master theme 3- 'Institutional adaptability' that comprised four themes including mobilisation of workforce, financial resource mobilisation, institutionalisation of DTL and, DTL gaps and mitigations. This study concluded that, while HE was metamorphosing into a virtual landscape, the existing traditional face to face structural setup of HE and inadequate strategic leadership representation is a major barrier to DTL and undermines the positionality and competitiveness of the Ugandan HE sector in the global village. Therefore, the need for leadership's acceptance and recognition of the transitioning HE landscape, piloting and adoption of the developed leadership transitioning framework is paramount. The insights of this study contribute to a more integrative view of the interplay of leadership amidst DTL in HE.

Key Terms: Leadership, Transition, Higher Education, Digitalisation, Teaching and Learning, Open, Distance and eLearning, Interpretative Phenomenological Analysis, COVID-19.

ABSTRAK

Integrasie van tegnologie in onderrig en opleiding is nie nuut in Uganda nie, maar die vinnige tempo en pas van tegnologiese vooruitgang, veral met betrekking tot die opkomende opvoedkundige tegnologieë, ooreenstemmende pedagogiese en leierskapvereistes, is. Die COVID-19-pandemie het die probleem vererger deur alle Hoër Onderwysinstellings (HOI's) te noodsaak om aanlyn te gaan. Die hoofdoel van hierdie studie was om die geleefde ervarings en aanpassings van leiers in 'n oorgangs HO-landskap te verken om 'n raamwerk te ontwikkel wat leierskap herontdekking van tradisionele aangesig tot aangesig tot Digitalisering Onderrig en Opleiding (DOO) sal help. Deur gebruik te maak van Interpretatiewe Fenomenologiese Analise en spesifiek die idiografiese benadering, is kwalitatiewe data ingesamel deur onderhoude van sewe doelbewus geselekteerde senior bestuurders in die Ugandese hoëronderwyssektor. Die studie is gelei deur Kompleksiteit-leierskapsteorie, Afstandsonderrigstelselteorie en Bridges-oorgangsraamwerk. Die bevindings het vasgestel hoewel daar verskeie digitale strategieë voor COVID-19 onder alle HOI's in Uganda bestaan het, HO-leierskap gesukkel het om dit te benut in die aangesig van COVID-19-pandemie vir 'n volledige oorgang. Drie meestertemas, twaalf temas en dertien subtemas het na vore gekom; Meestertema 1- 'Digitale ervarings' bestaan uit vier temas, visie vir digitale strategieë voor COVID-19, benutting van bestaande digitale strategieë, heroorweging van institusionele strategieë na COVID-19 en neutrale toestand van oorgang; Meestertema 2- virtuele institusionele landskap gekenmerk deur vier temas, nuwe kanale van institusionele sosiale interaksie, meganismes van institusionele kultuur, bedrywighede en praktyke, leierskaprolle en magstrukture, kennis en sosiale bevoegdhede; Meestertema 3- 'Institusionele aanpasbaarheid' wat uit vier temas bestaan het, mobilisering van arbeidsmag, finansiële hulpbronmobilisering, institusionalisering van DOO, DOO-gapings en versagtings. Die gevolgtrekking; terwyl HO in 'n virtuele landskap te verander, die bestaande tradisionele van aangesig tot aangesig strukturele opset van HO en onvoldoende strategiese leierskapverteenwoordiging 'n groot hindernis vir DOO is en die posisionaliteit en mededingendheid van die Ugandese HO-sektor in die globale dorpie ondermyn. Daarom is die behoefte aan leierskap se aanvaarding en erkenning van die HO-oorgangslandskap, loodsing en aanneming van die ontwikkelde leierskapoorgangsraamwerk uiters belangrik. Insigte van hierdie studie dra by tot 'n meer integrerende siening van die wisselwerking van leierskap te midde van DOO in HO

Sleutelterme: Leierskap, Oorgang, Hoër Onderwys, Digitalisering, Onderrig en Opleiding, Oop, Afstand en e-Opleiding, Interpretatiewe Fenomenologiese Analise, COVID-19.

ISISHWANKATHELO

Ukufakwa kobuchwepheshe ekufundiseni nasekufundeni akuyonto intsha e-Uganda, kodwa ke izinga elikhawulezileyo kunye nesantya sokuphuhla kwamalinge ezobuchwepheshe, ingakumbi ngokuphathelele kwiinkqubo zobuchwepheshe obungenelela kwezemfundo, izidingo ezingqamene nazo kwezophando kwanobunkokheli, zintsha zona. Ubhubhane oyiCOVID-19 uyandisile le ngxaki ngokuthi anyanzelise onke amaZiko eMfundo Ephakamileyo ukuba asebenze ngokwezobuchwepheshe. Eyona njongo yolu phando kukugocagoca amava aphilwe ziinkokheli kwakunye neendlela ezithe zaziqhelanisa ngazo ekufakeni isimo seMfundo Ephakamileyo ukuze kube nokuqulunqwa isikhokelo esiya kuncedisa ekuguqulweni kweenkqubo zokukhokela ziphume kula ndlela iqhelekileyo yobuso ngobuso ziye Ekufundiseni Nasekufundeni Ngokwezobuchwepheshe. Kusetyenziswe inkqubo Yokuhlalutywa Kweemeko Ecacisayo, ingakumbi inkqubo yokudiza iinyaniso ezithile ngokobunzululwazi, kuye kwaqokelelwa neenkcukacha eluntwini ngokuthi kudliwane iindlebe nabaphathi abasixhenxe abakhethwe ngononophelo olumandla kwicandelo lemfundo ephakamileyo e-Uganda. Uphando olu luye lwakhokelwa ziingcamango ezigxile kwiiNkqubo yezobunkokheli, yiNkqubo Yeengcamango ngeMfundo Ephakamileyo Yomgama kwaneyesikhokelo seenguqu kwiBhulorho. Iziphumo zifumanise ukuba njengokuba ibikho kakade nje imigaqo-nkqubo eyahlukeneyo yezobuchwepheshe kuwo onke amaziko emfundo ephakamileyo e-Uganda ngaphambi kokuqhambuka kweCOVID-19, iinkokheli zezemfundo ephakamileyo ziye zaminxwa yimingeni emandla xa bezigagene neCOVID-19 ukuze kube nokungenwa ngokugqibeleleyo kwiinguqu. Kwathi kwaqhambuka imixholo ephambili emithathu, ishumi elinambini lemixholo kunye neshumi elinesithathu lemixholwana; uMxholo ophambili 1- 'amava Ezobuchwepheshe' eyayibandakanya imixholo emine equka ukuvezwa kweembono zemigaqo-nkqubo yezobuchwepheshe ngaphambi kweCOVID-19, ukusetyenziswa kwemigaqo-nkqubo yezobuchwepheshe esele ikho, ukucingwa ngokutsha kwemigaqo-nkqubo yezobuchwepheshe yamaziko emfundo emva kweCOVID-19 kwanesimo esingakhethe cala seenguqu; umxholo oPhambili 2 - isimo samaziko esiphawulwa imixholo emine equka imijelo emitsha yokunxibelelana koluntu lweziko, iinkqubo zenkcubeko yeziko, intsebenzo neenkqubo, iindima zeenkokheli kwanezimo zamagunya, ulwazi kunye nezakhono zoluntu; nomxholo oPhambili 3 - 'Ukuqhelaniseka kweziko' obekubandakanye imixholo emine ebiquka ukuxhotyiswa kwabasebenzi, ukuvulelwa kwezibonelelo eziyimali, ukuqhelaniswa kokufundisa nokufunda

kumaqonga ezobuchwepheshe, imisantsa kwakunye nokuncitshiswa kwefuthe. Olu phando luvalelise ngelithi ngelixa imfundo ephakamileyo ibisiya isiba liqonga lezobuchwepheshe, le meko isabhudlayo neqhelekileyo yokufunda nokufundisa ubuso ngobuso kwimfundo ephakamileyo ndawonye nabameli abangaxhobisekanga ngokwezomgaqo-nkqubo zingumqobo omkhulu ekufundiseni nasekufundeni kumaqonga ezobuchwepheshe, zisengela phantsi isimo nesakhono sokukhuphisana kwicandelo lemfundo ephakamileyo yase-Uganda kwiqonga lehlabathi. Ngoko ke, sibalulekile isidingo sokuba iinkokheli zamkele ze zinakane iinguqu kwiqonga lemfundo ephakamileyo, zizame, zamkele isikhokelo esiqulunqiweyo seenguqu kubunkokheli. Oondoqo bolu phando ligalelo kwimbono ehlanganyelweyo yokusebenzisana kweenkokheli phantsi kwefuthe lokufundisa nokufunda kusetyenziswa iqonga lezobuchwepheshe kwicandelo lemfundo ephakamileyo.

Isigama Esiphambili: Ubunkokheli, Iinguqu, iMfundo Ephakamileyo, Ukwenziwa Ubuchwepheshe, Ukufundisa Nokufunda, Ivulelekile, iMfundo Yomgama neyobuchwepheshe, Uhlalutyo Oluchazayo Lweemeko, iCOVID-19.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AST	Adaptive Structuration Theory
CAS	Complexity Adaptive Systems
CLT	Complexity Leadership Theory
COL	Commonwealth of Learning
COVID-19	Coronavirus Disease 2019
DE	Distance Education
DTL	Digitalisation of Teaching and Learning
ETs	Education Technologies
GT	Grounded Theory
HE	Higher Education
HEI	Higher Education Institution
HEST	Higher Education Science and Technology
ICT	Information Communication Technology
IPA	Interpretative Phenomenological Analysis
LMS	Learning Management System
MDI	Management Development Institute
MOE	Ministry of Education
MOOC	Massive Open Online Courses
MOODLE	Modular Object-Oriented Dynamic Learning Environment
NCHE	National Council Of Higher Education
NPA	National Planning Authority
OER	Open Education Resources
ODeL	Open, Distance and eLearning
SDGs	Sustainable Development Goals
UMI	Uganda Management Institute
UNESCO	United Nations Educational, Scientific and Cultural Organization.
VC	Virtual Campus

CHAPTER 1 : INTRODUCTION AND BACKGROUND

1.0. Introduction

"Higher education (HE) in any part of the world, and certainly in Africa, has a crucial role to play in promoting global and local sustainable development" (Singh, 2018; Techera and Appadoo, 2020). While literature covers the various forces and tensions stretching the HE landscape, including dwindling funding, massification, globalisation (Danon, Dgesip and Ducreau, 2013; Mohamedbhai, 2014) and, of recent, the COVID-19 pandemic (Crawford *et al.*, 2020; Fischer, Lundin and Lindberg, 2020; Kruse, Hackmann and Lindle, 2020; Marinoni, Van't Land and Jensen, 2020; Mishra, 2020; The Observer, 2020), there remains a paucity of research that focuses on the dynamics of leadership transition amidst digitalisation of teaching and learning in HE (Tetenbaum and Laurence, 2011; Baltacı and Balcı, 2017; Gigliotti and Ruben, 2017; Dumas and Beinecke, 2018; Rao, Sahyaja and Sekhara Rao, 2018; C. E. Miller, 2019; Pettersson, 2021). Researchers have urged that the HE landscape is experiencing a rapid transformation and metamorphosis due to the digitalisation of teaching and learning (Elwood, 2013; Benavides *et al.*, 2020) yet, emerging research points to a non-responsive leadership attitude towards its already transitioning landscape (Elwood, 2013; Tømte *et al.*, 2019; Ouma, 2021). While the trend of digitalisation of education has advanced to include distance /blended /eLearning environments; cloud computing, social media platforms, mobile learning apps, digital portfolios, crowdsourcing facilities, wikis, blogs, podcasts, video conferencing, massive open online courses (MOOCs), geographic information systems, wearable technology, virtual labs, gamification, 3D printing and learning analytics (Jameson, 2013; TEL Baseline Study, 2018; Sá and Serpa, 2020; Mugimu, 2021; Pettersson, 2021), there still remains a paucity of research that focuses on the transition to digital instructional mode of delivery as HE oscillates between physical classroom and virtual learning environment, while most programmes in dual-mode institutions still remain in the traditional face-to-face instructional settings (Rao, Sahyaja and Sekhara Rao, 2018; Kruse, Hackmann and Lindle, 2020). Researchers have urged that HE leadership is changing from being leader-centred, heroic, bureaucratic and individualistic to team and collective decision-making (Kezar, Carducci & Contreras-McGavin, 2006) yet, emerging research points to inadequacy in leading the disintegrated, disrupted and changed organisational structures, work relationships and, the way teaching and learning output is produced and measured for example workload, credit units and contact hours (Lilian, 2014; Jenkins, 2018; De Bruyn, 2020). While HE leadership was beginning

to deal with these shifts, the invasion of the COVID-19 pandemic tested the level of preparedness of HEIs to face uncertainty in Africa and the world at large. The closure of Education Institutions due to the COVID-19 pandemic highlighted a challenge that had existed for many years. That challenge was "An education system that assumes the physical presence of teachers and students in the same space at the same time automatically excludes some students" (COL, 2020). According to UNESCO (2020), over 120 million students in Africa and 15 million in Uganda were unable to go to school or university due to measures put in place to curb the spread of COVID-19. Stakeholders witnessed campuses closing everywhere seemingly overnight; the speed with which faculty were making the (forced) shift to remote teaching was astounding and unparalleled. In Uganda, while educational priorities were beginning to shift to institutionalise digitalisation of teaching and learning through national accreditation standards, operationalisation of strategic plans and vision, leadership capabilities at all governance levels required to accommodate those shifts remind unchanged. Alvesson (2019) attributes this gap to the inability of leadership to be practised in a broader context of hierarchical and vertical divisions of work, labour processes and cultural pressures from a holistic, multi-stakeholder perspective at the institutional level rather than a heroic position. This, therefore, calls for leaders to reinvent themselves for effective leadership in the emerged digital HE landscape. Hence the proposed development of a framework to aid leadership transition from the traditional face to face to digitalisation of teaching and learning in HE in Uganda.

1.1 Rationale/ Motivation

In reference to the status quo of leadership in Higher Education (HE) in Uganda, various stakeholders such as the Ministry of Education, the National Council of Higher Education and various HE institutions have an inadequate conceptualisation of the HE landscape's changes amidst digitalisation of teaching and learning. This study may improve the leadership direction and conceptualisation of online learning amidst the HE stakeholders in Uganda.

I was motivated to undertake this study because the literature suggests that the usage of digital technologies in HE would improve the learning experiences of the students hence improving the learning outcomes (Bhagat, 2020; Kagoya, 2020; Namubiru Ssentamu *et al.*, 2020; Michael, Julius and Diana, 2021). However, the usage of digital technologies for improved learning outcomes is unachievable if leadership continues to delegate its institutionalisation to digital enthusiasts

(Trombley and Sallo, 2012a; Jameson, 2013; Arnold and Sangrà, 2018a; Michael, Julius and Diana, 2021). Therefore, this study will shed light on leadership transition from managing traditional face to face learning environments to leading digitalised HEIs. The study will also contribute to the policy information on impending threats and weaknesses against adopting online learning including the risk of extinction of the HE industry as prospective students opt to study online outside Uganda and beyond Africa in search of the 21st-century education (Knight, 2011). The study will also contribute to the strengths and opportunities and, to the practical steps of integration to ease assimilation and utilisation of online learning. This study may add to the body of knowledge of the current status of the transitioning HE landscape, its impact on the leadership and institutional culture, as well as provide practical steps to guide the reinvention leadership for the 21st-century digital learning environments.

While studies have been conducted on leadership transition in HEIs, there remains a dearth of research on how leadership can reinvent itself for the digitalisation of teaching and learning in HEIs. The fact that online learning was not accredited nationally in Uganda pre-COVID-19, HE leadership had always delegated the management and operations of online delivery to the education technologists and the enthusiasts Jenkins *et al* (2011), shelving most of the regulatory policy frameworks, including the strategic plans and none operationalisation of the required standards such as institutional online coordinating centre establishments, ICT infrastructure, staffing, budgets, voluntary stakeholders' capacity development and participation among others (Tømte *et al.*, 2019). Non-compliance and non-supportive HE leadership towards online learning has created low adoption, stakeholders' mistrust, poor attitude, disengagements, non-participation, high none incentivised workloads for the digital enthusiasts resulting in immaturity of the online learning sector and of course unable to counteract the recently massive disruption of education due to the lockdown to curb the spread of the COVID-19 pandemic (Pettersson, 2021). Therefore, I was motivated to conduct this study to highlight the interplay of leadership transition amidst the digitalisation of teaching and learning for a sustainable HE education system in Uganda.

1.2 Background

The HE sector in Uganda is composed of 50 universities, 39 private and 11 public with an enrolment of 258,866 students (*Universities – National Council for Higher Education*, 2021). In Uganda, "Higher education" is a generic term that refers to institutions that offer post-secondary

formal education ranging from certificate to degree-awarding educational institutions (Uganda Higher Education Qualifications Framework (UHEQF), 2016)), however for this study, the focus is limited to degree-awarding public educational institutions. The most predominant mode of delivery in Ugandan HEIs is traditional face to face, with few offering blended learning and one purely virtual learning (Tweheyo & Mugarura, 2021).

In Uganda, as in the rest of the world, the COVID-19 pandemic disrupted the teaching, research, and community service processes and HEIs are leveraging digital technologies for business continuity. Over 200,000 tertiary students are using digital tools to learn, yet the current ICT infrastructure as per the National Information Technology Authority (2018) report, 65.3 % of Ugandan households owned a radio, 21.8% a Television set, 5.9% personal computer, 10.8% household telephone, 70.9% mobile phone, and 10.8% of all households had at least one member who had Internet access. While the current ICT infrastructure seems unable to support massive online learning integration, Marinoni, Van't Land and Jensen (2020) reaffirm the need for communication infrastructure.

The Ministry of Education (MOE), in line with the Strategic Development Goals (SDGs), has advocated for increased access to online education through the Higher Education Science and Technology (HEST) Grant(African Development Bank Group, 2011) at six public degree-awarding tertiary institutions including Makerere , Kyambogo, Gulu, Munu, Mbarara universities, Makerere Business School and Uganda Management Institute (UMI). Nonetheless, the implementation process is still lagging mainly because the Ugandan's tertiary education system is predominately conventional face to face (Watson and Watson, 2014) with a distance learning component. Therefore, minimal attention has been paid to the adoption of technologies in teaching and learning as they are deemed usable for distance learning programmes mostly. Consequently, resulting in the non-operationalisation of government digital strategies at institutional levels.

More still, while the National Planning Authority, Uganda (Feldman, 2007) in Vision 2040 guided and supported the inclusion of digitalisation of teaching and learning in HEIs' regulatory policy frameworks, strategic plans and mission statements, all these have remained non operationalised.

Furthermore, the National Council of Higher Education (NCHE), whose mandate is to regulate, supervise and enforce quality assurance standards of the HE function in Uganda (Tertiary and Act, 2006), drafted the Open Distance and eLearning (ODeL) guidelines to streamline the integration

of digitalisation of teaching and learning in HEIs (NCHE, 2020). While several HEIs in Uganda have acquired the NCHE ODEL accreditation, much remains to be accomplished as most HEIs are still grappling with none operationalised standards and are waiting for the eradication of the COVID-19 pandemic to return to traditional face-to-face teaching and learning. Conflict has continued to emerge in the operationalisation of the NCHE ODeL accreditation standards including partial implementation, emphasis on the usage of the synchronous tools (Zoom, MS Teams, Google Meet) while ignoring the asynchronous tools (LMS), low adoption of online assessment strategies, inadequate monitoring and evaluation of the ongoing online teaching for quality assurance, limited access to institutional learning resources, remote workload dynamics, inadequate stakeholders capacity developments, inadequate funding, low enrolments intellectual property rights and the inadequate ICT infrastructure and internet connectivity among others (Tømte *et al.*, 2019; Mugimu, 2021)

In Uganda, the digitalisation of teaching and learning is a complicated process since most digital initiatives have not been sustainable as the technologies implemented and used tend to support previous practices rather than lead to change and development.

On the other hand, though, while the transition from traditional face-to-face to online learning during the COVID-19 pandemic in Uganda caused numerous setbacks, it also created opportunities such as increased numbers of blended learning programmes, attitude change, innovation and stakeholders' digital competencies as well as collaboration and partnerships (Tweheyo &Mugarura, 2021). However, despite all the changes that signify a transitioning HE landscape, the HE leadership function has remained stagnant but reactive, a response Kay (2002) asserts that will not yield the required leadership transition. No specific strides are being taken towards the reinvention and transition of leadership in the changing HE landscape(Bonner, 2013). Yet Uhl-Bien and Arena (2018) recommended the need for leadership adaptability or reinvention rather than leading change in a complex environment and call for a tactful leadership transition.

1.3 Problem Statement

While research has covered the integration of technology in the teaching and learning (Kopp, Gröblinger & Adams, 2019; Fossland & Tømte, 2020), there remains a paucity of research that focuses on the rapid rate and pace of technological advancement(Percy, Kelder and Butler-Henderson, 2020). Researchers have asserted that digital transformation in HEIs has often been

5

small-scale, with digital enthusiasts-driven processes (Tømte et al., 2019; Pettersson, 2021), yet emerging research seems to point to the fact that a holistic successful digital transition is leadership-driven (Jenkins et al., 2011; Ghemawat, 2017; Tømte et al., 2019; Pettersson, 2021). The problem, thus, is that the operationalisation of existing institutional digital strategies including ODeL accreditation standards, regulatory policy frameworks, strategic plans, emerging educational technological infrastructure, corresponding pedagogical competencies, stakeholders' support and acceptability, funding and, leadership requirements continues to be a challenge (Andersson & Grönlund, 2009; Ng'Ambi, 2013; Ouma, 2016a; Maroukian & Gulliver, 2020; Shukla et al., 2020). The COVID-19 pandemic has exacerbated the problem further by necessitating HEIs to go online, exposing the limitations of the traditional face to face teaching and learning Khamis et al (2021) and, collapsing campus-based teaching (Walwyn, 2020). Regulatory and Higher Education Institutions(HEIs) have been reactive Watson and Watson (2014) and Percy, Kelder and Butler-Henderson (2020) and Mishra, Gupta and Shree (2020), as the need to stay relevant and in existence becomes a reality. Such changes may not have been well planned and underpinned by supportive leadership (Madinah, 2020; Alani, 2021; Geraldine, 2020; Michael, Julius & Diana, 2021). In this regard, UNESCO has warned that poor governance for online learning in HE would result in inadequate business and educational models, poor quality assurance mechanisms and support frameworks including human and infrastructure capacity (Khanna, 2017).

Subsequently leading to inadequately prepared graduates (skills and attitudes) that are unable to compete in the job market as HE will fall short of its major purpose of building sustainable economic development which developing countries such as Uganda are in desperate need of (Ngugi *et al.*, 2007; Wilson, 2018; Omri, 2020; Mugimu, 2021).

Furthermore, while some critics have predicted that "HE is not known for its ability to be innovative, will continue its history of slow change, continue down its path of obsolescence, and ultimately fail and be replaced by a novel alternative" (Watson & Watson, 2014). Emerging research seems to point to the fact that HE is shifting from a "convocational model" to a "convergence model" driven by new and emerging societal needs for lifelong learning, advanced information technology as more learners converge to create a paradigm shift (Ooko, 2016). The problem, thus is that in the African context, "the impact of colonialism, neoliberalism, and globalisation on education continues to produce a system in which student disengagement,

inequity, and social injustice continue to exist" (Lopez & Rugano, 2018).

While O 'Connell (2014) has asserted that the emergent competitive landscape is strewn with strategic discontinuity, disequilibrium, blurring boundaries necessitating reinvention, innovation and knowledge sharing. The problem thus is that HE leadership has continued to lead as they did a decade ago, resulting in rapid organizational change that is placing pressure on the leaders' ability to cope effectively with the emerging paradoxes, dilemmas and the associated stakeholders' behavioural communication infrastructures (Gurr, 2004; Marinoni, Van't Land and Jensen, 2020).

Despite such rapid change, tension and structural oscillations, HE leadership continues to operate with administrative structures that were designed for a previous era and, as such, has partially transited to new leadership rhymes (Tetenbaum and Laurence, 2011; Ahmad Fadhly Arham *et al.*, 2022). These administrative structures are predominantly operated in management reigns, falling short of the 21st-century leadership of an emergent, interactive, and dynamic process that surpasses the abilities of the individual leader while focusing on adaptive outcomes (Nworie, 2012; Oleksiyenko *et al.*, 2022).

While the need to change is visible, and there are calls for leadership to make a shift Watson and Watson (2013) and Joseph and Reigeluth (2020), research has focused on e-Leadership frameworks and management structures Jameson (2013) and Middlehurst (2013)(Khanna, 2017), instructional leadership, Ashbaugh (2013) and Kituyi and Tusubira (2013) and Kituyi and Tusubira Markova (2014), leadership capacity development O' Connell(2014), digital transitions Green (2020) and, classroom teacher transitions (Skott and Nihlfors, 2015a; Whitaker, 2015; Brown, 2020; Kamal *et al.*, 2020). There remains a paucity of research that focuses on the transitioning aspect of how HE leadership can reinvent itself from traditional face to face to the digitalisation of teaching and learning.

While researchers have proposed a conceptual framework and focused on systematic change of the education system; the framework offers limited users' understanding of how its components are interrelated and interdependent Joseph & Reigeluth(2020), places the educational technologists at the center Watson &Watson(2013), yet emerging research seems to point to the fact that a holistic successful digital transition is leadership-driven (Jenkins et al., 2011; Ghemawat, 2017; Tømte et al., 2019; Pettersson, 2021).

The problem, thus, is that there exists no framework to aid the transition of leadership from the

traditional face to face to the digitalisation of teaching and learning as the different reviews on what exactly constitutes the HE leadership roles in the 21st century have instead merely increased confusion of the transition process (Westover, 2016). Therefore, this study focused on developing a framework that would aid the transition of leadership from neutral to the beginning state of transition amidst the digitalisation of teaching and learning in HE.

1.4 Aim of the Study

This study sought to explore how leadership made sense of their lived experience and adaptations as they transitioned from traditional face to face to digitalisation of teaching and learning in order to inform the development of a framework to aid their reinvention for effective leadership of the emerged, HE landscape.

The specific objectives of this study were:

i.   To explore lived experiences of leaders in a transitioning HE landscape.
ii. To examine how digitalisation of teaching and learning has evolved the HE landscape
iii. To explore leadership adaptations to the digitalisation of teaching and learning in Higher Education.
iv. To develop a framework that will aid the transition of HE leadership from traditional to digitalisation of teaching and learning.

1.5 Research Questions

Since this study followed a phenomenological approach, the research questions were grounded in an epistemological position which assumed that data could tell us something about people's involvement in and orientation towards the world, or about how they make sense of their lived experiences. Hence phenomenological research questions are 'open' not 'closed', and exploratory not explanatory reflecting process rather than outcome, meaning focused rather concrete causes or consequences, of events (Smith, Flowers and Larkin, 2009).

The main research question of this study was - How do the meanings leadership make of their lived digital experiences and adaptations inform the development of a framework that will aid transition from the traditional face to face to digitalisation of teaching and learning in HE?

The specific research questions include:

RQ1. What are the lived experiences of leaders in a transitioning HE landscape?

RQ2. How is the HE landscape evolving amidst the digitalisation of teaching and learning?

RQ3. How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

RQ4. What are the essential components of an effective framework that will aid the transition of leadership from traditional to digitalisation of teaching and learning in higher education?

1.6 Methodology

The first three objectives of this study including: To explore lived experiences of leaders in a transitioning Higher Education (HE) landscape; examine how digitalisation of teaching and learning has evolved the higher education landscape; explore leadership adaptations to digitalisation of teaching and learning in Higher education were addressed through Interpretative Phenomenology Analysis approach; and the fourth objective- To develop a framework that will aid the transition of HE leadership from traditional to digitalisation of teaching and learning, was addressed through design science.

These objectives were addressed from an Interpretative Phenomenology Analysis approach (Smith, Flowers & Larkin, 2009) located in the social constructivist paradigm. In principle, IPA belongs to the hermeneutic (interpretive) phenomenology dimension, which involves a detailed subjective examination of the essence and meaning of participants' lived experiences. The main currency for an IPA study relates to the meanings particular experiences, events and states hold for research participants. Therefore, IPA equipped the researcher with a clear unit of analysis and an understanding of the complex real-life processes of the proposed transition framework, based on multiple sources of evidence (Noor, 2008). The IPA approach was used because the lived experiences of HE leadership in transitioning from traditional face-to-face to digitalisation of teaching and learning is a new area of study and not much has been written about it, particularly in developing countries. There was, therefore, a need to explore in detail how HE leadership was making sense of their lived digital experiences and its influence on their ability to transition from traditional face to face to digitalisation of teaching and learning (Smith & Osborn, 2009). The reinvention of HE leadership amidst digitalisation is important as it would improve the positionality and competitiveness of the Ugandan HE sector in the global village. The inability to change to effectively lead the new emerged technology-mediated HE landscape would catalyse and increase attrition rates of the prospective digital native students to the outside world and

9

beyond Africa in search for the 21st-century education where students use devices to become active learners.

Using the semi-structured interview grounded in IPA, I collected data purposively from seven senior managers in HE, specifically from five public degree-awarding institutions in Uganda. In Uganda, the public HE runs a dual mode of delivery including both the traditional face to face and online learning/ distance learning/digitalisation of teaching and learning or blended learning as these terms are used interchangeably in this study.

While the IPA is a qualitative approach underpinned on three key philosophical areas: phenomenology, hermeneutics and idiographic Smith, Flowers & Larkin (2009), this study, analysed data using the Idiographic approach which is concerned with the particular rather than making claims at the group or population level to establish general laws of human behaviour. In principle, the idiographic approach follows four steps including: getting to know the data; looking for themes in the first case; connecting the themes; continuing the analysis with other cases and writing up. In line with the idiographic approach, I analysed the transcript of one higher education leader, noting down areas of interest, then clustering similar content based on the psychological meanings under master, theme, and sub- themes before moving to the next participant to look for convergence and divergence across all the cases.

Once the analysis of the emerged data was completed, I embarked on the discussion of the findings in relation to literature and the theoretical framework as detailed in chapter 6. Based on the outcomes of the discussion chapter, and using the design science, I was able to develop a framework that would aid the transitioning of the leadership from the traditional face to face to digitalisation of teaching and learning in HE

1.7 Significance of the Study

This study led to an empirical transition framework that can be adapted and used by HE leadership as a campus to navigate and lead the terrain of the transitioning HE landscape especially in the context of the developing countries. This study has also contributed to the body of knowledge on the applicability of the Complexity Leadership Theory (CLT) in Education Leadership by debarking the earlier assumptions of bottom-up approaches and decentralised autonomy while leading amidst complexity. Through this study, the Ministry of Education, National Council of

Higher Education and Higher Education Institutions could understand the significance of digitalisation of teaching and learning in protecting the HE territory from migration and exodus of the prospective students looking for a 21st-century education outside countries and beyond Africa.

1.8 Outline of the Thesis

This thesis   consists of the following chapters:

Chapter 1: Introduction and Background to the Study:

Chapter 1 is an introductory chapter that introduces the study with a brief background on the current status of the transitioning HE landscape amidst the digitalisation of teaching and learning and how HE leadership is re-inventing itself to manage the change in Uganda. This chapter, therefore, presents the overall background to the study, problem statement, research objectives and questions, significance, and justification.

Chapter 2: Literature Review

The second chapter reviews the previous works underlying HE leadership and digitalisation of teaching and learning and how they are linked to the problem under study. This chapter incorporates trending debates on this subject both locally and globally, as well as various dynamics surrounding these issues. This will include reviewed contributions, weaknesses, and gaps available in the area under study. The chapter will also highlight the evolution of HE leadership globally and in the local context - Uganda.

Chapter 3: Theoretical Framework

Chapter 3 presents the theories underlying this study and how they are linked to the research problem and conclusions. The chapter highlights the four theories including the Complexity Leadership Theory (CLT), Adaptive Structuration Theory (AST), System Distance Education Theory and the Bridges' Transition Model.

Chapter 4: Methodology

The chapter presents the research paradigm, design, methodology and research instruments. Chapter 4 describes the broad approach and type of data to be generated. The chapter also explains and justifies the research methods adopted. The chapter elaborates on the specific data collection

tools used and how raw data was collected, handled, and analysed. In addition, Chapter 4 details the Interpretative Phenomenology analysis (IPA) procedures, illustrating the actual transcription and idiographic analysis. This chapter also presents the major individual case findings, interpretations, and emergent themes from one participant-, using the Interpretative Phenomenology Analysis (IPA). Data presentation and analysis was conducted according to research objectives/questions.

Chapter 5: Findings of the Study

This chapter presents the major findings across the seven cases based on the convergence and divergence, interpretations and emergent themes using the Interpretative Phenomenology analysis (IPA).

Chapter 6: Discussions of Findings

This chapter presents the discussion of findings as per research questions in relation to relevant literature and the study's theoretical framework. The chapter also presents the transitioning framework that was developed based on the synthesis of the emerging themes.

Chapter 7: Summary, Conclusions and Recommendations:

This chapter summarizes and discusses the key research findings into appropriate conclusions and recommendations.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This study sought to explore the lived experiences of HE leadership as they transitioned from traditional to digitalisation of teaching and learning. Chapter One introduced the study which included the background and rationale for the study, statement of the problem statement, the aim of the study as well as research questions.

Although literature covers a wide variety of such thoughts, this review focused on the five major themes which emerged repeatedly throughout the literature on leadership in a transitioning HE landscape. These themes included leadership, education leadership, digitalisation of teaching and learning in HE and, leadership in amidst Digitalisation of teaching and learning.

2.2 Leadership

Scientific views of leadership in the past century have been challenged and tempered with other views of leadership such as an art, craft, or spiritual practice (Kezar, Carducci and Contreras-McGavin, 2006; Westover, 2016). While there exists various definitions of leadership (Bass and Bass, 2009)and (Hughes, 2009)and (Silva, 2016), there has not been consensus on the definition. Leadership can be defined as the ability to influence others to achieve desired goals (Rost, 1991; Rost and Burns, 1991; Bass and Bass, 2009; Cruz-González, Domingo Segovia and Lucena Rodriguez, 2019). Leadership comprises of the leader and the follower interacting to achieve a desired goal. In other words, the leader acts on behalf of the follower through a given process (Vroom and Jaago, 2007; Allio, 2012; Silva, 2016).

Previous studies have identified various leadership styles that leaders exhibit when managing institutions including Transformational, Transactional, Laissez-Faire, Autocratic, Democratic, Servant and Strong man (Burns, JM ,1978; Flores *et al.*, 2014). None of these styles is more effective than the others, but all depends on the leader's ability to adjust whenever necessary (Sethuraman and Suresh, 2014). Leadership styles are basically carved based on personality, age, gender, leadership qualities and organisational type (Oshagbemi, 2001; Dulewicz and Higgs, 2005; Fries, Kammerlander and Leitterstorf, 2021).

While leadership in previous studies has emphasised the individual, heroic leader across the bureaucratic and hierarchical organisation levels, formal planning processes, standardized

procedures, centralized decision making and, stability among others today such objectives may be unfit as leadership is more focused on flexibility, creativity, innovations and change (Dess and Picken, 2000; Nworie, 2012; Middlehurst, 2013). The focus of leadership has changed markedly from heroic, hierarchical, leader centred, individualistic to teams, processes centred, collectiveness, context bound, non-hierarchical, and focused on mutual power and influence processes (Kezar et al. 2006). In order words leadership is not only attributed to the leader in authority such as CEO but to anyone who is in the position of influence in a given group tasked with goal accomplishment (Donna Ladkin, 2016). Therefore, for any organisation to compete and win in the 21st century, there is need for the leadership function to revolve around vision creation and bearer, decision making, delegation and instructive, consultative, participatory, team leading, information sharing rather than the traditional structures and control(Dess and Picken, 2000; Kezar, Carducci and Contreras-McGavin, 2006; Niswaty *et al.*, 2019; Badjie, 2021).

Previously, the leadership roles span a variety of dimensions depending on context, time and space, however presently there is need for a shift of focus and emphasis for the leaders and their followers (Dess and Picken, 2000). The leadership roles are getting reversed as followers are informing the leadership agenda while the leaders struggle to assert themselves (Maria Suarez *et al.*, 2000; Nworie and John, 2012; Schwarzmüller *et al.*, 2018; Kruse, Hackmann and Lindle, 2020; Autoridad Nacional del Servicio Civil, 2021). Unlike in the past, the leader of today is more furnished with new technological skills including management of virtual workspaces necessitating coordination through the virtual meetings and big data for decision making(Dess and Picken, 2000; Manuel Batista-Foguet *et al.*, 2019). Communication infrastructure has evolved and is requiring the leader to adapt appropriate skills such as the use of social media including WhatsApp, websites and Facebook among other tools to engage with their organisational stakeholders.

The leadership revolution has been attributed to various reasons including, the knowledge evolution; the radical social and political changes of the 1960s/ 1970s that incited people to rethink about the concept leadership in terms of Feminism and Marxism; the shift in the world economy in the 1980s/ 1990s that gave rise to the global economy characterized with collaboration and team work and; of course the growth of the internet characterised by networks of people working together frequently and in real time creating both cultural and social differences that have

complicated leadership (Mohammad, no date; Kezar, Carducci and Contreras-McGavin, 2006; Bass and Bass, 2009; Tømte *et al.*, 2019)

2.3 Educational Leadership

Similarly, to leadership, there exists various definitions of educational leadership. Some scholars have defined educational leadership as the act of influencing others in educational settings to achieve goals (Omur and Mehmetshah, 2021). Education leadership does not only include vice chancellors, deans and departmental chairs but encompasses all persons influencing learning; for example a senior teacher guiding a junior, a digital enthusiastic influencing colleagues to use technology in their teaching sessions (Donna Ladkin, 2016; Bertalero *et al.*, 2021). Educational leadership can be viewed as a system consisting of a purpose or rationale of processing inputs and resources to achieve outcomes in an education environment or context such as early childhood education centres, elementary, secondary and post-secondary institutions (Santamaría and Santamaría, 2014; Omur and Mehmetshah, 2021). Education leadership as a system can be explained by theories encompassed in the educational leadership functionality or the different components such as follower, leaders' roles, community among others (Donna Ladkin, 2016; Bertalero *et al.*, 2021; Omur and Mehmetshah, 2021). Therefore, the components of the education system mentioned above comprise the various guiding principles called theories. In other words, the educational theories as associated to each of the above components are illustrated in table 1 below.

Table 1: Education leadership from a Systems perspective

No	System component	Function	Corresponding theory
1.	purpose/rationale/ object	Enables learning and teaching	i. learning-centred theory (Hallinger, 2009; Southworth, 2003) ii. instructional leadership (Blase and Blase, 2004; Hallinger 2003; Kaparou and Bush, 2015; Southworth, 2002)
2.	resources for leadership	focus on an individual's characteristics or personality or ability to influence	i. trait theories Galton (1869) Drucker (1955) Zaccaro,(2007).
3.	leadership processes	the process of leading	i. servant leadership (Greenleaf, 2002); ii. strategic leadership (Davies and Davies,2004)# iii. invitational leadership (Egley, 2003);

			iv.	ethical leadership (Brown and Trevin˜o, 2006);
			v.	constructivist leadership (Lambert, 2002a);
			vi.	sustainable leadership (Hargreaves, 2007)
			vii.	Transformational leadership (Bass, 1990)
			viii.	transactional leadership (Bass, 1990).
	leader	focus on who is doing the leading	i. ii.	Distributed leadership (Harris, 2005, 2013) shared leadership (Lambert, 2002b),
	Environment/ context for leadership	level of acceptance and respect accorded to those seeking to influence. the nature of the task authority of the person leading		
	outcome	the change in the motivation of those being influenced intrinsic motivation extrinsic motivation	i. ii.	transformational leadership theory transactional leadership theory (Bass, 1990)

Adapted from Omur and Mehmetshah (2021)

Literature further classifies education leadership based on time periods including decades, generations; foci, i.e. methods, topics, concepts and; methods of reviewing i.e. simple bibliometric analysis, text mining, context analysis (Hallinger and Kovačević, 2021). The major themes covered over the decades of 1960- 2018 included administration and teacher job satisfaction, instructional leadership, decision making, leadership effects, parent involvement, HE Student, early childhood education, Teacher quality and education leadership theory. However of recent, leadership effects studies have been dominant (Hallinger and Kovačević, 2021)implying that Educational leadership is worthy to be studied as its seems a major determinant for students performance in a school setting (Leithwood, 2004; Hardwick-Franco, 2019; Karadag, 2020). Effective educational leadership traits in Africa, and specifically in Uganda, include inspiring, caring, influencing, supportiveness, motivating, paternalistic, and being interpersonally appealing (Acquaah *et al.*, 2013; Bagire, Begumisa and Punnett, 2017). Despite the fact that 'leadership change' is among the first generation educational leadership studies in Africa (Hallinger, 2018), HE leadership has paid little attention to the roaming changes despite being massively disrupted (Watson and Watson, 2014). While that is plausible, today, Educational leadership is being disrupted by technological innovations in teaching and learning (Benavides *et al.*, 2020). (Gurr, 2004) states that hierarchical organizational structures of top-down decision-making approaches

that dominated HE leadership have given way to decision making from all levels within organizations. New leadership trends such as hyperlinked shared leadership and distributed leadership have emerged as digitalization is enabling the followers to influence their leaders who are in turn finding difficulty in exerting their authority. For instance, in the USA, the Virtual Campus (VC) have changed HE in a way that may not be controlled by previous structures, services providers, or traditional policies. Also in Uganda, HE has adopted the blended learning approach which is necessitating the review of existing Human resource manuals including workload polices, performances measurement procedures and the constitution of students' graduation loads among others. Evidently, online learning is disrupting the HE landscape by removing learning from the context of the physical four(4) walls of the classroom to learning from any where, any time with who ever in different time zones through the internet technologies. Thus, impacting the tradition-bound activities of bricks and mortar campuses to give rise to new organizational structures and leadership requirements in higher education (Kobayashi, 2002).

2.4 Digitalisation of teaching and learning in Higher Education

While digitalisation spans all functional industries like health, finance, agriculture among others Liao, Zhao and Sun (2020), this study focused on digitalisation of teaching and learning in HE (Latchem *et al.*, 2006; Caird and Lane, 2015; Tunmibi *et al.*, 2015; Tømte *et al.*, 2019; COL, 2020). Digitalization of teaching and learning (DTL) refers to the application of digital technology to teaching and learning in an educational context, specifically the use of appropriate technology to support students' learning in and outside the classroom (Kirkwood & Price, 2016). Digitalization of teaching and learning can contextually be defined as any pedagogical activity or practice that is conducted and transformed using ubiquitous and emerging technologies (ETs)(Tømte *et al.*, 2019). While Avolio et al. (2001) have urged that digitalisation affects the organization at two levels: the transformation between the interaction of technology and itself and, the transformation between the interaction of technology and the organisation, most research trends in digitalisation have been more concerned with remote, distance and, eLearning implementations, students interactions and faculty participation, capacity development, online learning pedagogies, ICT infrastructures, challenges of online learning, technological tools, support frameworks, interactive learning environments Mtebe and Raphael (2018) and Carrillo

and Flores (2020) and Valverde-Berrocoso *et al* (2020) and Mishra, Sahoo and Pandey (2021), a few studies have explored how digitalisation is changing the HE landscape.

Digitalization of teaching and learning is shaping institutions, work environment, processes and, creating new challenges (Elwood, 2013; Mahlangu, 2018; Matthews, Garratt and Macdonald, 2018; Abad-Segura *et al.*, 2020). This has fuelled the current debate in HE, where the digitalization has created a new HE landscape with a new breed of learners who are using tools to learn and the emerging of ICT in to teaching and learning that has led to new terms such as Education technology, technologically enabled environment , virtual campuses, remote learning, eLearning and online distance education (Elwood, 2013; Mishra, Sahoo and Pandey, 2021). While new online learning trends continue to emerge, they continue to be challenge by none sustainability Pettersson (2021), inequality and equity Czerniewicz *et al.*(2020), poor infrastructure, inadequate competencies, support frameworks (Nagshankar and Shankar, 2020; Tweheyo and Mugarura, 2021).

Furthermore, studies have shown that digitalisation of teaching and learning can improve learning outcomes Shantikumar(2009) and Bhagat (2020), increase access to education Chawinga and Zozie(2016) and Mahlangu(2018) and provide better monitoring and support structures in HEIs Abad-Segura *et al* (2020), if the required standards have been adhered to. Most accreditation standards have been based on existing distance learning models which focus on the need for interaction. There exist various models of interaction, including Anderson and Garrission's (1996) three pillars of learning interactions(Content-Student-Teacher interactions); Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) framework based on content, pedagogy, and technology; Kirkwood and Price's (2016) technology enabled learning framework that emphasises a parardigm shift from technological devices to usage of technology in improving learning outcomes. All these models instructionally guide teaching and learning at a distance or in the classroom setting.

It is from these established frameworks and theories that regulatory agencies base their accreditation standards. For example in Uganda, the National Council of Higher Education (NCHE) gazetted 9 item Open, Distance and eLearning (ODeL) guidelines (NCHE, 2020). However, as indicated in literature, most HEIs have been unable to fulfil the minimum requirements of the national guidelines (Nawangwe *et al.*, 2021). Hence, partial operationalisation

of standards continues to linger as HEIs struggle with limited funding, exacerbated by the rapid transition from traditional face to face to digitalisation of teaching and learning (Mugimu, 2021; Tweheyo and Mugarura, 2021). Picco *et al.* (2016) argued that while there had existed a relatively substantive investment in ICT infrastructure pre- COVID-19 in HEIs , there has been no alignment of digital strategies with institutional strategies Manuel Batista-Foguet *et al* (2019), resulting into non- optimisation of the existing ICT infrastructure (Nagshankar and Shankar, 2020; Mugimu, 2021). HEIs have continued to lack adequate digital competencies amongst stakeholders, including faculty and students(Ashbaugh, 2013; Ngcamu and Teferra, 2015; Gigliotti and Ruben, 2017; Håkansson Lindqvist and Pettersson, 2019). This is perpetuated by inexperienced support frameworks and inflexible HE policies Lazarowicz and Cejda(2015); Kirkwood and Price(2016); Cruz-González, Domingo Segovia and Lucena Rodriguez(2019); Kruse, Hackmann and Lindle (2020) and the decentralised autonomy which has rendered digitalisation of teaching and learning optional and at the mercy of digital enthusiasts (Tømte *et al.*, 2019). Furthermore, the failure by the HEIs to adapt is exacerbated by aging leaders, occupying strategic positions but lack trust in digital services, fear of the unknown, ICT systems' unreliability, security, risks and resilience of the new technological inventions (Ssemugenyi and Nuru Seje, 2021). While many studies have indicated developing stakeholders' digital competencies, this is still in its initial stages(Ng'Ambi, 2013).

2.5 Leadership amidst Digitalisation

There are many schools of thought on the leadership of open, distance and eLearning(ODEL)or virtual campuses or digitalisation of teaching and learning(Jameson, 2013; Avolio *et al.*, 2014; Arnold and Sangrà, 2018b). Although literature covers a wide variety of such as practices, this review focused on the five major themes which emerged repeatedly throughout the literature reviewed on HEIs running due modes of delivery. Themes include the virtual campus, including the evolved institutional culture, communication channels, leadership roles, competencies and practices, digital adaptations, challenges, and mitigations. Although literature presents themes in a variety of context, this study focused on their evolution a midst digitalisation of teaching and learning in HE.

Pre COVID-19 pandemic, many HE institutions were adopting online learning majorly because of its ability to; increase access, alleviate capacity constraints, capitalize on emerging market

opportunities and catalyse institutional transformation (Alberth, 2011). However currently, massive adoption of online learning is a survival mechanism for educational institutions as they strive to remain relevant after the invasion of the COVID19 pandemic that forced all educational institutions to close (Benavides *et al.*, 2020; Crawford *et al.*, 2020; Krishnamurthy, 2020; Kruse, Hackmann and Lindle, 2020; Sá and Serpa, 2020; Gezici *et al.*, 2021).

The massive and rapid online learning transitions has exerted a lot of pressure on HE leadership to provide for a larger and more diverse cross-section of the population, avail appropriate infrastructure, policy, faculty and students' capacity development that facilitates lifelong learning amidst resource constraints (Garrison and Kanuka, 2004; Watson and Watson, 2013; Uhl-Bien, 2021).

The role and responsibility of HE leadership has also become crucial as HEIs transition to multiple instructional delivery modes. Educators are being compelled to confront existing assumptions of teaching and learning (Garrison and Kanuka, 2004).

Although most online programmes especially in Uganda are situated in a dual mode setting alongside the conventional learning environments, the leadership aspects of both modes vary (Nworie, 2012). Leadership in a virtual campus is usually unfit for the old leadership paradigm as it is engaged with an evolving concept that depends on constantly changing technologies to enable learning in dispersed environments (Pettersson, 2021).

The fact that digitalisation of teaching and learning introduces newer technologies, processes, tools, tasks, and practices into the existing structures of HE, consequently, new hierarchies, functions, positions, activities, and roles will emerge, resulting into an unbalanced coexistence of both the traditional and digital structures (Nworie, 2012). The additional layer of complexity on to the institutional structures and identity is necessitating leadership adaptation as well as a rethink of leadership strategies and procedures. (Garrison and Kanuka, 2004). Placing the transitioning process in to perspectives, Gayle_Tewarie_White(2005) related the emergent HE landscape to the states of matter in physics, where a change in state of matter necessitates another container for storage.

While the success and sustainability of online programmes largely depends on effective and collective leadership focused on meeting the needs of diverse students and institutional goals, this

cause has been delegated to the digital enthusiast who are incapable of driving it (Dess and Picken, 2000; Nworie, 2012; Rao, Sahyaja and Sekhara Rao, 2018; Roache, Rowe-Holder and Muschette, 2020; Pettersson, 2021). Thus, making the need for leaders to reinvent themselves inevitable. More studies have indicated that despite all these disruptions, HE leadership has continued to demonstrate naivetés, structural inertia and inability to reinvent themselves to embrace the change (Dess and Picken, 2000; Hannan, Pólos and Carroll, 2002; Le Mens *et al.*, 2015).While that is plausible, a few studies have proposed the deployment of transformation leadership to guide the transition process through restructuring of the internal frameworks and redefining of the leadership roles to improve accountability and stakeholders' engagements (Westover, 2016; Rost, 1991). However, transformation leadership may not be ideal for the emergent HE landscape in the sense that it still calls for order, embraces the heroic and individual leadership tendencies that are contrary to the 21st century leadership trends (Rost and Burns, 1991).

Drucker (1998) recognized the impact of technology in transforming social structures, the workplace from blue collar of industrial to the knowledge worker today and called for a rethink in the leadership and management of the emerged new breed of workers. Gurr(2004) recommended a dispersed leadership approach that is dependent on the leaders' ability to cope with paradoxes, and associated behavioural complexities through effective communication and the establishment of an appropriate social climate amidst technology. This according to Rost (1991) and Gurr (2004) and Bryman (2011) still falls short of the 21st century leadership as its focuses on the leadership influence on its followers rather than on the followers driving change.

Khan (2017) also recommended the adaptive leadership approach which is holistic, flexible and responsive to change from the three perspectives; environmental readiness, leadership complexity and followers' motivation. Seemingly, Uhl-Bien et al. (2007) basing on complexity science, proposed the need for a different leadership paradigm that displays leadership as a complex interactive dynamic process from which adaptive outcomes (e.g., learning, innovation, and adaptability) emerge and not reliant on individual efforts. However not a very sufficient approach as it places emphasis on decentralised autonomy, bottom-up approaches that discourages collective responsibility and eradicate leadership as an active actor of the transition process. Finally, Jameson (2013) proposed leadership trainings and sensitization workshops but these are only in initial stages and focusing majorly on the pedagogical aspect of HE digitalization while ignoring

the leadership, management and governance issues. Nevertheless, Kay (2002) calls for the HE leadership reinvention in this time of drastic change as a response to the modified internal and external demands of HEIs amidst digitalisation of teaching and learning . However, doesn't indicate exactly how HE leadership needs to reinvent itself amidst the prevailing digital transformation. On the other hand, Arnold and Sangrà (2018b) identified numerous educational leadership gaps amidst digitalisation. The gaps are: "lack of research at a holistic level linking leadership to strategy and organisation; the use of a mixed method research approach to enable holistic examination of existing education leadership challenges; lack of interdisciplinary research at the intersection of education technology and management studies and; testing of existing leadership transitioning models and frameworks through application in empirical studies. While this study intends to address at least two of the above research gaps i.e. linking leadership to strategy and organisation at a holistic level and; the intersection of education technology and management studies, it is not a mixed method research and does not test the existing leadership transitioning models. In reference to the problem statement section of this study, the numerous proposed digital leadership models including Jameson (2013) and Middlehurst (2013) and Khanna (2017) only provide management structures for the emerged HE landscape; Ashbaugh (2013) and Kituyi and Tusubira(2013) Markova(2014) address instructional leadership and; O 'connell(2014), leadership capacity development but do not address the transitioning aspect of how exactly HE leadership can reinvent itself to transition from traditional face to face provision to digitalization of teaching and learning. More still, while there exists transitional literature amidst digitalization not all are situated in the HE context Green (2020), and are mostly focused on teachers' digital transitioning in the classrooms(Brown, Whitaker and Brungardt, 2012; Skott and Nihlfors, 2015b; Whitaker, 2015; Brown, 2020; Kamal *et al.*, 2020). Also, the existing conceptual framework for systematic change, offers limited users understanding of interrelation and interdependency of its composition Joseph and Reigeluth (2020) and is educational technologist driven(Watson and Watson, 2013). Therefore, it was upon this backdrop that this study sort to design a leadership driven framework that would aid the transitioning of leaders from traditional to DTL in HE.

2.6 Conclusion

This chapter has covered the most recurring themes in educational leadership literature including leadership, education leadership, digitalisation of teaching and learning in HE and, leadership amidst Digitalisation of teaching and learning. This chapter has highlighted the digital leadership experiences, the changing HE landscape, adaptations, challenges, and mitigations.

CHAPTER 3: THEORETICAL FRAMEWORK

Chapter 3 covers the theories and frameworks that have been proposed to explain the phenomenon of leadership in a transitioning HE landscape from traditional face to face to the digitalisation of teaching and learning. Although the literature covers a wide variety of such theories, this section will focus on three theories and two frameworks. These theories are Complexity Leadership Theory (CLT) (Uhl-Bien, Marion & Mckelvey (2007), Adaptive Structuration Theory (AST) DeSanctis and Poole (1994), Distance Education System Theory (1968) and Bridges transition framework Bridges (1980) and Lichtenstein (2014)'s generative emergence framework. Although the literature presents these theories and frameworks in a variety of contexts, this study will primarily focus on their application in leadership in a transitioning HE landscape from traditional face-to-face to the digitalisation of teaching and learning in Uganda.

Therefore, in line with Ospina (2017) and Omur and Mehmetshah (2021)'s theoretical formulation framework that is based on system thinking, this study derived the theoretical framework from the system functionalities of the different components under "leadership in a transitioning HE landscape from tradition to digitalisation of teaching and learning". Therefore, the phenomenon of "leadership in a transitioning HE landscape from tradition to digitalisation of teaching and learning" from system perspective enables the transitioning of leadership from traditional to DTL by collectively and collaboratively influencing the adoption of online learning to improve both access and learning outcomes in the HE context. The system perspective of "Leadership in transitioning HE landscape amidst digitalisation" is theoretically illustrated in table 2 below.

Table 2: Mapping Theory on Functionality

No.	System component	Function	Corresponding theory
1.	purpose/rationale/ object	Enables leadership transition from traditional to DTL	i. CLT ii. Bridges transition framework iii. AST iv. Lichtenstein (2014)'s generative emergence framework

2.	resources for leadership	context /environment	ii.	Complexity Leadership Theory
			iii.	Bridges Transition Framework
3.	leadership processes	the process of leading- none bureaucratic and hierarchy but mutual power and influence,	ix.	CLT
	leader	focus on who is doing the leading/ collaborative/ collectiveness	iii.	CLT
	Outcome	Enable online learning Improved learning outcomes Increased access	v.	Distance Education System Theory (1968)

Therefore, from the above illustration, this study will review the following theories , frameworks and their contributions in explaining the findings of this study: Complexity Leadership Theory (CLT), Adaptive Structuration Theory (AST); Distance Education system theory and Bridges Transition Framework and Lichtenstein (2014)'s generative emergence framework.

3.1 Leadership Theories

As noted by Kezar, Carducci & Contreras-McGavin (2006) both leadership research and the practices have changed following the conceptualization of non-hierarchical and democratic forms of leadership. Kezar et al. (2006) assert that leadership has transitioned from being static, highly structured, and value-neutral leadership frameworks, to dynamic, globalized and processed-oriented emphasising collaborations, and social responsibility. While there exists traditional leadership theories including trait, behavioural, power and influence, contingency, cognitive, and cultural and symbolic, today other leadership theories have emerged including complexity/ chaos, shared, distributed, transactional and transformational (Kezar et al., 2006). Rost & Burns(1991), assert that the traditional leadership theories have no place today; they are individualistic, heroic and unsuitable for the new emergent organizational structure, which is more flexible and dynamic. (Rost, 1991) further asserted that the traditional leadership theories were originally protecting the colonial rulers, who used them to create self-importance and pillars of authority enabling an illusion of unquestionable leaders who do not mix freely with the followers. While there exist other

new leadership theories, for this study, transformation and complexity leadership theories shall be reviewed for compatibility.

Table 3: Comparison between transformation and complexity leadership theories

Item	Transformation	Complexity
Definition and Emergence	A power and influence theory in which the leader acts in mutual ways with the followers, appeals to them higher needs, and inspires and motivates followers to move toward a particular purpose	Leadership framework that enables learning, creativity, and adaptive capacity of complex adaptive systems in a knowledge building organization
Major Assumptions and Contributions	-Leadership is viewed as a mutual process focused on care for followers and the pursuit of socially desirable ends. -Research, grounded in a power and influence approach to leadership -maintains a focus on hierarchy and positional leaders. -ethical purposes and moral ends of leadership are prioritized. -Leadership for empowerment and social change are emphasised. -Focuses on purpose and the ends of leadership -less emphasis on the process and the interaction between leaders and followers. -identification of characteristics or qualities of transformational leadership such as inspiration, trust, passion, and commitment.	-challenges traditional notions of hierarchy and bureaucratic decision making -examine an organisation's systems of interactions in and outside the organisation -attempts to create control structures and align the vision and mission of the organization decentralization, dedifferentiation of tasks, collaboration, flexibility, systems thinking -Complex leadership challenges require organisational learning, collaboration, reflection, and innovative solutions.
Key Insights	-leadership behaviours such as inspiring vision and celebrating achievement are associated with higher levels of leader effectiveness and follower	-collaboration, breaking down hierarchy, local decision making, and organic processes are characterized**.** -system thinking emphasized -

	satisfaction -articulation of a clear and compelling vision that matches followers' needs and values is important; -transcends cultural boundaries with certain attributes and behaviours	-nonlinear, none-controllable, and non-universalistic patterns of operation -attempts to distinguish leadership from managerial positions.
Criticisms and Limitations	-still hierarchy and positional oriented	-Complexity leadership theory is difficult to operationalize for research

Adapted from Kezar (2006)

3.1.1 Complexity Leadership Theory (CLT)

Historically, leadership has been supported by a number of theories, now termed as new and old. Rost and Burns (1991), urged that the old leadership paradigm has lost relevance in the 21st century and as such recommended future research in the examination of the emerging theories and perspectives to challenge existing leadership assumptions and principles that have been considered as truths for a long time. While leadership is moving from being leader-centred, individualistic, hierarchical, heroic to process-centred, collectiveness, context-bound, none hierarchical and influence Kezar, Carducci & Contreras-McGavin (2021), the application of new theories and concepts in the higher education literature is still incomplete (Kezar, Carducci & Contreras-McGavin, 2006). Studies about leadership transition amidst digitalization have used the transformational leadership theory Ooko(2016); Westover (2016), others transactional leadership theory Bass (1990), while others use instructional leadership theory (Blase and Blase, 1998). While transformation leadership theory and transactional leadership theory could have been suitable for this study, given their ability to motivate the followers, they are underpinned in the bureaucratic and hierarchical, individualism, heroic thinking that is not compatible with the 21st century of being collective and context-bound (Omur & Mehmetshah, 2021). On the other hand, instructional leadership theory is more concerned with enabling learning in whatever mode of delivery, either online or traditional face to face (Shaked, 2021). In line with the above background, this study adopted the Complexity leadership theory (CLT).

Complexity leadership theory, as advanced by Marion & Uhl-Bien(2001), posits how leaders and followers can work together to enable adaptability in highly interconnected, complex social systems amidst a crisis (Uhl-Bien, 2021). CLT is supportive and offers guidance to leadership in

the currently transitioning HE landscape characterised by crisis, tensions, and challenges, especially during the COVID-19 pandemic. This theory was chosen because of its ability to focus on the holistic approach of leadership, not as a leader-follower issue but as an emergent, interactive, and dynamic process that surpasses the abilities of the individual leader as well as its ability to appreciate that, the dynamism and activeness of the HEI context directly affect leadership.

Furthermore, the basic unit of analysis for CLT is the complex adaptive system (CAS), implying that an interaction of any system elements usually results in unexpected and unpredictable events that put the system into a dynamic or emergent state (Uhl-Bien, 2021). For example, the COVID-19 pandemic necessitated the abrupt closing of all educational institutions including HEIs and, as such, there was rapid transition of teaching and learning from traditional face to face to online learning. In a sudden move, the systems that had been useful for face-to-face operations were no longer sufficient for online learning. Therefore, CLT aided in conceptualizing the changing HE landscape and leadership implications as a result of online distance education, online learning and, digitalisation of the teaching and learning (Nworie, 2012).

According to Uhl-Bien and Arena (2018), organisational leadership as viewed through the lens of Complexity leadership theory constitutes three main components, including adaptive leadership, administrative leadership and enabling leadership. Adaptive leadership works to create new knowledge, skills, products and processes to sustain the future viability of an entity and relates well to entrepreneurial leadership from the business perspective in an organization or firm. Administrative leadership refers to operational leadership in the formal systems, structures and processes that produce results through selection, refinement, execution and efficiency. Enabling leadership is an enabler to organisational adaptability that involves the creation, engagement and protection of the adaptive space.

CLT, thus, enables institutional adaption of innovation by enabling the adaptive spaces. Adaptive spaces refer to the compartment where tensions and conflicts are engaged to enable systems that are 'poised' for change to receive adaptations (Uhl-Bien, 2021). Therefore, the CLT was able to explain why there was no uptake of digitalisation of teaching and learning pre-COVID-19 and increased transitioning from traditional face to face to digitalisation of teaching and learning in HE post-COVID-19. CLT indicated that failed leadership in the adaption of digitalisation pre-COVID-19 was associated with the fact that HEIs were functioning normally and effectively within the

traditional face to face setting while ignoring DTL, an innovation which had little or no value addition then. For example, despite existing minimal DTL standards in most HEIs in Uganda, pre-COVID-19, all HEIs exhibited non-operationalised status quos and hardly supported the activities in their distance learning centres. Therefore, whenever HE leadership was faced with challenges during DTL implementation, it had always pulled to order pre-COVID-19 (Uhl-Bien, 2021) Post-COVID-19, leadership was observed to demonstrate urgency for business continuity and survival of the teaching and learning through the engagement of the adaptive spaces to the new order and hence transitioned to fully online learning.

The CLT enabled HE to balance their equilibrium by enabling self-organizing through creative problem solving, adaptability, and learning despite its context of bureaucratic structures (Tetenbaum &Laurence, 2011). CLT also challenged the simplistic representation of earlier theories such as contingency approaches where leaders simply matched a leadership style to a task without examining both the external challenges and the emergent organization environment leadership (Kezar, Carducci& Contreras-McGavin, 2006). Furthermore, CLT aided the identification and exploration of strategies and behaviours that fostered organizational and creativity and learning (Uhl-Bien, Marion &Mckelvey, 2007).

In this study, CLT exhibited some form of contradiction due to its advocacy for decentralised autonomy. Decentralised autonomy one of the assumptions of CLT contradicts the formulation and engagement of collective responsibility, a component very paramount for survival for online learning post-COVID-19. Furthermore, the fact that CLT assumes a bottom-up approach for given institutional innovation adoption, this assumption was found unsustainable for post-COVID19 online learning integrations. For example, worldwide, all countries where the heads of states were vigilant and active in the fight against the COVID-19 pandemic yielded better results, while in countries where management of the pandemic was left to the technocrats, many lives were lost (Uhl-Bien, 2021). In educational institutions where Vice-Chancellors and top management were vigilant, business continuity of teaching and learning was realised faster through online learning than those that delegated to the digital enthusiasts (Pettersson, 2021)

Finally, as noted above, the CLT has two key limitations: the need to supplement it with other epistemologies and leadership approaches, and the importance of recognising that its sustained execution might require a developmentally mature meaning-making system (Brown, 2011).

Hence, this study proposes the two additional theories of Adaptive Structuration Theory and Distance Education system theory (1968) to enable the appropriate conceptualization of leadership in an ICT mediated environment and the effects of online distance education on HE leadership respectively. CLT was also complemented by Bridges transition and Lichtenstein (2014)'s generative emergence frameworks in order to measure the extent to which the HE landscape has transitioned. Furthermore, the CLT's inability for meaning-making was neutralised by viewing CLT from the social constructivism paradigm Vygotsky (1978), and the use of Interpretative phenomenology analysis approach (IPA) (Smith, Flowers & Larkin, 2009).

3.2 Distance Education System Theory

A system theory approach was adopted for this study because it enabled the researcher to conceptualize relationships that exist within the context of the higher education system consisting of various sub-systems (Nworie, 2012). The theory also aided the researcher to illustrate how the complexity of the relationships that exist inside the online distance learning campus and how these systems impact the HE landscape. This holistic approach and simulation aided the identification of the appropriate framework for change management amidst the complexity of online distance learning. According to Nworie (2012), Distance Education System Theory looks at online distance education as a sub-system of higher education and demonstrates how change in one area of a system affects other areas because of the interrelatedness, interconnectedness, dynamism, and embeddedness of the different parts making up the whole institution. The theory will further enable HE leadership to contextualize the implications of the adoption of technological innovation (online distance education) within its complex system.

The Distance Education System Theory is built on eight assumptions observation, causality, reflexivity, self-organization, determinism, environment, relationships, and holism(Dent and Umpleby, 1998). HE in the lens of the Distance Education System Theory will behave as a holistic entity with characteristics which belong to the system as a whole and do not belong to any of its part (logically, HE with the introduction of DE, needs to reflect both properties of the classroom and the distance learning campus). The relationship and interactions between these parts are more relevant as compared to their composition. Furthermore, HE needs to recognise the existence of the DE sub-system to realise growth through the exchange of synergy as the situational environment (Dent and Umpleby, 1998). While HE may have identified DE as a sub-system, the

existing interactions predict DE as a closed subsystem in HE. Such status may simply accelerate DE's decay rather than growth. It is therefore dependent upon HE leadership to adjust and enable communication between the two sub-system for effective HE leadership. Therefore, the need for reorganisation of structural and behavioural patterns of the complex HE system is paramount for attainment of stable equilibrium.

Specifically, a system comprises of four components: the input, processes, output, and channels of feedback; all in continuous interaction with each other and the environment. Implying that a change in the subsystem dictates a change in the complex system. In relation to the Distance learning context, Potts and Hagan (2000) aligned the input component to the initial needs assessments and design of the course. The processes to the implementation strategies alongside the learners' satisfaction. The output component to the consistence of the quality of learning across both the distance and classroom-based modes of delivery and, feedback to the need for improvement after piloting the distance learning programmes.

A system theory approach was adopted for this study given its ability to aid the conceptualization of relationships that exist within the context of higher education from a system perspective with different subsystems in rapidly changing and tumultuous environments (Nworie, 2012). The theory also illustrated how the complex relationships and interactions that exist inside the virtual learning campus have evolved the HE landscape. According to Nworie (2012), Systems theory looks at the emerged virtual campus as a subsystem of higher education and demonstrates how change in one area of a system affects other areas because of the interrelatedness, interconnectedness, dynamism, and embeddedness of the different parts that make up the whole institution. The theory further enabled HE leadership to contextualise the implications of the adoption of digitalisation of teaching and learning within its complex system.

3.3 Adaptive Structuration Theory

In relation to Adaptive Structuration Theory (AST) Desanctis and Poole (1994), the distance learning sub-system operates as a new technology introduced in an organization. This requires an organization to consider structural changes inside the distance learning sub-system and its influence on human resources and the organisational landscape of which it has become part. In the context of HE, the interactions that exist within the components of the distance learning sub-system are different from those in the traditional face to face landscape and cause a major disruption which

is affecting the HE leadership processes. The AST, as advanced by Desanctis and Poole (1994)posits that leadership in a technology-enabled environment is different from the traditional due to the fact that digital transformation usually leads to both organisational and human alternations. The AST provides a framework which describes the interplay between technologies, social structures, and human interactions.

While AST assumes the change process from two points of view: (1) structures that are produced by the technology (system thinking) and (2) structures that emerge in human action, this study focused on the social structures and key interactions since the CLT, and the Distance Education System Theory already considered in this study have explained the system thinking component. The social structures comprise the structures that emerge as HE leadership interacts with the digitalisation of teaching and learning /online distance education (Kay, 2002). According to Desanctis and Poole (1994), the social structures are further categorized into two; the structural features and the spirit. In context, the structural features comprise the rules, resources and capabilities; and the spirit refers to the values and goals that are relevant for planning and accomplishing tasks.

In this study, AST aided the understanding and explained the emergence of the virtual workspace that resulted from the effects of the digitalisation of teaching and learning on existing channels of social interaction, institutional culture, leadership roles and power structures and, knowledge and competencies in HE. Therefore, understanding, and critical review of the structural changes and processes digitalisation of teaching and learning or online distance education creates in the HE landscape guided the design of an appropriate leadership transition framework. More still the compatibility of CLT and Adaptive Structuration Theory (AST) presented a clear dissection into institutional leadership dynamics when mediated upon with technology in a crisis a situation that is being experienced in, HE due to the invasion of the COVID-19 pandemic.

3.4 Bridges Transition Framework.

A transition is a multi-dimensional process that often includes technological, material, organizational, institutional, political, economic, and socio-cultural changes involving a broad range of actors such as individuals, firms and organizations (Zolfagharian *et al.*, 2019). Transition can be defined according to disciplinary, but most authors agree that transition is how people respond as they go through change(Kralik, Visentin and Van Loon, 2006). Transition usually occur

over time and entails change and adaptation, for example developmental, personal, relational, situational, societal, or environmental change, but not all change engages transition. 'Technological Transitions are defined as major technological transformations in the way societal functions such as transportation, communication, housing, feeding and, education are fulfilled (Geels, 2002). Technological Transitions does not only imply technological changes, but also changes in elements such as user practices, regulation, industrial networks, infrastructure, and symbolic meaning. While there are exists different dimensions of technological transitions, for this study, transition was defined as "the inner psychological process that people go through as they internalize and come to terms with the new situation that the change brings about, which has more to do with the endings that people have in leaving the old situation behind rather than the outcome as focused on in a change process" (Ford, Kimberly and Quinn, 1985). This definition was preferred because of its ability to compliment Interpretative Phenomenology Analysis approach (IPA) (Smith and Osborn, 2008a), the major philosophy followed in this study.

Various transition frameworks, including theories such as Schlossberg transition theory (Schlossberg, 1981), Agile transition framework Javdani Gandomani and Ziaei Nafchi (2015); Meleis' Transitions theory (Meleis, 2010) and Bridges transition framework (1980) have been fronted in literature. Schlossberg theory is more concerned with unanticipated transitions (divorce or sudden death of a loved one), non-events transitions (failure to be admitted to medical school) and its focus on education, has been concerned with anticipated transitions such as graduation from college (Schlossberg, 1981; Barclay, 2018). Agile transition framework is focused on the iterative development process of software (Javdani Gandomani & Ziaei Nafchi, 2015; Jovanovic et al., 2020). Meleis' Transitions Theory is concerned with transitions in the nursing industry (Meleis, 2010; Lindmark et al., 2019)

The Bridges Transition Framework (1980) adopted for this study, was the most used theoretical framework in the educational organisational transitions (Robertson, 1997). The Bridges' framework assisted in the identification and explanation of the ongoing emotions of the current state of digital transition in HE in Uganda. In fact, Bridges Transition Framework complemented IPA (Smith & Osborn, 2008a) because it allowed the capturing and interpreting the meanings of the experiences that HE leadership underwent during the transition from traditional face to face to DTL during the COVID-19 pandemic.

Bridges framework is comprised of three stages namely, ending, neutral and the beginning stage of the transition (Bridges & Mitchell, 2000; Miller & Miller, 2017). The ending stage is characterised by relinquishment of the old situation and the old identity (Ford, Kimberly & Quinn, 1985; Miller and Miller, 2017). Therefore, the ending stage aligned and explained both the visioning for digital strategies pre-COVID19 and the leveraging of existing digital strategies stages as experienced by HE leadership in this study.

The neutral stage is characterised by both the old reality and the new, a time when the old way is gone and the new does not feel comfortable but confusing, fearful and frustrating Ford, Kimberly & Quinn (1985); Miller & Miller (2017). Therefore, establishing the current status of the HE landscape, enabled the assessment of the actual transition that was required for HE leadership to transit completely from traditional face to face to digitalisation of teaching and learning. More still, HE leadership being at the neutral stage of transition implied that the proposed transition framework would focus on the components that would enable HE leadership to move from the neutral stage to the beginning stage of transition only. In addition, the Bridges' framework is compatible with Complexity Leadership Theory (CTL) at the neutral stage of transition, which if rushed, means leadership is most likely to feel frustrated and abort the transition process, hence the pulling to order (Bridges & Mitchell, 2000; Uhl-Bien and Arena, 2018). It was at this stage where HE leadership exhibited creativity, renewal, and development as they iterated several times through the leveraging and rethinking for the digital strategies to make improvements for business continuity(Bridges & Mitchell, 2000).

Furthermore, the fact that the beginning stage of transition is characterised by commitment, participation, impatient for progress, trust, relationship and achievements to build the new processes within the new environment Ford, Kimberly & Quinn(1985) and Bridges and Mitchell (2000), then the requirement identification stage during design followed design science as illustrated through a flow chart guiding the actions and actors required for a complete transition.

3.5 Conclusion

This chapter has discussed the theoretical framework adopted for this study. The theoretical framework included three theories and two frameworks. These theories were; Complexity Leadership Theory (CLT) coupled with Lichtenstein (2014)'s generative emergence framework explained leadership in a complex setting specifically the transitioning of leadership from

traditional face to face teaching practices pre-COVID-19 to the digitalisation of teaching and learning post-COVID-19. Adaptive Structuration Theory (AST) was used to explain the relationship between single or multiple constructs and the variables of virtual teams, such as performance, satisfaction, virtual teams, including the emergent institutional structures; Distance Education System Theory, explained the emergent interactions in between the systems and structures that support distance education or online learning and Bridges Transition Framework explained the different stages of the transitioning HE landscape, identifying the current transition in HE and guiding on what needs to be done to achieve complete transition.

CHAPTER 4: METHODOLOGY

4.1 Overview of the Chapter

This study sought to explore the lived leadership experiences and their influence on the ability to transition from the traditional to Digitalisation of Teaching and Learning (DTL) in HE in Uganda. The study also explored how DTL was evolving the HE landscape as well as the adaptations, challenges and mitigations experienced. Given that it is qualitative, the study adopted an Interpretative Phenomenology Analysis approach (IPA) Smith and Osborn(2008b) guided by the Social Constructivist ontological paradigm of Vygotsky (1978) and an interpretivist phenomnlogy epistemology (Heidegger (1889-1976) as guided in figure 1.

Figure 1: Mapping the research methodology discourse
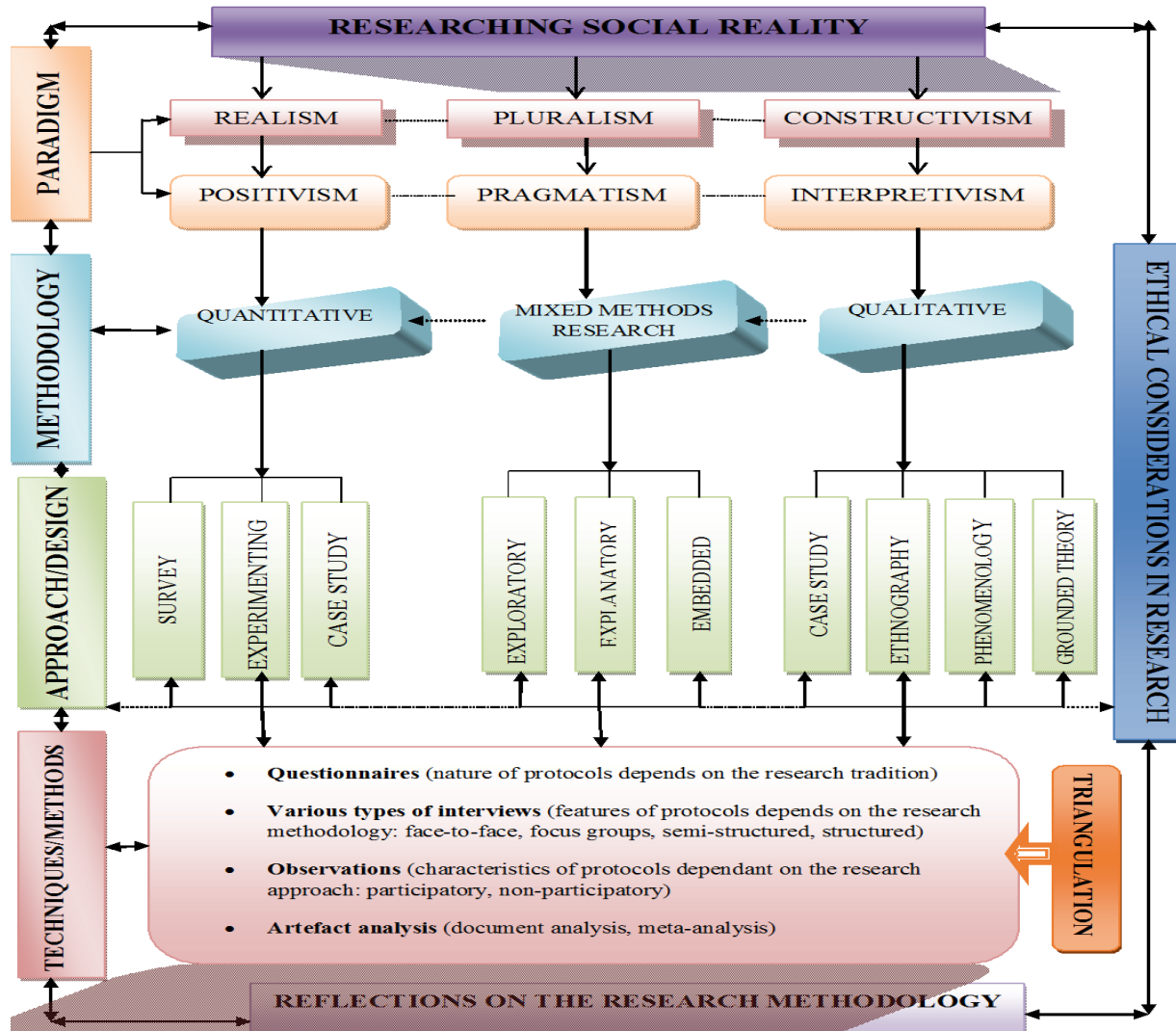
Adopted (Ngulube, 2015)

This chapter specifically discusses issues of methodology that underpin the study. It discusses the research planning, approach, paradigm, design, and rationale. The chapter is presented in three sections. The first section recapitulates the research questions and provides an overview of the research process as well as the epistemological position before explaining IPA. It then gives an account on how the research participants were selected and accessed. Discusses the ethnographic and grounded theory approaches and why they are considered potential alternatives for the study. Included in the second section is a background to IPA and a comparison of phenomenology with IPA. This is followed by the theoretical frameworks of IPA; the phenomenology, hermeneutics and idiography components. Finally, the third section, presents an overview of the IPA framework (Smith et al., 2009), the validity and quality.

This chapter specifically answers the phenomenological research questions on: What are the lived experiences of leaders in a transitioning HE landscape? How is the HE landscape evolving amidst the digitalisation of teaching and learning? How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? What are the essential components of an effective framework that will aid the transition of leadership from traditional to digitalisation of teaching and learning in higher education?

4.2 Research Paradigms

In answering these questions, the study was guided by the social constructivist ontological paradigm of Vygotsky (1978) specifically interpretive phenomenology epistemology - Heidegger (1889-1976). According to Kezar et al. (2006: 1), a paradigm is defined as "a system of assumptions about the nature of reality that is integrated, pervasive, holistic, and internally consistent. The paradigm creates a blueprint that guides human beings on the reality, falsity, possibility and to what they should pay attention to in the world". Scotland (2012) asserts that a paradigm consists of various components namely: ontology, epistemology, methodology and methods.

Ontology is the study of being and is concerned with what constitutes reality, specifically, how things really are and work. Epistemology is concerned with the nature and forms of knowledge, specifically, how the world constructs, acquires, and communicates knowledge(Cunningham and Allen, 2012). Notably, research is guided by three ontological paradigms namely, realism, pluralism and constructivism which are respectively tagged to the positivist, pragmatism and

interpretative epistemological approaches. According to Scotland (2012), realism is the view that objects have an existence independent of the knower and there exists only one truth. This paradigm focuses on explaining phenomena typically in the natural sciences through objective knowledge acquisition of observation and experimentation (Lougen, 2009a:2). Pluralism is when researchers draw on more than a single theory to make sense of their research findings (Lougen, 2009b). On the other hand, the constructivism paradigm rejects the existence of an external objective reality independent of an individual from which knowledge may be collected implying, that each individual constructs knowledge and his or her experience through social interaction (Lougen, 2009a).

This constructivist research paradigm emphasises understanding thus the interpretive turn which is more appropriate for investigating phenomena in the human sciences. Lougen suggests that in the 20th and 21st centuries, the interpretive paradigm generally labelled as constructivism has become more complex with the development of social constructivism, psychological constructivism, and radical constructivism approaches that are reflective of the varying degrees of social constructions of knowledge. According to Lougen (2009a), psychological constructivism (Jean Piaget's (1896–1980) & (John Dewey's (1859–1952)), deals with how people learn, are instructed and construct knowledge while radical constructivism asserts that any external world is entirely a construction of an individual and exists in that person's consciousness as his or her subjective experience.

On the other hand, social constructivism (Vygotsky (1896–1934)) describes the bodies of knowledge developed over human history as social constructs that do not reflect an objective external world but influenced by politics, values, ideologies, religious beliefs, language. Amineh & Asl (2015) describe social constructivism as a thought process that examines knowledge, understandings, significance, and meaning of the world as experienced by individuals in relation to other human beings. Furthermore, Kim et al. (2001), based on the three major social constructivism assumptions—reality, knowledge and learning, elaborate that reality does not exist prior to its social invention but can only be constructed through human interactions with the world. They explain that knowledge is a human product that is socially and culturally constructed, and that learning is a process that takes place not only within an individual but collaboratively.

In the 19th century, the philosophers Wilhelm Dilthey (1833–1911), Edmund Husserl (1859–1938) and Max Weber (1864–1920) emphasised the need to study human science with the aim of understanding the meaning humans give to their experience (Lougen, 2009a). In the 20th century, John Dewey's (1859–1952) (knowledge is constructed in social contexts, active learning), Jean Piaget's (1896–1980) and Lev Vygotsky (1896–1934) emphasised the need to theorise "understanding the meaning of human experience" (Lougen, 2009a). The debate has been carried on by 21st-century scholars like Guba & Lincoln (1994) who claim that ontologically, reality is relative, multiple, socially constructed, and ungoverned by natural laws. Epistemologically, they argue that knowledge is subjective and constructed between inquirer and participant through the inquiry process itself.

While that is plausible, Kezar, Carducci and Contreras-McGavin (2006) asserts that the positivist approach to studying leadership has given way to studies from social constructivism in this era. Therefore, this study followed the social constructivism paradigm because of its qualitative inclination, and its ability to enable the understanding of a phenomenon from the perspective of those experiencing it through mutual interaction within the research setting and dialogic interaction such as interviewing (Lougen, 2009a). Its ability to align with the proposed complexity leadership theory of being emergent and reflexivity when looking for new direction. Furthermore, the social constructivist approach allowed for unbiased and flexible inquiry of the experiences of the HE leadership amidst DTL. According to Kezar et al(2006), the social constructivist paradigm assumes that leadership is a social construction with subjective experiences and perceptions that vary according to culture, context and multiple perspectives. As such, reality was constructed by both the researcher and the object of analysis through socializations and non-judgmental interactions.

It is from the above conviction that this study followed the social constructivist paradigm and an interpretative epistemology. The Interpretivist unlike the positivists believe in multiple realities and relativity (Wijesinghe, 2011; Creswell, 2020). The Interpretivist approach enabled to flexibly capture meanings of the participant's experiences from a personal perspective. It allowed for understanding and interpreting the meanings in human behaviour rather than generalization and predication of causes and effects. Interpretivists are more concerned with understanding motives, meanings, reasons and other subjective experiences which are time and context bound. This

approach, therefore, allowed me to build on my prior knowledge of digitalisation of teaching and learning while in the field given the complex, multiple and unpredictable nature of the perceived reality. With the interpretative approach, I was able to engage and interact with the HE leadership about their experiences, perceptions, and attitudes on the changing HE landscape so as to create deeper meaning and reflections of their actions and decisions in the transition process.

4.2 My Epistemological position

While I have lived most of my life as a scientist and positivist by nature always looking for logic and objectiveness, my current research area is based in the social sciences and has been specifically influenced by my current career as an education technologist and a chair of a department in a Management Development Institute (MID). I have always been challenged by the fact that despite continued efforts to increase the uptake of digitalization of teaching and learning at Higher Education (HE) and its numerous advantages especially in the period of COVID-19, HE leadership has remained unconvinced of reinventing itself to embrace and adapt to leading the emergent technologically enabled landscape. Therefore, I was interested in developing a framework that will aid the transition of HE from leading traditional face to face to effectively lead the emerged digital landscape. However, to ably arrive at the intended solution, I needed to transform from being a positivist to a constructivist. This allowed me to view the HE leadership transitioning aspect from the different subjective experiences of the participants.

While I had always preconceived DTL has a concept not well understood by HE leadership (Dasein)(Smith and Osborn, 2009), I learnt that indeed, there was relatively enough awareness, but the motivation to adopt was low since HEIs had achieved successful and progressive teaching and learning without necessarily adopting DTL given their traditional face to face structural setting or landscape.

I was able to interpret how HE leadership socially made meaning of their personal lived experiences as they transitioned from traditional face to face to DTL. I discovered that HE leadership made two different meanings of their lived experience of digitalisation of teaching and learning pre and post COVID-19 pandemic , a scenario referred to as Dasein- a state of being phenomenology (Donna Ladkin, 2016). Despite that it was the same phenomenon in the same context, the meanings of experiences attached to the digitalisation of teaching and learning pre-

COVID-19 was an alternative mode of delivery while post-COVID19 was survival of the institutional core business. Therefore, the meaning attached to phenomena such as digitalisation of teaching and learning is a determinant for whether HE leadership will persist in its currently acquired neutral status of digital transition and will progress to the beginning stage or will revert to the ending stage of the transition (Miller & Miller, 2017).

Specifically, I looked at the leadership's lived digital experiences and adaptations and how their influence on their transitioning journey to design an appropriate transitioning framework. On the other hand, though, I was also cognisant of the fact that my findings were constructs of the contextual area but can be applied elsewhere with major caution and modifications (Urcia, 2021). My change in how I viewed my world fitted well with the fact that world views change all the time as we go through new experiences and our desire to solve problems along the way.

For example, Husserlian phenomenology was orientated towards the post-positivism approach having moved away from being a positivist and recognizing that reality exists independent of the mind and can critically be examined based on lived experiences(Smith, Flowers and Larkin, 2009; Urcia, 2021). Its from the above conviction that this study followed the social constructivist paradigm and an interpretative phenomonlogy epistemology.

The interpretivists unlike the positivist believe in multiple realities and relativity(Wijesinghe, 2011; Creswell, 2020). The interpretivists approach enabled me to flexibly capture meanings of the participant's experiences from a personal perspective. It allowed for understanding and interpreting the meanings in human behaviour rather than generalization and predication of causes and effects. Interpretivist are more concerned with understanding motives, meanings, reasons and other subjective experience which are time and context bound. This approach therfore alowed me to build on my prior knowledge digitlaisation of techning and learning while in the field given the complex, multiple and unpredictable nature of the perceived reality. With the interpretative approach I was able to engage and interact with the HE leadership about their experiences, perceptions and attitudes on the changing HE landscape so as to create deeper meaning and reflections of their actions and decisions in the transition process.

4.3 Research Approaches

This study followed a qualitative research approach. The decision to use a qualitative research approach was informed by a thorough examination of the three existing dominant research approaches which include qualitative, quantitative, and mixed methods (Cresswell, 2014). Quantitative research is an approach for testing objective theories by examining the relationship among variables deductively, building protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings. Mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks to provide a more complete understanding of a research problem than either approach alone. Cresswell (2014) defined qualitative research as an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The qualitative research approach uses emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively built from particulars to general themes, and the researcher making interpretations of the meaning of the data.

Allen et al.(1997), define qualitative as a technique that seeks to explore how individuals and social groups naturally construct meaning, make sense of their lives, experiences, symbols, pictures and structures of their world. Allen and Silver (1997) assert that qualitative research follows a systematic method such as detailed observations and explanations to understand the nature of the events under consideration. These events may include a set of underlying relationships existing in the world that need to be uncovered by the researcher or descriptions of the experiences of the human group, organizations, culture, or individuals(Allen and Silver, 1997). This is a holistic approach that evaluates the complexity of the entire situation in order to ensure that the conclusion takes account of both the unique and general factors (Atieno, 2009). It is more process-focused than outcome-oriented, where its processes are inductive in nature enabling the researcher to construct abstractions, concepts, hypotheses, and theories from details (Atieno, 2009).

Zeroing down on the qualitative research approach enabled the exploration of what it is like for leadership to transition from traditional to digitalisation of teaching and learning through a systematic inductive procedure. While the qualitative approach involved purposive identification

of the sample space that has experienced the digital transition in HE, use of open-ended research questions and semi-structured interview protocol, free exploration of the merging data to generate themes that were synthesized to develop a framework that would aid the transition of leadership from traditional to the digitalisation of teaching and learning in HE, all procedures were grounded in the IPA (Smith & Osborn, 2008b).

4.4 Research Design

This study followed the phenomenology research design specifically the Interprativite Phenomenology Analysis (IPA)(Smith, Flowers and Larkin, 2009). However, in order to arrive at my decision, I examined the concept and different research designs. According to Creswell (2020), a research design is an inquiry approach or strategy that provides specific direction within qualitative, quantitative, and mixed methodologies. Cresswell (2014) asserts that the function of a research design is to ensure that the evidence obtained enables us to answer the initial research question unambiguously through a logical structure of the inquiry. The figure below illustrates the different research designs in relation to quantitative, qualitative, and mixed research methodologies.

According to figure 1 above, the quantitative research design comprises of experimental, and survey among others, while the qualitative includes narrative, phenomenology, grounded theory, ethnographies, and case studies. On the other hand, the mixed methods entail convergent, explanatory sequential, exploratory sequential and transformative, embedded, or multiphase designs.

Since this was a qualitative study, this section focused on some of the outlined qualitative designs above; narrative design Clendenin & Connelly (2000); phenomenology Moustakas, (1994), grounded theory Corbin and Strauss, (1990), ethnography Fetterman (2010) and Wolcott(2008) and case study Stake(1995) and Yin (2009)

4.4.1 Ethnography

Ethnographic studies originated from social anthropology and are context-bound, where the researcher interacts with the participant's culture, subculture in real-life (Jaynes et al., 2009; Baral, Uprety & Lamichhane, 2016). Ethnography inquiries are aimed at a holistic understanding of

peoples' values, beliefs, views and nature of their habitant (Jaynes et al., 2009). Therefore, an ethnographic researcher is required to be part and partial of the phenomenon under study to ably reach insightful interpretations. Data collection methods include semi-structured interviews and observations using purposive samples to create a "thick description of cultural behaviour" (Sanday, 2016). Despite the widespread use of ethnographic methods in primary and secondary school settings, ethnography has been scarcely conducted at HE and studies have focused mostly on sub-cultures of students and faculty followed by studies on the impact of social, political, and economic shifts on the HE (Beach, 2017; Anderson, 2021).

While ethnography would have fitted well with this study, the fact that I am part of the online learning industry in Uganda, I was already aware of the beliefs and values plus the views of one of the HEIs and the general picture in Uganda towards DTL. Therefore, adopting ethnography for this study would have required more time for me to gain access to the other four institutions covered under this study. This would have been unachievable given the duration of my PhD study, in addition to my existing work commitments.

4.4.2 Grounded Theory

Grounded Theory (GT) Glaser and Strauss (1967) and IPA (Smith, Flowers & Larkin, 2009) are the most used qualitative methods in the social sciences (Urcia, 2021). GT is the generation of a theory from qualitatively collected and analyzed data on a given phenomenon (Fee and Phillips, 1975; Glaser and Holton, 2007). Data collection methods include semi-structured interviews and observations. Whereas GT has similar data analysis procedures to IPA, it deals with larger data sets and draws on themes generated from understanding patterns of social processes including actions, interactions and behaviours over a period of time to generate theory (Glaser and Holton, 2007; Urcia, 2021). The major difference between GT and IPA is that IPA is underlined by the phenomenological philosophy and is a research approach yet GT is only an approach to the research (Urcia, 2021). As a result, GT was not considered for this study because the focus is on exploring lived experiences of, HE leadership to develop a framework that would aid the transitioning from traditional to DTL yet GT's orientation is towards theory development to explain the phenomenon and not provide a solution.

4. 5. Rationale behind the methodological choice of IPA

Heidegger (1889-1976) asserts that humans are influenced by the data base of their lived experiences and therefore my lived digital experiences in a dual mode HEI informed my decision to research on leadership transitions amidst DTL(Neubauer, Witkop and Lara Varpio, 2019). Given the ever-challenging ODeL adoption in HE, in Uganda, I was suspicious that the current lived experiences of leaders in HE were influencing their transition from traditional face to face to digitalisation of teaching and learning. And the fact that phenomenology was the most appropriate philosophy and approach that looked at the meaning of the lived experiences, I chose IPA because it would provide a detailed exploration of leadership experiences amidst digitalisation of teaching and learning through development of an 'insider's perspective' (Reid et al, 2005) and through its commitment to idiography, to produce an interpretive account of their personal and social world.

I wanted to find out what significancy the leadership digital experiences played in the transition process. This involved what Smith, Flowers & Larkin (2009) termed, engaging 'in considerable hot cognition". Whether as a researcher, we are ever able to access another's experience, is in itself questionable, however what we are attempting to do is research 'experience close' (Smith, Flowers & Larkin, 2009).

Smith (2004) suggests that IPA is useful when the research focus is multi- dimensional and relatively 'novel' and where the emphasis is upon making sense of something. The 'novel' aspect of this enquiry was the focus on the meaning of the lived experiences rather than the perceived experiences and how these meanings made influenced the transition of HE leadership from traditional face to face to digitalisation of teaching and learning.

4.6 Interpretative Phenomenological Analysis

This study followed the Interpretative Phenomenological Analysis (IPA), a qualitative approach underpinned on three key philosophical areas: phenomenology, hermeneutics and idiographic (Smith, Flowers and Larkin, 2009). Specifically, this study followed the IPA- Idiographic.

4.6.1 Phenomenology

Phenomenology is a philosophy and a method of inquiry which looks at the what-ness of the lived experiences of the phenomenon as described by participants (Kafle, 2013; Cresswell, 2014; Urcia, 2021). It is an intellectual engagement in interpretation and meaning-making, which is used to understand the lived world of human beings at a conscious level (Qutoshi, 2018). According to Sloan et al (2014), there are two main phenomenological philosophers. The one lays emphasis on consciousness (transcendental) and essences (descriptive) Husserl (1859-1838), and the other on existential (empirical) and hermeneutic (interpretive) Heidegger (1889-1976).

Husserl (1859-1838),'s phenomenology involved stepping outside everyday experience and exercising reflexivity during the examination of the phenomena at hand (Smith, Flowers and Larkin, 2009). It is a scientific study of the appearance of things, of phenomena just as we see them and as they appear to us in our consciousness (Finlay, 2009). It describes what is given to us in the experience without obscuring preconceptions or hypothetical speculations (describes the lived world from the viewpoint of a detached observer).

Husserl (1859-1838), deals with various concepts of interpretation, including intentionality (fundamental property of consciousness to be aware of the phenomena), reduction (awareness and discarding prejudgements and opening the research interview with an unbiased reality, which sometimes is called bracketing), noesis (to think about the phenomena), noema (what is thought about the phenomena) and the horizon (present experience of the phenomena) (Embree, Husserl and Kersten, 1985; Finlay, 2009; Kafle, 2013). Husserlian phenomenology was orientated towards the post-positivism approach after he recognised that reality exists independent of the mind and can critically be examined based on lived experiences (Urcia, 2021).

4.6.2 Hermeneutics

Hermeneutics is the second theoretical underpinning of IPA Hermeneutics as a theory of interpretation or research approach is entirely separate from phenomenology although the two converge in the work of Heidegger (1889-1976) (Smith, Flowers & Larkin, 2009; Kafle, 2013; Urcia, 2021). Heidegger describes the world from both the object and the researcher's perspective. In other words, the observer cannot separate himself from the world (Kafle, 2013). According to

von Eckartsberg (2013), the hermeneutical-phenomenological approach deals with the structural orientation that aims to reveal the essential general meaning structure of a given phenomenon as provided by participants. A hermeneutic researcher returns to the experience to obtain comprehensive descriptions which act as the basis for a reflective structural analysis to portray the essences of the experience. In brief, Heidegger interpreted the world realties from two perspectives; Dasein – the reality of being part of the experience (Goldspink & Engward, 2019) and hermeneutic circle – researcher's interpretation goes through a revisionary process which implies that as the researchers obtains new information of the phenomena, their biases are reversed (Kafle, 2013). Finlay (2009) defined hermeneutics as the art of reading and interpreting the biblical text, historical documents and literary works or experiences in such a way that the intention and meaning behind the appearances are understood.

There are three prominent hermeneutic theorists including Schleiermacher, Heidegger and Gadamer (Thompson, 1995; Smith, Flowers and Larkin, 2009). The most underlying principle of hermeneutics is the double hermeneutic. This is the iterative interpretation that goes on when the researcher is making meaning of a participant who is also making meaning of their lived experience. The analysis involves the breaking down of the whole phenomena or experience into parts to seek an in-depth understanding of each part and later synthesise the parts into one whole. The process of interpretation goes through the hermeneutic cycle until meaning emerges based on either psychological theory or contextual representation of the phenomena (Laverty, 2003; Kafle, 2013).

4.6.3 Idiographic

The third theoretical underpinning of IPA is idiographic. "Idiographic is concerned with the particular rather than making claims at the group or population level to establish general laws of human behaviour" (Smith, Flowers and Larkin, 2009). Smith further explains that IPA's commitment to the particular, operates at two levels namely: a sense of detail which implies that research should be done at in-depth and systematic levels of analysis and understanding how the phenomena under study has been understood from the perspective of a participant in a particular context. The major implication is that IPA works with small, purposively selected samples that have experienced the phenomena under study. In brief, IPA – idiographic focuses

on examining a single case before looking for convergence and divergence amongst the experiences of the participants to make general claims. On the other hand, though, idiographic does not eschew generalizations, but rather prescribes a different way of establishing those generalizations (Harré, 1979). It locates them in the particular and hence develops them more cautiously"(Smith, Flowers and Larkin, 2009).

4.7 Reflexivity and IPA

The concept of reflexivity is where the researcher consciously acknowledges their bias and experiences (Cresswell, 2014) as well as the values that they bring to the study, to enable engagement with a philosophical and theoretical focus. In IPA, beliefs and assumptions are not biased and should not be set aside as they assist in making sense of the participants' experiences (Smith, Flowers & Larkin, 2009; Kafle, 2013). Reflexivity is an attitude of being consciously attentive and reflective during the research process (Goldspink & Engward, 2019). I embedded reflexivity in my research process at two levels namely; positioning myself as a researcher (how I enabled the unbiased collection and interpretation of data from the participants' experiences) and as a person who has experienced the phenomena in my current career (how my personal experiences of the phenomena shape findings) (Creswell, 2020).

My vast experience of being an educational technologist and chair of the Distance Learning Department in a dual-mode or traditional face to face HEI, especially in the period of COVID-19 was a good basis for reflection visa vie the findings of my study. My 'world views' related to the HE leadership transition from traditional to Digitalisation of Teaching and Learning (DTL) have been shaped by my experiences in promoting DTL in HE pre COVID19. Undertaking a study in this area has enabled me to understand that the meanings HE leaderships have attached to DTL directly influences their ability to transit to DTL.

4. 8 Data Collection Process

The data collection process presents the study population and sample, data collection and analysis methods that I deployed as aligned to IPA. Data collection is the process of systematically gathering and measuring information on variables of interest in order to answer stated research questions, test hypotheses, and evaluate outcomes (Creswell, 2020). Having received the ethical

clearance from the University of South Africa, I proceeded to write different requests for permissions to the public HEIs in Uganda. After receiving permission to conduct interviews in the various HEIs, I proceeded to send request emails and make phone calls to the identified participants for scheduling. All request emails included the UNISA ethical certificate, consent form, choice of interview and research instruments. Once, the prospective participant agreed to the interview, I would then proceed to share a Zoom link and the schedule. If a participant preferred face-to-face contact, I would take precautions to follow the standard COVID-19 operational guidelines as stipulated by the Ministry of Health and as operationalised in the specific HEI.

4.8.1 Data collection methods

Data were collected from a population of senior managers in the Ugandan higher education sector. Population refers to the entire group of individuals, events or objects having common observable characteristics that can be aggregated to conform to a given specification (Mugenda, 2003).

4.8.1.1 Sample

Sample refers to the part of the population that the researcher engages with. I adopted a purposive and broadly homogenous sampling strategy with strata to identify participants that had experienced the DTL phenomena at different management levels and would be in a position to provide first-hand information that answered the research questions (Brocki and Wearden , 2006; Smith, Flowers and Larkin, 2009). While purposive sampling is error bound, I minimised the errors by drawing a small sample that aligned appropriately with the sample space and IPA- idiographic approach.

Since this was a phenomenology study, I purposively obtained first-hand information from a small sample of seven academic leaders within five HEIs in Uganda. The participants had vast experience as their leadership spanned 2- 20 years in their current leadership positions. A small sample was in line with the requirements of IPA- idiographic which stipulates that analysis should be in-depth and on case to case basis to enable a manageable systematic examination for divergence and convergence in the data sets(Smith, Flowers and Larkin, 2009). Large data sets may result in the loss of potentially subtle inflexion of meaning for IPA studies (Brocki and Wearden , 2006). However, while I used a small sample, the data that emerged was a lot and took me a lot of time to understand and analyse. Demographically, the seven participants (Higher

49

Education Leaders-HL) consisted of two females and five males, ranging from 45 to 67 years, ranged from chairs of departments to university vice-chancellors hence allowing for stratification at strategic and middle line management (Digital enthusiast) as represented in table 5 below. While this was a phenomenological research and participants make different sense and meaning of their lived experiences, stratification allowed for the establishment of the divergences or convergence between the strategic and middle line manager.

Table 4: Demographic of research participants

Participants	Age	Gender	Mgt Level (years)	Designation	Purposive/ Stratified sampling
HL1	65	F	5	Head of distance learning Department	Middle line manager (Digital enthusiast)
HL2	67	M	12	Vice Chancellor	Strategic manager
HL3	58	M	20	Head of distance learning Department	Middle line manager (Digital enthusiast)
HL4	45	F	2	Head of Quality Assurance	Middle line manager (Digital enthusiast)
HL5	55	M	3	Vice Chancellor	Strategic manager
HL6	52	M	4	Deputy Principal of University College	Middle line manager (Digital enthusiast)
HL7	56	M	12	Deputy Vice Chancellor	Strategic manager

4.8.1.2 Semi-structured interviews

In line with IPA, semi-structured interviews were conducted through interactive face to face or online contact. Interviews and asynchronous virtual qualitative method with open ended questions are used in social sciences to enable new ideas to be brought up during the interview as a result of what the interviewee says (Creswell, 2020). Based on Smith (2009), I was guided by the interview schedule of in-depth open probing to establish rapport with the participants. The ordering of questions was less important as some participants preferred to talk about their digital experiences inclusive of COVID-19 disruptions all at once. However, as an interviewer, I was alert and ensured

that while I probed the interesting areas as raised by the participants, they were in line with the research questions. I ensured that the interviews were less funnelling to enable the participants to tell their stories, speak freely and reflectively. My interview protocol encouraged the HE leadership to express the meaning behind their digital experiences and adaptations strategies from a very personal perspective (Smith and Osborn, 2009).

Before administering the interview as stipulated by the UNISA ethical clearance certificate, I would brief the participants on the ethical issues such as respect of their privacy and confidentiality. I would then share with the participants my interview protocol, ethical clearance certificate and consent form at the start of the interview. Thereafter, I would introduce my research questions, the IPA design and request for permission to record the interview proceedings. While I used an interview protocol and schedule, the questions and how I asked them to the participants kept changing as I received more information and educated myself of the phenomena in the field – hermeneutic cycle (Laverty, 2003; Smith and Osborn, 2009; Kafle, 2013).

The interview schedules were also dynamic as they ranged from 45-60 minutes depending on the experience of the participant. Some participants were very knowledgeable, engaging, and passionate about DTL. Overall, my interview protocol allowed for rapport, empathy, flexibility of coverage, exploration of novel areas to produce richer data.

4. 9 Data Analysis Strategy

The Interpretive Phenomenological Analysis (IPA), specifically, idiographic was deployed to analyse data. The first part of the analysis process focused on the alternative analysis methods employed in phenomenology, the second reported on the IPA process of data analysis; the third indicated the practical analysis of participant HL7 transcript.

4.9.1 Analysis in phenomenology

According to Sloan, Bowe and Bowe (2014), there are a number of phenomenological analysis strategies with antecedents in both descriptive and hermeneutic phenomenology namely: descriptive, hermeneutic, Interpretative Phenomenological Analysis (IPA), Template Analysis (Langdridge 2007). Descriptive phenomenology (Giorgi and Giorgi 2003) involves four steps of analysis namely: description (openly reading), reduction (sorting of meaningful units), search for

essences (reflecting on each meaningful unit), and intentionality (based on research question essential structures of phenomena), focused on epoche and question bracketing (Qutoshi, 2018). The hermeneutic (van Manen 1997) cycle constitutes three steps namely: reading, reflective writing and interpretation, focused on textuality (Kafle, 2013). Template Analysis (Langdridge 2007) uses prior codes for analysis and is not well balanced across the cases. (Symon and Cassell, 2017). Interpretative phenomenological analysis (IPA) Smith & Osborn (2004) comprises five steps: looking for themes in the first case, connecting the themes, continuing the analysis with other cases and writing up.

All the above analysis methods are similar, however IPA tends to analyse individual cases in greater depth before attempting any investigation of a full set of cases (Smith and Osborn, 2008b). Notably, the sample for this study is also less than ten (10)and doesn't align scientifically with descriptive, hermeneutic and template analysis that require 15-30 participants (Symon and Cassell, 2017). While IPA is underpinned by theoretical frameworks including phenomenology, hermeneutics and idiography (Fade, 2004), this study followed the idiographic approach (Smith and Osborn, 2008b) to analyse the lived experiences and adaptations of leaders to the digitalisation of teaching and learning in Higher Education. The fact that IPA uses an in-depth analysis of the three-level hierarchy made it easy to explore case by case of raw data before moving across all the seven cases to develop and generate structures and stories that were categorised into themes to answer the research questions. However, as a researcher, the fact that participants sometimes talked about things I had not asked, led to production of data which was sometimes difficult to analyse (Jorgensen *et al.*, 2004)'.

4.9.2 The process of data analysis

The data analysed in this section was collected from seven purposely selected participants, code named HL1 to HL7, HL1 representing the first Higher Education leader to be interviewed and HL7 the seventh and last leader to be interviewed. All interviews were zoom recorded except for two who could not oblige to being interviewed online (HL1 and HL2). I transcribed all the zoom interviews using the Ortai.com transcribing software and used the field notes to analyse the physical interviews.

I used participant HL7's transcript to illustrate the IPA procedures and appended the other six transcripts Appendix 5. Acknowledging the fact that a participant's lived experiences are closely related to their background, culture and history, this section also highlighted, all background and professional information to situate the participants' cases within the appropriate contexts. It is hoped that this will help the researcher and the reader understand the contextual factors that may have influenced the participants' experience with the phenomenon.

Given that IPA focuses on examining how individuals make meaning of their life experiences, the data analysis entailed finding out how participants made meaning of their lived experiences during the transition to DTL in their institutions. I also captured a detailed analysis of participants' personal accounts, presented and discussed the generic experiential themes in line with both the participants' and my interpretation, which is an expression of double hermeneutics in practice (Kafle, 2013). Therefore, I focused on individual participant's lived experiences, coded the meanings the participant constructed before looking for shared experiences and diverges across the cases.

I tried to understand what the experience of the transition to DTL was like from an individual higher education leader's perspective and at the same time to formulate critical questions referring to the material such as 'What is the person trying to achieve?

Is anything meaningful being said here which was not intended? Reflection on the above questions enabled me to realign my understanding of the phenomenon, reconstruct new meaning and change my perception about phenomena, a principle referred to as double-hermeneutics (Smith, Flowers & Larkin, 2009; Kafle, 2013; Smith, 2014).

According to Smith (2003) and Osborn (2004), IPA involves five steps;
    i.   Getting to know the data
    ii. Looking for Themes in the First Case
    iii. Connecting the Themes
    iv. Continuing the Analysis with Other Cases
    v.   Writing Up.
As described above, this section illustrated and explained in detail what is contained in each of the stages of IPA.

1. Immersion in the data of the individual interview	Reading, re-reading – becoming very familiar with the data
2. Initial note taking	Making notes and compiling a list
3. Development of emergent themes and include participants' 'voice'	Starting to identify codes and themes
4. Clustering themes – developing a table of themes	Beginning clustering, this results in various iterations (Eatough & Smith, 2008) looking for convergence and divergence, any commonalities or anything of note.
5. Each transcript completed before moving to the next	A single case is considered first (Smith, Flowers & Larkin, 2009) The process repeated for each individual transcript
6. Looking for patterns across cases	The clustering of related themes across cases, again an iterative process, until hierarchical groups of themes begin to emerge from developing sub themes.
7. Analysis continues during the writing up	The iterative process that is aided by a reflective engagement with the data

Adopted (Fowler, 2019)

Getting to know the data: This stage involved listening to the recording to ensure accurate transcribing of the collected data. This also included reading the transcripts to ensure that the collected data aligned appropriately with the research questions. Several corrections and realignment between the transcript and the field notes and the next interviews are done at this stage. For field notes that lacked recordings, this is the stage at which follow up interviews are conducted to ensure the correctness of the transcript.

 Looking for themes in the first case: This stage involved the reading and rereading of the transcript a number of times to familiarise oneself while making notes on the left-hand margin of the illuminating and significant things the participant said (Jorgensen *et al.*, 2004). Areas of attention included summarising or paraphrasing, associations or connections, preliminary interpretations, use of language by the participants, identification of sense of the participants and similarities and differences, echoes, amplifications and contradictions in what a person is saying. Thereafter, the researcher returned to the beginning of the transcript, while documenting emerging themes or titles from the small initial notes in the right-hand margin. This process enabled the researcher to pay attention to the emerging level of abstraction and expressions that enable

theoretical connections within and across cases while still grounded in the particularity of the specific thing said.

Connecting the themes: This stage involved the listing of the emergent themes on a sheet of paper and identification of interconnections (Jorgensen *et al.*, 2004). The themes were initially ordered chronologically based on the sequence with which they came up in the transcript. The next stage was, however, more analytical in its theoretical ordering, as the researcher tried to make sense of the connections between the emerging themes. Themes were clustered and concepts/ themes absorbed into major ones so as to make sense of them. During the theme clustering process, the researcher checked the transcript to ensure that there were existing connections between the emergent themes and the primary source material (the actual words of the participant). This iterative process involved a close interaction between reader and text. In principle, the researcher drew on her interpretative skill to make sense of what the participant was saying. After theme clustering, the researcher created a table of coherently ordered themes that captured the major responses from the participants on this particular topic. This table consists of major themes, theme and, an identifier that organises the analysis and facilitates finding the original data source through keys words and page numbers of the transcript (Jorgensen et al., 2004:72).

Continuing the analysis with other cases: At this stage, the researcher made a decision of either writing a single participant's transcript as a case study in its own right or incorporating interviews from different participants. However, data convergence and divergence was adhered to. Once each transcript had been analysed by the interpretative process, a final table of themes was constructed (Jorgensen *et al.*, 2004).

Writing Up: Finally, the researcher wrote the study report based on the final themes outlining the meanings inherent in the participants' experience (Jorgensen *et al.*, 2004). This involved the translating of the final themes into a narrative argument, interspersed with verbatim extracts from the transcripts to support the case. Attention was paid to distinguishing clearly between what the participant said and the analyst's interpretation or account of it. The researcher made certainthat the results (emergent themes) were discussed in relation to the extant literature.

From the above procedures, the following section shows the practical analysis process using HL7.

4.8.3 Practical analysis of participant HL7

Background of HL7

HL7 was aged 56 years and has been part of the top management team at his institution for the last 12 years. He is deputy vice-chancellor, finance and administration and his roles span broadly from strategic management and oversight on the administration to directing policy, acquisition of systems and technology. He is an ICT system person, with vast experience in leveraging ICT for management decision making. I interviewed him just after the COVID-19 pandemic had led to the closure of all educational institutions worldwide including his institution. He engages an evolutionary approach characterised by gradual integration of technology in a defined timeframe of approximately five years and does not believe in enforcement of DTL using institutional policies. The interview with HL7 resulted in five themes and 19 subthemes. The themes were: 1) digital experiences, 2) evolved institutional culture, 3) leadership capacity, 4) Institutional adaptability and 5) DTL gaps and mitigations. All the five themes, and eighteen subthemes that emerged from the HL7's data, were tabulated in table 8.

Step 1: Getting to know the data

To get familiar with the collected data, I listened in on the recordings several times as I transcribed the data using the Ortai.com software. This also involved referencing more literature and sometimes reconstruction of some interview questions and requesting for a follow-up interview. This happened on RQ2, when I realised that I had captured interview data belonging to RQ1 not RQ2. Such data analysis procedures are in line with double hermeneutics (Smith and Osborn, 2008a), a principle that enables a researcher to keep informing their understanding of the phenomenon under study depending on the interpretations in the field. The Ortai. transcribing software was very helpful in converting the audio of all the interviews with detail and accuracy and forwarded the transcript to my email which I simply downloaded and created tables in MS word. Table 6 below represents transcript HL7. The rest are appended.

The code-name HL7 stands for the participant while the letter R represents the researcher who conducted the interview.

Table 5: Interview transcript for participant HL7

Transcript -HL7
R: Good day Professor. Like I explained, I'm a PhD student. And I'm in the university of South Africa. And I'm studying education, leadership and management. My topic is about leadership transition in higher education Amidst digitalization of teaching and learning, a case of open distance learning in Uganda, I'm looking at the fact that we now have a new emerging landscape, or maybe the new normal, it's an expectation of the leaders to change or be dynamic in their leadership styles practices to be able to embrace leading for digitalization of teaching and learning. well, I occasionally say that the HE leaders don't reinvent themselves and go from the traditional leadership to the leading for digitalization, we risk having students or product outcomes that are not good for the existing market. So that is what I'm looking at. And basically, this is a phenomenology study, phenomenology in the sense that it looks at the experiences its exploratory nature. And you're going to realize that a be looking at how you make meaning out of these experiences. How do you make sense out of these, these experiences? What do they really mean to you? So allow me maybe start collecting your bio. I will go straight to question five, because I know that rest for how long have you been in this institution? Actually, in your current position?
HL7: getting to eight years
R: Okay, thank you . What are your current roles?
HL7: broadly strategy management and oversight on administration. Okay,
R: um, have you held any other leadership positions? Apart from in the current institution? In the previous years?
HL 7: Yes. before then I was with UCU as faculty Dean .
R: Thank you. So, we're going to be starting the research question. My first research question is basically what are the lived experiences of leadership amidst digitalization of teaching in higher education? Are you notice I use the word leadership instead of leaders because I'm trying to look at leadership as a collective activity in the university. So, my first interview protocol question is ... what is do you understand by digitalization of teaching and learning?
HL7: It is, very broad, fairly broad because it is linked to two things one, it's linked to level of technology for the institution, Level technology for both students, and staff. Now, broadly speaking, one will be thinking about how to use computer technology to efficiently Deliver University mandates. So, digitalization then starts with how you use technology at a leadership level, you want to use technology for coordination, for conversation, you want to use technology for managing information, data, you want to use technology for in terms of resource as a resource for, getting ideas. So, broadly, it is about my view, it's about how do you allow processes which can be replaced by technology to be replaced by technology, while you keep your sight on those human elements of leadership that will never be taken away. So that in a broad sense, that's my understanding that information now can be kept on a computer, generated by a computer, can be accessed easily, using computer technology can be shared easily. So if you take that and place it before a leadership team, then you quickly realize many things you can do efficiently, you can cut down on time in terms of access of data, access to information, you can also cut down time in terms of having a meaningful conversation, and reporting. So I don't know whether I have answered you, but I've kept that at a fairly broad level. And so when you get down to teaching and learning , you are saying-- what can technology do to make the conversation between students and teachers more meaningful and creative without the restrictions of mind process. What does that mean? That means that in terms of providing information, we should be able to give the students the information they need, access without you engaging with the information, they should able to do without you as a teacher, and then you come in to facilitate their understanding and broaden the frame of knowledge that they possibly would be deriving outside teacher information given to them and leverage it to solve problems.
R: Thank you Prof. our next question is . What has been your personal experience with digitalization of teaching and learning in your institution in terms of processes, challenges and appreciations?
HL7: About four years ago, we had a strategy for doing this, for moving our learning teaching processes, from manual processes to those that are delivered through technology and one of the things , we did was invest in to first procuring the system and be able to customize it to our needs. And then we started the process of buying in from staff by training, people we felt would be interested because at that time it wasn't a policy, two , there was no COVID. So , we're trying to project for ourselves what, the environment would be like four or five years down the road. So, application and appreciation of technology was important, and we trained staff to be able to look up their own material and learn how to provide that material on the system, then be able to create access for them and for the students, initial three years, this was an experimental and was not a requirement. Like now, in the present circumstances, we feel very lucky that we did those experiments at that time, because now we have the group of teachers, lecturers who have become trainer of trainers- who have become people who encourage others that it is possible to do teaching and learning, using technology, to provide information to students, to interact with, wherever they are, for sure, because they have access to the internet, using whatever device. So our own experience, of course, I, have not directly gotten in teaching and learning for the reason that my remit is really outside in alignment. But from the point of view of providing oversight over technology systems, oversight of what the university needs, I think I've been involved in that way, ensuring that you have a strategy, we have an eLearning the policies, who have been having training and workshops in providing both skill, but more in providing attitudes change, for members of staff to appreciate that what is going on is not a change of their job, but change of the tools they have in order to do their job better. So my involvement ,has been more at strategic level in terms of directing policy, directing acquisition of systems and technology. We were lucky. During the Africa Development Bank project, government of Uganda, that in that project, we were able to benefit by extending the fibre optic networks across our buildings, we were able to acquire a data centre that would allow for storage of huge data in our system. We're able to acquire additional equipment. We're also able to acquire specialized training on eLearning. This has come in handy in that institution is not yet there but I think that it is moving on the right path if we're not for if we're not for the lock downs and closures. I think that we will be getting to a stage where eLearning is beginning.

Step 2: Looking for the theme in the first case

I read and re-read the transcript several times to familiarise myself with the interview data. I drew a two-column table and placed the collected data in the left column and the impressions/reflections/explanations/meanings from the responses on the right for an in-depth examination of the meanings of the experiences from the participants' view of points (De Castro, 2003; Taylor-Powell, 2003). I used the right-hand margin to note interesting and significant aspects about the experience of the participants. I noted down similarities and differences, echoes and amplifications, contradictions, associations and connections, and preliminary interpretations. Then transformed the initial notes that captured the essential quality of the findings into concise phrases forming the themes.

The identified themes represented responses at a slightly higher level of abstraction with a theoretical connection across the cases. While other phenomenological methodologies such as Husserl (2008) require 'bracketing', I viewed the lived experiences from the personal and individual accounts of the participant, however, maintained an active role and treated the study as a dynamic process rather than an event in itself through the process of interpretative activity (double hermeneutic) (Jorgensen *et al.*, 2004). Major implications were that my interpretations of digitalisation of teaching and learning in HE kept changing and building up depending on the respondents' meanings of their lived experiences.

Table 6: Emerging themes in from participant HL7

Transcript	Exploratory notes	Emerging themes
R: Good day Professor. Like I explained, I'm a PhD student. And I'm in the university of South Africa. And I'm studying education, leadership and management. My topic is about leadership transition in higher education Amidst digitalization of teaching and learning, a case of open distance learning in Uganda, I'm looking at the fact that we now have a new emerging landscape, or maybe the new normal, it's an expectation of the leaders to change or be dynamic in their leadership styles practices to be able to embrace leading for digitalization of teaching and learning. well, I occasionally say that the HE leaders don't reinvent themselves and go from the traditional leadership to the leading for digitalization, we risk having students or product outcomes that are not good for the existing market. So that is what I'm looking at. And basically, this is a phenomenology study, phenomenology in the sense that it looks at the experiences its exploratory nature. And you're going to realize that a be looking at how you make meaning out of these experiences. How do you make sense out of these, these experiences? What do they really mean to you? So allow me maybe start collecting your bio. I will go straight to question five, because I know that rest for how long have you been in this institution? Actually, in your current position?		
HL10 : getting to eight years		
R: Okay, thank you . What are your current roles?		
HL10: broadly strategy management and oversight on administration. Okay,	broadly strategy management and oversight on administration , directing policy, directing acquisition of systems and technology.	
R: um, have you held any other leadership positions? Apart from in the current institution? In the previous years?		
HL 10: Yes. before then I was with UCU as faculty Dean .		
R: Thank you. So, we're going to be starting the research question. My first research question is basically what are the lived experiences of leadership amidst digitalization of teaching in higher education? Are you notice I use the word leadership instead of leaders because I'm trying to look at leadership as a collective activity in the university. So, my first interview protocol question is ... what is do you understand by digitalization of teaching and learning?		

Step 3: Clustering (connecting) the themes

I listed all the emergent themes on a sheet of paper to look for existing connections. I then grouped similar themes that emerged under the same title. I continued to transform the initial notes into themes for every read transcript. Whereas in the initial coding stage, I represented data chronologically, at this stage, data representation was based on the theoretical connections. I clustered some themes as core and others as subordinate, continuously checking the clustered themes against the transcript to ensure a relationship with the actual words that the participant said. The analysis process was iterative, and I closely examined the data drawing upon my interpretation resources to make sense of what the participant was saying.

The table 8 below contains the clustered five themes and nineteen sub-themes from HL7. Therefore, there are other six tables for the other remaining six participants from which the cross-analysis was done to generate the final table 10 with three masters, twelve themes and thirteen sub-themes.

Table 7: Clustered themes for participant HL7

Themes	Sub-Themes	Exploratory notes
Digital experiences	Visioning digital strategies pre COVID-19	Existing traditional/blended learning programmes
		Inclusion of digitalization of teaching and learning in the institutional strategic plans
		Institutional digital regulatory framework e.g. polices
		Digitalisation of institutional services such as applications and admissions, accounts
		Institutional DTL low priority
		Centralised management
		Pockets of blended learning using both print and LMS
		Stakeholders' mistrust, resistance, fear toward digitalisation
		None enforcement of compliance
	Leveraging of existing institutional digital	Felt hardship/pressurized/felt overwhelmed
		Discontinuity of T/L
		Fast change –switchover from autonomy to mandatory
		Sense of shock and unpreparedness
		Sense of doubt and mistrust – attitude, fear
		Inadequate sense of mobilization
	Revisiting institutional strategies post COVID-19	Evolutionary approach to DTL integration—sense of direction, sense of patience, gradual change, non-coercion of stakeholders
		Acknowledgment of the sensitivity of institutional culture
		Acknowledgment of the fact that university is based on face to face setting
		Soliciting buy ins from both staff and students
		Snail pace of DTL initial integration but hopeful for it to pay off in the future
		Provision of access to technology and learning materials, adaptation of social media
		Phased resumption of learning is easing on pressure of adaptation

first order analysis - 05themes, 19 sub themes from HL7

Step 4:   Analysing shared   themes

During the fourth stage of data analysis, I summarised the themes into a master list. This involved clustering themes together into related groups to form order out of the emerging themes and ideas. From the master list, I was able to generate a smaller number of master, themes, and sub-themes. Then I moved to the next cases and repeated the whole process. Having completed the above process for all the cases, through comparison of the themes across the cases, I was able to generate a set of master themes for the group as whole.   I then combined the master list for all the transcripts and coded any new themes. Since the analysis was cyclical in nature, I continuously and consistently returned through the data analysis stage several times adding and altering to form more appropriate and meaningful themes. I discarded all the themes that seemed insignificant to most of the participants.

The table 9 below represents the first order analysis *05 Master, 19 themes and 10 sub themes across the seven cases*

Table 8: Shared   themes across the seven participants

Master Themes	Themes	Sub-Themes	Exploratory notes
Digital experiences	Visioning digital strategies pre-COVID 19		Existing traditional / blended learning programmes
			Inclusion of digitalization of teaching and learning in the institutional strategic plans
			Institutional Digital regulatory framework e.g. polices
			Digitalisation of institutional services such as applications and admissions , accounts
			Institutional DTL low priority
			Centralised management
			Pockets of blended learning using both print and LMS
			Stakeholders' mistrust, resistance , fear toward digitalisation
			None enforcement of compliance
	Leveraging of existing Institutional Digital	Feeling threatened	Sense of hardship, pressurized and over whelmed
			State of uncertainty
			Sense of frustration and disappointment
			Sense of discouragement
			Disrupted schedules and plans up to date
			Stakeholder doubt and mistrust, poor attitude and fear
		Changing practices	Rapid change from traditional teaching and learning to digitalisation
			switchover from autonomy to mandatory difficult
			Partial continuity of T/L such as research and other institutional services
			None operationalised regulatory frameworks e.g. SP , policies

first order analysis - 05 Master, 19 themes and 10 sub themes across the seven cases

Table 9: Second order analysis across all the seven participants: Illustrates the three master themes, 12 themes and 13 subthemes across the seven cases

Master themes	Themes	Sub-themes
Digital experiences	Visioning digital strategies pre-COVID-19	
	Leveraging of existing institutional digital strategies	Feeling threatened
		Changing practices
		ICT infrastructure and connectivity
		DTL competencies
	Rethinking Institutional Strategies post- COVID-19	Operationalisation of DTL
		Institutional culture
		Boosting ICT infrastructure and Connectivity
		Stakeholders mobilisation
	Neutral state of transition	Sense of success
		Unsettled state
Virtual institutional landscape	Channels of institutional communication and social interaction	
	Mechanisms of institutional culture operations and practices	
	Leadership roles and power structures	
	Leadership knowledge and competencies	
Institutional adaptability	Mobilisation of the workforce	
	Financial resource mobilisation	
	Institutionalisation of DTL	
	DTL gaps and mitigations	Inadequate support from the government
		Inadequate institutional leadership direction
		Mitigations

second order analysis - 03 Master, 12 themes and 13 sub themes across the seven cases

Table 10: How the seven participants loaded on all three Master and the twelve themes

Master Themes	Themes	HL1	HL2	HL3	HL4	HL5	HL6	HL7
Digital experiences	Visioning Digital strategies pre-COVID 19	✓	✓	✓	✓	✓	✓	✓
	Leveraging of existing Institutional Digital strategies	✓	✓	✓	✓	✓	✓	✓
	Revisiting Institutional Strategies post- COVID 19	✓	✓	✓	✓	✓	✓	✓
	Neutral state of transition	✓	✓	✓	✓	✓	✓	✓
Virtual institutional landscape	Channels of institutional communication- social interaction	✓	✓	✓	✓	✓	✓	✓
	Mechanisms of institutional culture operations and practices	✓	✓	✓	✓	✓	✓	✓
	Leadership roles and power structures	✓	✓	✓	✓	✓	✓	✓
	Leadership knowledge and competencies	✓	✓	✓	✓	✓	✓	✓
Institutional adaptability	Mobilisation of the workforce	✓	✓	✓	✓	✓	✓	✓
	Financial Resource mobilisation	✓	✓	✓	✓	✓	✓	✓
	Institutionalisation of DTL	✓	✓	✓	✓	✓	✓	✓
	DTL gaps and Mitigations	✓	✓	✓	✓	✓	✓	✓

how the seven participants loaded on all three Master and the twelve themes

Step 5: Writing up

Finally, I narrated the findings based on the final three master, 12 themes and 13 sub-themes outlining the meanings inherent in the participants' experience (Jorgensen et al., 2004:76). This involved the translation of the analytic themes into a narrative account. The shared themes across the participants' accounts became the structure to the write-up while the conflicts summarized in the diagrams form the three sections of the results and the different participants' experiences in relation to these themes formed the basis of the narrative account (Smith and Osborn, 2008b:235). The write up distinguished clearly between what the participant said and my interpretation of the phenomena. This study being an IPA, required the presentation of both the individual findings per participant and the findings across all the cases. Therefore, the write up of the findings consisted of one section and chapter: Section 4.7.4 included here in chapter 4 included the individual participants' findings for participant HL7 while Chapter five included the final findings of the study across all the seven participants. The discussions of the findings in relation to literature was indicated in Chapter 7.

4.9. Validity and Quality

According to (Noble, 2015) qualitative research has been frequently criticized for lacking scientific rigour because it possesses poor justification for adopting research methods, inadequate transparency in data analysis and discussion of findings, hence, presenting and disseminating personal and biased knowledge. Since I followed IPA(Smith, Flowers and Larkin, 2009), I also adopted the recommended Yardley's criteria for validity. According to (Yardley, 2000), there are four broad principles for assessing the quality of qualitative research including: sensitivity to context, commitment and rigour, transparency and coherence and impact and importance. All these have been described in detail below.

The principle of sensitivity to context requires that high quality IPA demonstrates awareness of the socio- cultural setting and existing literature. Therefore, being aware that the Ugandan HE landscape is predominately traditional face to face, however with existing none operationalised ODel framework aided research validity. The usage of the golden interview question, 'did your existing eLearning systems enable your institution to continue teaching and learning during the lock down to curb the spread of COVID-19?' provoked the participants to provide evidence-based

information such as National council of Higher Education ODeL accreditations and evaluations forms, governing bodies circulars, students consent forms to engage on the ODeL systems, MOODLE platforms and budgets etc. With IPA there is an expectation that commitment and rigour will be shown in the degree of attentiveness to the participant during data collection and thoroughness in terms of the appropriateness of the sample. To ensure commitment and rigour of the study, I interviewed at least two participants from each HEI, most of the findings between the strategic and middle line manager (digital enthusiasts) were found to correlate. Transparency and coherence, the third principle of validity refers to the clarity of how the stages of the research process have been described in the write-up. Which in this study, I ensured by carefully selecting and interviewing participants in additional to clearly and accurately presenting participants' perspectives in a writeup. Finally, (Yardley, 2000) asserts that, the test of real validity of any research piece lies in its impact and importance i.e., whether it tells the reader something interesting, important, or useful. Which this study achieved by making great contribution to the body of knowledge in the field of digitalization of teaching and learning in the Ugandan higher education landscape and beyond.

Furthermore, (Smith, Flowers and Larkin, 2009) recommended the need for engaging an independent audit in validating qualitative research. An independent audit involves filing all the data to create a chain of evidence that leads from initial documentation through to the final report, for example, an IPA interview project should have an accessible trail consisting of the whole procedure including initial notes on the research question, the research proposal, an interview schedule, audio tapes, annotated transcripts, tables of themes and other devices, draft reports, and the final report. In this case, all these documentations have been availed in softcopy and can be accessed on request beside samples of the data collection to writeup of individual cases have been included in appendix 2-5 and the supervisor carried out a verification for the credibility of this thesis by looking at the first and last interview transcript annotated with the initial codes, categories, and themes. The supervisor also checked for annotations in relation to the text and the approach being employed in the transcript. The supervisor also gave feedback on the final themes in relation to reality and practice.

4.10 Conclusion

This chapter has discussed the issues of methodology that underpinned the study by documenting the research planning, approach, paradigm, design, and rationale for the methodological approach. IPA qualitative research approach guided by the social constructivist paradigm with an interpretive epistemology was engaged to answer the following research questions: What are the lived leadership experiences amidst a transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)?; How is the HE landscape evolving amidst the digitalisation of teaching and learning and; How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

Semi-structured interviews were used to collect data from seven senior HE leaders purposely selected across five degree awarding public HEIs in Uganda. Specifically, for this study, the idiographic philosophical approach from the IPA was deployed to analyse case by case before moving to the final analysis across all the seven cases. Three master, twelve themes and thirteen sub themes emerged from the data. Validity and quality procedures for this study were also presented in this chapter. The following chapter 5 will cover the write up of the findings of this study across all the seven (07) participants; chapter 6- discussions of the findings in relation to literature and theoretical framework of the study as well as present the developed transitioning framework and chapter 7- summary, conclusion, and recommendation of this study.

CHAPTER 5: FINDINGS

5.1 Overview

The previous chapter presented the methodology, indicating the criteria of transforming the tables into a narrative according to the lived experiences of the participants. This chapter presented the findings of the study specifically highlighting the converges and diverges across the seven cases. Generally, the findings indicated that HE leadership experienced an iterative process as they transitioned from traditional face to face to digitalisation of teaching and learning. Specifically, 03 master themes, 12 themes and 13 sub-themes emerged from the data analysis to answer the following three phenomenological research questions:

RQ1. What are the lived experiences of leaders in a transitioning HE landscape?

RQ2. How is the HE landscape evolving amidst the digitalisation of teaching and learning?

RQ3. How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

5.1.1 Findings

Each of the participants in this study had significantly different intersecting identities and digital experiences. The research questions were used to organize emergent themes across all the seven participants into three broad organizing categories to allow for closer interpretations of experience across the diverse participants. These organising categories (master themes) include digital experiences, virtual institutional landscape and, institutional adaptability. Interpreted meanings identified as themes and subthemes had a frequency of occurring across all the participants. In total, findings across the seven cases indicated three master themes, 12 themes and 13 sub-themes as explained in detail in the following section.

5.2 Master theme 1: Digital experiences

All the seven participants loaded under master theme one, digital experiences. Digital experiences were a broader theme that emerged from RQ1: What are the lived leadership experiences amidst transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)? The master theme examined how leadership made meaning of their lived digital experiences pre- and post-COVID-19 in Higher Education Institutions (HEIs). Important to note is that all

institutions here sampled already had existing pre-COVID-19 digital strategies including regulatory frameworks, ICT infrastructure, Open, Distance and eLearning (ODeL) coordinating centres, trained faculty among others. However, these had remained none operationalised. Moreover, much of the massive existing ICT investments had been geared towards supporting other institutional service functionalities including accounts, HRM, students' admissions and registrations rather than online teaching and learning. On the other hand, some participants especially at strategic level hinted that there had actually never existed a need for operationalisation of DTL in their institutions given the traditional face to face structural set-up of HEIs in Uganda.

In summary, four themes and ten subthemes emerged from the broad category of digital experiences across all the seven participants. The themes included visioning digital strategies pre-COVID-19, leveraging existing institutional strategies, institutional rethinking post-COVID-19 and, neutral state of transition.

The first theme, "visioning digital strategies pre-COVID-19", did not have any subthemes while the "leveraging existing digital strategies" theme had four subthemes, including, feeling threatened, changing practices, CT infrastructure and connectivity and, DTL competencies. "Institutional rethink post-COVID-19" included four subthemes: operationalisation of DTL, institutional culture, ICT infrastructure and connectivity and stakeholder mobilisation. The two subthemes that emerged from the "Neutral state of transition" theme included: a sense of success and an unsettled state.

5.2.1 Theme 1: Visioning digital strategies pre-COVID-19

Participants were asked to share their personal experience with the digitalisation of teaching and learning in their institution in terms of processes, challenges and appreciations.

The findings of this study indicated that all seven participants had experienced a state of visioning for digital strategies pre-COVID-19. They all mentioned having existing blended/distance/online learning programmes or technology enable learning at their institutions that had necessitated institutional planning though at a lower priority pre-COVID-19.

The "visioning digital strategies pre-COVID-19" theme was characterised by inclusive digital institutional strategic plans, digital regulatory frameworks and policies, budgetary allocations, digitalisation of institutional functional services such as accounts, students' applications and

admissions, robust ICT infrastructure, and capacity development, all which were partially operationalised pre-COVID-19. For example, HL7 alluded to the fact that his institution had four years ago envisioned the transition of their learning processes from the traditional face to face to digitalisation:

> *About four years ago, we had a strategy for moving our teaching learning processes, from manual processes to those that are delivered through technology. We were trying to project for ourselves what the environment would be like four or five years down the road. So, application and appreciation of technology was important.*

HL2 related his institution's initial plan to cater for the existing blended learning programmes, noted to have experienced low enrolments which has kept the blended programmes less attractive.

> *We were not very much affected during the COVID-19 pandemic lockdowns because we already had been running blended learning programmes for about ten years, created all supporting structures including the ODEL coordinating centre, polices and inclusion as one of the pillars in our strategic plan 2020/2025, however they had attracted low enrolments which still leaves online teaching less popular here.*

HL6 said that his institution had been running traditional distance learning/blended learning for external students pre-COVID-19 but with a non-operationalised ODEL policy in 2015:

> *most of the digitalization that we're doing was in traditional distance learning programmes. Because people thought that probably digitalization will be the low hanging fruits, given the fact that these were the students who are not at the university. While we had an ODEL policy in 2015, It was not mandatory for one to go online or to put their work online.*

In 2015, HL5 had projected a 75% digitalisation of teaching and learning and compliance rate by 2025 to his institutional top management team:
> *By 2025, 75% of the programmes at this university will be online, I presented that to top management and there was an uproar. They said it was impossible. It is extremely impossible that by 2025 we would have 75% of the courses online. However, little did people know that there would be this problem of COVID. I'm fascinated at the pace of transition from face to face to DTL.*

HL4 said that her institution profiled itself as blended/technology enabled:
> *But right from its beginning, it profiled itself as a university that uses technology. If you look at the website, you might still be able to see where they have a tag attached to their name, like in the university of technoscience. And they based on that from the beginning. They said for them, they were using blended learning.*

HL3 also said that his institution was using the traditional distance learning mode of delivery using print materials for teaching and learning pre-COVID-19.

> *Digital experiences here are very minimal. As I told you earlier, we are more into the traditional way of doing it— print mode, the digital experience is beginning now to come in, one form of DTL is that we trying to upload these study materials into the LMS. That's how we're trying to do it now, because of this pandemic. But all along, we have never been into the digital watermark.*

HL1 further indicated that her institution had included DTL in its institutional strategic plan and therefore with an allocated annual budget, however, with a phased operationalisation plan:

> *DTL was included as one of the pillars of the institute strategic plan 2020/2025, my Institute allocates an annual budget to the distance learning department to manage the DTL function such as running basically distance learning programmes, DTL stakeholder capacity development, improvement of the infrastructure however in a phased up approach.*

More still, while all the participants indicated having had a robust ICT infrastructure and connectivity at their institutions pre-COVID-19, they also noted inadequate optimisation as numerous ICT devices were left underutilised. For example, HL3 and HL7 from the same HEI indicated that existing massive ICT investment from the African Development Bank (ADB) had enabled the installation of an e-campus application with two functionalities – Learning Management system (LMS) and records management system to handle students' e-admission, registration, payment of fees, an expansion of their fibre optics network connection and acquisition of a data centre. HL4 also indicated that while her institution had set up the MOODLE platform, usage of non-interactive instructional materials for teaching and learning prevailed. HL5 said that his institution had in place an ICT development plan to guide the phased rollout of resources and procedures as a major approach to DTL. On the other hand, HL6 indicated that while his institution had digitalized almost all its processes including human service processes, academic registry processes, library processes, the digitalisation of teaching and learning was still inadequate.

More still, HL1 and HL2 from the same HEI boosted the existing strong ICT function such as a robust ICT infrastructure, including video conference facility for regional trainings, connected to over 128 countries worldwide, virtual learning environment–LMS, Turnitin- plagiarism detection software software, AIMS, digital libraries in T/L, however, optimisation was still limited:

We have a broadband connectivity and wireless network connections for the entire main campus and its four satellite campuses. Internet access is provided in classrooms, libraries, faculty rooms, conference rooms and laboratories including desktops, tablets, laptops, servers and a video conference, several software packages and platforms that are used across the institute for teaching and learning, including a virtual learning environment, anti-plagiarism software (Turnitin) and, AIMS, WhatsApp facility, however utilisation is still non-optimal.

Furthermore, all the participants had engaged in mobilising, lobbying, sensitising, and capacity development of the stakeholders for DTL, however, stakeholders' attendance was on a voluntary basis. For example, HL1 and HL2 said that their institution had continuously on semester basis developed digital stakeholders' capacity on designing and teaching an online course, mind-sets change, however attendance had been voluntary. HL3 and HL7 indicate that their institution had pre-COVID-19 started training to solicit for buy-ins from staff who would be interested because at that time it was not a policy, a strategy HL3 found very hectic given the fact that he oversaw training while his counterpart HL7 remained strategic. HL4 and HL6 indicated a 45% and 40% training rate at their institution respectively pre-COVID-19.

The findings also showed that while all the institutions had developed capacity, HL6 indicated that his institution was engaging a learning by doing approach for faculty and students capacity development sessions:

Our trainings are, we provide all the trainings online, if you want capacity, if you want capacity building for training our staff, we, must practice what we preach. We don't want a session where we are teaching people to go and teach online, but we are in face to face.

Participants also indicated that the general institutional practice had included low prioritisation of digitalising of teaching and learning as its implementation was autonomous and voluntary amongst the stakeholders given the fact the various institutional strategic functions did not evoke policy for compliance. HL1, HL4, HL3 said that their institutions practiced decentralised autonomy as the management and implementation of the DTL had been tagged to the institute coordinating unit which left participation of faculty voluntary hence challenging the diffusion and integration of DTL across the institute. For example, HL1 said:

DTL has been tagged to the institute coordinating unit which has left participation of faculty as optional hence challenging to diffuse across the institute.

HL3, HL5, HL6 and HL 7 also indicated that while there existed the LMS pre-COVID-19, usage was by the willing and not a requirement. HL5 had this to say:

> *There was a learning management system in place, yes, but it was kind of an optional system which was there and if you wanted you could use, if you didn't want, you will not use. So yes, the digitalization was on a voluntary basis before COVID-19*

Furthermore, the participants noted having experienced opposition in terms of mistrust, resistance, and technophobia during the implementation of DTL pre-COVID-19. HL1 and HL3 said that there was inadequate institutional acceptance and identity for distance learning/DTL pre-COVID-19. In fact, DTL had been rejected and less recognised.

For example, HL3 said:

> *Many things about distance learning, a matter of seeing that word will be thrown here, somebody does not even read. It might not even be supposed to be handled in this department, but somebody just says, "haaa, just throw it to the department".*

HL4, HL5, HL6 all said that their institutions were full of non-enthusiastic stakeholders with poor attitudes, mistrust, rigid mind-sets. In fact, some stakeholders thought that adapting DTL would comprise the quality of teaching and learning.

For example, HL4 had this to say:

> *I think it is something of attitude. For example, I even set up an orientation course, for orienting staff to teach online in that Moodle platform where every staff can roll into. I tried to do step by step, what a person can do when you log in what you do, how you set up your courses, you need some instructional design, how you develop your instructional design, some of them are recorded, I even sourced some videos that I useful to explain steps. And some still call and say, "how do you do this?" so sometimes, I wonder what is really the issue that will make us reach the tipping point where, the majority will be able to say, Okay, this is really something. But so far, they are they are just few people who are enthusiastic*

HL6 also said:

> *The first challenge has been the attitude of people. Up today, there are people who think that by going to online, were are compromising quality.*

In conclusion, despite the few challenges pre-COVID-19, the participants seemed satisfied with their existing institutional digital strategies, exhibiting a sense of progress though gradual.

5.2.2 Theme 2: Leveraging of existing institutional digital strategies

All the participants were asked about the outcomes of the prior DTL institutional planning and visioning in the face of the COVID-19 pandemic when all education institutions including HEIs were closed under the presidential directive to curb the pandemic. The findings of the study showed that despite HEIs having had in place relatively substantive DTL supportive infrastructure including regulatory frameworks, robust ICT infrastructure and stakeholders' capacity development drives among others before the invasion of Covid19, unfortunately, at the time of leveraging these strategies, HEIs initially felt threatened as the existing DTL supportive structures could not enable business continuity. Therefore, theme two, "leveraging of existing institutional digital strategies" basically included the initial reactions of HEIs to the presidential directive to close all education institutions to curb the spread of COVID-19. "Leveraging of existing institutional digital strategies" comprised four sub themes: feeling threatened, changing practices, ICT infrastructure and connectivity and DTL competencies as discussed in detail below.

Subtheme 1: Feeling threatened

Notably, following the presidential directive to close all education institutions to curb the spread of COVID-19, Higher Education Institutions (HEIs) were expected to leverage technology for business continuity. Despite all the participants having expressed a sense of confidence with their existing DTL strategies at their institutions pre-COVID-19, they all hinted at initially feeling threatened as the need to leverage the existing strategies arose. All participants reported to have experienced a state of uncertainty, sense of discouragement, stakeholder doubt, mistrust, poor attitude and fear, disrupted schedules and a sense of frustration and disappointment. Some said that they did not understand what to do and were paralysed as they thought COVID-19 would kill everyone (HL6), other said that they thought it would be a temporary closure (HL5, HL2). Others said that their institutions experienced hardship, were pressurised and overwhelmed (HL7). Therefore, not much could be done with the existing pre-COVID-19 strategies until the situation subsided.

For example, HL2 had this to say:

> *The continuity of teaching and learning during COVID-19 using DTL was difficult. COVID-19 was a new phenomenon/we were all scared and government pronouncements*

were very misleading on engaging in online learning. Very little information on DTL was being provided, the government and the Ministry of Education seemed disorganised and up to now its negatively affecting the uptake of ODEL.

Basically, the threats were experienced differently depending on which capacity the participant belonged i.e., digital enthusiasts (HL6, HL4, HL3, HL1) or strategist (HL7, HL5, HL1). Threats were also being catalysed by different management levels i.e., government and institutional. The findings showed that some of the participants experienced a sense of discouragement. For example, the digital enthusiasts felt discouraged that all the labour of their hands in establishing structures for DTL over the years had been put to waste as institutions failed to leverage the pre-COVID-19 strategies for business continuity (HL 6, HL1 and HL4). HL6 said:

Of course, I felt bad the university of this calibre, it's a university which is normally rated first class should have continued its TL, So I felt very bad, because I think we had to be measured much better than those other universities, which just started recently

The findings also showed that the inability of HEIs to leverage the existing digital strategies disrupted teaching and learning schedules and plans up to date. All participants said that the COVID-19 pandemic disrupted the whole academic year amidst unpreparedness of online teaching and learning (HL3). HL3 said:

Yeah, it really disrupted our planning, because we have a kind of schedule for face to face sessions each given academic year, say for example, there are programs like diploma in special needs education, Jan, May, August, September are face to Face sessions. It disrupted up today, there are so many restrictions that came in, first of all, you know, that the standard operating producers-SOPs, and whatever it was kind of difficult, we couldn't go out, we were just here.

All the digital enthusiasts also said that they experienced a sense of frustration and disappointment with the blanket closure of all education institutions without giving an allowance for institutions that had in place substantive DTL infrastructure to continue teaching and learning (HL6). Some participants were disappointed with their institutions' managements that shunned the initial leveraging of the COVID-19 strategies for business continuity (HL1, HL4). HL6 said:

So, I really felt very, very bad. And I felt very bad, because government should have encouraged universities to build capacity and teach online. But there was a blanket closure of all universities, all education institutions, you know, so I don't feel good as a promoter.

Poor mind-sets including doubt, mistrust, poor attitude, and fear prevailed amongst all stakeholders including the government, institutional management, faculty and students. The stakeholders

76

mistrusted the use of technology to continue teaching and learning. Some participants suggested that their institutions thought that engaging DTL would compromise the quality of teaching and learning (HL5). Most of the participants especially the digital enthusiasts experienced much backlash from their colleagues who did not want to change (HL6). In addition to the existing challenging institutional internal controls, all the participants noted that the government was not supportive enough as there existed no national regulatory framework to guide DTL. More so, the government pronouncement towards streamlining DTL was misleading and misaligned which frustrated and created a lot of anxiety hampering digital transition in the education sector (HL1-HL7)

Subtheme 2: Changing practices

While the feeling of being threatened is plausible, all the participants said their institutions were able to continue teaching partially, given the fact that they had already engaged with online learning through their distance learning programmes. All the participants noted that their institutions had been running a dual-mode of delivery long before the COVID-19 pandemic, however on a small scale. Therefore, institutions were seen to partially continue teaching their distance learning students as well as carry on with online research supervision and examination and other institutional services. However, this was not immediately but after a period of two months of lockdown. Despite the shock from the abrupt lockdown, the findings showed a rapid change from traditional face to face to the digitalisation of teaching and learning at all the HEIs explored in this study. A case in point is when HEIs started conducting virtual or remote research supervision and examination using video conference applications such as Zoom, MS Teams and social media applications such as WhatsApp. Institutions started seating ad-hoc virtual meetings to forge a way forward (HL, HL1, HL2, HL3, HL4, HL5, HL6 and HL7). HL6 said:

> *Before COVID-19, the institute had already embarked on using Distance Learning, the students on DL were not affected. We started holding virtual via vocs for PhDs and masters.*

More still, while DTL had initially been voluntary, all participants said that their institutions started advocating for mandatory participation of all stakeholders including faculty and students. This was such a difficult process in such a short period of time and was met with a lot of resistance from

both faculty and students. However, HEIs were in a period of survival and therefore needed to adopt DTL for business continuity (HL7, HL6, HL1). HL7 said:

> *When COVID-19 came, we had a challenge. The challenge was the quick switchover from what was rather a voluntary exercise to moving it to space of almost requiring all members of staff to do it. Staff themselves were taken by surprise that now, they were being required to move their teaching to eLearning in a small-time space. Not everyone was prepared for it and not everyone had the right attitude towards using technology. Therefore, there was a degree of doubts, whether it would succeed, whether it will lead to successful learning process.*

Despite the rapid changes, all the participants hinted that their institutions continued to be challenged with none operationalised regulatory frameworks including strategic plans, Open, Distance and eLearning policies (ODeL), human resources, budget constraints and inadequate stakeholder mobilization (HL4, HL6, HL1). Notably, the initial autonomous practice had crippled the DTL system as stakeholders considered the shift unfair and uncomfortable hence taking long to respond to institutional governing organs and government pronouncements. As a result, the students were unable to attain the required contact hours and almost a whole academic year was lost (HL3). Some participants further noted that their colleagues refused to turn up at capacity building workshops leading to a skills gap (HL6, HL1, HL4).

Subtheme 3: ICT infrastructure and connectivity

These findings further established that while there existed an ICT infrastructure pre-COVID-19, all participants said that it was either non-optimised or inadequate, characterised by unstable internet connectivity, high costs of data and non-subsidies of taxes. HL4 said:

> *Did they even say that there's going to be a charge on internet isn't it? So, I kept asking myself, this is the same government that wants people to go online. So, you are increasing the charges and taxes on connection network. If staff are finding it challenging, what about students who do not have funds? Who are struggling?*

Some participants revealed that their institutions had either under invested or there existed more than what was needed but either due to lack of skills or ignorance, most of the infrastructure was left unused (HL7, HL1, HL2). HL7 said:

The truth is that we've not yet invested adequately and enough to be able to get everyone move on to eLearning and to be able to get the students to really get on board. We simply were not able. The investment that we have done is not enough to guarantee and ensure that students are able to access internet whenever and wherever.

On the other hand, there was also inadequate access to ICT devices by both faculty and students. Faculty resisted the use of their personal devices for DTL. HL6 said:

Access to devices, especially for students, and for staff, because you would find that staff have laptops, they have devices, but when it comes to teaching and learning some staff say… I don't want to use my computer for teaching and learning. whether they have another laptop, or whether they have five laptops or whatever. So, it looks like the staff want another additional computer. We have always tried to tell them that a computer is a computer, you can always use it for all the functions

More still, there existed a threat of poor cyber security. Some participants noted that fear of cyber insecurity deterred digital transition. Several participants noted that their institutions exercised cation and scepticism because they were afraid of cyber-attacks on their institutional networks (HL5):

The first challenge has been the attitude of people. Up to day, there are people who think that by going to online, were are compromising quality and there are people who think that we cannot continue to go digital because of issues related to cybersecurity in managing data, in managing our admission systems, in managing our financial management systems.

Subtheme 4: DTL competencies

The findings indicated an ICT and pedagogical skills' gap. All the participants said that they had experienced inadequate ICT and pedagogical skills in the process of leveraging technology for business continuity. While there existed prior professional/capacity development sessions for both faculty and students, that was still in its initial stages. In addition, participants noted that while the skills gap was rampant, faculty still resisted being trained (HL1, HL3, HL4, HL6). HL 6 said:

Most of the staff don't have the capacity to develop digital education. Neither do they have the capacity to facilitate in the digital education system. They're not willing to, even if they don't have the capacity, many of them are not willing to seek for solutions to be able to build their capacity. They are not willing, they are reluctant to and yet, they don't have the capacity, you would think. yes, because they don't have the capacity, they will be the first people to seek for training, but no.

Furthermore, online student support frameworks were also not in existence and those that existed were still non-operationalised for the massive enrolments that emerged because of transitioning the whole institute to online or remote teaching (HL1). There was also inadequate access to digital libraries including online resources and the required skills to search and use the existing online resources. In conclusion, a sense of unpreparedness for DTL groomed upon HEIs. Therefore, with all these dynamics playing around HEIs, all the participants noted that their institutions exhibited a sense of unpreparedness for DTL and therefore needed a rethink of the existing strategies for business continuity.

5.2.3 Theme 3: Rethinking institutional strategies post-COVID-19

This theme basically looks at the rethinking process institutions had to undertake in order to improve and increase the adoption of DTL for business continuity post-COVID-19. Participants were asked what happened next after a failed launch of DTL at their institutions during the COVID-19 pandemic. All participants having experienced a failed launch of DTL during the COVID-19 pandemic said that their institutions retreated and revisited their existing digital strategies. All the participants hinted that the process became iterative as it involved continuous leveraging and rethinking of the digital strategies for business continuity. The revisiting of institutional strategies post- COVID-19 coincided with the streamlining of the DTL through the release of the emergency Open, Distance and eLearning(ODEL) guidelines by the National Council of Higher Education.Theme three comprised of four subthemes which included operationalisation of DTL, institutional culture, ICT infrastructure and connectivity, and stakeholders mobilisation. The four subthemes are presented in the following sections.

Subtheme 1: Operationalisation of DTL

The subtheme looked at the inputs, processes and outcomes, institutions put in place to operationalise existing DTL regulatory frameworks as part of theme 3- rethinking of institutional strategies post-COVID-19. In reference to theme 2, 'leveraging existing institutional strategy', a stage where the existing DTL supportive systems had either been non or partially operationalised, the streamlining of ODEL by the National Council of Higher Education (NCHE) necessitated institutions to operationalise such systems. The findings indicated that in an effort to meet the NCHE accreditation standards, all HEIs need to self-organise. All the participants indicated that as part of self-organising to apply for the NCHE ODeL emergency accreditation, their institutions

were seen to constitute institutional COVID-19 online delivery taskforces/committees to compile their institutional application for accreditation as well as well as offer advisory services to their management teams on the DTL trends, institutional capabilities, etc.

> *An online delivery taskforce committee comprising of nine senior staff distributed across different schools and academic   entities   has been constituted in an advisory role to the institute top management team and to oversee the operations of the Distance Learning during the emergency ODeL implementation* (HL1).

Furthermore, in a bid to apply for institutional NCHE ODeL accreditations, institutions were seen to exhibit a sense of collective responsibility as institutional governing organs including the governing councils, senates, directorates, approved and issued common directives for institutional wide ODEL adoption. The NCHE ODeL accreditation further required that institutions operationalise their digital regulatory framework including the establishment and staffing of institutional ODEL coordinating centres, enforcement of stakeholders' readiness and compliance through sensitisation drives and resource mobilisation and budget reallocations for DTL adoption. More still, all the participants said that their institutions were required to possess a continuity plan. In alignment with the NCHE ODeL accreditation standards, the institutions set up to draft and operationalize DTL road maps to enable a streamlined integration of DTL. The road map comprised the actual teaching and learning, specifically, capacity and instructional development, readjustment of TL timetables/contact hours to get back on course.

Subtheme 2: Institutional culture

Institutional culture involved caution that institutional leadership exercised during the revisiting of institutional strategies post-COVID-19stage to ensure that they did not lose their identity as they reinvented themselves to lead for DTL. All the participants said their institutions exercised caution while being cognizant of their existing traditional face to face structure. Originally, public HEIs in Uganda were established as traditional face to face institutions with traces of Open Distance and eLearning (ODeL). However, due to the changing HE landscape resulting from digitalisation of teaching and learning, institutions were observed to morph into dual or to some extent online campuses. Generally, because of being sensitive to their original cultural establishments, institutions were engaging an evolutionary approach which allowed for gradual change, non-coercion of stakeholders but soliciting buy-ins (HL7).

While the process of DTL implementation seemed very slow, three participants—HL2, HL7 and HL5—were confident and prepared to follow the evolutionary model. However, four participants—HL1, HL3, HL4 and HL5—indicated that the evolutionary model encouraged decentralised autonomy that enabled the creation of non-collective stakeholders' responsibility which had faculty and students associating DTL to the coordinating unit instead of an institutional entity hence falling short of the workforce mobilisation requirements. HL6 had this to say:

> *especially for the promotors for digital learning it's huge workload because taking people to a sphere or a space which they're not necessarily used to requires a lot of cajoling, a lot, of convincing and it takes a resilient mind to be able to continue actually lobbying your colleagues, lobbying your friends, so lobbying your administrators, leaders to be able to take on this, you have to give or bring in a lot of reason as to why they should be able to get onto digitalized education*

Subtheme 3: Infrastructure and connectivity

This subtheme showed how the gaps in ICT infrastructure and connectivity were addressed to improve the online learning experiences for their stakeholders. As noted above during the previous stage of leveraging existing institutional digital strategies indictors pointed to a challenged ICT infrastructure and connectivity. While it could be noted that HEIs were experiencing budgetary issues, all the participants said that their institutions drafted and approved ICT master plans to guide their systematic ICT infrastructure integrations (HL5). Therefore, during the institutional rethink, major ICT strategies including increased investment in ICT infrastructure, acquiring more hotspots on campus, synchronous (Zoom, MS Teams) and asynchronous (LMS) applications, increased bandwidth and access to devices, allocation of data bundles to both faculty and students, etc., were put in place. More still, in a bid to reduce the internet costs, telecommunication companies were engaged for zero rate access to eLearning systems. Institutions were as well seen to join partnerships such as Research and Education Network for Uganda (RENU) and National Information Technology Authority (NITAU) for improved network connectivity.

> *We are working with NITAU to ensure that we are linked to the internet backbone to all our campuses, they haven't been like that, we are working with RENU to help us with a server which is free from cyber insecurity, which has reasonable cyber security, and we also use them to store data in the common internet cloud , we are working with Airtel to zero rate the students so that they can access our learning management system free*(HL5).

Subtheme 4: Stakeholders' mobilisation

'Stakeholder mobilisation' is the fourth subtheme under 'Revisiting Institutional Strategies post-COVID-19' and illustrates how institutional leadership improved mobilisation of their stakeholders to increase uptake of DTL. In reference to theme three, leveraging pre-COVID-19 strategies, participants were observed to have experienced many challenges in mobilising stakeholders including ICT/pedagogical skills gaps, inadequate mind-sets, resistance and mistrust.

The results of this study showed that HEIs put in place DTL supportive structures including massive stakeholders' mobilisation and sensitisation drives, mandatory ICT skills and pedagogical capacity development.

> *That's the time the university decided to be serious with online business, training staff and asking staff to transform some of the courses into online. One form of DTL is that we trying to upload these study materials into the LMS* (HL3).

More still, institutions were reported to have established and strengthened support frameworks including the operationalization of ODEL coordinating units, call centres, usage of social media such as WhatsApp, emails and websites as official channels of communication. Institutions were seen to identify and redeploy champions as a way of encouraging the late responders and changing of stakeholders' mind-sets., peer support through telling success stories.

> *Ensure that there is a team now at every campus, there is a core team of people who are trained in onlinisation. And these are people who have been identified carefully and have the motivation to go online. We hope that those people will help us to motivate and inspire the others, while we hope that our training program will help to change the attitude, we also have champions now* (HL5).

5.2.4 Theme 4: **Neutral state of transition**

Theme 4 essentially looked at the milestone of transition that leadership in HE has attained post-COVID-19. The natural state of transition shows that while there had been a notable transition, it was still midway.

After revisiting the DTL strategies, the participants further noted that while there was notable success, they still experienced setbacks during redeployment/leveraging of the improved institutional DTL strategies, but not at the magnitude of leveraging of pre-COVID-19 strategies. In fact, the institutions transited through the first (ending stage of transition) and second stages

(neutral stage of transition); however, they failed to proceed to the third (beginning stage of transition) and last stage of transition. The institutions were observed to be using both traditional and digital modes of delivery. For example, HL 3 said:

> *the other part the digitalization is a welcome idea. But on the other part of it, there are some people who are saying no, we still want to remain. That is why we have even delayed many programs being converted to online because of all that feeling and attitude of staff*

All participants also experienced frustration and confusion implying that the institutions were stuck in the neutral state of transition. All the participants said that at one point, their institutions had envisaged the eradication of COVID-19 and had been in anticipation of the situation normalising. However, they were left with no option as the president initiated a second lockdown. Theme 4 comprised two subthemes namely, a sense of success and unsettled state. The two subthemes are presented in the following subsections.

Subtheme 1: Sense of success
The findings indicated that during the neutral state of transition, all HEIs were observed to accept the fact that the HE landscape was evolving. All the participants noted that while their institutions had earlier been or were still in anticipation of returning to the traditional face to face post the COVID-19 pandemic, there was a substantive realisation of the changing HE landscape that triggered the need to transit from traditional to digitalisation of teaching and learning. However, this would follow a phased approach commencing with the boosting of the ICT infrastructure, stakeholders' mobilisation, and designing and teaching online courses amongst other requirements. The boosting of the ICT infrastructure involved enabling on campus access to internet connections, instructional materials and facilitators. All participants reported having improved their ICT infrastructure through acquisition of asynchronous and synchronous tools such as the LMS, MS Teams, Zoom, digital libraries, servers, fibre optics, campus Wi-Fi hot spots, provisions of devices and distribution of internet bundles to faculty and increased bandwidth.

> *have very strong support of the ICT function- The institute has been put in a situation where it has massively Digitalised our teaching and learning* (HL2).

All the participants also noted success in mobilising stakeholders including students and faculty through mandatory capacity development drives. The stakeholders were able to attain improved ICT/pedagogical skills, capability in designing and teaching of online courses and studying at a distance. Consequently, there was increasing stakeholders' engagements as all participants noted

seeing an increase in stakeholders' participation on the different DTL scheduled activities including capacity development workshops, institutional governing bodies' debates, and advocacy, DTL adoption, and design and teaching of online courses.

> *We've been able to have an awareness of the entire university, over 30,000 students are now aware about the concept of open distance and eLearning. And I could say also 100% of all the stuff at the university now have awareness about the concept of ODEL. Because previously, we would talk about ODEL and people never knew what it was* (HL6).

All the participants further noted that the rethinking of post-COVID-19 strategies stage yielded various successes, and that their institutions were in fact able to teach online using both the asynchronous and synchronous tools such as the LMS, MS Teams and Zoom. However, all participants also noted an institutional engagement of a parallel system consisting of both traditional face to face and digital elements of teaching, hence blended learning.

> *If you are not yet ready, you will still do most of your teaching in the traditional way. But we want to encourage you that, you could begin to do at least 10% or less as away of trying to sort of get into the current way of doing things* (HL7).

 All participants hinted that their institutions engaged students face to face specifically for the end of semester examination, while the daily teaching was online depending on the type of equipment and environment required. For instance, practical classes were seen to be scheduled for face to face on campus while theoretical classes were engaged using video conference facilities. HL1 had this to say:

> *My institution has continued to teach online using zoom, however, were are experiencing a challenge of online assessments, therefore all our end of semester examinations are still being scheduled on campus for face to face presence.*

Consequently, traces of evolving roles of both students and faculty were observed. All participants noted that with the adoption of DTL came a change in roles. Specifically, faculty was no longer the custodian of knowledge but a facilitator, and students were seen to use their devices to become active learners.

> *Teachers will be supporting the students to understand of course information, rather than on providing the information. and therefore you find in the last one month or so, if you came to campus, you will find students discussing material possibly having access to it, either through remote assisted technologies or from the website of the university, or directly with WhatsApp groups from the teachers*(HL7).

More still, frameworks for strengthening stakeholders' support were being prioritised. The institutions were observed to develop, approve, and operationalize the institutional DTL support frameworks including online learning delivery taskforces, call centers, ICT support desks, ODeL coordinating units and the existing academic structures of deans, HODs, course managers and module leaders. HL5 said:

> *We have a program for engaging students regularly, to discuss with them some of the challenges they're missing. And we have advised all faculties to ensure that they regularly meet with the students online to point out some of the challenges and how we can solve them. we are supporting the students both through the student learner support system, but also on the aspect of counseling. We have empowered the deans to continue counselling students, because many of them when they meet challenges, they drop out of the lecture, they think the system will not work.*

Development of visual aids and recordings were also engaged as a support mechanism to aid both faculty and students in the designing, uploading of instructional materials and studying online respectively. Consequently, there was an emerging trend of peer learning and support. Participants observed traces of faculty, students and peers supporting each other to log into the LMS, zoom meetings, uploading of instructional materials and coursework across campus. Furthermore, the findings established that channels of communication were evolving including the usage of social media. The support frameworks were seen to be engaging social media platforms such as WhatsApp, emails, or websites to handle ad hoc queries and inquires.

Additionally, as part of the support mechanism, all the participants noted a scheduling of stakeholders' support through stipulated duration attached to response time such as 24- and 2- hours' response time to emails and WhatsApp messages respectively. The findings further established that institutions were continuously monitoring and evaluating their ICT stakeholders' capability as part of the support mechanism. All the participants hinted that their institutions established periodic reporting mechanisms and surveys to evaluate the DTL progress. HL5 said:

> *If we are to learn, we need to monitor the process, we have carried out a survey to also bring in the users particularly the students. We have adjusted our monitoring system to capture online challenges. Quality assurance department is picking issues of online almost on a weekly basis.*

Inspiration from success stories were beginning to emerge as institutions registered substantive progress. All participants noted that their institutions had started identifying champions and encouraging sharing of success stories to encourage late responders and leaving no one behind.

we were taken by surprise; we must shut down the university- progress interrupted by the current lockdown. we had organized a workshop for storytelling for departments, and people who have done this successfully. Successful implementations included the early childhood department, which used eLearning, for training the students outside of the university in the PTC across the country. And they did so successfully, such that when online learning became a need for others, they were the ones to tell the story that it actually works, that we can get there (HL7).

Consequently, institutions were observed to acquire a sense of direction, hope for sustainable blended learning in the future.

But I think that we are moving on, well, to build for a more sustainable use of blended learning in the future (HL7).

Subtheme 2: Unsettled state

All the participants indicated that even though their institutions seemed to be enjoying some sense of success, they also felt threatened in one way or the other. The participants noted that there was a sense of frustration on side of the students resulting from inadequate access to the internet. All the participants said that most of their students were unable to afford internet and those who could also experience periodic internet disruptions depending on their locations and thus felt frustrated as their online classes got interrupted.

Internet is still a big challenge in our region not only in terms of bandwidth, but in terms of connectivity. In terms of presence, there are some areas where there is no presence of network. So even if you have the bandwidth, even if you have your data, you cannot be able to access internet in those areas. There's been a challenge of access to devices, especially for students, and for staff, because you would find that staff have laptops, they have devices. But when it comes to teaching and learning some staff say I don't want to use my computer for teaching and learning (HL6).

The participants indicated that both national and institutional ICT investments were inadequate. Notably, the government financial remittances had remained inadequate in comparison with the expected online learning deliverables amidst already struggling HE economies with dwindled fees collection due to the lockdowns to curb the spread of COVID-19.

you will know from Ministry of Finance that no budgets were changed in the favour of online learning, but they called for internal adjustments or reallocation within the existing

budget. There has been no incremental budgets to support the necessary investment, that is required for online learning, that actually has surprised many people(HL5).

While the culture of online learning was beginning to emerge as institutions experienced a shift in students' mindsets more students were seen to look for online resources from the LMS.

The culture of online learning is picking. Students are now looking for LMS as a resource, just as they could those days look for the book from the library, nowadays, you can hear students say, 'I'm going to LMS', 'I'm going to LMS', the courses are on LMS! or this assignment is on LMS, we are going to post it on LMS. So, in terms of teaching and learning, you will see that there has been a shift in mind of where students are looking for learning resources and learning activities online (HL6).

A sense of disappointment further prevailed especially among the digital enthusiasts due to the fact that faculty is still unable to integrate the pedagogical and ICT skills into their online teaching. Also, the participants indicated that the LMS was being adopted slowly and stakeholders preferred using alternative modes such as WhatsApp and video conferencing applications.

There is a partial adoption of the VLE/LMS as faculty focus on the use of real time learning platforms such as zoom, which is non-inclusive for learners with unstable internet connectivity. This also leaves the developed instructional materials unused by the intended stakeholders (HL1).

Such applications were incapable of creating a unified virtual address for the institutions and thus intensified the challenge of trucking students learning progress including attendance. The older professorship was observed not to adopt DTL as they exhibited inadequate skills, fear, poor mind-sets, rigidity, and resistance to change towards technology and its affordances.

truth be said, the older staff, who have been teaching using traditional methods now find this quite a tough challenge to get on board (HL7).

An inadequate sense of cost-sharing was prevalent as both faculty and students were frustrated with the fact that they needed to bring their own devices and sometimes purchase internet bundles for their engagement in online learning. Some students even demanded for revision of tuition downwards as they said they are not using institutional premises and therefore incurring a lot of wear and tear on their out of campus premises. Some participants, especially at strategic levels, expressed worry about the reduced human contact and the quality of learning outcomes as a result of adoption of online learning and as such were anticipating returning to normalcy after the COVID-19 pandemic.

> *Am worried about the future outcomes of teaching and learning because the transition is very fast and challenging. There has been a decline of human contact for the students and faculty, yet it's very important for teaching and learning* (HL2).

However, another very pertinent issue was the worry of how to get faculty and students who had been seated in the community for a year or six months thinking about survival back to scholarship

> *How will you get a teacher who has been out there seated for a year or for six months? How do you get him back to normal? How do you get your student who has been, you know, away in the communities, thinking about different things, time with thinking about survival? How do you get back this person to scholarship? I think those are the challenges* (HL5).

5.3 Master theme 2: Virtual institutional landscape

The virtual institutional landscape was a broader theme that emerged from RQ2**:** How is the HE landscape evolving amidst the digitalisation of teaching and learning? In order to understand how leadership was adapting to the changing HE landscape as a result of DTL, it was important to first establish the impact of digitalisation at both personal and institutional levels for the participants.

With the invasion of COVID-19 and adoption of DTL, participants indicated that all their institutions experienced a change in their institutional culture from face to face to media mediated contact, creating a virtual workspace characterised by new ways of communication, social interactions, modes of work, practices, values, power structures, and knowledge and competencies. The findings of this study further showed that the virtual institutional culture was characterised by flexibility which presented an opportunity for faculty to work anywhere and anytime and hence saving on time and cost. HL5 for instance reported that faculty at his institution usually travelled very long distances given the poor transport network in the countryside, to teach a few hours' lectures. He thought that the emergence of the virtual institutional culture had solved most of the distance challenges by breaking down walls and barriers to communication and work.

> *A lecturer who sleeps in town A, has to do about 15 kilometres to reach, 15 kilometres of a terrain where you don't have borders- borders and the taxis as in the capital city . Now, if we have a digital capability and this lecturer will be able to give his 8 clock lecture in the morning from home* (HL5).

The results of this study further showed that while working from anywhere and anytime was time-saving and convenient, management of dispersed virtual teams still remained unplanned as performance outputs were still being measured and monitored using existing traditional parameters that could disadvantage the stakeholders. For example, HL5 indicated that given his multi-campus setting, institutional strategic meetings were expensive in terms of travel and accommodation to a central meeting place before digitalisation.

The findings of this study also projected that online facilitation logistics were bound to increase and become costly for the current institution's wage bill. However, institutions had plans to streamline the human resource management aspect of virtual teams through addendums to their existing institutional HRM policies. Master theme two comprises four subthemes which include: channels of institutional communication and social interaction, mechanisms of institutional culture

operations and practices, leadership roles and power structures, and leadership knowledge and competencies. These are presented in the following subsections.

5.3.1 Theme 1: Channels of institutional communication and social interaction

The picture that emerged from the analysis above was one of evolved channels of social interactions as HE leadership derived ways of maintaining clear and open communication with their stakeholders in the face of uncertainty during the COVID-19 lockdowns. What was striking was that despite the existing bureaucratic tendencies of communication, the onslaught of COVID-19, forced HE institutions to revisit existing channels of communication by moving from face to face to media mediated contact like the adoption of social media and video conference facilities for continued stakeholders' engagement and interaction during the lockdown. Despite increased usage of social media institutions were observed to keep backup of institutional online communications in hard copy files in their institutional registry.

> *Communication is being done online, however, I still download the emails and solicit for signatures on a hardcopy to make it authentic. Keeping both online and hardcopy for verification* (HL2).

Virtual meetings including graduations, governing council, senate, directorate, college and departmental meetings were conducted using video conference facilities such as Zoom and MS Teams among others. For example, HL2 asserted that digitalisation had created flexibility and ease of work which enabled his institution to conduct virtual activities including teaching and learning as well as graduation. However, he said that he was missing out on personal conduct.

> *Technology has made work faster, graduation was held online, admitted students online, saved resources, reducing on risks of travelling long distances; however, I miss networking face to face, personal   touch.* (HL2).

HL5 also asserted that his institution had adopted the usage of social media such as emails, WhatsApp, Zoom and websites for both internal and external stakeholders' communication.

> *Now during that time, there were calls, emergency calls for research. And those came up, we realized that researchers should be able to move during the lockdown. And that's the time when a lot of conservation started online on research aspects. People were debating COVID19 scientifically in social media everywhere and how to deal with the problem. And then gradually people talking about modelling how the disease dynamics are going. And that's how we started getting the first research seminars online* (HL5).

5.3.2 Theme 2: Mechanisms of institutional culture operations and practices

The findings of this study established that the adoption of DTL resulted in a new institutional culture characterised by alteration of modes of work, practices, values, beliefs, visions and missions in order to align with the emerging digital HE landscape. All the participants said that, as part of institutional culture change, the general institutional direction including practices, beliefs, values and mission also changed. Institutional governing organs were observed to pronounce themselves on the new institutional direction including the adoption of DTL as an alternative mode of delivery and therefore calling for immediate development and deployment of DTL road maps, support structures, regulatory policy frameworks, strategic plans, accreditations and capacity development. HL6, for instance, said that a culture of online learning was picking in the HEIs including shifting stakeholders' mind-sets towards DTL, increased usage of the learning management system (LMS) and digital library.

> *So in terms of teaching and learning, you will see that there has been a shift in mind sets, students are actually looking for learning resources and learning activities online. Students are now looking for LMS as a resource, just as they could those days, look for the book from the library, and they would say, I'm going to the library, but nowadays, you can hear students say, I'm going to LMS. we've been able to develop more than more than 1000 courses and put them online* (HL6).

Furthermore, institutions were seen to promote and declare ICT as an institutional resource for efficiency for records management, communication using social media, online teaching and learning through the learning management systems and video conference facilities such as zoom and MS Teams.

> *administrators to use the computers to bring efficiency to their work in terms of communication, record processing, record management* (HL7).

Participants indicated that their institutions gazetted budgets for online activities such as virtual management meetings and faculty workloads for online teaching, an aspect that had less been unaccepted pre-COVID-19 (HL1). The findings also indicated that delivery of leadership responsibilities was ICT driven including the use of devices to support fast decision making. HL7 asserted that his institutional top management team was at the helm of driving digitalisation as early adopters of ICT processes in their decision-making process which he said was increasing the

overall institutional ICT acceptance and assimilation as institutional governing organs were viewed as statue of institutional mission, values and vison.

> *While it is working for teaching learning, it should also work for management, most of our top management are now online, yes! it was because of COVID. But no, it will now become part of our culture that we will not have to meet physically to be able to conduct a top management meeting, we can be able to do this anywhere* (HL7).

Further online logistics including allocation of data bundles to staff emerged. HL6 for example noted that payment of data bundle refunds instead of transport refunds emerged.

> *So, when somebody is participating in an online environment, we pay data, we also, pay faculty data, if we are training them and they are working online, But nowadays, the policy of government is you just have to deposit data on somebody's phone*

However, HL7 cautioned that the online logistic bill was projected to increase and become unsustainable for the existing wage bill. He recommended facilitation for online logistics to top management but not for teaching and learning.

5.3.3 Theme 3: Leadership roles and power structures

The results showed evolved leadership responsibilities in all institutions except for HL2 who urged that while his practices and skills were changing as a result of DTL, his roles would not because the roles of the head of a university worldwide were a constant.

> *Change in practices, skills but not roles* (HL2)

On the other hand, not only did HL6, HL4, HL3 and HL1's leadership capacities impact their institutions alone as experts to fast track DTL, they also provided pro bono DTL advisory services at a national level (HL6).

> *Since what happens in our institutions is a replica of what happens in a government, .I went to the Minister of Education, and offered for free to give them a solution. I gave them an open position paper on what government should do, at least for higher education institutions. Then we had to go to the National Council for education to guide also, what should be the guidelines for institutions to open and we were able to develop this guideline for universities that wish to open.* (HL6).

HL5 also noted that as a vice-chancellor, he was now able to view timetables, leave schedules and workloads online, a task that could not be done by any vice-chancellor in the analogue era.

soon as the vice chancellor, I'm going to look at the timetables and make comments. previously it was not possible that the Vice Chancellor could look at the analog timetable around the university but with the current system, we are we are putting our time tables online, I can check and see Dr So and So , what is his workload this week is like.

HL5 further indicated that there were increasing responsibilities for university managers. For example, the university secretary at his institution was now supposed to approve all expenditures with a click a role previously decentralised at the departmental level.

Previously, the University Secretary had delegated roles of financial management to faculties, the faculties could initiate and spend money using cheques but now all the money in the university was put on one central system , the university secretary is now required to click a button on each expenditure in, the University.

HL6 and HL7 also noted the metamorphism of the faculty roles from the custody of knowledge to the facilitation of the learning process on the learning management system. The findings also established that the role of leadership had been reversed in the sense that leaders were struggling to assert themselves before their followers who had become drivers of change hence flattened hierarchies.

5.3.4 Theme 4: Knowledge and social competencies

The findings established that HEIs' stakeholders including leadership had acquired new ICT competencies including social media communication, online mobilization, presentation, remote teaching and learning and video conferencing skills. For example, HL6 said that he had become a professional lobbyist as evidenced by the fact that he had lobbied both the government and his institution to take up DTL.

So, I continued with my lobbying at the university to ensure that we can be able to fast track online teaching. I also had to confront the Ministry of Education, to tell them, "you are here grappling with many issues, that you don't know". So, I went to the Minister of Education and offered for free to give them a solution (HL6).

HL1, HL4, HL6 and HL3 also said that they had improved their online designing and teaching skills including conducting online meetings as well as social media skills

I have improved my online course designs, students support strategies (WhatsApp, VLE) and adopted interactive ways of teaching and learning. I can now chair and hold an online meeting through various video conference tools such as Zoom, Ms Teams, Google meet, etc. I can now ably communicate, engage and share documents with stakeholders using social media platforms such as WhatsApp, email (HL1).

Leadership acknowledged that ICT had enhanced and improved their leadership capacity and organisational effectiveness. For example, HL5 argued that DTL had eased and centralised information sharing at his institution especially across his multi- campus setting of four sites across the country.

> *One of the motivation for going into digitalization was to try to ease management. My institution has a multi campus structure, you can imagine, if we had online capability, then somebody in town A or B, would share, the information on the central system, eg timetables, students results etc. the teaching timetables with everybody*(HL5).

What was striking was that HE leadership's general outlook to life and work had changed including accommodation of different perspectives as a result of increased exposure to the global village. However, digitalization was observed to reduce ownership and presented a decreased sense of being in charge of ICT processes while it reduced sense of dependency on others given the acquired knowledge and skills.

5.4 Master theme 3: Institutional adaptability

Institutional adaptability as a theme emerged from RQ3: How is leadership adapting to digitalisation of teaching and learning in Higher Education Institutions? All the participants were asked to share experiences their institutions or at personal level, how they were mobilising the workforce and financial resources as well as institutionalisation of DTL for adaptability in the emerged HE landscape.

This study established that leadership was adapting rapidly to the changing HE landscape by moving from the traditional face-to-face to digitalisation of teaching and learning. The online mode of delivery was altering the teaching and learning process requiring design and conversion of existing content to digital mode mediated by the learning management system. HEIs were observed to possess both the virtual addresses alongside their physical institutional locations, teaching through both the asynchronous and synchronous online tools. Work force was working remotely from anywhere any time. This master theme comprised three themes; institutionalisation of DTL, mobilisation of workforce and mobilisation of financial resources. The three themes are presented in the next subsections

5.4.1 Theme 1: Institutionalisation of DTL

Participants were asked what it was like to institutionalise DTL. All the participants said that their institutions were operationalising NCHE ODEL standards including regulatory frameworks, ICT infrastructure, stakeholder capacity development, budgets, strategic plans among others.

As part of institutionalisation of DTL, this study found that HEIs were now approaching DTL from an emergency and survival perspective and therefore were observed to comply with the National Council of Higher Education (NCHE) digital standards and were prioritising digital inclusive strategic plans, quality assurance, visions and mission statements. For example, HL1 said that her institution had operationalised the National Council of Higher Education (NCHE) ODEL accreditation through the ODEL and TEL policy, strategic plan inclusion, funding, recruitment of the eLearning administrator, adjustment of the master timetable, infrastructure investments.

HL7 and HL3 said that their institutions declared DTL as an emergency for institutional survival and bloodline and therefore prioritised DTL in the institutional vision, mission and strategic plan.

> *So, because it is a survival strategy, whatever resources we have, we must ensure that the strategy is receiving reasonable attention. I use the word reasonable because it will not be possible to make a quick turn round and say now, all the monies must go to ICT and so on* (HL7).

HL5 indicated that his institution was following a phased approach to operationalise NCHE standards including their regulatory policy framework. For instance, he said that his institution had only hired a distance learning coordinator just six months ago but an ODeL coordinating committee was placed to coordinate the institution's DTL function.

> *while the policies themselves provide for administrative structures? We were only able to appoint a distance learning coordinator in the University about six months ago, however, we have put up a committee at university level and faculty level to coordinate our online training* (HL5).

HL6 also said that his institution was following a phased approach to operationalize the NCHE standards through policies and management ad hoc letters to faculty.

> *ODEL policy is the overarching policy. Yes, then, of course, we have for other policies like intellectual property policies, we have the quality assurance policy, we have the Teaching, Learning policy, But they also ad hoc policies that are made by the management. For example, if the management writes a letter, then everyone should be able to have all your courses with the materials.*

The findings also established an increased institutional commitment through pronouncements of institutional governing bodies on budgetary increments and reallocations, operationalization of regulatory policy frameworks to support digital integrations. For example, HL7 said that his institutional governing body was seen to commit through reallocation of funds. HL2 and HL1 also indicated that with the aid of the governing council pronouncements, their institution was undergoing a paradigm shift from previous institutional thematic areas to supporting DTL and ICT infrastructure.

> *Through council pronouncements, decisions have to be taken to acquire and embrace the council direction, every institutional policy must reflect the decisions of council, you see if want something to be done , redefine.There has been a shift of emphasis from previously identified institution thematic areas to supporting DTL and ICT infrastructure* (HL2).

However, despite this commitment, the findings established that some institutions were exhibiting a sense of reluctance towards policy enforcement and were observed to call for gradual and evolutionary implementation. For example, HL7 said that despite the fact that his institution was operationalising most NCHE ODeL standards, there was reluctance to enforce the policy direction. However, his institution recognised the use of policy but with gradual enforcement through negotiations as the institution solicits buy-in.

> *One is to say, this is a policy, this is the direction of the university, everyone must get on board. Allow the policy statement and the direction to be communicated by the leadership of the university by the vice chancellor and his team. But you also realize that between the direction and the action, there is a gap. You see, in moving an institution in an area like this, yes, I agree. You must have policy frameworks, you must begin to speak to faculty leaders and say to them, well, as part of our requirements, we want to see that there is adequate resources, emphasis is being put on teaching and learning using ICT for the next one or two years, It may not, look like there's not much you have done, but I am an evolutionist in my philosophy* (HL7).

HL4 also argued that her institution was also not enforcing policy but enabling decentralized autonym amongst the stakeholders including faculty and students hence hindering adoption of DLT at her institution. However, HL5 said that his institution had enforced mandatory continuous staff capacity participation in the online skills-building short course that initially had been voluntary. The findings further established that HEIs were strengthening their DTL support frameworks. For example, HL5 said that his institution put in place a robust students' support system including continuous students' engagement to identify and offer solutions to existing

97

students' challenges such as poor internet connections and also the aspect of counselling. HL5 further said that the deans have been empowered to continuously counsel and support students to study online.

5.4.2 Theme 2: Mobilisation of the workforce

All the participants were asked: What it was like to mobilise the workforce for DTL institutional adaptability.

The fact that DTL was being adopted suddenly into HEI, especially during the onslaught of the COVID-19 pandemic, the digital enthusiasts together with institutional leadership set out to mobilise stakeholders for DTL capacity development. Massive intensive training, sensitisation and innovation were continuously conducted to solicit for stakeholders' buy-ins, get everybody on board and leave nobody behind. The study found that it was initially very difficult to mobilise stakeholders for DTL given the fact that institutions had adopted a sense of decentralized autonomy and non-coercion in the uptake of DTL. In fact, the adoption of decentralised autonomy for DTL integration was a major consideration across the strategists (HL7, 5 & 2). However, the digital enthusiasts (HL6, 4, 3 & 1) reported having experienced a lot of backlash and resistance in the process of bringing everyone on board amidst decentralized autonomy.

The enthusiasts further reported having experienced overhead costs and huge workloads as workforce mobilisation for capacity development required an exhibition of tolerance, patience, sense of empathy toward the non-digital natives and the late responders (HL6, 4, 3, 1). However, some strategists were observed to deploy the concept of reverse psychology as the focus was turned towards students' DTL needs which would exert pressures and demand compliance of faculty (HL7, 5, 2). Additionally, enforcement of policy was observed to generate compliance. However, participants in strategic positions including HL7, HL5 and HL2 advocated for non-coercion.

> *Stakeholders have to acquire enough convictions, you cannot coerce them, you need to persuade and counsel to create commitment. However, my institution has an institutional spirit and culture where people believe that through participating in the institutional activities, they are making a contribution, hence a positive attitude leads to commitment and responsibilities* (HL2).

On the other hand, the digital enthusiasts (HL6, HL4, HL3 and HL1) perceived management commitment as a major contributor to effective mobilisation of workforce for DTL.

Having the policy is one thing, but having the management also intervene and coming in to spark the development is very important. So the managers come in and write letters, the vice chancellors, the deputy vice chancellors, and so they come in and communicate the directors of human resource , quality assurance come in and communicate (HL6).

The findings also showed that there was an encouragement of collaborations and support between the younger and older faculty who had expressed difficulty in ICT usage and sharing of success stories to inspire conservations that would influence change. The identification, recognition and redeploying of DTL champions to encourage other stakeholders was also a major workforce mobilisation strategy. For example, HL3 indicated that, through the ICT directorate, his institution had established an online support framework, including designated persons to assist staff on different online functions such as designing and uploading content and students' results on the e-campus platform.

We have continued working online, but we are assisted by the, what we call a Directorate of ICT in the university. There are people who help us on specific aspects. When it comes to results, there are people who will come and help us and design the format for distance learning, and so forth (HL3).

Participants indicated that their institutions were recruiting a few new staff to boost their online learning capacity. While most workforce mobilisation was more inclined towards human resources, another way of encouraging transition was boosting ICT infrastructure and strengthening ICT support systems. For example, HL4 noted that her institution was improving its ICT infrastructure including internet connectivity and negotiating for zero rate internet connection from telecommunication companies, allocating data bundles to early responders as well as withdrawing data bundles from non-responders. In order not to leave anyone behind, institutions were observed to adopt a blended learning approach using both the traditional and digital teaching and learning methods.

5.4.3 Theme 3: Financial resource mobilisation

Participants were asked what it was like to mobilise funding for DTL. All participants indicated the need for resource mobilisation for the effective transition from traditional to digital teaching and learning. The findings established that the structural setting of HEIs as face to face rendered DTL a non-priority both in terms of institutional adoption, acceptance and funding, despite its inclusion in the NDP III. Therefore, all institutions were observed to lobby government and

99

development agencies as well as existing pockets of DTL funding such as HEST/ADB and Research and Education Network Uganda (RENU). For example, HL7 said that his institution was calling upon the government to intentionally allocate resources for home grown solutions.

> *The country/government says we must put money aside, not just to harvest innovation. Yeah, putting money aside for young people who have skills to develop applications. And so that's cool, but not where we are looking, we are now looking for money to put into universities. So universities can build an adequate environment for eLearning and blended learning* (HL7).

HL1 also said that her institution was networking and collaborating with development partners such as Research and Education Network Uganda (RENU), Commonwealth of Learning (COL), African Development Bank (ADB) and DIGIFACE to support the integration of DTL.

> *We have a few collaborations and partnership with REN, ADB, DIGIFACE and COL that have supported the development of DTL policies, infrastructure, stakeholder capacity through grants and personnel* (HL1).

Furthermore, all HEIs were resource mobilizing through massification to increase institutional revenues. For example, HL3 asserted that his institution majorly mobilised funding through students' tuition payments. HL6's institution was writing proposals to secure DTL funds while HL1 asserted that her institution had four mandates including teaching and learning, research, community engagements as well as consultancies. Therefore, her institution was also writing and biding for consultancies to generate revenues.

The findings also showed an intentional inclusion of DTL in institutional strategic plans with actual budgets approved by university councils as well as reallocation of existing institutional funding towards DTL. For example, HL4 said that her vice-chancellor was reallocating resources from existing institutional budgets towards DTL given the fact that the government had not released any additional funds towards DTL at HEIs. HL2 also said that his institution was reallocating existing resources towards DTL. However, participants noted that moving resources from one vote to another was a tedious and long process.

> *A lot budgetary reallocations, heavy investments in DTL. There has been a shift of emphasis from previously identified institution thematic areas to supporting DTL and ICT infrastructure. Budgetary reallocation in a public institution is very tedious, moving of resources from one vote to another take a long process, basically structural issues are very huge* (HL2) .

More still, as part of saving on the available resources, HEIs were observed to encourage optimal usage of institutional networks in case of on-campus access (HL1) and others had explored the zero-rate internet access from telecom companies. However, this could only achieve a slow internet connection which could not support the expected online learning appropriately (HL4). Others had explored the EDROM facility that allowed for remote off-campus access (HL7, 5).

5.4.4 Theme 4: DTL gaps and mitigations

This theme emerged from RQ 4: What are the essential components of an effective framework that will aid the transition of leadership from traditional to digital teaching and learning (DTL) in higher education (HE)? As part of research question 4, I asked all the participants whether their institutions had experienced any leadership challenges in leveraging DTL for business continuity in the period of the COVID-19 pandemic. All the participants said that given the fact that their institutions needed to move online rapidly, an unplanned situation, they experienced numerous challenges both at national and institutional levels.

While the findings of this study showed layers of rapid transitioning of, HE leadership to DTL, it did not come without any challenges. In fact, the transitioning process is still faced with various disruptions, especially at the acquired neutral state of transition that is characterised by both success and threats. It is imperative to note that HEIs were only able to transition from the ending stage to the neutral stage, implying that there is still a gap between the neutral and the beginning stage which this research intends to solve. However, before this study could propose a solution, it was important to review the challenges hindering the progress of the transition such that in the process of addressing these challenges, a comprehensive solution could emerge to aid the transition of HE leadership towards the beginning stage of transition. The findings categorised the challenges hindering complete transitioning into three sub thematic areas which include inadequate support from the government, inadequate institutional leadership direction, and mitigations. The three subthemes are discussed in the following subsections.

Subtheme 1: Inadequate support from the government

The study showed that whereas HEIs are autonomous as per their establishment under the University and other Tertiary Institutions Act 2001, they are still guided and regulated by the government through the MOE and NCHE and therefore are required to abide by the establishment of the government.

Since what happens in our institutions is a replica of what happens in a government (HL6).

However, this bureaucratic and hierarchical positioning of HEIs did not and continues not to aid the transitioning process. The findings established that the prior misguided and non-supportive government pronouncements on the DTL direction coupled with increased internet taxes in a struggling HE economy undermined and will continue to deter the efforts of stakeholders, especially the students to use DTL. For example, HL3 noted that the government was also not supportive as its pronouncements towards the streamlining of DTL were misleading and misaligned which frustrated and created a lot of anxiety hampering digital transition in the education sector. HL2 and HL1 asserted that the government's misconception and disjoint communication on DTL blurred their institution's foresight to roll out massive digitalisation for business continuity. They further stated that government misaligned guidance was still affecting DTL implementation across the country.

> *Yes, HEI s depend on* government *guidance, however the* government *did not understand and had a lot of misconception on DTL , government DTL communication was disjoint , there was no one language and didn't demonstrate a good understanding of DTL , which is still affecting many HEIs* (HL2).

HL4 wondered how the government was hoping to promote DTL by increasing taxes on education technologies including internet connectivity. She said that internet connectivity was already a major hindrance to DTL and therefore government direction to increase taxes was worsening the already bad situation and reducing access and inclusion to education, especially in the period of the COVID-19 pandemic.

> *Did they even say that there's going to be a charge on internet isn't it? So, I kept asking myself, this is the same government that wants people to go online. So, you are increasing the charges and taxes on connection network. If staff are finding it challenging, what about students who do not have funds? Who are struggling* (HL4).

The findings further established that the initial non-existence of the NCHE DTL gazette obstructed and sabotaged the DTL integration at all the participating HEIs in this study. The previous DTL integration lacked industry recognition hence requiring much lobbying and persuasion of the NCHE to permit the rolling out of DTL. This in turn fanned stakeholder resistance and negative perception towards DTL at HEIs. For example, HL3 said that previous non-recognition and appreciation of DTL/ODeL by NCHE had negatively affected his institutional adoption and implementation of DTL pre-COVID-19 pandemic.

> *Initially as a nation, we did not have any guidelines on DTL/ODEL, but when COVID-19 came, government and NCHE gave non-coordinated inform to HEIs, sometime even discouraging early responders* (HL3).

Furthermore, the non-existence of a national space for DTL conversations continues to hinder the addressing and solving of the various challenges including DTL leadership, capacity development, ICT and power infrastructure both at the institutions and the community. All these have negatively influenced government funding and investments towards the development of an adequate ICT infrastructure which is the backbone of DTL. For example, HL4 expressed dissatisfaction towards inadequate government financial support towards DTL. She said that while the government was encouraging HEIs to take up DTL for business continuity, there were no additional budgets but rather budget cuts. HL3 noted that governmental revenue collections on behalf of HEIs through the National Revenue Authority was hurting institutional resources and budgets and therefore limiting ICT investments. Furthermore, HL5 argued that his institution has also been challenged by the inability of the government to support and provide incremental budgets for ICT investments.

> *You will know from Ministry of Finance that no budgets were changed in the favour of online learning, but they called for adjustments or reallocation internally within the budget. There has not been incremental budgets to support the necessary investment for online learning , surprised many people* (HL5).

Furthermore, some participants including HL3, HL1 and HL2 argued that there existed inadequate NCHE DTL support and monitoring as numerous institutions were seen to present reports on non-existing DTL implementations and frameworks.

> *No work on ground / It's all talk, no results. Let me tell you this " public universities are Just talking about online, it's not there. But when, they write reports, very good reports* (HL3).

This continues to affect the ongoing DTL integrations at the institutional level. Critics of course think it will only be a matter of time before the COVID-19 pandemic is eradicated and HEIs revert to their face-to-face mode of delivery.

Subtheme 2: Inadequate institutional leadership direction

All the participants were asked whether there existed a leadership gap in the way their institution had handled the integration of DTL during the COVID-19 pandemic. All participants acknowledged that indeed they experienced various institutional leadership gaps.

The results of this study showed that HEIs exhibited a leadership gap in how they handled the integration of DTL during the COVID-19 pandemic. Despite the existing digital innovations pre-COVID-19, HEIs experienced discontinuity of their teaching and learning during the COVID-19 pandemic thus pointing to a leadership gap. However, HL3 argued that DTL integration was driven by demand and supply which was low before COVID-19 and therefore the institutional DTL infrastructure was not enough to host the sudden increase in demand across the whole institution. On the other hand, though in acknowledgement of the gaps experienced, HL6 said that transiting HEIs to the terrain of DTL is still a challenge because HEIs were setup as face-to-face institutions and therefore would require overhauling of the existing leadership practices to meet the needs of the 21st century.

> *Changing universities to the terrain or digital education because the university was originally set up for face to face, many universities are engaged in face to face teaching, but there is need for an overhaul the leadership practices and infrastructure set up of the university to be able to support online or digital education* (HL6).

HL3 also indicated that his institutional management styles were still situated in the traditional face to face setting of the university characterised by bureaucratic tendencies that were unfit for the digital era. HL4 suggested that the major gap was created by the fact that his institutional leadership could not enforce the eLearning policy. In fact, HL4 said there existed a gap between policy and practice. Her institutional leadership, she said, offered more lip service with nothing on the ground.

> *There is a gap between policy and practice. policy is not being implemented. What I saw in the learning platform was not really what I expect it for an institution that said they had been using it right from the beginning. So anyhow, there is a lot of talk* (HL4).

In acknowledgement of the gaps experienced, HL3 also said that non-enforcement of policy resulted in decentralised autonomy towards DTL hence, sabotaging the diffusion of DTL in his institution. HL6 further said that his institution exercised inadequate enforcement for compliance amongst facilitators which continued to create a skills gap as a number of faculty who lack both ICT and pedagogical skills would not show up for DTL activities.

The findings also established that HE leadership has continued to associate DTL to COVID-19 instead of strategic recognition and appreciation of DTL as an enabler of learning, efficiency, creativity and innovation for the survival of academia, and was most likely to return HEIs to the

traditional mode of teaching and learning as soon as COVID-19 is eradicated. For example, in acknowledgement of the gaps experienced, HL7 said that the major gap was created by the fact that his institutional leadership associated DTL with the COVID-19 pandemic rather than recognising and appreciating DTL as an enabler of learning, efficiency, creativity and innovation. HL7 indicated that resultantly escalating the non-development of institutional DTL frameworks for future induction and growth.

> *There is this distinct gap because many people think that this is about COVID. Okay, that two things COVID will stay a little longer in terms of its impact, but teaching and learning, using technology is not a covid matter- if you come to that point where you appreciate that this is not about COVID, this is about doing my job better - then your direction changes. we must have within our framework of induction, within our framework of operation, a reminder process that this is not about it's not about managing by crisis, this is about our future* (HL7).

The findings established that there was a lack of DTL strategic representation to drive and advocate for the holistic integration of DTL including soliciting of budgets, acceptance and recognition. Instead, representation of DTL had been anchored at the operation level. For example, HL3 noted that there was non-strategic representation and consideration for DTL staff and as such, his institutional leadership was inadequately informed on the DTL needs. HL7 said that there also existed a challenge of non-strategic representation for DTL in his institution and yet the institution's strategic leadership possessed a limited understanding of digital integrations. This left a gap as there was no one to speak knowledgeably about DTL at a strategic level. Instead, they relied on co-opting operations to drive the change.

> *How are ICT units positioned in the University, who leads ICT in the strategic position, the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT* (HL7).

The results of this study also identified inadequate funding as a major contributor towards the non-operationalisation of DTL institutional regulatory policy frameworks, budgets and staffing. For example, HL4 said that her institution was being challenged with inadequate financial resources coupled with low student enrolments which hinder its ability to generate enough revenue to support DTL. HL5 indicated that his institution had also suffered a setback in terms of funding given the fact that the transition was very fast and therefore lacked an opportunity to negotiate with the funders to support DTL. HL6 also cited inadequate management financial support as a major hindrance to DTL.

The second challenge is lack of management support. And here we talk about funding. Funding for digital education. Especially the digital teaching and learning has not been forthcoming. But funding for other processes. Like those administrative processes, financial management, records management, somehow that one has been there. at least, the university could secure some funding to be able to set up those, those processes and also be able to enforce them. But funding for the teaching and learning bit of the digitalization has not been so forthcoming (HL6).

Findings further showed that inadequate ICT infrastructure such as unstable internet connectivity, inadequate access to devices, costly and slow data packages, continue to hinder the adoption of DTL in HE. All participants further said that their institutions were experiencing unstable internet and power connections, and high data costs which has discouraged many stakeholders including students and faculty from adopting DTL. For example, HL7 said that his institution had not invested enough in the ICT infrastructure due to inadequate government funding. As such, most of their stakeholders, especially the students, complained about inaccessibility of ICT devices and internet connectivity besides high costs of data bundles. HL6 also noted that his institution was unable to support the installation of a robust ICT infrastructure leading to such challenges as unstable internet connectivity, non-access to ICT devices among others.

Internet is still a big challenge in our region, not only in terms of bandwidth, but in terms of connectivity. In terms of presence, there are some areas where there is no presence of network. So even if you have the bandwidth, even if you have your data, you cannot be able to access internet in those areas. There's been a challenge of access to devices, especially for students, and also for staff, because you would find that staff have laptops, they have devices. But when it comes to teaching and learning some staff say I don't want to use my computer for teaching and learning (HL6).

The findings also showed that despite the massive capacity development drives, HEIs continue to experience inadequate ICT and pedagogical skill. HL5 attributed the skills gap to poor stakeholders' attitudes and mind sets towards DTL. HL6 said that his institution was still experiencing a challenge of poor mindset amongst its stakeholders as they continued to view DTL as an inferior product. HL1 also asserted that DTL continues be resisted by stakeholders including management, faculty and students. DTL resistance is characterised by poor attitudes, mistrust and fear of ICT.

The first challenge has been attitude of people , up to day there are people who thinks that the by going to online , were are compromising quality and they are people who think

that the we cannot continue to go digital because of issues related cybersecurity,   in managing data, in managing, our admission systems (HL5).

Furthermore, the findings also established that understaffing created other challenges including inadequate support systems. While it is prevalent that DTL is sustainable and diffusible through robust support structures, participants said their institutions did not have available systems to offer support as needed by stakeholders.

> *We'll also need to shift to supporting staff in using that courseware for teaching and learning. How do they engage with the students? Some of them even marking assignments online is still an issue.* (HL4).

Conclusively, HL7 was cognisant that the challenges mentioned above were responsible for the fear, mistrust, and poor attitude towards DTL amongst stakeholders including management, faculty and students at his institution.

> *So there's a lot of things for us to do. My view is that we should not be afraid of them, because they are many , should not be afraid of them because we don't have the finances. And we should simply provide a timeframe for those things to happen. realise the resources and ensuring that things are done.*

Subtheme 3: Mitigations

The results of this study also established that despite the very challenging period for HEIs, leadership was able to mitigate the above challenges so as to transit from the traditional face to face to DTL for business continuity during and post the COVID-19 lockdowns. Amongst the proposals were the following:

Government's undivided support and guidance towards DTL as one of the most crucial entities given the fact that HEIs were simply implementers of government policies. Therefore, COVID-19 had presented an opportunity for a tripartite agreement between the MOE/MICT/ MOFE to support a holistic transition of HE from traditional to DTL. The findings indicated that the proposed tripartite agreement would create an enabling environment for operationalising the NCHE DTL gazette, infrastructure and capacity development and above all increased investments towards the DTL.

> *They must be able to take responsibility in three ways one, from the point of view of educational policy. That must happen and that's why I thought about the Minister of Education and National Council for higher education. But also from the point of view of*

acquiring technology and providing the environment for technical capacity to create a technology for ourselves. Now that moves into the Minister of ICT, NITU, science, technology, innovation- infrastructure and capacity development , third one which is the financing. Government should now be able to say if we are going to spend 1 trillion shillings Every year or two, on ICT, how does that go? How is that trillion be accessed and impact institutions of education, -they really must be speaking the same language, these things will not happen if universities are not given adequate funding (HL7).

Something striking about infrastructure development was a proposal to remove or reduce internet taxes to improve equity of online education across the country. Notably, HEIs were concerned with the government move to increase taxes on internet connectivity amidst the COVID-19 pandemic as stakeholders including faculty and students were struggling to access education mediated by technology in an already inadequate infrastructure backbone. For example, like all the other participants, HL4 was quick to address the government challenges towards DTL. She proposed that government needed to reduce or just remove the taxes that had been imposed on ICT infrastructure including the data rates that were becoming very costly for the stakeholders.

The Ministry of Education, maybe they need to subsidize or whatever the case, it is very expensive. If staff are finding it challenging, what about students who do not have funds? Who are struggling? Maybe they are dependent on someone who might even say okay, for me, the most important thing is feeding, your Internet of Things. I don't know. So the government really needs to do something about that internet, they are just shooting themselves in the foot by putting taxes on internet (HL4).

At the institutional level, while there was notable non-funding of DTL, all the participants proposed that their institutions need to start reallocations of bits of existing institutional budgets to DTL integration. Other participants suggested that their institutions needed to jointly write proposals engage government and development patterns for DTL funds. HL4 advised that there was need for more government investments and budget allocations to HEIs for promotion of DTL through improved connectivity. Suggestions to the government also included the re-decentralisation of revenue collections from students' tuition back to the institutions as that would increase institutional autonomy and independence to direct their own business in the interest of their stakeholders. For example, HL3 proposed that the government decentralises tuition revenue collections back to the HEIs to enable please check ICT investments.

I have said priority, I don't know if institutions of higher learning are left to collect their revenue, I don't know whether they do it easily other than now, when government takes all their money and they are set according to the budget they have submitted (HL3).

At the institutional level, the findings indicated the need for HE leadership to stop denying and accepting the changing HE landscape and therefore called for the reinvention of their institutional leadership.

> *need for HE leadership to reinvent its self through adaptation and practicing of new leadership theories& roles that are compatible with new emerged HE landscape, also* documentation *of the   emerging leadership processes* (HL1).

Findings indicate the need for HEIs to acquire and operationalise the NCHE ODeL accreditation. Not only did all the participants recommend the institutional acquisition of the NCHE ODeL accreditation, but also the operationalisation of the standards through appropriate road maps. All the participants said that their institutions needed to draft and approve roadmaps for DTL implementation.

Institutions were advised to adopt a phased approach in operationalising the institutional DTL master plan including putting in place basic ICT infrastructure, online delivery committees and coordinating units, regulatory and policy enforcements, mandatory stakeholder engagement and support, stakeholders' continuous professional development, funding, and budgetary allocations, and DTL institutional strategic representation. All participants indicated that their institutions were following a phased approach which involved putting in place basic supportive structures for DTL. HL3 also recommended a phased approach in adopting DTL to reduce on stakeholders' pressure.

> *Also maybe instead of having covered the whole university at once, may we could began with a few faculties and then we learn from them, may be it would have been better I don't know? whether it is late, or what ? i really can't tell*(HL3).

While some of the participants in strategic positions said that their institutions were enforcing policy including governing council directives with caution, the DTL enthusiasts called for mandatory stakeholder engagement.

> *Leadership needs be little aggressive by putting their foot down, enforce deadlines to ensure that mandatory stakeholders' participation in all ODEL activities* (HL1).

The findings further established the need for increased stakeholders' engagements and support. All participants called for the establishment of stakeholder support frameworks including pedagogical and ICT support desks, call centres, counselling facilities to address stakeholders' online experiences, attitudes, misconceptions, etc. For example, HL4 said that there was a need

for increased stakeholders' engagements and sensitization to address the negative faculty and students' experiences of DTL at her institution. This she hinted would also involve recruitment of personnel for setting up, implementing and evaluating institutional DTL structures.

> *So getting a person who is directly in charge of that would really help address those kinds of issues. As I said, you would need to be close to those people find out what their challenges are, and show to them how, whatever they could do a little thing they can do can make maybe a big difference for the students* (HL4).

The findings also established the need for support and monitoring for compliance of DTL integration in HEIs both at national and institutional levels. HL3 recommended the institutional constitution of monitoring and evaluation systems at different institutional levels including top management, deans and heads of department as well as students' guild levels. HL2 recommended the need for regular reporting on DTL targets and deliverables across the institute as well as sharing of success stories and lessons learnt. HL2 further argued for the need for holistic strengthening of institution DTL cycles through the inclusion of all the required processes like admissions, registration, teaching and learning, and assessments against ISO guidelines and benchmarks.

All the participants recommended continuous professional development for all stakeholders including institutional management to reduce fear and increase confidence levels and assimilation of DTL. HL2 recommended massive capacity building and sensitisation drives to cohabit the digital skills gaps, attitudes, and mind-sets. The findings of this study also advocated for the strengthening of institution networks, benchmarks, and community of practice to increase togetherness and allow sharing synergies and success stories for the encouragement of slow responders. All the participants recommended that their institutions needed to benchmark better practices or still networks to share synergies. They also pointed out the need to join or formulate communities of practices to strengthen the development of home-grown solutions through storytelling. Participants urged their institutions to place DTL promoters at strategic institutional levels instead of keeping them at operations. This, they said, would improve advocacy.

> *We need a mindset which allows us to realign in the right way the resources we have so that the ICT receives attention on the priority at every level, I think at faculty level, at departmental level and university therefore people who are in budgeting and strategic management, part of their job will be to see that this alignment actually takes place. this is a gradual thing* (HL7).

5.5 Conclusion

In summary, this chapter presented the findings across the seven cases, highlighting both converges and diverges in the meanings that emerged from the data. Findings indicate that the participants described their digital lived experience from both personal and institutional perspective.

The participants recognised the need to transit from the traditional face to face to DTL and highlighted the iterative transitional process which requires institutions to continuously leverage and revisit existing digital strategies to refinement. The participants acknowledged that the transition process would not be linear but gradual requiring a larger time frame of about five years. They, therefore, called for institutions to exercise caution and non-coercion of stakeholders. They in fact advocated for an evolutionary approach. However, the transitioning process was incomplete as HE leadership got stuck at the neutral stage, requiring a few more strategies to reach the beginning stage of transition, which the developed framework in chapter 6 might remedy.

Secondly, the study established that the HE landscape was evolving into a virtual institutional landscape with different channels of social interactions, new institutional cultures with different beliefs, targets, goals, practices, leadership roles, power structures, and knowledge and social competencies. This calls for different leadership principles and institutional structures for effective delivery of the HE tripartite mandate of teaching and learning, research and community engagements in the 21st century.

Thirdly, this study established that HE leadership was rapidly adapting to transitioning HE landscape through the institutionalisation of DTL, workforce and financial mobilisation and, identification and mitigation of the lingering challenges.

Furthermore, the participants recommended that for an effective transition from the traditional face to face to digital teaching and learning in Uganda, the government and other stakeholders including institutions, the community and the private sector need to collectively work together towards the institutionalisation of DTL in the country through national gazettes including the NCHE ODeL accreditation guidelines, regulatory and policy frameworks, ICT infrastructure, continuous professional development, support frameworks and budgetary considerations.

CHAPTER 6. DISCUSSIONS

6.0. Overview

The aim of this study was to explore the lived experiences of HE leadership in the transition from traditional to digital teaching and learning in Uganda. Interpretative Phenomenological Analysis (IPA) was used to gain an in-depth understanding of how academic leadership made sense of their digital experiences pre- and post-COVID-19 pandemic within a transitioning higher education landscape and its influence on their ability to transition from traditional to digital teaching and learning for business continuity. The specific research questions included:

RQ1. What are the lived experiences of leaders in a transitioning HE landscape?

RQ2. How is the HE landscape evolving amidst the digitalisation of teaching and learning?

RQ3. How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

RQ4. What are the essential components of an effective framework that will aid the transition of leadership from traditional to digitalisation of teaching and learning in higher education?

The findings from each category were considered in answering the research questions with critical reflection of how this study's findings are informed by the complexity leadership theory, Bridges' transition framework, adaptive structuration theory, distance education system theory (1968) and past research on leadership in a transitioning HE landscape amidst digitalisation of teaching and learning. This was consistent with IPA, as the first-order case studies were entirely inductive while the emergent across case analysis was theory bound hence allowing for the external theorizing of the DTL phenomena in line with the above theories(Smith, Flowers and Larkin, 2009). Discussions on the implications of the findings were focused on proposing a framework to aid the transition of leadership to DTL in HE?

6.1 Research question one: What are the lived experiences of leaders in a transitioning HE landscape?

6. 1.1 Digital experiences

Guided by Interpretative Phenomenological Analysis (IPA)(Smith, Flowers and Larkin, 2009), the results of this study showed that leadership experienced an iterative process longitudinally over the pre- and post-COVID-19 pandemic period as they transitioned to DTL for business continuity in HE in Uganda (Watson and Watson, 2014). The iterative process comprised visioning for digital strategies pre-COVID-19, leveraging existing digital strategies, rethinking institutional strategies post-COVID-19 and a neutral state of transition. This finding was important because it set a precedence for non-pressurized future integration of digitalisation in any entity as it disengages linearity and perfectionism thinking while enabling adaptability (Dumas and Beinecke, 2018).

The findings established that while there had existed various digital strategies pre-COVID-19 amongst all HEIs in Uganda (Kopp, Gröblinger & Adams, 2019), leadership struggled to leverage them in the face of the COVID-19 pandemic for business continuity. Pockets of repeated revisiting and rethinking to make improvements were observed. These findings were consistent with the complexity leadership theory (CTL), a framework that allows for the creation of an enabling environment for both people and organisational adaptability in time of a crisis and instability (Uhl-Bien, Meyer & Smith, 2020).

CTL argues that any innovation can be successfully streamlined across any given organization if the operational leadership, in this case, the strategists allow to engage the emerging tensions and conflicts to create adaptive spaces. According to CTL, adaptive spaces are situations in which "people and systems support conditions that promote the complex adaptive dynamics of generative emergence, the process through which new order is created in dynamic systems''. These findings are further explained by Uhl-Bien (2021) in conjunction with Lichtenstein (2014)'s generative emergence, a process through which a new order is created in a dynamic system. Lichtenstein (2014)'s generative emergence comprises five stages: disequilibrium organising, stress and experimentation, amplification through critical threshold, new order through recombination , and stabilising feedback.

Benchmarking the findings of this study against Lichtenstein (2014)'s generative emergence five stages, the visioning of digital strategies pre-COVID-19 aligned to the disequilibrium organising, leveraging of existing institutional digital strategies to stress and experimentation, rethinking institutional strategies post-COVID-19 to amplification through critical threshold, neutral state of transition to new order through recombination and, beginning state of transition to stabilising feedback , a state that has not yet been achieved in HE.

Implying that there was a non-alignment at the fifth stage of stabilizing feedback because instead of HE leadership being in the beginning state of transition after engaging with the tensions and rethinking processes, they were in the neutral stage of transition where they were still characterised by both the old and new order (Bridges & Bridges, 2019). William Bridges' (1991) three phases of the transition model is comprised of the ending, neutral zone and new beginning (Bridges & Mitchell, 2000). The ending stage is characterised by letting go of the old ways and identity within an organization, the neutral state is characterised by going through an in-between time when the old is gone but the new is not fully operational while the new beginning is characterised by coming out of the transition and making a new beginning.

In line with this study, the neutral state of transition showed that while there had been notable transition, it was still midway characterised by both traditional and digital modes of delivery, frustration, and confusion but not at the magnitude of the leveraging of pre-COVID-19 strategies stage. In fact, the institutions transited through the first and second stages, however they failed to proceed to the third and last stage of transition which is the actual research gap the study envisaged to solve.

6.1.1.1 Why the digital experiences

According to(Smith, Flowers and Larkin, 2009), the 'Why' question is a second-tier research question used to explore theory-driven questions and can only be answered at the interpretative stage. For example, for the primary research question which is very open - RQ1 - **What are the lived experiences of leaders in a transitioning HE landscapes?** A more pointed question such as, '**To what extent can the lived digital experiences of the leaders in a transitioning HE landscape be explained through the philosophical lens of hermeneutics?** - is secondary. The

secondary questions are not hypotheses. While they may engage with a theory, they do not test it. (Smith, Flowers and Larkin, 2009).

Therefore, in line with the above reasoning, philosophically, this study was underpinned by the hermeneutic phenomenology, Heidegger (1889-1976), a major philosophical existentialist perspective for interpretation hinged on the principle of 'being and time' (Dasein) and, Foresight/ fore -conception and Hermeneutic Circle(Smith, Flowers and Larkin, 2009; Peoples, 2020). This was majorly because the HE leaders were the experiential experts and their first-hand accounts of their experiences were considered as their interpretation of reality'(Smith, Flowers and Larkin, 2009).

The 'Dasein' principle examines; How participants are being in the world with other? How did the participants find themselves in situations that were not of their making? How did participants actualize their making? How did participants actualize their Dasein or fail to actualize? Therefore, in line with Dasein a 'state of being in the world' for HE leadership, the findings of this study showed that for HE to effectively deliver its tripartite mandate of teaching and learning, research, and community engagements, had been situated in the traditional face to face with an existing digital strategy but non operationalised. On the invasion of COVID19, HE leadership found themselves in a situation which was not of their making as all education institutions closed to curb the spread of COVID 19. Therefore, to actualize their making for business continuity, the HE adopted digitalisation of teaching and learning through the 'Leveraging of existing institutional digital strategies' stage. Since all existing DTL structures had remained non operationalized at the 'Visioning digital strategies pre-COVID-19'stage, HE failed to actualize their Dasein. However, with further rethinking and re-strategizing, HE was able to partially actualize its Dasein by moving from the ending to the neutral of stage of transition hence incomplete transition.

A state, which phenomenology refers to as the Hermeneutic Circle, were the partial transitional acts as a part to the whole transitional framework consisting of the ending, neutral and the beginning transition stages(Bridges and Mitchell, 2000). Also, the currently acquired neutral stage of transition, can also be explained philosophically in relation to the sense of self and identity, where HE leadership struggled not to lose their identity of being traditional face to face pre-COVID19 and therefore, opted for comfort in the natural state of transition where both the traditional face to face and digitalisation were engaged parallelly. For example, HL2 indicated that

115

while his methodology of leading would change, his roles would remain the same since the roles of a university chancellor are homogenous throughout the world. Literally, the HE leader was struggling to make sense of the impact of digitalisation on his university chancellor roles or existing identity (wondering exactly what part to take or leave behind during the transition) and because of the increasing uncertainty he flapped into denial. The bigger challenge was how to lead amidst DTL yet the HE leader had been situated predominately in the traditional face to face pre COVID19. More still the neutral stage of transition also signifies that leadership in highly uncertain and perplexing situations become instruments of action rather than instruments of thoughtful reflections.

Foresight/ fore -conception is what was participants' preconceived knowledge about certain experiences or situations and how did this knowledge change? I discovered that HE leadership made two different meanings of their lived experience of digitalisation of teaching and learning pre and post COVID-19 pandemic, a scenario well explained by phenomenology as Fore-sight/ fore -conception (Donna Ladkin, 2016). Implying that despite it being the same phenomenon in the same context, the meanings of experiences attached to the digitalisation of teaching and learning pre-COVID-19 was that of an alternative mode of delivery while post-COVID19 was survival of the institutional core business. This explains why there had existed non operationalisation of DTL frameworks despite a successful visioning stage, a state that links perfectly to the Complexity Leadership theory(CTL)(Uhl-Bien, Marion and Mckelvey, 2007). According the CLT, the initial interpretation of DTL as an alternative mode of delivery pre-COVID19, was majorly because HE had been able to conduct its core business of teaching and learning successfully without adoption of DTL i.e., a poised system.

For example, HE leadership had perceived DTL as an inferior mode of delivery that would comprise the quality of teaching and learning. This negative perception had been hinged to the perceived challenges at both national and institutional levels including inadequate ICT infrastructure, pedagogical and leadership, stakeholders' support systems, funding, leadership direction, absence of national ODEL accreditation standards among others. However, on further engagement with Online learning during COVID 19, HE discovered that if ODEL was integrated within the accreditation standards, improved learning outcomes would emerge.

Therefore, the perceptualized meaning attached to phenomena changed as the essence of the phenomena changed. Hence the fore -conception of digitalisation of teaching and learning is a determinant for whether HE leadership will persist in its currently acquired neutral status of digital transition or will progress to the beginning stage or will revert to the ending stage of the transition.

Hermeneutic Circle is concerned with the dynamic relationship between the part and the whole(Smith, Flowers and Larkin, 2009)**,** how participants revise their interpretations or understandings about different situations in their experiences as the participants started to understand their experiences of DTL. The Hermeneutic circle related appropriately with the Distance Education System Theory underlined by eight assumptions observation, causality, reflexivity, self-organization, determinism, environment, relationships, and holism(Dent and Umpleby, 1998). HE in the lens of the Distance Education System Theory will behave as a holistic entity with characteristics which belong to the system as a whole and do not belong to any of its part. Logically, HE leadership with the introduction of DTL, was observed to reflect on both the properties of the traditional face to face and the newly emerged digital landscape however, with more emphasis on the relationship and interactions between these parts than their composition to realise the expected transition. While pre COVID, HE leadership had identified DTL as a sub-system, the existing interactions predicted a closed subsystem. For example, HL1, hinted that all Distance learning operations had been tagged to her department with inadequate support from mainstream leadership of her institution. However, with the invasion of COVID 19, mainstream leadership including the governing council with the support of the existing academic leadership collaboratively and collectively worked together to integrate DTL for business continuity.

In conclusion, the Dasein- sense of self and identity rather than Foresight/ fore -conception and Hermeneutic Circle is a major determinant of transition of HE leadership from traditional to Digitalisation of teaching and learning. While that is plausible, this study enabled the development of a transitional framework to guide HE leaders that are willing to let go of their sense of self and identity of traditional face to face to embrace the newly emerged HE landscape were learners are using digital tools to become active learners.

6.1.1.2 Visioning of digital strategies pre-COVID-19

Therefore, in line with the first stage of generative emergence process- disequilibrium organising, the findings of this study showed that in an effort for HE to effective delivery its tripartite mandate of teaching and learning, research and community engagements through digitalisation, a complex situation setting off high pressure and tension in the HE landscape pre-COVID19 was created. However, HE leadership had always engaged an order response, operating as if nothing had changed and trying to keep the system in the previous order of traditional face to face teaching and learning but with minimal DTL strategies (Tetenbaum & Laurence, 2011).

Despite the traditional face to face setting of most of the HEIs in Uganda, this study established that all HEIs had participated in the visioning for digital strategies pre-COVID-19 stage characterised by strategic planning and structural setup for the ODeL/DTL/ online learning mode of delivery though at low priority levels. This finding confirms studies that have indicated that while ODEL/ DTL supportive frameworks such as inclusive strategic plans, regulatory framework, budgetary allocations, stakeholders' capacity development, ICT infrastructure and digital functional services had existed pre COVID in most HEIs, however remained none operationalised(Kopp, Gröblinger and Adams, 2019; Olema, Matovu and Ndawula, 2020).

DTL adaptations were characterised by a sentimental retention of the original cultural establishments of face to face HE structure (Ghemawat, 2017; Mogaji, 2021). In this regard, HEIs were observed to engage in an evolutionary approach that allowed for gradual change and non-coercion of stakeholders, i.e., 'decentralised autonomy'. Even though the evolutionary approach made the implementation slow, three participants (HL2, HL7, HL5) reported having experienced a sense of confidence and preparedness. While these findings are supported by CTL which advocates for decentralised autonomy, four participants (HL1, 3, 4, 5) indicated that decentralised autonomy disabled the creation of collective stakeholders' responsibility which had faculty and students associating DTL to the coordinating unit instead of an institutional strategy hence falling short of the workforce mobilisation and complex adaptive systems requirements of collectiveness towards a common goal. This further contradicts the CTL that puts survival as one of the catalysts for enabling the creation of adaptive spaces that enable change to take place.

Uhl-Bien (2021) relates the characteristics of the visioning for digital strategies pre-COVID-19 stage to the poised system, the ever-present solution, however, rejected because existing efforts driving the change were unsuccessful either because the timing was not right, the perceived value

118

was not high enough, or the system was able to reject the innovation and still operated effectively. This finding was important as it set a baseline and established the preconceptions, factors for and against the integration of DTL in a face-to-face HEI in Uganda pre-COVID-19.

6.1.1.3 Leveraging of existing institutional digital strategies

Results of the study highlighted the initial reactions and digital strategies that HEIs engaged to continue business in the face of the presidential directive that saw the closure of all educations institutions to curb the spread of COVID-19 in Uganda (Alani, 2021; Nawangwe et al., 2021). In line with the second stage of generative emergence- stress and experimentation, the invasion of the COVID-19 pandemic created complexity in HE. Unlike in the previous stage, where HE leadership would pull to order, the COVID-19 invasion created a survival for fitness situation. HE leadership was observed to experiment with the existing ODeL infrastructure as well as engage with the emerging tensions that enabled the creation of the adaptive space hence opening up the operational leadership which was welcoming of driving the change but not successfully from traditional to digitalisation of teaching and learning (Uhl-Bien, 2021). Which according to Lichtenstein (2016) can be explained that the entity did not undergo emergence, but instead collapsed.

Despite a relatively substantive DTL strategy before the invasion of COVID-19, the findings established that HEIs felt uncertain and threatened and therefore not much could be done during COVID-19 until the situation subsided. The sense of uncertainty and threat was characterised by various emotions like fear of dying from COVID-19, paralysis hardship, frustration, anxiety pressure which could have been inhabited by the misleading and confusing government DTL pronouncements. These findings confirm the works of Bozkurt *et al.* (2020) and Lemay, Bazelais & Doleck (2021) who highlighted that uncertainty and stress times that rose out of the invasion of COVID-19 required prompt reflexes to survive. These findings were in line with García-Morales, Garrido-Moreno and Martín-Rojas (2021) and Tweheyo and Mugarura(2021) who argued that while the emergence of disruptive innovation is a time of risk and uncertainty, it also presents opportunities and brings talent and innovation to the education system. In fact, two participants, HL7 and HL5 indicated that the COVID-19 era was an opportunity for streamlining online learning in the HE sectors in Uganda as it enabled the recognition and gazette of the accreditation standards by NCHE. Marinoni, Van't Land and Jensen (2020) and Nawangwe

(2021) further argued that while these findings presented an opportunity, they highlighted an existing infrastructure communication gap, a challenge that was experienced even in Europe where adequate ICT infrastructure was in place.

Infrastructure communication refers to the appropriate usage of institutional channels of information flow and communication to keep stakeholders informed of the next cause of action including the usage of social media and other formal structures such as circulars and meetings. The major implication was that poor infrastructure communication including the misleading government pronouncements on the direction of education during the lockdowns presented risks including institutional loss of contact with stakeholders, which could have catalysed an increased sense of threat or even abandonment of scholarship.

Three participants (HL6, HLI and HL4) whom the study refers to as the digital enthusiasts, experienced a sense of discouragement and frustration as all the labour of their hands in establishing structures for DTL over the years had been put to waste as institutions failed to leverage the pre-COVID-19 strategies for business continuity. HL6 was so demoralised by the fact that the government without any stakeholders' consultations issued a blanket closure of all HEIs withstanding the different levels of individual institutional capacities and global ratings. This finding was explained by Marinoni, Van't Land and Jensen's (2020) study that indicated that while Africa had the least number of COVID-19 infections globally, HEIs' closure was at 77%, the highest in the world. However, given that Africa has an inadequate health system compared to the rest of the world, it was presumably important to close education institutions as a preventive measure.

These findings further established that while there existed an ICT infrastructure pre-COVID-19, it was non-optimised or inadequate, characterised by unstable internet connectivity, high costs of data, none subsides of taxes, inadequate access to ICT devices, digital libraries and online resources, power outages, lack of BYD and cyber insecurity (Khamis et al., 2021; Mengistie, 2021; Mugimu, 2021). Specifically, HL7 attributed the poor infrastructure to inadequate investments while HL1 attributed non-optimisation to a skills and awareness gap. This finding was in line with Ouma (2021), who argued that effectiveness of online learning during the COVID-19 pandemic in Uganda was challenged by poor ICT infrastructure including unreliable internet connection,

limited data, failure to record lectures, limited zoom links, limited class control, and non-accountability of students' virtual class attendance.

This finding also confirmed the results of two studies conducted in Kenya and Uganda that advocated for reasonable ICT investments for sustainable DTL in HE (Kashorda & Waema, 2014; TEL Baseline Study, 2018). While there had been prior professional capacity development for both faculty and students, it was still in its initial stages just as the studies of Jameson(2013), Ng'Ambi (2013) & Ouma (2021) who have urged that digital professional development in developing countries was still in its beginning state and therefore required dedicated attention for growth. Leveraging of pre-COVID-19 digital strategies was also characterised by non-existence of online support frameworks and those that existed were still non-operationalised for the massive enrolments that emerged as a result of transitioning the whole institute online or to remote teaching (Mayanja, Tibaingana & Birevu, 2016; Ouma, 2016a; Monyamane, 2020)

Despite the above threats, HEIs were able to partially continue teaching and learning for existing distance learning programmes, research supervision and examination, and other institutional services. This however was not immediately but after a period of about two months of lockdown. Partial continuity was characterised by rapid change from traditional to DTL but with non-operationalised regulatory and policy frameworks both at national and institutional levels, non-mandatory stakeholder participation, stakeholders' mistrust, doubt, fear and poor attitudes towards the usage of technology, etc. (Walters et al., 2010; Muyinda et al., 2019). These findings further supported the works of García-Morales, Garrido-Moreno and Martín-Rojas (2021) who asserted that teaching and learning during COVID-19 required a sudden change towards online teaching in record time and implementing and adapting available technological resources including non-technologically competent faculty and students was necessary. However, major controls were also required to preserve the quality of online teaching.

All above inadequacies that characterised the second theme, leveraging of existing institutional digital strategies were explained according to CTL as the stage in which an interconnected system experiences disequilibrium and is usually characterised by pressures and tensions which if not engaged appropriately will simply pull the system to order instead of creating adaptive spaces (Uhl-Bien, 2021). In other words, how the HE leadership handled this stage determined the progress of transition from traditional to DTL. Therefore, in line with CLT, HEIs in Uganda were

unable to launch DTL for business continuity given the fact that their leadership failed to engage the adaptive spaces in the early stages of the COVID-19 invasion. Due to the fact that the required DTL foundational entities including regulatory policy frameworks, capacity development, support and ICT infrastructure were not tied together in a system and therefore disabled the digitalisation of the teaching and learning (Gharajedaghi, 2011).

The art of online learning entities being able to communicate with each other can also be explained using the distance education system theory (1968). Therefore, DTL under the lens of distance education system theory (1968), was supposed to behave as a holistic entity with characteristics which belong to the system as a whole and not to any of its parts. Therefore, the fact that most of the required entities for DTL to take pace were in disequilibrium at the leveraging of existing institutional digital strategies stage meant that HE was unable to launch DTL for business continuity during the COVID-19 pandemic. It is therefore in line with distance education system theory (1968) that HE leadership is observed to self-organise their DTL strategy for business continuity in the next subsection of rethinking institutional strategies post-COVID-19.

In conclusion, these findings were important because they illustrated to HE leadership the need for operationalising the required pre-conditions that enable effective DTL for a sustainable HE system in the 21st century. Despite COVID-19 threatening the HE landscape, it is also important to note that earlier studies had shown that before the COVID-19 pandemic, the HE sector in Africa including Uganda, was already grappling with various DTL challenges including inadequate funding, poor infrastructure and facilities, deteriorating quality of teaching and research, inadequate staffing levels, leadership and management, and poor governance among others (Mouton, Johann, Wildschut, 2015; Mugimu, 2021; Nawangwe et al., 2021). Therefore, it is important not to treat the changing HE landscape as a COVID-19 issue but as a continuous dynamic requiring leadership attention for a sustainable HE sector that will be capable of fulfilling its tripartite roles of teaching and learning, research and community engagements in the 21st century (Nawangwe et al., 2021). This finding refrains HE leadership from delegating the leadership of DTL to digital enthusiasts as they are incapable of bringing about the required change (Tømte *et al.*, 2019; Pettersson, 2021). This finding also illuminates the fact that infrastructure communication and not ICT infrastructure is the glue that ties all the other requirements of DTL together (Marinoni, Van't Land & Jensen, 2020).

6.1.1.4 Rethinking institutional strategies post-COVID-19

In line with the third stage of generative emergence- amplification through critical threshold (Lichtenstein, 2016) and CLT(Uhl-Bien, 2021), Rethinking institutional strategies post-COVID-19 was the stage at which HE, in response to pressures, was motivated to seek a resolution to the stress caused by the failed launch of DTL for business continuity. This stage was characterised by iterative implementations and testing to achieve a critical threshold that allowed the DTL to takeoff in the institutions.

The findings of this study established that all HEIs after a failed launch of DTL during the lockdowns underwent a rethinking process of their existing digital strategies for business continuity. This finding is in line with the studies of (Lilian, 2014; García-Morales, Garrido-Moreno & Martín-Rojas, 2021) that indicated that because of the unforeseen opportunities and challenges in the face of digitalisation, organisations are restructuring and rethinking their leadership functions and practices.

Unlike in the pre-COVID-19 era where the integration of DTL had always been optional, this time around, HE leadership was seen to engage with the emergent tension and conflicts from the failed leveraging of existing institutional digital strategies stage above. HEIs were observed to move from voluntary DTL establishments to mandatory implementations which confirms studies on mandatory phasing in of digitalisation of teaching and learning for business continuity elsewhere in the world including South Africa and the united kingdom (Mpungose, 2020; Allmann & Blank, 2021) and which according to CTL allowed for the creation of adaptive spaces that enabled streamlining of DTL in HEIs.

The rethinking of institutional strategies post-COVID-19 coincided with streamlining of DTL by NCHE through the release of the emergency Open, Distance and eLearning (ODeL) guidelines (NCHE, 2020). Institutions were seen to engage a holistic and collective approach for the institutionalisation of DTL including operationalisation of the ODEL regulatory and policy frameworks, improved ICT infrastructure and connectivity, stakeholders' mobilisation and capacity development while being cognisant of their institutional cultures of the traditional face to face setting (Khamis et al., 2021; Mogaji, 2021; Tweheyo & Mugarura, 2021). This finding was also in line with (Uhl-Bien, 2021) who asserted that in the face of the COVID-19 pandemic,

leadership collectively with their followers were able to quickly identify adaptive solutions and operationalise them into formal systems and structures to generate new adaptive orders which in the context of this study was DTL.

As noted above, during the previous stage of leveraging of existing institutional digital strategies, indicators pointed to a challenged ICT infrastructure and connectivity in supporting DTL (Ali, Buruga and Habibu, 2019; Khamis et al., 2021; Mugimu, 2021). Therefore, during the institutional rethink, major ICT strategies including ICT master development plans, increased investment in ICT infrastructure acquiring more hotspots on campus, synchronous (Zoom, MS Teams) and asynchronous (LMS) applications increased bandwidth and access to devices, allocation of data bundles to both faculty and students were put in place. This finding aligns with various studies on digital transformation including putting in place new polices and infrastructure that support innovation and implementation of alternative educational system and assessment strategies (Gayle_Tewarie_White, 2005; Beldarrain, 2007; Muyinda et al., 2019; Babori *et al.*, 2021; Laufer et al., 2021; Pokhrel & Chhetri, 2021). This finding is also in line with Ujunwa, Ujunwa & Okoyeuzu's (2021) study which has called upon the African Union to promote massive investments in virtual economies for inclusive policies that promote increased access to education. Institutions were also noted to join partnerships such as Research and Education Network for Uganda (RENU) and National Information Technology Authority (NITAU) for improved network connectivity and cost cutting. This findings twists previous trends of funding from aid to collaborations and partnerships illustrating the assertion of HE sovereignty and autonomy while working together with the different stakeholders to support the holistic digitalisation of teaching and learning in Uganda (Samoff & Carrol, 2004; Ertmer & Ottenbreit-Leftwich, 2013; Mengistie, 2021).

The results further showed that HEIs were observed to put in place DTL supportive structures including massive stakeholders' mobilisation and sensitisation drives, mandatory ICT and pedagogical capacity development, operationalisation of ODeL coordinating units, call centres, usage of social media for communication, deployment of champions and sharing of success stories. Hence collaborating works that have advocated and recommended the requirement of an ODel supportive framework for a successful integration of DTL in HE (Chaichankul, 2006; Jameson *et al.*, 2006; Ouma, 2016a; Khanna, 2017; Monyamane, 2020; Tweheyo and Mugarura, 2021).

6.1.1.5 Neutral state of transition

In line with the four stage of generative emergence- new order through recombination (Lichtenstein, 2014), is the stage of generative emergence characterised by recombination through realignment and reorganization of system components to achieve new emergent system that can be scalable across the organization.

The findings established that after the various cycles of iteration of the rethinking and leveraging process, HE leadership was currently at the neutral state of the transition characterised by both successes and threats, signifying incomplete transition (Bridges & Bridges, 2019) but a second degree emergency which does not recreate the entire system(Lichtenstein, 2014). While there had been notable transition it was still midway, characterised by both traditional and digital modes of delivery, frustration and confusion but not at the magnitude of the leveraging of pre-COVID-19 strategies stage. In fact, the institutions transited through the first and second stages, however, they failed to proceed to the third and last stage of transition. In this regard, HE failed to achieve the stabilizing feedback stage, which according to (Lichtenstein, 2014) is a time for institutionalising the change in the organisation. These findings can further be explained by William Bridges (1991), who argues that while HEIs were scaling up DTL, the leadership and the stakeholders had not yet acquired the required maturation to drive and receive the innovation. In that regard, Lichtenstein (2014) and William Bridges (1991) therefore, recommended the need for HE to continuously iterate through the rethinking and leveraging stages so as to transit to the beginning state of transition and hence the stabilizing feedback stage.

This study found that HEIs registered a sense of success as they accepted the evolving HE landscape, a finding that confirms the works on reimagining the place of physical space in HE post-COVID-19 (Mogaji, 2021). In fact, institutions were able to teach online using both the asynchronous and synchronous tools (Beldarrain, 2007). For example, HL1 said that in order to cater for the fluctuating internet connectivity across the community, her institution was observed to use both the asynchronous and synchronous tools. What was striking was leadership adopted a phased approach to DTL, a cost effective approach, regurgitated through the studies on the integration of education technologies in traditional HEIs (Muyinda *et al.*, 2019; Shukla et al., 2020). As part of the neutral stage of transition, institutions were observed to engage a parallel system consisting of both traditional face to face and digital elements of teaching, hence the

adoption of blended learning to motivate the late responders (Ghemawat, 2017; Ali, Buruga and Habibu, 2019; Butler, 2020). For example, HL7 indicated as part of the evolutionary approach, his institution encouraged the conversion of smaller portions of the curriculum to online while leaving the practical parts in the traditional face to face mode of delivery. Consequently, traces of evolving roles of both students and faculty were observed as faculty was no longer the custodian of knowledge but a facilitator, and students were seen to use their devices to become active learners (Anderson and Garrison, 1996; Moore, 1997; Sebbowa, 2016; Abubakar Yunusa et al., 2021; Mata, Pratiwi & Dheghu, 2021). Evolving stakeholders' roles were illustrated more vividly by HL5 who said that part-time lecturers were exhibiting reluctance and demanding to know there would be roles after they had developed and uploaded instructional materials on the LMS.

As part of the effective management of DTL, institutions were observed to develop and operationalize the institutional DTL support frameworks including online learning delivery taskforces, call centres and ICT support desks. Supportive visual aids, recordings and guidelines were also engaged as a support mechanism to aid both faculty and students in the designing and uploading of instructional materials and studying online respectively (Ouma, 2016b, 2016a). Support frameworks such as peer learning and support emerged. In various studies, peer learning and support was found to enable the development of a range of personal and professional skills including empathy, confidence, awareness, leadership, communication, decision-making, and teamwork that are valuable to the majority stakeholders (Gachago, Morris & Simon, 2011; Keenan, 2014; Bao, 2020; Pinto and Leite, 2020). Support frameworks were observed to engage social media platforms such as WhatsApp, emails, or websites to handle ad hoc queries and inquires (Madge et al., 2019; Ssekiziyivu, Mukoki and Musoke, 2021). The social media usage has been established in various studies to allow the moving of learning from academic restricted spaces into stakeholders' social spaces simplifying and breaking down abstractness of learning, motivating and enabling lifelong learning in the comfort of the learners (Baguma et al., 2019; Mulyono, Suryoputro & Jamil, 2021).

On the other hand, social media is said to be expensive in terms of data costs, time (with repeated browsing of non-learning related issues), user misconduct and negative attitude hindering effective adoption of social media for learning (Madge *et al.*, 2019). The findings further established that HEIs through periodic reporting and evaluative surveys to NCHE were

continuously monitoring and evaluating the DTL implementation progress including but not limited to ICT stakeholders' capability, levels of acceptance and consent, course conversions, competence levels, ICT infrastructure capacity, learners access and usage of ICT devices, learner attendance and attrition among others (Mouton, Johann, Wildschut, 2015; Kim et al., 2020; Littenberg-Tobias & Reich, 2020). Consequently, institutions were observed to acquire a sense of direction and hope for sustainable blended learning in the future. Inspiration from success stories and champions were beginning to emerge as institutions registered substantive progress (Muyinda et al., 2019).

Despite the recorded success, under the neutral state of transition, the HE landscape continued to experience various challenges including stakeholders' frustration arising from inadequate access to internet connectivity characterised by high data costs and instability which disrupted online learning and, inadequate infrastructure investments from both the national and institution levels (Nagshankar and Shankar, 2020; Mugimu, 2021). Notably, government was seen not to provide resources towards DTL during the lockdown while even the quarterly remittances were suspended (Ouma, 2016a; Green, 2020; Khamis et al., 2021). A sense of disappointment was observed rising from the fact that some faculty especially the older professorship were not implementing and were observed not to adopt DTL as they continued to exhibit inadequate skills, fear, poor mind-sets, rigidity, resistance to change towards technology which according to Vandeyar (2020) falls short of envisaged potential of ICT to transform teaching and learning in HE.

Despite various studies indicating higher uptake of LMS for online learning as well as in traditional face to face settings (Bervell & Arkorful, 2020; Olema, Matovu & Ndawula, 2020), the findings of this study indicated that the LMS was being adopted slowly (Coleman & Mtshazi, 2017; Vandeyar, 2020) and stakeholders preferred using alternative modes such as WhatsApp and video conferencing applications. Unfortunately, such applications were incapable of creating a unified virtual address for the institutions and thus intensified the challenge of tracking students learning progress and attendance. On other hand, social media usage in HE enables a viable form of DTL particularly in resource-constrained contexts with increased learner collaborative engagements (Roache, Rowe-Holder & Muschette, 2020; Vandeyar, 2020), which according to Anderson (2003) is a requirement for effective online learning for improved learning outcomes. Conclusively, both LMS and social media need to be adopted concurrently facilitated by

continuous stakeholders' capacity development for online learning to take place effectively (Maphalala and Adigun, 2020).

Whereas DTL is known to improve learning outcomes (Pavlik, 2015; Kirkwood & Price, 2016; Bhagat, 2020; Pinto & Leite, 2020; Lemay, Bazelais and Doleck, 2021), the findings established that some participants especially at strategic levels expressed worry about the reduced human contact and the quality of learning outcomes as a result of the adoption of online learning and as such were anticipating the return to normalcy after the COVID-19 pandemic (Sepulveda-Escobar and Morrison, 2020; Hazaymeh, 2021). However, this concern is only true for poorly implemented DTL strategies lacking in interactivity, basic usage of technologically enabled pedagogical skills and inadequate digital competencies among other deficiencies (Rugube, Mthethwa-Kunene & Maphosa, 2020). Therefore, there is a need for holistic planning and implementation for effective DTL.

The findings of this study further established that both faculty and students lacked a sense of cost-sharing given the fact that they were frustrated by the fact that they needed to bring their own devices and sometimes purchase internet bundles for their engagement in online learning. This finding collaborates literature although earlier studies do not indicate evidence of frustration from the usage of personal resources. In fact, the literature describes such gestures as convenient and stress-free for the users (Blaise et al., 2014; Coleman & Mtshazi, 2017). Some stakeholders even demanded for revision of tuition downwards given the fact that they were not using institutional premises and therefore incurring a lot of wear and tear on their out of campus premises.

Despite the promise in these results the question remains, will HE leadership continue to the new beginning stage of transition or will they return to the traditional mode of teaching and learning immediately the COVID-19 pandemic has been eradicated (Mishra, 2020).

6.2 Research question two: How is the HE landscape evolving amidst the digitalisation of teaching and learning?

6.2.1 Virtual institutional landscape

Before-COVID-19, traditional universities had choices in pedagogical practice, which included a variety of teaching delivery modes such as face to face, blended learning, eLearning and Distance learning among others(Mata, Pratiwi&Dheghu, 2021). Overnight, DTL became mandatory for all the traditional HEIs for business continuity. While various studies have dealt with the impact of this sudden shift to the digitalisation of teaching and learning from a students' perspective (Timmis & Muhuro, 2019; Mata, Pratiwi & Dheghu, 2021), this study focused on HE leadership (Bolden, Petrov & Gosling, 2008; Khanna, 2017; Kezar, Carducci & Contreras-McGavin, 2021; Mata, Pratiwi & Dheghu, 2021) as discussed here below;

The findings of this study established that the adoption of DTL evolved the HE landscape from the traditional face to face to media mediated mode creating a virtual workspace characterised by evolved institutional culture, social interactions, leadership and power structures, knowledge and competencies and online delivery practices (Ashmel Mohamed Hashim et al., 123AD; Großer & Baumöl, 2017). These findings further showed that the virtual workspace was characterised by flexibility presenting an opportunity for faculty to work anywhere and anytime thereby saving time and reducing cost.

For example, HL5 indicated that given his multi-campus setting, institutional strategic meetings were expensive in terms of travel and accommodation to a central meeting place before digitalisation. Moreover, faculty at his institution usually spent a lot of time travelling long distances, given the poor transport network in the countryside, to teach a few hours' lectures. He alluded to the fact that the emergence of the virtual workspace had in fact solved most of the distance challenges by breaking down walls and barriers to communication and work(Großer & Baumöl, 2017). These findings were also in line with (Naik & Kim, 2010) who asserted that while the virtual workspaces may present numerous possibilities of flexibility, they require different terms for effective management including increased team trust, clarity of team objectives, decisions on choices, power and control, coordination strategies, leadership traits and knowledge etc. The results of this study further showed that while working from anywhere and anytime was time-saving and convenient, management of dispersed virtual teams remained unplanned as performance outputs were still being measured and monitored using existing traditional parameters

that could disadvantage the stakeholders(Alward & Phelps, 2019). For example, Schwarzmüller et al. (2018) call for streamlining of the working hours as leadership pays attention to the heath of faculty in a boundless work environment. In line with the human resources, the findings of this study projected that online facilitation or workload logistics were bound to increase and become costly for the current institution wage bill. However, institutions had plans to streamline the human resource management aspect of virtual teams through addenda to their existing institutional HRM polices. These findings supported previous research (Alward and Phelps, 2019; De Bruyn, 2020) calling upon HE leadership to embrace professional development because the existing traditional leadership skills, hierarchical roles, purpose, inflexible process management and communication may not be adequate for effective management for the virtual teams.

In order to explain the emerged virtual workspace in this study, I used the adaptive structuration theory (AST) (DeSanctis and Poole, 1994) that provided a framework to describe the interplay between technologies, social structures and human interactions. In essence, AST articulates that digital transformation usually leads to both organisational and human alternations. Consistent with the structuration theory, AST focuses on social structures, rules and resources provided by technologies and institutions as the basis for human activity. Furthermore, digitalisation produces social structures that comprise both features and Spirit that are responsible for creating different social interactions. Therefore, in line with AST, HEIs were teaching in the traditional face to face mode pre-COVID-19. However, because of discontinuity of teaching and learning during the lockdown, they opted to digitalise their teaching and learning processes. This resulted into new rules of engagement that altered their institutional landscape to produce a new institutional structure, i.e., the virtual workspace with online modes of delivery, channels of social interaction, evolved institutional culture, leadership roles and power structures, and knowledge and competencies. These are discussed in the following subsections.

6.2.1.1 Channels of institutional communication and social interaction

The picture that emerged from the analysis above was one of evolved channels of social interactions as HE leadership derived ways of maintaining clear and open communication with their stakeholders in the face of uncertainty during the COVID-19 pandemic lockdowns. Marinoni, Van't Land and Jensen (2020), who carried out a similar study across the globe, reported that rather than ICT infrastructure, communication infrastructure was paramount even in continents such as

Europe with robust ICT infrastructure. Großer and Baumöl (2017) equally argued that while ICT communication is paramount for the coordination of all teams including traditional teams, it is more essential for virtual teams requiring routines and standards, which, however, possess no guidelines but can be improvised through social interactions. Garrison, Anderson and Archer (2003) also elaborated that there is an increased need for social interaction among the stakeholders if trustable online networks are to be built for effective communication and learning. Channels of social interactions are not only important to faculty but were found to be beneficial to the online learners for purposes of reception of constructive feedback, motivation and reduced isolation which aided in course completion (Garrison, Anderson and Archer, 2003; Lemay, Bazelais and Doleck, 2021).

Despite existing bureaucratic tendencies of communication, HEIs were forced to revisit existing channels of communication moving from the traditional physical presences to media mediated modes like adopting social media and video conference facilities for quick and continued stakeholders' engagement amidst lockdowns (Ashmel Mohamed Hashim et al., 123AD; Latchem and Hanna, 2002; Marinoni, Van't Land and Jensen, 2020). Whereas HEIs were observed to use social media, backup in hard copy files were kept in their institutional registry, a characteristic resulting from being a predominantly traditional face to face (Habib et al., 2021). This finding confirms Bridges and Mitchell (2000) and Bridges and Bridges' (2019) neutral stage of transition, where HEIs are observed to engage both the traditional and digital simultaneously. Furthermore, virtual meetings including graduations, governing council, senate, directorate, college and departmental meetings started using video conference facilities such as Zoom and MS Teams among others (Khamis et al., 2021; Oddgeir Tveiten, 2021).

6.2.1.2 Mechanisms of institutional culture operations and practices

The adoption of DTL resultantly birthed the virtual workspace which evolved the HE cultures in various ways including alteration of modes of work, practices, values, beliefs, visions and missions in order to align with the emerging digital HE landscape (Sá and Serpa, 2020; García-Morales, Garrido-Moreno and Martín-Rojas, 2021). Institutional governing organs were observed to pronounce themselves on the new institutional direction including the adoption of DTL as an alternative mode of delivery and therefore calling for immediate development and deployment of

DTL road maps, support structures, regulatory policy frameworks, strategic plans, accreditations and capacity development (Ulukan, 2005; Walters et al., 2010; Nworie, 2012; Mugimu, 2021).

Adoption of DTL involved stakeholder mobilisation for capacity development on both designing and teaching of online courses for the fulfilment of the NCHE ODEL accreditation standards (Jameson *et al.*, 2006; Khanna, 2017; Hallinger, 2018; Tweheyo and Mugarura, 2021). HEIs were observed to adopt online pedagogies including the use of interactive ICT tools to diffuse authentic learning activities (Caird and Lane, 2015; Namubiru Ssentamu *et al.*, 2020). For example, HL6 hinted that his institutional model of designing instructional materials was supported by a needs assessment (Trombley and Sallo, 2012b; Kirkwood and Price, 2016) and all capacity building workshops were as well conducted online to enable the transfer of knowledge into skills and practice. HL6 further reported that the culture of the traditional face to face changed to the usage of the LMS and most students were observed to access the LMS on campus (Evans, 2008; Mayanja, Tibaingana and Birevu, 2016; Pinto and Leite, 2020).

Online teaching and learning and virtual management meetings through the learning management systems and video conference facilities such as Zoom and MS Teams were rolled out across all HEIs (Avolio et al., 2014; Abubakar Yunusa et al., 2021). Supportive frameworks including call centres, peer learning emerged (Keengwe & Kidd, 2010; Khamis et al., 2021; Mengistie, 2021). Furthermore, institutions were seen to promote ICT as an institutional resource for efficiency for records management and communication using social media (Van Wart et al., 2017; Vandeyar, 2020; García-Morales, Garrido-Moreno & Martín-Rojas, 2021). Institutions were observed to gazette budgets of online activities including management virtual meetings and participation, faculty workloads for online teaching, an aspect that had less been unaccepted pre-COVID-19 (Schuller & Tom, 1995; Russell & Calt, 2009; Pettersson, 2021). The findings also indicated that delivery of leadership responsibilities was ICT driven including the use of devices to support quick decision making (Latchem & Hanna, 2002; Schwarzmüller et al., 2018; Mugimu, 2021).

6.2.1.3 Leadership roles and power structures

The results showed evolved leadership responsibilities in all institutions except for HL2 who argued that while his practices and skills were changing as result of DTL (Gurr, 2004; Ziegenfuss, 2010; Lilian, 2014; O 'connell, 2014), his roles would not because roles for a head of university

worldwide were a constant. Various studies do not agree with this scenario and argue that the role of leadership has been reversed in the sense that leadership is now struggling to assert themselves before their followers who have become drivers of change hence flattened hierarchies amidst digitalisation (Dess and Picken, 2000; Maria Suarez *et al.*, 2000; Nworie, 2012; Middlehurst, 2013; Schwarzmüller et al., 2018; Diego et al., 2022). On the other hand, not only did HL6, HL4, HL3 and HL1's leadership capacities impact on their institutions alone as experts to fast-track DTL, they also provided pro bono DTL advisory services at national level (Marinoni, Van't Land & Jensen, 2020).

This finding confirms the assumption of CLT, that advocates for the bottom-up approach in integrating innovations in any given organisation. However other findings, for example from HL5, contradict the bottom-up approach because HEIs where top management was part of the ODEL delivery committee, pockets of confidence, less stakeholder resistance and quick adoptions were observed. In institutions where the ODeL promoters/enthusiasts (HL6, HL4,HL1, HL3) were left to drive the change, participants reported feeling overworked and unsupported by management as they faced high stakeholder resistance and non-compliance, hence a staggering pace of DTL diffusion (Tømte et al., 2019; Pettersson, 2021). This finding was also in line with Uhl-Bien's (2021) study, where she struggled to explain the conundrum.

HL5 also noted that as a vice-chancellor, he was now able to view timetables, leave schedules and workloads online, a task which could not be done by any vice-chancellor in the analogue era previously. HL5 further indicated that there were increasing responsibilities for university managers for example the university secretary at his institution was now supposed to approve all expenditures, a role previously decentralised at the departmental level (McLean, Cilliers and Van Wyk, 2008; Schwarzmüller *et al.*, 2018). These findings are also in line with the works of Håkansson Lindqvist and Pettersson (2019) who reported that school leaders described shifting identities, emerging roles and ambivalent capacities when leading for technologies. HL6 also noted the metamorphism of the faculty roles from being the custodian of knowledge to facilitation of the learning process on the learning management system (Anderson and Garrison, 1996; Anderson, 2003).

There are several possible explanations for these results including the complexity leadership theory that shifts the focus from the individualism and heroic leadership to collective responsibilities,

breaking down tons of hierarchies for quick decision making (Nworie, 2012; Kruse, Hackmann and Lindle, 2020). In line with the current COVID-19 situation, hierarchical, traditional, clear-cut, and universalistic approaches to leading have become less effective and non-productive in the context of the organisation that is dynamic and ever-changing into a complex adaptive system (CAS) where the relationship between the parts is more important than the parts themselves (Uhl-Bien, Marion and McKelvey, 2007). Therefore, the fact that the COVID-19 pandemic evolved the existing bureaucratic systems hierarchical structures in HEIs into complex adaptive systems (CAS), the leadership/follower relationships were bound to change from the existing hierarchical to an interconnected relationship emerging from the interactions amongst the heterogeneous components of the system (Marion and Uhl-Bien, 2001; Lichtenstein *et al.*, 2006; Lilian, 2014). This, therefore, calls for collective responsibility hence rendering the emphasis of the older leadership theories of heroic leadership non-efficient as a disjoint in the process of leveraging DTL would result in an incomplete cycle resulting in system failure hence disadvantaging the stakeholders. However, the question remains whether the increased managerial control by the ICT will not strengthen the existing hierarchies, a concept we intend to run away from in the 21st century.

6.2.1.4 Knowledge and social competencies

The findings established that HEI s' stakeholders including leadership had acquired new ICT competencies including social media communication, online mobilization, presentation, remote teaching and learning and video conferencing skills (Nworie, 2012; Mfum Owusu-Ansah *et al.*, 2015; Kabugo, 2019; Lynn and Emanuel, 2021; Teklu Abate Bekele, 2021; Zhashkenova, 2021). Leadership acknowledged that ICT had enhanced and improved their leadership capacity and organisational effectiveness (Ali et al., 2007; Omona, Weide and Lubega, 2010). For example, HL5 argued that DTL had eased and centralised information sharing at his institution, especially across his multi-campus setting of four sites across the country.

What was striking was that HE leadership's general outlook on life and work had changed including accommodation of different perspectives as a result of increased exposure to the global village, i.e., internationalisation (Taylor, 2004; Matthews, Garratt and Macdonald, 2018; Gezici et al., 2021). However, digitalisation was also observed to reduced ownership and presented a decreased sense of being in charge of ICT processes that have been centralised (Dunleavy et al.,

2005). Also noted is that digitalisation reduced sense of dependency on others given the acquired knowledge and skills. Leadership was seen to advocate for incubation of home grown solutions as a sense of independency from global and national actors as well as reduce costs (Chaushi, Chaushi & Dika, 2015).

6.3 Research question three: How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

This study suggested that leadership was adapting rapidly to the changing HE landscape by moving from the traditional face-to-face to DTL. As indicated in the previous section, DTL was altering the existing teaching and learning process requiring adoption of online pedagogies to redesign the existing content to digital mode mediated by the learning management system. HEIs were observed to possess both the virtual address alongside their physical institutional location, teaching through both the asynchronous and synchronous online tools. These findings were in line with the works of García-Morales, Garrido-Moreno and Martín-Rojas (2021) and Sá and Serpa (2020), who recommended that HE leadership in such situations, have the role of both embracing the change and finding strategies to help their team's transit into the emerged landscape. HE leadership were consequently restructuring their systems, ensuring instructional quality while operating with significantly diminished resources (Kruse, Hackmann and Lindle, 2020). It is from the above back drop that these findings suggested various adaptations strategies including workforce and financial mobilisation as well as institutionalisation of DTL discussed in the following subsections

6.3.1 Institutionalisation of DTL

As part of the adaptation strategy, this study found that HE leadership was institutionalising DTL as an alternative mode of delivery (Hunt, 2005; Melinda Dela, 2007; Pinto and Leite, 2020; Pokhrel and Chhetri, 2021) by operationalising NCHE ODeL standards (NCHE, 2020). The NCHE ODeL standards being operationalised included regulatory frameworks, ICT infrastructure, stakeholder capacity development, budgets, inclusive strategic plans, visions and mission among others (Onguko, 2010; Kruse, Hackmann and Lindle, 2020). Amidst the COVID-19 pandemic, this study found that HEIs were approaching DTL from an emergency and survival perspective (Bozkurt et

al., 2020; Khamis et al., 2021) and therefore were observed to comply with NCHE digital standards through governance pronouncements and budgetary increments and reallocations.

This finding was in line with the various studies that have recommended acquisition and operationalisation of the digital accreditation standards for quality assurance and uniformity of practices (Kajawo & Dong, 2020; Nabaho *et al.*, 2020) especially for online programmes that have suffered the negativity of being inferior (Lassoued, Alhendawi & Bashitialshaaer, 2020; Appolloni *et al.*, 2021). However, despite this commitment, the findings established that while leadership was cognisant of policy as an enabler of DTL, a sense of reluctance towards policy enforcement prevailed hence calling for gradual and evolutionary implementation (Francis Gikonyo Wokabi, 2019). In alignment with this finding, a study in Germany reported the "process of institutional accreditation is not always taken very seriously by either the visiting panel members or the institution being audited" (Glendinning, Orim and King, 2019). This finding was of contention amongst digital enthusiasts as the approach incited decentralised autonomy, a practice which despite hindering adoption of DLT at HEIs, created heavy workloads. Conclusively, adherence and acculturation to accreditation standards in HE is still far-fetched.

6.3.2 Mobilisation of the workforce

In reference to(McLean, Cilliers and Van Wyk, 2008) , it is usually general practice to prepare faculty for the teaching vocation given the fact that it is unlikely that their specific professional journeys unlike education prepared faculty pedagogically. It is against this backdrop that digital enthusiasts set out to mobilise stakeholders for DTL capacity development in HEIs. The study found that it was initially very difficult to mobilise stakeholders for DTL given the fact that institutions had adopted a sense of decentralized autonomy and non-coercion in the uptake of DTL. This finding was in line with Kukulska-Hulme (2012) who urged that it was vital for faculty to gain personal conviction on the worthiness of an educational technology they intended to use.

In fact, this was a major thought among the strategists. However, the enthusiasts reported to have experienced a lot of backlash and resistance in the process of bringing everyone on board as result of decentralized autonomy. They also reported experiencing overhead costs and huge workloads as workforce mobilisation for capacity development required an exhibition of tolerance, patience, sense of empathy toward the non-digital natives and the late responders. This finding can be

explained by McLean, Cilliers and Van Wyk's (2008)argument that if strategists "pay only lip service to faculty development, academic staff will perceive little need to participate and will spend their time where they derive most personal benefit.

Some strategists were observed to deploy the concept of reverse psychology as focus was turned towards students' DTL needs which would in reverse exert pressures and demand compliance of faculty. This finding was in agreement with the works of Powell (2010) who advocated for capacity development drives that allow faculty to transfer their expertise online while continuing to enjoy monopoly of individuality and specialisation. Powell continues to argue that respect for faculty time and expertise can go a long way in influencing stakeholders' attitudes positively. The findings also showed that encouragement of collaborations and support between the younger and older faculty who had expressed difficulty in ICT usage and sharing of success stories could inspire conservations that would influence change (Hanna, 98AD; Khamis *et al.*, 2021).

While most workforce mobilization was more inclined towards the human resources, which of course is in line with the shifting focus of digitisation from technology-centric concerns to people-centric ones (Liao, Zhao and Sun, 2020), others way of encouraging transition included boosting ICT infrastructure (Nagshankar and Shankar, 2020; Bashitialshaaer, Alhendawi and Avery, 2021; Mugimu, 2021) and strengthening ICT support systems (Ali, Buruga and Habibu, 2019; Madinah, 2020; Pinto and Leite, 2020). In order not to leave anyone behind, institutions were observed to adopt a blended learning approach using both the tradition and DTL, signifying the neutral state of transition (Bridges and Mitchell, 2000).

6.3.3 Financial resource mobilisation

Unlike in the past where HE was funded both for recurrent and capital expenditure, today HE is faced with dwindling funding (Schuller and Tom, 1995; Teferra, 2013). In Uganda, despite increasing enrolments, government funding for HE has been declining over the years. Literature shows that government contributions to public universities on average are at 0.3% of GDP, compared to 0.9% in Kenya, and 1.0% in Tanzania (Alani, 2021). In 2004/2005, higher education received only about 10 % of the total education budget (Oboko, 2013) and this figure continues to be constant over the years, yet digital transformation allocations are not clear. Higher education funding is characterised by both external (government, development agencies) and internal entities

(tuition collections, consultancy, and research projects). The findings of this study established that the structural setting of HEIs as traditional face to face, rendered DTL as a non-priority entity both in terms of institutional adoption, acceptance and funding, despite its inclusion in the NDPIII (Ouma, 2016a). In line with this finding, earlier studies have found that digitalisation of teaching and learning in developing countries is less feasible because of the limited resources (Tulinayo, Ssentume & Najjuma, 2018; Mogaji, 2021). Therefore, as part of financial resource mobilisation in this study, HE leadership was observed to lobby external entities such as government and development agencies which according to Muriisa, (2014) is a characteristic of good leadership that is capable of influencing legislation in favour of HE autonomy and academic freedom probably towards DTL.

Existing pockets of DTL funding from partnerships such as HEST/ADB (African Development Bank Group, 2011) and Research and Education Network Uganda (RENU) were in place (Samoff & Carrol, 2004). Despite World Bank recommending increased funding towards HE innovation for teaching and learning continuity, even the expected government annual remittances to institutions was not realised as government presumed absolute closure of HEIs during the COVID-19 pandemic invasion. However, such government responses are expected to hurt post crisis economies in a lasting way (Tweheyo and Mugarura, 2021). While that is plausible, HEIs were observed to demand for government resource allocations towards home grown solutions, increased budgetary allocation towards ICT infrastructure so as to enable the transition from traditional to DTL (McLean, Cilliers & Van Wyk, 2008; Alani, 2021).

In line with Nawangwe *et al.* (2021), Uganda's HE runs a funding model which relies heavily on tuition collection from students and minimal contributions from government and development agencies, such that during the lockdown to curb the COVID-19 pandemic, various HEIs especially the private institutions were unable to operate normally. In their study, Nawangwe et al. (2021) call upon the development of new sustainable funding models for HE. This study further established that HEIs were mobilising resources through intentional inclusion of DTL in institutional strategic plans with actual budget lines (Eton *et al.*, 2020). This also involved the lobbying of university governing councils for internal resource reallocation of existing institutional funding, joint proposal writing, consultancies and research projects towards DTL (Volkwein, 1984; Teferra, 2013). As part of saving the available resources, HEIs were observed to encourage

optimal usage of institutional network in case of on-campus access. Others had explored the zero rate internet access from telecom-companies (Mengistie, 2021). However, this could only achieve a slow internet connection which could not support the expected online learning appropriately. The findings further indicated an increase of subscriptions to consortiums such as RENU which could enable the usage of the EDROM facility that allowed for remote off campus access to institutional networks (Ertmer & Ottenbreit-Leftwich, 2013; Laufer et al., 2021).

6.4 Research question four: What are the essential components of an effective framework that will aid the transition of leadership from traditional to digitalisation of teaching and learning in higher education?

This section was aimed at identifying the existing leadership gaps as HEIs transitioned online learning. These gaps as related to the requirement identification stage in system design and analysis, or design science provided guidance in designing the proposed framework that would aid the transition of HE leadership from traditional to digitalisation of teaching and learning. Specifically, from the neutral stage to the beginning state of transition allowing for effective leadership for the emerge digital HE landscape. While the findings of this study showed layers of rapid transitioning of, the HE leadership towards DTL, it did not come without any challenges. In fact, the transitioning process is still faced with various disruptions especially at the acquired neutral state of transition that is characterised by both success and threats (Bridges & Mitchell, 2000; Bridges and Bridges, 2019). While one would like to conclude that HE leaders had transitioned to DTL, it is imperative to note that they were only able to transition from the ending stage to the neutral stage, implying that there still exists a gap between the neutral stage and the new beginning stage which this research intends to solve. However, before this study could propose a solution, it was important to review the challenges hindering the progress of transitioning such that in the process of addressing these challenges, a comprehensive solution could emerge to aid the transitioning of HE leadership towards the new beginning stage of transition (Miller & Miller, 2017). The findings established that the challenges hindering complete transitioning were in three thematic areas including inadequate support from the government, inadequate institutional leadership direction and mitigations. These challenges are discussed in the next section below

6.4.1 Inadequate support from the Government

The study showed that while HEIs are autonomous as per their establishment under the University and other Tertiary Institutions Act 2001 (Tertiary and Act, 2006b), they are still guided and regulated by the government through the MOE and NCHE and, therefore, are required to abide by the establishment of the government (Sá & Serpa, 2020). However, this bureaucratic and hierarchical positioning of HEIs did not and continues not to aid the transitioning process. The findings established that the initial misguided and none supportive government pronouncements on the DTL direction coupled with increased internet taxes (Bergère, 2020; Nanfuka, 2020), inadequate ICT infrastructure (Nagshankar and Shankar, 2020; Alani, 2021; Tweheyo and Mugarura, 2021) in a struggling HE economy undermined and will continue to deter the efforts of stakeholders, especially the students to use DTL in the Ugandan HEIs

This study further established that the initial non-existence of NCHE ODeL gazette or accreditation standards obstructed and sabotaged the DTL integration at HEIs as previous DTL integration lacked industry recognition. Pre-COVID-19 pandemic, HEIs were required to lobby and persuade NCHE to permit the rolling out of DTL, a situation which also fanned stakeholder resistance and negative perception towards DTL as of inferior quality (Kituyi & Tusubira, 2013; Bhagat & Kim, 2020). Such non-supportive national practices of course continue to undermine the ongoing DTL integrations at institutional levels as critics continue to think that it will only be a matter of time before the COVID-19 pandemic is eradicated and HEIs revert to the traditional face to face. While that is plausible, Garrison, Anderson and Archer (2003) stress the need for national accreditation standards to guide the quality of online learning not only at curriculum and instruction and evaluation and assessment levels but at faculty and student support entities as well. Presumably, faculty and student support guidelines emphasise the importance of support for successful online learning specifically course design, delivery and oversight, workload, and evaluation and guides on the new roles assumed by faculty and students in the online environments that are different in the traditional environments.

Not only has accreditation for online learning been a challenge in Uganda, the recent direct translation of teaching to web conference models without the required instructional design methodologies elsewhere has also complicated the accreditation procedures (Bozkurt *et al.*, 2020). Furthermore, the non-existence of national space or community of practice for DTL conversations

in HE in Uganda continues to hinder the development of home-grown solutions to existing challenges including DTL leadership, capacity development, ICT and power infrastructure. Studies have argued that participation in a community of practice allows for mutual construction of narratives and stories that shape our cultural norms, assumptions, expectations, and dreams for future innovations (Chan, Stern & Anderson, 2014). All these have negatively influenced government funding and investments towards the development of an adequate ICT infrastructure which is the backbone of DTL.

6.4.2 Inadequate Institutional Leadership direction

Previous studies have indicated that online learning in HE is not a matter of switching from traditional face to face to DTL but requires strategic leadership specifically geared to implementing digital transformations (Arnold & Sangrà, 2018). However, the results of this study showed that HEIs exhibited a leadership gap in how they handled the integration of DTL during the COVID-19 pandemic. Of course, all HE leadership across the globe experienced hardship in transiting HEIs to the terrain of DTL given its structural face to face setting. This, therefore, was not an isolated challenge to Uganda (Marinoni, Van't Land & Jensen, 2020). Picco et al. (2016) further assert that despite all the existing digital innovations, ICT investments, inclusive digital strategic plans, HEIs still experienced discontinuity of their teaching and learning during the COVID-19 pandemic.

On the other hand, while HE leadership strategically recognised and appreciated DTL as an enabler of learning, efficiency, creativity and innovation for the survival of academia (Khamis et al., 2021; Laufer et al., 2021), adoption was pegged to COVID-19 hence HEIs are most likely return to the traditional face to face as soon as COVID-19 is eradicated. In line with this finding, an isolated study in Germany reported that remote learning with resemblance to online learning is something educationists would like to leave behind as soon as possible given its ability to threaten the traditional face to face (Zawacki-Richter, 2021).

The findings established that there were no DTL strategic representations to drive and advocate for the holistic integration of DTL including soliciting of budgets, acceptance and recognition. Instead, the representation of DTL had been anchored at the operation level. Furthermore, the results of this study also identified inadequate funding as a major contributor towards the non-

operationalisation of DTL (Schuller & Tom, 1995; Trombley & Sallo, 2012b; Lazarowicz & Cejda, 2015; Bhagat & Kim, 2020).

The findings also showed that despite the massive capacity development drives, HEIs continues to experience ICT and pedagogical skills gap (Ali et al., 2007; Baguma et al., 2019; Vandeyar, 2020). While it was arguable that professional development was still in its initial stages (B. A. Miller, 2019). The question of stakeholders' continued reluctance to attend capacity development workshops still pertains (McLean, Cilliers & Van Wyk, 2008). Could this be the reason for continued stakeholders' exhibition of fear, resistance and mistrust towards the adoption of DTL as an alternative mode of delivery? (Kituyi & Tusubira, 2013; Brown, 2020). The findings further showed that inadequate ICT infrastructure including unstable internet connectivity, inadequate access to devices, costly and slow data packages continue to hinder the adoption of DTL in HE (Maphalala & Adigun, 2020; Nagshankar & Shankar, 2020; Alani, 2021; Mugimu, 2021). There are possible explanations for these results including inadequate leadership's will to drive the required change as leadership mind-sets continue to be misaligned with the institutional strategic digital direction. To counteract this, Van Wart et al. (2017) call upon leadership to adopt ICTs not only for their own competence but to embrace, guide, support and engage in the implementation and challenges of digital innovations in their institutions.

6.4.3 Mitigations

The results of this study established that despite the very challenging period for HEIs, leadership was able to propose mitigations to the above challenges to enable the engagement of DTL for business continuity during the COVID-19 pandemic and beyond.

The government's undivided support and guidance towards DTL was identified as one of the most crucial entities given the fact that HEIs were simply implementers of government policies. Therefore, COVID-19 presented an opportunity for a tripartite agreement between the MOE, MICT and MOFE as well as the private sector to support a holistic transition of HE from traditional face to face to DTL. The findings indicated that the proposed tripartite agreement would create an enabling environment for operationalising NCHE ODeL accreditation standards including upgrading of existing national ICT infrastructure, stakeholders' awareness and capacity development, support frameworks, regulatory policy frameworks, staffing levels and above all

increased investments towards the DTL. This proposal resonated with the works of (Marinoni, Van't Land & Jensen, 2020; Laufer et al., 2021) who cited solidarity as a driving force in enabling collaborations for DTL given that it allows for sharing of already constrained resources hence reducing the rates of inequality.

Something striking about infrastructure development was a proposal to remove or reduce internet taxes to improve equity of online education across the country. Notably, HEIs were concerned with the government's move to increase taxes on internet connectivity amidst the COVID-19 pandemic as stakeholders including faculty and students struggled to access education mediated by technology. This finding resonated with the work of (Bergère, 2020), who asserted that increased taxes on internet connectivity restrict and slow down access to global resources, inflicting controls instead of discipline on populations. In other words, African governments are using digital media as a democratizing force. And for the Ugandan context, internet taxes undermine the country's vision 2040, 'which strives to empower citizens and achieve the goals of universal inclusion, economic progress and poverty eradication and sustainable development through digital innovations' (Gillwald &Mothobi, 2018). While this is plausible, the government needs to review or evaluate its policy direction within the overall context of the Uganda Digital Vision before implementation so as to enable sustainability and sufficiency of policy (Gillwald &Mothobi, 2018). Suggestions to the government also included the decentralisation of revenue collections from students' tuition back to the institutions as that would increase institutional autonomy to direct their own business in the interest of their stakeholders. This finding concurs with a study in Papua New Guinea, where the government financial centralisation reforms in education are contested for their conflict generation amongst stakeholders (Walton, 2019).

At the institutional level, the findings indicated the need for HE leadership to stop denying and accept the changing HE landscape and therefore called for the reinvention of their institutional leadership to lead for DTL. Institutions were advised to adopt a phased approach (Salmi, 2020) in operationalising the institutional DTL master plan including putting in place basic ICT infrastructure, online delivery committees and coordinating units, regulatory and policy enforcements, mandatory stakeholder engagement and support, stakeholders' continuous professional development, funding and budgetary allocations, and DTL institutional strategic representation. The findings of this study also advocated for the strengthening of institution

networks, benchmarks and community of practice to increase togetherness and allow sharing synergies and success stories for the encouragement of slow responders (Lilian, 2014).

6. 5. Towards a framework to aid the Transitioning of Leadership from Traditional Face to Face to Digitalisation of Teaching and Learning in HE in Uganda

In phenomenology, models or frameworks can be generated from both theory and data (Paley, 2016). As noted in the problem statement, there are numerous frameworks guiding the change processes in education institutions. Specifically, the model proposed by Watson and Watson, 2013 (2014) and Joseph and Reigeluth (2020) would be a benchmark for my study. However, as explained in the problem statement and literature review, Watson & Watson' (2013) systematic change conceptual model places the instructional designer at the centre of change yet, the instructional designer, whom I referred to as a digital enthusiast, is incapable of driving the required digital change in HE (Jenkins et al., 2011; Pettersson, 2021). While studies have advocated that models can be developed from literature, data or theories, Watson and Watson (2013), Joseph and Reigeluth, (2020) are advocates for systematic change.

It is, therefore, against that backdrop that I opted for design science to design a framework to aid the transitioning of HE leadership from the traditional face to face to digitalisation of teaching and learning in Uganda

Design science is a scientific process which involves the development of artefacts with the goal of solving practical problems of general interest (Peffers et al., 2007; Johannesson & Perjons, 2021). According to Johannesson and Perjons (2021), design science comprises the following steps; problem identification, objective of the proposed solution, design and development, demonstration and evaluation.

However, for this study, only the first three stages of the design science framework were adopted given the fact that the study scope is only focussed on designing a framework for future testing and evaluation.

In reference to the findings of this study in chapters 5, the first two stages of problem identification and the objective of the solution have already been handled. The problem of this study was identified as a lack of a framework to aid the transitioning of HE leadership from traditional face to face to digitalisation of teaching and learning. The objective of the solution was to enable the HE leadership to transit from the neutral state to the beginning state of transition to lead effectively in the newly emerged HE digital landscape. Therefore, the third stage—designing the artefact— which my study focused on involved three steps: requirement identification, proposed solutions, and development of the artefact.

The requirement identification and proposed solution have already been done under master theme three 'Institutional adaptability', in Chapter 5 and discussed in Chapter 6. Therefore, in this section, I only dealt with the development of the artefact, i.e., the framework that will aid the transitioning of HE leadership from the neutral state to the beginning state of transition.

The framework is comprised of eight modules which are: ending state of transition; visioning digital strategies pre-COVID-19; leveraging of existing digital strategies; rethinking institutional digital strategies; neutral state of transition; virtual institutional landscape; institutional adaptability; and the beginning stage of transition. This is illustrated in the algorithms flow chart in figure 2 below.

Figure 2: Proposed leadership transition framework from traditional to digitalisation of teaching and learning

Ending stage of transition

.Letting go
·feel a loss of control
·optimistic

Visioning Digital strategies pre COVID19

··Existing traditional blended learning
·Inclusive strategic plans & regulatory frameworks
·Resource mobilisation
·ICT infrastructure and connectivity
·None operationalised DTL strategies

·Feeling threatened
·Changing practices
.ICT Infrastructure and Connectivity
·DTL Competencies

Leveraging existing Digital strategies

No

Rethinking Institutional Digital strategies

·Operationalisation of DTL
·Institutional culture
·Boosting ICT infrastructure and Connectivity
·Stakeholders mobilisation

Yes

·Unsettled state
·Sense of Success

Neutral stage of transition

No

Yes

·Channels of institutional social interaction
·Mechanisms of institutional culture operations and practices
·Leadership roles and power structures
·leadership knowledge and competencies

Virtual institutional landscape

·Mobilisation of the workforce
·Financial Resource mobilisation
·Institutionalisation of DTL
·DTL gaps and Mitigations

Institutional adaptability

··commitment
·impatience for progress
·new trust & achievements.

Beginning stage of transition

The proposed leadership transition framework was generated from the two theories, the Bridges transition framework and the phenomenological themes that emerged from data collected from the seven HE leaders distributed across five degree awarding public HEIs in Uganda. The algorithms flow chart shows the iteration and decision-making processes with inputs and output entities. The proposed framework starts with ending state of transition, progresses through the neutral state into the beginning stage of transition.

According to Bridges and Mitchell (2000) and Bridges and Bridges (2019), the ending state of transition was characterised by the HE leadership agreeing to let go or accepting the need to change from the traditional face to face teaching and learning in order to effectively fulfil its tripartite mandate of teaching and learning, research, and community engagements. At that stage, there was the demonstration of optimism, however, with a sense of loss as the HE leadership continued to identify as who they were—a traditional face to face structured institution with little to do with the digitalisation of teaching and learning.

While that is plausible, HE leadership had initially engaged with the visioning stage by putting in place minimal institutional DTL standards including inclusive strategic plans, regulatory frameworks, funding, ICT infrastructure, stakeholder capacity development basically at lower priority levels and in a non-operationalised status. This stage was usually driven by digital enthusiasts and decentralised at individual faculty interests. In essence, the institutions were seen to run a concurrently weak version of blended learning, i.e., distance learning programmes which were usually poorly supported and less recognised. For example, HL3 indicated that at his institution, anything to do with distance learning at the mainstream leadership offices was immediately dispatched to his department without even due diligence of the components. He reported feeling unrecognised in a dual-mode institution. In line with the CLT, this non-committal leadership behaviour is explained by the fact that the traditional face to face structure of HE enabled business to operate successfully pre-COVID-19 even without the adoption of DTL (Uhl-Bien, 2021). Furthermore, the ending state of transition is also characterised by an iterative process of leveraging and rethinking. What is striking about this stage, is that even pre-COVID-19, the distance learning centres in the dual institution always engaged through these processes. However, during the onslaught of the COVID-19 pandemic where institutions were required to go online overnight, the process was explosive. Ordinarily, when existing/planned strategies are leveraged

for the first time or piloted, a sense of threat and anxiety were bound to happen as the planned activities would not turn out as expected (Lemay, Bazelais & Doleck, 2021). Therefore, it is at this point that HE leadership should rethink, strategize and redeploy until the expected outcome is realised (Lilian, 2014).

The rethinking process is characterised by operationalising DTL (Tweheyo & Mugarura, 2021), sensitivity to institutional culture, boosting ICT infrastructure and connectivity (Laufer *et al.*, 2021), and stakeholders mobilisation (Khanna, 2017). Previously, HE leadership would simply pull the system back to order but with the invasion of the COVID-19 pandemic, HE leadership was observed to continue with the integration of DTL for business continuity. This action according to CLT illustrates the stage at which the leadership starts to engage with the emerging tensions and conflicts to create adaptive spaces in which innovation is taken-up in the organisation (Uhl-Bien, Marion and Mckelvey, 2007). However, findings showed that HE leadership was stuck in the neutral stage (Bridges & Mitchell, 2000) characterised by both the old and the new. For example, while video conference facilities were used to teach online, the traditional face to face interface was used for the examination processes due to the lack of proctored software for examination surveillance and more so inadequate pedagogical skills to design constructivism examinations that require non surveillance but can assess higher level learning outcomes.

Leadership at the neutral state usually identifies as 'not who we were – not yet who we will be'. In other words, it is at this stage that the sense of feeling uncertain, afraid, lost, angry, frustrated and blame usually erupts. However, it is at this stage that HE leadership should exercise patience and engage the conflicts and tensions by going through another iteration of the rethinking and leveraging process to allow the creation of adaptive spaces that will aid the transit to the beginning stage. Despite the negativity, HE leadership is also seen to generate successes at the same time. The neutral state of transition is at the stage where the old and the new are engaged in parallel and simultaneously.

This study sought to develop a framework to aid the transition of HE leadership from the neutral state to the beginning state of transition. The first four modules of transition; the ending, visioning digital strategies pre-COVID-19, leveraging of existing digital strategies, rethinking institutional strategies and the neutral state of transition, represent the current status of the HE leadership transition process. It is therefore from the neutral state that I sought to establish the extent to which

the HE landscape had evolved and what adaptability strategies could be engaged to move to the beginning state of transition.

The study findings established that the HE landscape had evolved into a virtual institutional landscape (Großer and Baumöl, 2017) with evolved channels of institutional social interaction (Garrison, Anderson and Archer, 2003), mechanisms of institutional culture, operations and practices (Sá & Serpa, 2020), leadership roles and power structures (Gurr, 2004; Diego *et al.*, 2022), and leadership knowledge and competencies (Nworie, 2012; Zhashkenova, 2021). While all these changes were unplanned and unprepared for, HE leadership had the role of both embracing the change and finding strategies to help their teams transit into the evolved landscape (García-Morales, Garrido-Moreno and Martín-Rojas, 2021).

This state can be explained by Adaptive Structuration Theory (AST) (DeSanctis and Poole, 1994) that describes the interplay between technologies, social structures and human interactions and asserts that digital transformation usually leads to both organisational and human alternations. The changes required HE leadership to change for effectiveness against which background HE leadership proposed adaptability strategies such as mobilisation of the workforce (McLean, Cilliers & Van Wyk, 2008); financial resource mobilisation (Muriisa, 2014; Nawangwe et al., 2021; Tweheyo & Mugarura, 2021); institutionalisation of DTL (Pinto & Leite, 2020) and DTL gaps and Mitigations as illustrated in the framework above. Conclusively, if this developed framework is adapted by the HE leadership, then HEIs shall transit to the beginning state of transition , a state at which leadership will start to identify with the new ways by committing and participating in building the new processes and trust within the new environment (Bridges & Mitchell, 2000; Bridges & Bridges, 2019)

CHAPTER 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this section, I present the implications of leadership experiences in a transitioning landscape from traditional face to face to digitalisation of teaching and learning in HE.

7.1 Summary of the study

This study sought to explore the lived experiences of leadership in the transition from the traditional face to face to digital teaching and learning in HE. The study also captured the extent to which digitalisation of teaching and learning had evolved the HE landscape as well as the adaptations. The study also sought to develop a framework to aid the transition of HE leadership from the traditional to digital teaching and learning.

Guided by interpretative phenomenological analysis(Smith, Flowers and Larkin, 2009), findings showed that leadership experienced an iterative process longitudinally over the pre- and post-COVID-19 pandemic period as they transitioned from traditional face to face to DTL for business continuity in HE in Uganda. Using the visioning for digital strategies as a baseline, the iterative process involved continuous institutional leveraging and rethinking digital strategies for business continuity. However, the transitioning process was incomplete as HE leadership got stuck at the neutral state, requiring a few more strategies to reach the beginning state of transition. This is what the framework developed in this study remedies. Secondly, the study established that the HE landscape was metamorphosing into a virtual institutional landscape with different channels of social interactions; new institutional culture with different beliefs, targets, goals, practices; leadership roles and power structures and; knowledge and Social competencies, and therefore required different leadership principles and institutional structures for effective delivery of HE tripartite mandate of teaching and learning, research and community engagements in the 21st century. Thirdly, the study established that HE leadership was rapidly adapting to the transitioning HE landscape through the institutionalisation of DTL, workforce and financial mobilisation and, identification and mitigation of the lingering challenges. Finally, based on the above findings, literature and design science, this study presents a framework to aid the transitioning of leadership from traditional face to face to digitalisation of teaching and learning.

7.2 Conclusion

In conclusion, this study established the following.

i.   The transitioning process is iterative and longitudinal in nature involving three stages of transition including the ending, neutral and beginning with various lessons and challenges. The iterative process is comprised of visioning, leveraging, rethinking processes at each of the three stages of transition. Therefore, all the characteristics of the three stages including the positive and the negative especially at neutral stage are part of the transitioning process and should not deter HE leadership from proceeding to the beginning stage of transition.

ii.   The existing traditional face to face structural setup of HE as leaders struggle not lose their sense of self and identity is a major barrier to DTL and undermines the positionality and competitiveness of the Ugandan HE sector and territory in the global village. Inability to adopt to the newly emerged technologically mediated HE landscape may catalyse and increase attrition rates of the prospective digital native students to the outside world and beyond Africa.

iii.   The HE landscape is metamorphosing into a virtual institutional landscape with different channels of social interactions; new institutional culture with different beliefs, targets, goals, practices; leadership roles and power structures and; knowledge and social competencies. This, therefore, requires different leadership principles and institutional structures for effective delivery of the HE tripartite mandate of teaching and learning, research, and community engagements in the 21st century

iv.   DTL is an enabler of teaching and learning in HE if implemented within the accredited NCHE ODeL standards, operationalised correctly at the institutional level and cascaded to the classroom environment using appropriate online pedagogies, well-trained facilitators, instructional materials, ICT devices and tools to deliver and train students online.

v.   There exists a divergence between the lived digital experiences of the strategic leadership with the digital enthusiasts. There exist a difference in the interpretation and conceptualisation of the implementation process of DTL across the strata of the strategic leadership and digital enthusiasts. For example, the strategic leadership are more concerned about quality of online learning, decentralised autonomy, distrust,

offer lip service, inadequate prioritising of DTL, which all to hinder the diffusion of DTL, require resilience thus creating huge workloads for the digital enthusiasts.

vi.   The lived experiences of HE leadership amidst digitalisation of teaching and learning pre and post COVID19, has created sense of hope, motivation, and opportunities in HEIs towards the uptake of DTL as an alternative method of delivery.

vii. Digital enthusiasts are incapable of bringing about the required change of DTL in HE. Strategic leadership is well suited for the task as it is their role to ensure that their teams transit to the newly emerged digital landscape. Digital enthusiasts' DTL integrations are an application of the CLT bottom-up approach in integrating innovations in any given organisation. Conversely, this approach has been demystified as shown by the numerous occurrences in this study. Notably, before the gazette of the NCHE ODeL accreditation standards, all HEIs were observed to be in limbo in the face of the COVID-19 pandemic. The misguided government pronouncements influenced the rolling out of DTL in HEIs. Institutions reflected the government direction. HEIs, where top management was part of the ODeL delivery committee, reported pockets of confidence, less stakeholder resistance and quick adoptions as compared to institutions where digital enthusiasts were left to drive the change.

viii. Communication infrastructure, rather than ICT infrastructure, has become more paramount in connecting and keeping stakeholders informed of the next course of action hence reducing the risk of institutional loss of contact or even abandonment of scholarship among the stakeholders. Communication infrastructure may include the usage of social media and formal structures such as circulars and meetings to reach stakeholders who are digital natives and use devices to become active leaners.

ix.   Stakeholder support framework is essential for DTL in HE as it emphasises the importance of support for successful online learning specifically course design, delivery and oversight, workload, and evaluation and also guides on the new roles assumed by faculty and students in the online environments that are different in the traditional environments. While different entities including capacity development, funding and ICT infrastructure are all relevant for the integration of DTL, the support frameworks are the glue that ties up all the different entities for a successful execution of DTL.

x. Inadequate faculty personal conviction on the worthiness of emerging educational technologies is a major deterrent of participation in DTL capacity development activities. Additionally, continued strategic leadership lip service towards DTL has led academic staff to perceive little need to participate and as such spend their time where they derive most personal benefit. This has made it difficult to mobilise for capacity development drives.

xi. Decentralised autonomy is a barrier to collective responsibility which in turn undermines the survival principle, a major foundation of CTL in driving innovations amidst a crisis.

7. 3 Recommendations

The recommendations of this study are as follows. There is a need for:

i. HE leadership to accept and recognise that the HE landscape is transitioning from the traditional face to face to digitalisation of teaching and learning, presenting itself with new technologically mediated structural settings, digital native stakeholders, virtual social communication and interactions, new institutional culture with different beliefs, targets, goals, practices. Therefore, there is a need for HE leadership to assume its newly emerged roles and power structures, align their mind-sets with DTL inclusive strategic plans and, acquire the needed knowledge and social competencies for effective leadership of the newly emerged virtual HE landscape.

ii. Piloting and adopting the developed leadership transitioning framework in HEIs with required changes and contextual adaptations.

iii. The acquisition and operationalisation of national accreditation standards to guide the quality of online learning not only at curriculum, instruction, evaluation, and assessment levels but at faculty and student support entities as well.

iv. Adoption of DTL/blended learning as an alternative mode of delivery to increase HE sectoral survival, and students' competitiveness in the job market or else the HE sector will fall short of its major purpose of building sustainable economic development which developing countries such as Uganda are in desperate need of.

v. HE leadership to avoid pulling the system to order and engage with the conflicts and tension emerging from the integration of DTL to enable the creation of the adaptive spaces that are responsible for enabling the uptake of innovation in an organisation. Therefore, HE leadership should be at centre of DTL integration as the digital enthusiast are incapable of bringing about the required change.

vi. Increased collective responsibility spanning all the sector actors including the national, institutional and classroom entities for a holistic DTL integration so as to reduce the risk of inequality and leave no one behind in the usage of DTL in HEIs in Uganda. Therefore, increased collaborations between the government, development agencies, private sector and HEIs are much needed to create an enabling environment for the operationalisation and monitoring of the NCHE ODeL accreditation standards

vii. Increased internal and external funding towards DTL at HEIs. The fact that Uganda's HE runs a funding model which relies heavily on tuition collection from students and minimal contributions from government and development agencies which sometimes can be unsustainable especially in the face of disasters such as COVID-19. There is, therefore, a need for the development of new sustainable funding models for HE, including the lobbying of university governing councils for internal resource reallocation of existing institutional funding, jointly writing proposals, consultancies and research projects towards DTL. While that is plausible, there is a need for the government to decentralise revenue collections from students' tuition back to the institutions hence increasing institutional autonomy and independence to direct their own business in the interest of their stakeholders.

viii. Increase ICT infrastructure investments such as provision of stakeholders' data bundles, ICT equipment, and strengthening of the ICT support systems. Government should also eradicate the recently imposed internet taxes so as to increase access to global resources and equity of online learning in Uganda. Also increased investments in ICT infrastructure is an enabler to achieving the country's vision 2040, 'which strives to empower citizens and achieve the goals of universal inclusion, economic progress and poverty eradication and sustainable development through digital innovation

ix. Stakeholders' capacity development. There is a need to massively prepare faculty for the teaching vocation specifically online facilitation given the fact that it is unlikely their

specific professional journey unlike education prepared them pedagogically. Given that stakeholder capacity development is difficult using the decentralised autonomy, there is need for HE leadership to disengage the evolutionary approach to DTL and adopt policy enforcement for a mandatory but gradual stakeholder participation in capacity development activities. HE leadership is urged to refrain from giving lip service to faculty development in order to influence stakeholders' attitudes positively or else academic staff will perceive little or no need to participate and will spend their time where they derive most personal benefit hence being difficult to mobilise. There is also need for faculty to gain personal conviction on the worthiness of an educational technology they intended to use. Furthermore, HE leadership needs to deploy the concept of reserve psychology focussing on students' DTL needs which would in reverse exert pressure and demand compliance of faculty. Also, capacity development drives that allow faculty to transfer their expertise online while continuing to enjoy monopoly of individuality and specialisation should be adopted. There is need to encourage collaborations and support between the younger and older faculty who had expressed difficulty in ICT usage. Success stories to inspire conservations that would influence change should also be shared.

x. Development and operationalisation of institutional stakeholder support frameworks for effective management of DTL. The DTL support may include online learning delivery taskforces, call centres, ICT support desks, supportive visual aids, recordings, and guidelines that aid both faculty and students in the designing, uploading of instructional materials and studying online. Support frameworks such as peer learning and support should be encouraged to enable the development of a range of personal and professional skills including empathy, confidence, awareness, leadership, communication, decision-making, and teamwork that are valuable to the majority stakeholders. Further, HE leadership need to encourage the usage of social media as a support mechanism because they are easily accessible as a form of communication infrastructure and an enabler of lifelong learning in the comfort of the social spaces of the leaners.

xi. Strengthening institutional networks, benchmarks and community of practice so as to increase togetherness hence enabling the sharing of synergies, success stories and, mutual construction of narratives that shape our cultural norms, assumptions, expectations, and dreams for future innovations.

xii. Strategic representation of digital enthusiasts to improve DTL direction and advocacy for a holistic integration of DTL including soliciting of budgets, acceptance and recognition from a more informed perspective.

xiii. Increase research in virtual learning through increased publications, conference presentations, periodic institutional reporting, and documentation.

7.4 Additions to the Body of Knowledge

This study added to the body of knowledge a framework that will aid the transitioning of leadership from traditional face to face to digitalisation of teaching and learning in HE. Secondly, the study has also demystified the bottom-up approach and decentralised autonomy as advocated for by CTL in driving innovation across an organisation.

7.5 Study Limitations

This study limitation included:

i. Inability to test and evaluate the developed leadership transitioning framework.

ii. The sample was small. Therefore, generalisability of the study findings is limited to the context of public degree awarding HEIs with dual modes of delivery in Uganda.

iii. The findings of this study may only be credible for the pre-COVID-19 and post-COVID-19 period in the Ugandan context as using the same method on the same sample may yield different results in a different time context.

iv. This study did not cover the transitioning process from the faculty, students and classroom perspectives.

v. The study used only one paradigm.

vi. The researcher experienced conflict of interest in interviewing some heads of HEIs.

7.6 Future Research

Future research should be geared towards testing and evaluating the developed leadership transitioning framework in HE. More studies should also be conducted on the possibility of HE leadership proceeding to the beginning state of transition or the possibility of returning to the traditional face to face at the eradication of the COVID-19 pandemic. Digital transitioning studies from the faculty, students and classroom perspectives should also be conducted in the future.

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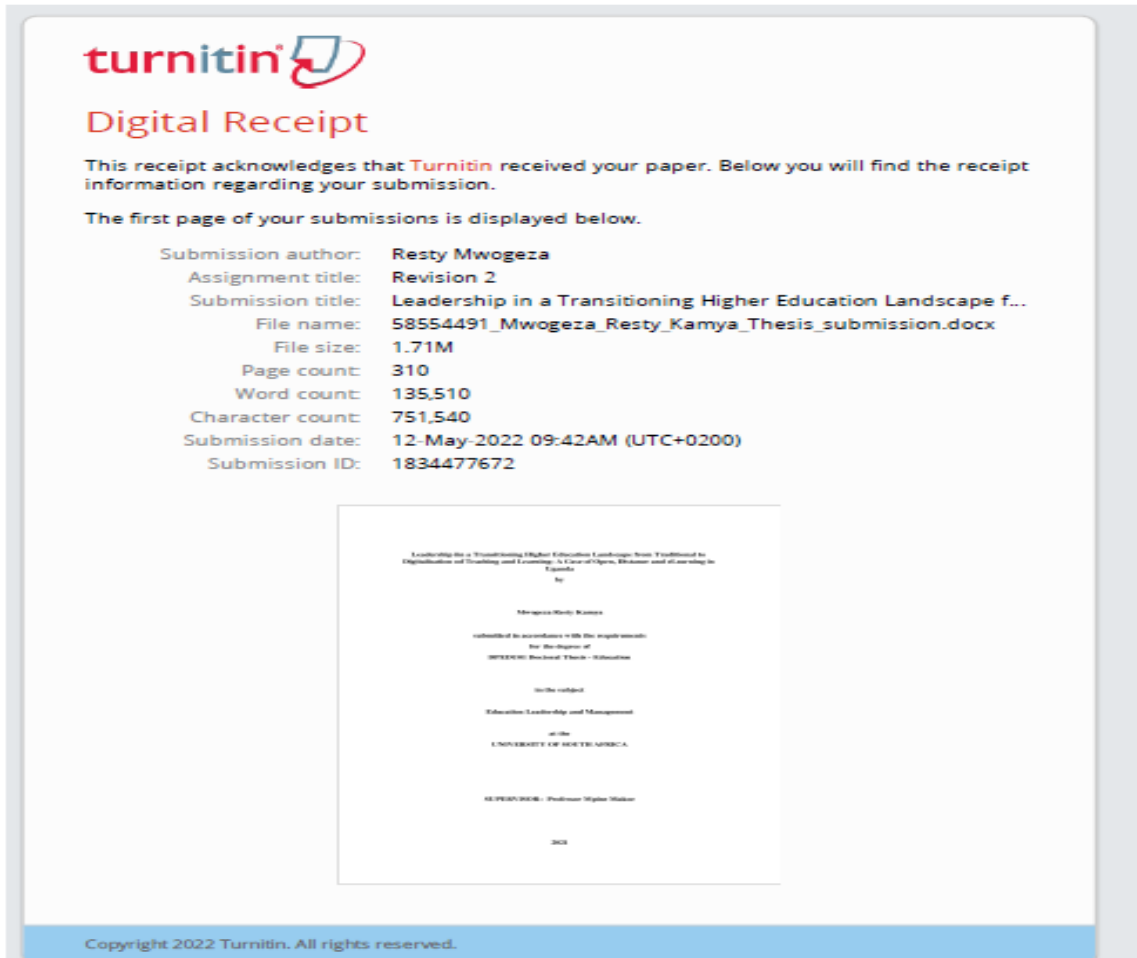
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APPENDICES

APPENDIX I: TURNITIN DIGITAL RECEIPT

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APPENDIX 2: ETHICAL CLEARANCE CERTIFICATE

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UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2019/09/11

Dear Ms Kamya

Decision: Ethics Approval from
2019/09/11 to 2024/09/11

Ref: **2019/09/11/58554491/13/MC**
Name: Ms RM Kamya
Student No.: 58554491

Researcher(s): Name: Ms RM Kamya
E-mail address: kamyaresty@yahoo.com
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Supervisor(s): Name: Prof M Makoe
E-mail address: qaklsme@unisa.ac.za
Telephone: +27 12 337 6183

Title of research:

Leadership in a transitioning higher education landscape – from traditional to technology enhanced learning: A case of online distance education at Uganda Management Institute (UMI)

Qualification: PhD

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2019/09/11 to 2024/09/11.

The **low risk** application was reviewed by the Ethics Review Committee on 2019/09/11 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

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APPENDIX 3: CERTIFICATE FOR LANGUAGE EDITING

To whom it may concern

This serves to confirm that I edited the thesis titled, **"Leadership in a Transitioning Higher Education Landscape from Traditional to Digitalisation of Teaching and Learning: A Case of Open, Distance and eLearning in Uganda"** by Mwogeza Resty Kamya. I trust that the candidate attended to all required revisions before submission.

X ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾

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APPENDIX 4: PROOF OF REGISTRATION

UNISA | university of south africa

1313 M1RST

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PLOT 44-52 JINJA ROAD
UGANDA

STUDENT NUMBER : 5855-449-1

ENQUIRIES NAME : MALEPO SP
ENQUIRIES TEL : 0124415702

DATE : 2021-05-10

Dear student

I wish to inform you that your registration has been accepted for the academic year indicated below. Kindly activate your unisa mylife (https://myunisa.ac.za/portal) account for future communication purposes and access to research resources.

DEGREE :   PHD (EDUCATION)   (90019)

TITLE :   Leadership in a transitioning higher education landscape - from traditional to
                    technology enhanced learning: A case of online distance education at uganda
                    management institute (UMI)

SUPERVISOR :   Prof MR MAKOE (gakism@unisa.ac.za)

ACADEMIC YEAR :   2021

TYPE: THESIS

SUBJECTS REGISTERED: TVPRM01   PhD - Education (Education Management)

A statement of account will be sent to you shortly.

You must re-register online and pay every academic year until such time that you can submit your dissertation/thesis for examination.

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Yours faithfully,

Prof M S Mothata
Registrar

APPENDIX 5: PARTICIPANT CONSENT FORM

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CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, _____ confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw if I change my mind

I am aware that the findings of this study will be processed into a research report and possibly journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

By my signature, I agree to the recording of the interview and focus group discussion.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print)   Bona Maandera

_____   16/June/2021
Participant Signature   **Date**

Researcher's Name & Surname (please print)   RestyMwogezaKamya

_____   _____

Researcher's signature   **Date**

APPENDIX 6: PARTICIPANT INFORMATION SHEET

UNISA *university of south africa*

PARTICIPANT INFORMATION SHEET

Date: March 2021

Title of the study: Leadership Transition amidst Digitalization of Teaching and Learning in Higher Education(HE): A case of Open Distance and eLearning (ODeL) in Uganda.'

DEAR PROSPECTIVE PARTICIPANT

I am Resty Mwogeza Kamya pursuing a PHD at the University of South Africa (UNISA) under the supervision of Prof Makoe Mpine , Head of the institute of ODL, UNISA on the above mentioned topic . This is to kindly invite you to participate in the following study : Leadership Transition amidst Digitalization of Teaching and Learning in Higher Education(HE): A case of Open Distance and eLearning (ODeL) in Uganda.'

You have been selected because of your vast experience in leadership. The purpose is to humbly ask you to spare an hour or less of your time to respond to questions related your experiences as a leader in a transitioning higher education landscape. The aim of the study is to explore the structures of the lived experiences of leadership amidst digitalisation of teaching and Learning in HE with the aim of constructing a framework that will aid the transition of leadership from traditional to digitalisation of teaching and learning in HE

Participation in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be asked to sign a written consent form. The questions in this study will not cause injury/harm and or discomfort to your professional. Your actual name as a respondent cannot directly be connected to you and your name shall not appear in the report and the write up.

This study has received written approval from the Research Ethics Review Committee of the college of education, University of South Africa. A copy of the approval letter can be obtained from the researcher if you so wish. If you feel that you'll like to participate in this study, please sign the attached consent form. You are free to withdraw at any time and without giving a reason.

Should you wish to have a copy of the research report and any other publication relating to this study, please contact Ms. Resty Mwogeza Kamya , kamyaresty@yahoo.com and +256772867858

Should you have concerns about the way in which the research has been conducted, you may contact my research supervisor: Prof Mpine Makoe qakisme@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Resty Mwogeza Kamya

Researcher/PHD student

APPENDIX 7: INTERVIEW GUIDE
Leadership in a Transitioning Higher Education Landscape from Traditional to Digitalisation of Teaching and Learning: A Case of Open, Distance and eLearning in Uganda

Semi structured interview questions:

Background information
1. Interview Code #:
2. Date of interview: ………………………
3. Sex of Interviewee: ……………
4. Position of Interviewee: top/ middle Management ………………………………
5. For how long have you been in this institution (record in complete years) ………………….
6. For how long have you been in the above stated leadership position in this institution? ………..
7. What roles and duties do you carry with your current leadership position in this institution?
8. Are there any other leadership positions you have held in or any other HE institution? If Yes, please specify the last three? ....

RQ1.What are the leadership digital experiences in a transitioning Higher Education landscape from Traditional to technology enhanced learning?

a) Of recent, there is an emerging phenomenon of digitalisation in T/L in HE. What is your understanding of digitalisation of T/L? What dose digitalisation of T/ L mean to you? What has been your experience?
b) What techniques are you using in digitalizing your T/L in your institution?
c) I see, what has been the outcome of theses interventions? - especially in the period of Covid19?Has there been continuity in your T/L=
d) why not? What do you think has made it difficult for institution to embrace digitalisation of T/L for business continuity?
e) Kindly tell me a bit more how you feel when after all these investments- polices, SP , ICT infrastructure, your institution still experienced discontinuity of its T/L?

RQ2. How is the HE landscape evolving amidst the digitalisation of teaching and learning?

a) What have been the key implications of digitalization on your leadership roles, practices and skills over the years?
b) What strategies is HE leadership putting in place to mainstream the digitalisation of T/ L in your institution?

RQ3. How is HE leadership adapting to the Digitalisation of teaching and learning

a) How are you mobilising resources and ideologies to embrace Digitalisation of teaching and learning in your institution?
b) How are you mobilising the workforce to embrace Digitalisation of teaching and learning in your institution?
c) How are you institutionalising procedures, polices, goals , (formalisation & control& reduced flexibility) to enable your institution embrace Digitalisation of teaching and learning in your institution?
d) How are you overcoming rigidity, conservatism and expanding to embrace the new demands of DTL?
e) How are you expanding your leadership strategy beyond skill-building to encourage connection, collaboration, and engagement? How are you aligning your leadership development strategy / mind-sets with the shifting institutional strategies, what formal or informal training have you engaged in as far as DT/L is concerned
f) What challenges is HE leadership facing as it adapts to digitalisation of T/L

RQ4. What design principles will guide the development of a framework that will aid the transition of HE leadership roles from traditional to Technology enhanced learning?

a) What are the top three shifts do you need to make in your leadership strategy (Leadership roles, practices and skills) to ensure your institution is prepared for the challenges ahead?
b) How are you applying technology to reinvent your leadership experience?
c) Do you think there is still a gap in the way HE Leadership has embraced digitalization of T/L especially the period of Covid19? What exactly has been the leadership gap you have experienced
d) What are your suggestions on how to mitigate/ bridge the leadership gap in the period of Covid19?

APPENDIX 8: TRANSCRIPT HL7

Transcript -HL7
R: Good day Professor. Like I explained, I'm a PhD student. And I'm in the university of South Africa. And I'm studying education, leadership and management. My topic is about leadership transition in higher education Amidst digitalization of teaching and learning, a case of open distance learning in Uganda, I'm looking at the fact that we now have a new emerging landscape, or maybe the new normal, it's an expectation of the leaders to change or be dynamic in their leadership styles practices to be able to embrace leading for digitalization of teaching and learning. well, I occasionally say that the HE leaders don't reinvent themselves and go from the traditional leadership to the leading for digitalization, we risk having students or product outcomes that are not good for the existing market. So that is what I'm looking at. And basically, this is a phenomenology study, phenomenology in the sense that it looks at the experiences its exploratory nature. And you're going to realize that a be looking at how you make meaning out of these experiences. How do you make sense out of these, these experiences? What do they really mean to you? So allow me maybe start collecting your bio. I will go straight to question five, because I know that rest for how long have you been in this institution? Actually, in your current position?
HL7: getting to eight years
R: Okay, thank you . What are your current roles?
HL7: broadly strategy management and oversight on administration. Okay,
R: um, have you held any other leadership positions? Apart from in the current institution? In the previous years?
HL 7: Yes. before then I was with UCU as faculty Dean .
R: Thank you. So, we're going to be starting the research question. My first research question is basically what are the lived experiences of leadership amidst digitalization of teaching in higher education? Are you notice I use the word leadership instead of leaders because I'm trying to look at leadership as a collective activity in the university. So, my first interview protocol question is ... what is do you understand by digitalization of teaching and learning?
HL7: It is, very broad, fairly broad because it is linked to two things one, it's linked to level of technology for the institution, Level technology for both students, and staff. Now, broadly speaking, one will be thinking about how to use computer technology to efficiently Deliver University mandates. So, digitalization then starts with how you use technology at a leadership level, you want to use technology for coordination, for conversation, you want to use technology for managing information, data, you want to use technology for in terms of resource as a resource for, getting ideas. So, broadly, it is about my view, it's about how do you allow processes which can be replaced by technology to be replaced by technology, while you keep your sight on those human elements of leadership that will never be taken away. So that in a broad sense, that's my understanding that information now can be kept on a computer, generated by a computer, can be accessed easily, using computer technology can be shared easily. So if you take that and place it before a leadership team, then you quickly realize many things you can do efficiently, you can cut down on time in terms of access of data, access to information, you can also cut down time in terms of having a meaningful conversation, and reporting. So I don't know whether I have answered you, but I've kept that at a fairly broad level. And so when you get down to teaching and learning , you are saying-- what can technology do to make the conversation between students and teachers more meaningful and creative without the restrictions of mind process. What does that mean? That means that in terms of providing information, we should be able to give the students the information they need, access without you engaging with the information, they should able to do without you as a teacher, and then you come in to facilitate their understanding and broaden the frame of knowledge that they possibly would be deriving outside teacher information given to them and leverage it to solve problems.
R: Thank you Prof. our next question is . What has been your personal experience with digitalization of teaching and learning in your institution in terms of processes, challenges and appreciations?
HL7: About four years ago, we had a strategy for doing this, for moving our learning teaching processes, from manual processes to those that are delivered through technology and one of the things , we did was invest in to first procuring the system and be able to customize it to our needs. And then we started the process of buying in from staff by training, people we felt would be interested because at that time it wasn't a policy, two , there was no COVID. So , we're trying to project for ourselves what, the environment would be like four or five years down the road. So, application and appreciation of technology was important, and we trained staff to be able to look up their own material and learn how to provide that material on the system, then be able to create access for them and for the students, initial three years, this was an experimental and was not a requirement. Like now, in the present circumstances, we feel very lucky that we did those experiments at that time, because now we have the group of teachers, lecturers who have become trainer of trainers- who have become people who encourage others that it is possible to do teaching and learning, using technology, to provide information to students, to interact with, wherever they are, for sure, because they have access to the internet, using whatever device. So our own experience, of course, I, have not directly gotten in teaching and learning for the reason that my remit is really outside in alignment. But from the point of view of providing oversight over technology systems, oversight of what the university needs, I think I've been involved in that way, ensuring that you have a strategy, we have an eLearning the policies, who have been having training and workshops in providing both skill, but more in providing attitudes change, for members of staff to appreciate that what is going on is not a change of their job, but change of the tools they have in order to do their job better. So my involvement ,has been more at strategic level in terms of directing policy, directing acquisition of systems and technology. We were lucky. During the Africa Development Bank project, government of Uganda, that in that project, we were able to benefit by extending the fibre optic networks across our buildings, we were able to acquire a data centre that would allow for storage of huge data in our system. We're able to acquire additional equipment. We're also able to acquire specialized training on eLearning. This has come in handy in that institution is not yet there but I think that it is moving on the right path if we're not for if we're not for the lock downs and closures. I think that we will be getting to a stage where eLearning is beginning.
R 14:26
Thank you very much proof that is very comprehensive. And thank you for managing this strategy function. I congratulate you upon all the Success in digitalising your institution? And I'm aware, your university is far ahead in technology, for example, in having an E campus, AIMS , it's been ahead of most institutions in this country. allow me to take you to the period of COVID . i imagine ADB and then some of these establishments were already there before COVID came in to, lock down the University. What were the major outcomes of these prior intervention were they able to allow you to continue teaching and learning during that COVID time
HL7 16:45

when covid came in, we had we had a challenge. The challenge was the quick switchover from what was rather a voluntary exercise to moving it to space of almost requiring members of staff to do it. Now, two things there, members of staff themselves were taken by surprise that now, they were being required to move their teaching to eLearning and the time space, that they had was now much more stiff than we had three years ago, when it was more or less a voluntary thing. So, that became a challenge because not everyone was prepared for it and the challenge because not everyone had the right attitude towards using technology. therefore there was a degree of have doubts, whether it would succeed, whether it will lead to successful learning process. So that's from the teaching side. From the student side, it was also a challenge because while we prepared some of the teachers with we had never had time to prepare students adequately for eLearning. And so, when COVID comes in, we are we are faced with an organizational problem, because we now must bring students on board rather quickly, we must bring stuff rather quickly to eLearning. now in the first lockdown two things happened there one, we were not successful to do eLearning in the sense that is generally understood. So we took that opportunity to prepare staff more for remote assisted learning. In other words, we provided them with technology where they could make material available for students to access and then be able to follow up students either through social media or WhatsApp was particularly useful or through emailing and things like that. So I can say that the first lockdown was more like To say, well, you now must get on with it. So we did not, we did not get learning actually going on. Now, when students came back, they came back in phases. So the first phase was that all final year students, and that was a real opportunity for us now, try out a more practical way. Teaching through eLearning. I should say that I think that that first time was reasonably successful majority of staff were able to get on board, they were able to provide training and learning for the students, not fully integrated online, but at least able to do a blended type of learning where students are able to access material and able to interact with the lecturer off station. That gave us a good ground to build confidence in staff. But when the continuing students came in, that was I think about January, we're a bit more prepared to do that. The students have been coming along, they're more, ready to access technology. But I think they're frustrated by our inability to provide adequate access to all of them. Because we simply cannot were not able to We are the investment that we have done is not enough to guarantee and ensure that students are able to access internet whenever and wherever. And so that becomes a challenge, especially that most of our students out of campus sort of have to depend on their own capacity, and financial ability for data. However, we, part of the investment was to provide some hotspots over the campus, I think, nearly 400 hotspots spread across the university, and also to provide some large labs where students could access. So in the last session before this lockdown, it was now possible for students who do not have access to internet to come on campus, not for the purpose of being in the lecture room. But for the purposes of being able to access the internet. And through the internet, they'd be able to access the learning materials, and then from time to time be able to engage with the lecturer. So that's the process which we've been having, and was interrupted by the current lockdown. Because again, we were taken by surprise, we must shut down the university. But I think that we moving on , well, to build for a more sustainable use of blended learning in the future. Where we i say that I think staff have come on board. there's adequate technical capacity to support them in eLearning, and the students have also come on board. We have reasonable I wouldn't say adequate, but I think reasonable, technical environment to be able to deliver eLearning within the circumstances

R 24:11

Thank you Prof. That is very inspiring. And I see your institution has done a lot of work enable students to continue learning. Allow me take you back to the COVID part where you said , they didn't get to learn, there was no continuity, because of the different challenges you alluded to . As the leader of the institution or university. How did that make you feel?

HL7 24:41

The physiological approach we have taken in the deploying technology is to say that technology will be acquired, will be appreciated and will be utilized in an evolutionary manner. We are more sensitive to culture change , mind change , because of the history of the university, we will found that it was better to introduce change gradually than to introduce it at once, with a rigid policy requirement, and trying to enforce it through policy measures. So what that means is that we will take a little longer time getting buy ins by staff and students, but we believe that, that longer time will pay off ounce staff and students buy in, then we'll be able to move a bit faster at implementation in their use, and in integrating technology in their work. So because of this particular approach, sometimes it feels like it is sluggish, you know, it feels like you know, you have an agenda, you'd like people to move on with eLearning at least blended, but its taking a little longer than it is required, or more than you would want to take. So, that particular approach that we have used, I think, in the short term, does not immediately deliver the goods that you like, you have a few who will quickly adopt the technology. I remember the first group that really was successful was the early childhood department, which used eLearning, for training the students outside of the university in the PTC is across the country. And they did so successfully, that now when became a need for others, they were the ones to tell the story that it actually works, that we can get there. So the buy in is still a process. And I think that we are we want to I would want to say that, i think that now most staff do appreciate the need, they can now be able to, to appreciate the technical support that we provide, and the environment and where we have shortcomings, we are able to see how we can deal with them. So that's from a broader perspective of how we've come along . The truth is that we've not yet invested adequately and enough to be able to get everyone move on to eLearning and to be able to get the students to really get on board. Now, you hear a few examples of successful classes, a few examples of students appreciating that they are you know that they have interacted, they have learned. So these examples, which are now beginning to be almost in every faculty, I think that in the coming one or two should now lead us to a proper blended curriculum integrated for the students to learn. So yes, you asked about learning by the students. Yes, learning happens where the instructor is fully on board, and keep these students engaged. And learning also happens in those classes and groups that have formed around themselves- peer capacity, encourage one another to access material and to interact with the instructor. This last point I think is very important that students on their own have realized that they need to appreciate that the teaching has changed. For now and for the time to come. Teachers will be engaging them on their understanding information, more than on providing the information . and therefore you find in the last one month or so, if you came to campus, you will find students discussing material possibly having access to it, either through remote assisted technologies or from the website of the university, or directly with WhatsApp groups from the teachers. So you find groups from students themselves and supporting each other able to meaningfully to learning Using technology, not just learning management system, that's high end. They also use things like WhatsApp, they use things like direct access to website, and then peer learning through Groups.

R 31:01

Thank you Prof, I'm really, this is really getting interesting. I, you mentioned two things. One, the buying in of the lectures or the facilitators, it's scanty, I really want to know what is it like to overcome that rigidity, the mindset, and the conservatism of the workforce of the the facilitators or the lecturers?

HL7 31:30

It is very difficult. Of course, there are two approaches to these things. One is to say, this is a Policy, this is the direction of the university, everyone must get on board. You allow that to happen, you allow you allow the policy statement and the direction to be communicated by the leadership of the university by the Vice Chancellor and his team, per say, this is where we go. But you also realize that between the direction and the action, there is a gap. And so you must allow for people to come on board truth be said , those of our staff, who be more older, the older staff, have been teaching using traditional methods now find this quite a tough challenge to Get on board with, but young people, those who have finished their PhDs in the last three or four years, from other universities, those coming in from the States find this easier because they have

been exposed to it. So what you want to do then is to provide the synergy to draw energy from the youngest academic staff for whom this is easy. and use that as a rallying ground to encourage and I use the word encourage, encourage the more senior people that can be supported also using technology. So that is a process which we are seeing and say its not time to say well, now everybody's there, we are not yet there. But we need we need that in order to change attitudes. Once you have, the young people, and three, four or five departments with the real success stories, then then you begin to get others into conversation. One of the things we had wanted to do for which we're not able because of the closure, we wanted to organize a sort of a workshop for storytelling for departments, and people who have done this successfully, to be able to share their story with others in a way of encouraging that it is a direction that we all want to go and see direction but each one of us actually can if you have the right attitude and you can be supported.

R 34:19

Thank you. I noticed there's a lot of decentralized autonomy in the adaptation of digitalization at university. Where does this leave us? if there are facilitators that completely fail to come on board.

HL7 34:49

What we've done and I know is going on is to say that If you are not yet ready, you will still do most of your most of your teaching in the traditional way. But we want to encourage you that you know, you begin to do you know 7% or less and no try to sort of get into the current way of doing things. Now, at the moment, there is pressure. And this is the beauty of it, pressure comes from about three directions. One is pressure of policy, the pressure or process to say this is the direction that as a university we have agreed to. So, as our staff, you must move into this direction. So, this is that pressure. The second pressure is from your colleagues, your peers who will say, but we are doing it, how come you are not doing it? What is the problem? How can you be helped? I think if you create that kind of pressure within departments and faculty it you'll be able to win over people, even those who are in a more difficult situation. But I think the third question, for me is the one interesting one is pressure from the students. Because if we, if you build capacity among the students that they will not need to sit in a lecture room to listen to you telling them the things they should have found by reading, then, we're in a good space, because the students will now begin to demand that give us the material ahead of time. Let us access this wherever we are. So once the students begin to come on the board, then the slow ones, will find that they must, they must hurry, because now time is moving quite quickly. And eventually, maybe not in the next two to three years. But if you give it about five years to be mandatory, that if you're a member of staff, if you're a member of staff, we require you to upgrade your skills, we as a university will be able to provide training, regimes capacity, even using technology itself, by putting things on you to enable you to learn how to do we have this experience quite differently, though, I think it was helpful. When we started the online admission application process and this payment process. Many people are very skeptical, that would not be successful. But we run the system alongside a public education, technology driven information board, so you would go to our website, you would access or how to do , how to apply , you access that you go through a video, how to do it, using YouTube, and so on. And even the very first time it was very, very successful. So I think that we'll be able to employ all these various approaches in order to generate compliance.

R 38:39

Thank you. . And another thing you talked about is resources. You say the university as not invested enough. I would like to know what is it like to mobilize resources for digitalization of teaching and learning?

HL739:02

You see, there's a time when people thought that investing in ICT was luxury , was an option. But now it is not. And because it is not. We would like to see, Unfortunately, it is now a national program area for the country within the NDP three. One of the 18 national program areas is digitalization, which for us is now good news. It now means that we can rally ourselves as a country and rally government to say this cannot happen unless you give the institution's adequate funding for it. You see, so I think that It is not easy. I mean, in the last eight years of my stay in this institution, we have invested meagre resources really, but simply doing the right things over time is what has led us to where we are. But in terms of actual financing has been very, very meagre if it were not for the support of ADB. I think we not have made the current progress. So, it's going to take one, the country/ government say we must put money aside, not just to harvest innovation. Yeah, putting money aside for young people who are skills to develop applications. And so that's cool, but not where we are looking, we are now looking for money to put into universities. So universities can build the adequate environment for eLearning and blended learning. So first government, it must realize that this is an area where we must support universities and put money directly into universities earmarked for ICT, investment integration, and eLearning. The second is for university councils to appreciate that, , as governing organs of the university, that they must appreciate now the role of ICT in teaching and learning, and therefore be able also to lend voice, not only to government, but lead voice within the networks of universities, within other organizations, that we must find the resources we need to prepare universities. So they can be able to give a meaningful learning to our young people . this is absolutely important its not just covid, Indeed, when we thought about eLearning, we were about eLearning in terms of increasing access to higher education. If we do it right, we should be able to nearly double the number of students who are able to get into higher education, simply by leveraging on ICTs. If we see it this way, then this is an area where we need to do our best put in enough money. So we can match the technologies, we can match the capacities we need. And we can match the needs of our students. The third is for priority within the university funding regimes. Within the strategic plans of the university, and within the actual budgets, year to year budgets over universities, we should now begin to increase our funding for ICT integration in to t/L. If we do not do that we are likely lose the academy , and out seed with the rest of the university and world over

HL7 0:00

academy so to speak, we are likely to be out of sync with what the rest of universities world over do. Because you see the universities and internationals institution , while it responds to local needs local circumstances must be aware that it is it ought to provide leadership and ought to play the game the way other universities do.

R4:52

very comprehensive and encouraging. Now that you talked about the strategic plan and the policies, I am aware I dont know about your University, but many higher education institutions, even before COVID, they had these policies, strategic plans, they had a budget for eLearning. But not much that was showing for all these, there was no action. at this particular time, how are you aligning these budgets, this strategic plan with the leadership mind set?

HL7 5:42

You see, in moving an institution in area like this, yes, I agree. You must have policy frameworks, you must begin to speak to faculty leaders and say to them, well, as part of our requirements, we want to see that there is adequate within the resources available, that emphasis is being put on teaching and learning using ICT. Now, for the next one or two years, it may not look like you know, I am an evolutionist in my philosophy. It may not, it may not look like there's not much you have done. But if you begin to tell people ok, to move some of the money, 7% of the money that you were putting in workshops and so on. Now, let us move it to enable us to Yes, we shall have workshops, but they're there, are geared towards building our capacity for learning, for using technology to learn and to teach and research. people begin to appreciate and our experiences is that you can do a lot with little, you know . So what is required is to begin to say that this direction is a survival strategy. So, because its a survival strategy, whatever resources we have, we must ensure that the strategy is receiving reasonable attention, I use the word reasonable because it will not be possible to make a quick turn round and say now, all the monies must go to ICT and so on. But we'll begin to make the adjustments. For example council has already made what I think is a good adjustment they said we want to focus on some three priorities as a council , so, they said our first priority will be that we try and ensure that there is adequate resources, financial resources to the university. Then they said the second one, though, will be that we would like to see that ICT is being adequately funded. So that can be used for teaching and learning. But for me that is good, even without increasing my budget, the fact that I have a council which is pronouncing itself that this is a priority for the university is good , then we can now begin to move funding into that direction to affirm the position of council. So, the organizational change that is required , we have to rely on how these leadership positions translate into the actual work in terms of budget. So when we are having a participatory workshop at the beginning of the financial year. We are planning for the following year, we now have a good environment to say, given the limited resources that we have. How do we fund ICT? How do we fund learning? How do we fund our capacity to deliver? So probably with a few ideas here, just to say that the actual funding itself may not change drastically. Over time we think that growth, We need a mind set which allows us to realign in the right way resources we have so that the ICT receives attention on the priority at every level, I think at faculty level, at departmental level and university therefore people who are in budgeting and strategic management, part of their job will be to see that this alignment actually takes place.

R7:29 Thank you. So my wondering about organization change, change of institutional culture, okay. So how has DTL changed the culture of your organization?

HL7 11:03 this is a gradual thing. What are we changing? as a university, I think what we are changing now is that people, whether you're a student, or you're staff, you are a manager and administrator, we would like you to be looking at ICT as your first form of resource for efficiency. what are we trying to do?, we are trying to encourage the administrators to use the computers for bringing efficiency to their work in terms of communication, record processing, record management.; I would say that in the last in the last three months, actually, all our all our council meetings were nearly online, all of them except maybe one or two where we required to be face to face, that we are now able to deliver a council meeting online including access to all documents that are required . We've been able to run senate online using technology. Right ; while it is working for teaching learning, it should also work for management , most of our top management are now online , yes! it was because of COVID. But no, it will now become part of our culture that we will not have to meet physically to be able to conduct a top management meeting, we can be able to do this anywhere . So the organizational culture, which is beginning to take root is to say that technology is available , we embrace it and utilize it and use it will be more efficient at what you do than we were. So it calls for continuous reminder. I don't want the word training. Every time you see we're training people they feel that you were not appreciating that they know enough. I'm so I use the word reminder that, you know we need to keep reminding ourselves that we must embrace technology. And the key point is this have within each stakeholder, within each within each stride if you want, people who are technologically aware. So you have within top management, you must have advocates, you must have champions, that's the word must have champions within management within Senate, within council people to not only speak for but actually use. Then you get champions within the administration within the administrative people who are actually using who, when you train them the first day, they're on top of things that they can help others to come along. So I think if we do that, over time, five, four years down the road, we should have created the sort of culture that is ICT driven. for me, I'm a slow one. And I'm not one who says that Take policy and within one year , require everybody to do it. That's one way of doing it, but I've not found it very successful. I like gradual, I like putting in place the synergy points, and then allow those to drive the cultural change.

R15:22 Okay, that is very good, Now that people are working from home. Have you developed new guidelines for HRM?

HL7 15:37 No, we have not. Okay, other than circulars for example, that, you know, say, guide staff on 20% presence in office with at the moment, I think we are leaving this to heads of departments to be able to, establish performance outputs that will be required from members of staff, if they are not on station, that will be a bit harder for us to work out. Because I think that it will take quite a lot to be able to change policy, so that it is aligned technology. So not yet done. But I think it's something that partly needs to be addressed . its exactly the same as now, the performance framework for lecuers , how do you know that I have actually conducted online teaching and the class actually happened and that the students have not been disadvantaged . So all these are still open to us , we have not yet addressed them.

R17:07

Okay, still, I would like to take you to the finances now that the lecturers are working from home and they are teaching online, are there guidelines for providing logistics, because initially the institution to add the logistics, now logistics are changing to maybe data , are there guidelines, providing that type of logistical or infrastructure for the facilitator?,

HL7 17:35

I think it is still with us to review , We have not. In the last one year, I think we just taken this as a crisis environment , crisis, because even with budgets, we have not been able to access all our budgets with in the year, so to be able to provide that sort of facilities that staff will need. What we have done, though, is to say that if you are able to access the university network, you should be able to get most of your work done. Now, the universities are part of the REN- research Education Network in Uganda, i think that from that Consortium, we should be able to leverage our access to, electronic resources rather easily. .REN has provided what is called EDROOM, which now we need to promote, because it means that you can access your university network remotely, you don't have to be have to be on the university itself to be able to access that. So if we use some of those tools and bring them into policy, it should be possible to support our staff moving to this direction, in a lot more meaningful way. Of course, there are things like sitting down to ask,

what do we do in order to provide them with the data and so on and so forth. We tend to think, or I tend to think that ultimately, the students will be the ones who will be at a distance. The staff will be required from time to time to come to the University to prepare their materials to be able to access University resources, and then be able to live with some of the technologies. But you asked a good question which is really part of financial planning. investment in ICT must also look into things like data. once you are on campus ,there is no Problem, you be able access but if you are working remotely, how do we support you, as our staff to ensure that? So again, part of the team conversation, learning from others, universities that are using eLearning and blended learning, how do it? i think you be able to learn from others? In order to create policy provisions and visions?

R20:41

Thank you so much prof. Still, I'm looking at finances. I'm not sure. Maybe you guide me allowances being paid to council or Senate for sittings. And they they're in your institution?

HL7 20:58

Yes, we do pay for seating allowances . , in fact for Council, From the last Council, which is about four years ago, we decided that we would by way of policy, We provide laptops for all our council members, and we provide them with data. So they can access materials that are required for their function. Now, if you want to cascade that down, to say that to heads of department, to teachers, you are talking about a very big bill, which you must be very careful about before you go there , So again, you want to go in a way that enables you to manage, but not in a way that makes it impossible for you to manage

R22:02

Yes, that's right. But us looking at for example, council? If do are these allowances now that they are online at these allowances being still paid?

HL7 22:15

Yes, because you see, it is the same is the same question with students, students, were asking now that we are online, are you going to reduce my fees? And I will say no, I cannot reduce your fees, actually, I should increase your fees. But I do not charge you for the time you spend into the university. I charge you for the knowledge you get. And the accreditation I give on your transcript that you actually have acquired this knowledge with the attended competence. So if you acquire that knowledge in eight to 7 weeks, instead of 17 because of technology, I cannot charge you less. in fact technology is reducing time, but it's instead, expensive. I either maintain the fees or even charge a little higher. So the question of fees or allowance is what are you paying for when you pay? It which is my understanding. When I pay a council member, an allowance. This is just a token of appreciation of the input into the policy and the strategic framework of the university. They will still give that input when they are at home , when they are using technology. Does it remove the value of their participation? So wherever they are, for so long as they are participating, and giving me the input . I think that their allowances should be paid.

R23:54

Okay. Yeah, that is Yeah, actually, like you say, it depends what you're paying, because most of these allowances, what time does transport refunds, and so on. So it depends with what you're paying. That's

HL7 24:7

even when you set is transport allowance. we are not paying anybody transport , its just a label . we are simply facilitating you to make appropriate input into our governance processes, policy processes.

R24:28

All right, thank you so much Prof . I've really liked interviewing strategy. It brings another picture because my interviews have evolved strategy and operations. There's a different picture between strategy and operations, which I will later. So as I listen to your talk, it looks like the way you say that a revolutionary, technology has shaped your life. Leadership practices and roles and skills. I don't know, if that's the case ?

HL7 25:22

It has always , by the way, it's not just now it has always. I have a long ribbing with technology right from the time I started work. And therefore, every time you know, I look up how can use technology to do my things? And yes, you are right, it certainly has changed the way I look at organizations, the way I look at what is meant by efficiency, the way I look at I mean, how do you manage risks, I mean, even this technology thing itself presents me with a leverage, the risk is that unless you are completely in charge of the technology, you will need to depend on others. example, if we do not, as I said this 30 years ago, I hope now people can listen to me. If we will not build the adequate technical capacity, ICT system developers , engineers , who will be able not just to customize these technologies, but to be able to build our own .look at China, for everything that is China is their own. look at Africa , For everything that is in the West, we have none which is home grown, we are just wonderful users of the technology, which is for me, that is a risk, if we are going to move into ICT driven organizations, ICT driven learning, ICT driven system management and so we must be able to come up things that we can manage we can own. So yes, I certainly have grown my understanding of leadership and , organizational effectiveness, because of my knowledge of ICT and my rubbing shoulders with ICT, as I'm encouraging others to get on board, I am aware of the risks. And as a government as a as universities, we must first do this technology, which is not owned is a very big risk, by the way.

R28:11

Very big risk. So could you just tell which roles have you been added as a result of technology or have been removed?

HL7 29:06

The Directorate of ICT in the universities , actually directly reporting to me, that has come in handy, . The policy, the policy brief for ICT is because of my responsibility. But also now the when you look at the monitoring now , University strategy monitoring. if the university itself is wanting to be ICT driven , then the role of ensuring that it happens , is scaled down to every Planning Center, every vote is really my job at a at the higher level. So if you move around I function a little differently from other from other DVC Finance and Administration because my supervision of Finance and Administration is really about systems, is about technology acquisition, is about technology deployment , is about efficiencies out of these things. It's about getting more out of less- laughs

R31:01

. And in terms of skills, I'm curious to know what skills you acquired because of technology? .

HL7 31:29

rather than communication? am basically a systems person. Okay, I am among the first system analysis and designers in this country . i started working in Computing things way back in the 80S. So, I don't I don't know when to talk about acquiring skills , all that that I have, are technology skills

R: The last but not least, the second last question. Do you think there was still a gap in our higher education leadership has embraced digitalization of teaching and learning, especially in the COVID. Period.
HL7 32:37
There is this distinct is the gap is because many people think that this about COVID. Okay, that two things COVID will stay a little longer in terms of its impact, but teaching and learning, using technology is not a covid matter. So, if you come to that point where you appreciate that this is not about COVID, this is about doing my job better. This is about doing my teaching and my learning in a manner that enables students to have more time for creativity, for innovation, for challenging given what I say and so on, then you are your direction changes, then you begin to say I should have started doing this yesterday. So it is not about COVID nothing. So let's put it this way that this is about the strategic survival of the academia, in our country, and because it is we must, reminding ourselves at all levels, right from VC , TOP management, Senate, deans, heads of departments, members of staff, and students, we must have within our framework of induction, within our framework of operation, a reminder process that this is not about it's not about managing by crisis, this is about our future, the better we do it, the more we guarantee our future as an institution of higher learning. So because of that, it is incumbent upon TMT of university, Senate in particular, we must have opportunities to reflect on how we are using ICT, it must be now part of our conversation, how is learning / teaching? How do we help each other? How do we put in place policies. So yes, the gaps are there. They must be closed deliberately, but also strategically, knowing that this is something that we could be living with for along time. One of the things we'll put in our strategy for the next five years, is to create a sort of a academy for ICT pedagogy, in the previous plan, when we talked about pedagogy, for higher education, we were really thinking about how to help people that come from the teaching environment, know how to teach better, how to ensure that people are better. But now we want to improve the capacity to do those things, using technology. So, so that we are more deliberate, eventually, we shall require that you may be when you are appointed as an academic member of staff, you go through that for two weeks, so that we are sure that you have acquired the standard that is really required for you to be a good academic staff. So there's a lot of things for us to do. My view is that we should not be afraid of them, because they are many , should not be afraid of them because we don't have the finances. And we should simply provide a timeframe for those things to happen. realize the resources and ensuring that things are done.
R36:38
And thank you, this is the last question. Do you think the government is also responsible for some of these steps in integrity, technology for teaching and learning? For example, at the start, we still know that people do not trust technology for teaching and learning. communication it was coming through from the government from the ministry, and then a aware the national council had never gazette any digitalization of teaching and learning.
HL7 37:15
Before COVID, no. but you see the key word is "opportunity", it would have taken us long to persuade governments, that they should be speaking loudly about these things. So this one year has presented an opportunity where the buy in from a government and national council have been so easy-laughs . All that we need to do is to remind that, integrating ICT in learning activities is not a covid matter is a survival matter. So they must keep talking about it, putting resources for it, and ensuring that there are frameworks for it. Every year, every planning session. so yes, the opportunity has, provided itself for governments to build this. And they must be able to take responsibility in three ways one, from the point of view of educational policy. That must happen and that's why I thought about the Minister of Education and National Council for higher education. But also from the point of view of acquiring technology and providing the environment for technical capacity to create a technology for ourselves. Now that that moves into the Minister of ICT, NITU, science, technology, innovation, they really must be speaking the same language, these things will not happen if universities are not given adequate funding. For this to happen, let me tell you, we've got to get money and send our younger people to study in the US, to study in Europe to study in China, some of them even have to go and study for a longer period three to five years, so that they can be able to acquire the trades. You don't want to just own technology that cheaply you must invest in and this is the job of government. So that from your point of view of ICT and then there's the third one which is which is the financing. Government should now be able to say if we are going to spend 1 trillion shillings Every year or two, on ICT, how does that go? How is that trilion accessed and impacted by institutions of education, you see right now, the cost of bandwidth for example ,when we started about five years ago with REN, we were paying about $70. Now that has come down to $20, acquiring one gigabyte, it is a cost that government should be able to say, maybe you find a way of picking them up. So that a university, just like a university doesn't pay for library space, a university shouldn't pay for access to the internet, it should be provided as part of learning, part of the infrastructure we need for higher education. So, for me, I think the opportunity has provided itself, the compositions must continue, they must become deeper, they must be more deliberate, they must, there must be higher level up to the president himself .for better investment for ICT for the education of education .how are ICT units positioned in the University, who leads ICT in the stratgic position , the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT
Transcribed by https://otter.ai
So, for me, I think the opportunity has provided itself, the compositions must continue, they must become deeper, they must be more deliberate, they must, there must be higher level up to the president himself .for better investment for ICT for the education of education .how are ICT units positioned in the University, who leads ICT in the strategic position , the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT

APPENDIX 9 : EMERGING THEMES FROM HL7

Transcript	Exploratory notes	Emerging themes
R: Good day Professor. Like I explained, I'm a PhD student. And I'm in the university of South Africa. And I'm studying education, leadership and management. My topic is about leadership transition in higher education Amidst digitalization of teaching and learning, a case of open distance learning in Uganda, I'm looking at the fact that we now have a new emerging landscape, or maybe the new normal, it's an expectation of the leaders to change or be dynamic in their leadership styles practices to be able to embrace leading for digitalization of teaching and learning. well, I occasionally say that the HE leaders don't reinvent themselves and go from the traditional leadership to the leading for digitalization, we risk having students or product outcomes that are not good for the existing market. So that is what I'm looking at. And basically, this is a phenomenology study, phenomenology in the sense that it looks at the experiences its exploratory nature. And you're going to realize that a be looking at how you make meaning out of these experiences. How do you make sense out of these, these experiences? What do they really mean to you? So allow me maybe start collecting your bio. I will go straight to question five, because I know that rest for how long have you been in this institution? Actually, in your current position?		
HL10 : getting to eight years		
R: Okay, thank you . What are your current roles?		
HL10: broadly strategy management and oversight on administration. Okay,	broadly strategy management and oversight on administration , directing policy, directing acquisition of systems and technology.	
R: um, have you held any other leadership positions? Apart from in the current institution? In the previous years?		
HL 10: Yes. before then I was with UCU as faculty Dean .		
R: Thank you. So, we're going to be starting the research question. My first research question is basically what are the lived experiences of leadership amidst digitalization of teaching in higher education? Are you notice I use the word leadership instead of leaders because I'm trying to look at leadership as a collective activity in the university. So, my first interview protocol question is ... what is do you understand by digitalization of teaching and learning?		
HL10: It is, very broad, fairly broad because it is linked to two things one, it's linked to level of technology for the institution, Level technology for both students, and staff. Now, broadly speaking, one will be thinking about how to use computer technology to efficiently Deliver University mandates. So, digitalization then starts with how you use technology at a leadership level, you want to use technology for coordination, for conversation, you want to use technology for managing information, data,	• two things one, it's linked to level of technology for the institution, Level technology for both students, and staff • broadly- how to use computer technology to efficiently Deliver University mandates. • how you use technology at a leadership level, you want to use technology for coordination, for conversation, you want to use	• level of technology – use of computes • Use of technology form coordination/ communication • Managing information and data • Use technology as a resource • Human elements • Role of teachers as facilitators

195

you want to use technology for in terms of resource as a resource for, getting ideas. So, broadly, it is about my view, it's about how do you allow processes which can be replaced by technology to be replaced by technology, while you keep your sight on those human elements of leadership that will never be taken away. So that in a broad sense, that's my understanding that information now can be kept on a computer, generated by a computer, can be accessed easily, using computer technology can be shared easily. So if you take that and place it before a leadership team, then you quickly realize many things you can do efficiently, you can cut down on time in terms of access of data, access to information, you can also cut down time in terms of having a meaningful conversation, and reporting. So I don't know whether I have answered you, but I've kept that at a fairly broad level. And so when you get down to teaching and learning , you are saying-- what can technology do to make the conversation between students and teachers more meaningful and creative without the restrictions of mind process. What does that mean? That means that in terms of providing information, we should be able to give the students the information they need, access without you engaging with the information, they should able to do without you as a teacher, and then you come in to facilitate their understanding and broaden the frame of knowledge that they possibly would be deriving outside teacher information given to them and leverage it to solve problems.	technology for managing information, data, you want to use technology for in terms of resource as a resource for, getting ideas • how do you allow processes which can be replaced by technology to be replaced by technology, while you keep your sight on those human elements of leadership that will never be taken away • my understanding that information can be kept on a computer, generated by a computer, can be accessed easily, using computer technology can be shared easily. So if you take that and place it before a leadership team, then you quickly realize many things you can do efficiently, you can cut down on time in terms of access of data, access to information, you can also cut down time in terms of having a meaningful conversation, and reporting • when you get down to teaching and learning , you are saying-- what can technology do to make the conversation between students and teachers more meaningful and creative without the restrictions of mind process. • give the students the information they need, free access without you as a teacher, and then you come in to facilitate their understanding and broaden the frame of knowledge that they possibly would be deriving outside teacher information given to them and leverage it to solve problems	• Active learners • defines Digitalisation at two functional areas- • institutional / DTL use technology to efficiently Deliver University mandates / leadership eg coordination, processing / mgt of information & making the conversation between students and teachers more meaningful • allowing processes which can be replaced by technology to be replaced by technology, while you keep your sight on those human elements of leadership • flexibility and fast way of doing things • facilitators are no longer custodian of learning • students use technology to become active learners
R: Thank you Prof. our next question is . What has been your personal experience with digitalization of teaching and learning in your institution in terms of processes, challenges and appreciations?		
HL10: About four years ago, we had a strategy for doing this, for moving our learning teaching processes, from manual processes to those that are delivered through technology and one of the things , we did was invest in to first procuring the system and be able to customize it to our needs. And then we started the process of buying in from staff by training, people we felt would be interested because at that time it wasn't a policy, two , there was no COVID. So , we're trying to project for ourselves what, the environment would be like four or five years down the road. So, application and appreciation of technology was important, and we trained staff to be able to look up their own material and learn how to provide that material on the system, then be able to create access for them and for the students, initial three years, this was an experimental and was not a requirement. Like now, in the present circumstances, we feel very lucky that we did those experiments at that time, because now we have the group of teachers, lecturers who have become trainer of trainers- who have become people who encourage others that it is possible to do teaching and learning, using technology, to provide information to students, to interact with, wherever they are, for sure, because they have access to the internet, using whatever device. So our own experience, of course, I, have not directly gotten in teaching and learning for the reason that my remit is really outside in alignment. But from the point of view of providing oversight over technology systems, oversight of what the university needs, I think I've been involved in that way, ensuring that you have a strategy, we have an eLearning the policies, who have been having training and workshops in	• About four years ago, we had a strategy for moving our learning teaching processes, from manual processes to those that are delivered through technology- sense of projection in the future –strategic planning- needs assessments • First investment was procuring the system and be able to customize it to our needs.- adaptation of procured systems • then we started the process of buying in from staff by training, people we felt would be interested because at that time it wasn't a policy, two , there was no COVID- workforce mobilization – lobbying- sensitization • we're trying to project for ourselves what, the environment would be like four or five years down the road. So, application and appreciation of technology was important- foresight of the future of learning • trained staff to be able to look up their own material and learn how to provide that material on the system, then be able to create access for them and for the students, initial three years this was an experimental and was not a requirement- - gradual process of transition through capacity building – allowed for freedom of learning-decentralized autonym • present circumstances, we feel very lucky that we did those experiments at that time, because now we have group of teachers, lecturers who have become trainer of trainers- who have become people who encourage others that it is possible to	• projection in the future –strategic planning- needs assessments • adaptation of procured systems • workforce mobilization –lobbying- sensitization • foresight of the future of learning • faculty capacity building – • flexible learning • recognising prior planning ----- • develop home grown solutions –champions • - resourse mobilisation- govt grants,

196

providing both skill, but more in providing attitudes change, for members of staff to appreciate that what is going on is not a change of their job, but change of the tools they have in order to do their job better. So my involvement ,has been more at strategic level in terms of directing policy, directing acquisition of systems and technology. We were lucky. During the Africa Development Bank project, government of Uganda, that in that project, we were able to benefit by extending the fiber optic networks across our buildings, we were able to acquire a data center that would allow for storage of huge data in our system. We're able to acquire additional equipment. We're also able to acquire specialized training on elearning.This has come in handy in that institution is not yet there but I think that it is moving on the right path if we're not for if we're not for the lock downs and and closures. I think that we will be getting to a stage where where elearning is beginning.	do teaching and learning, using technology, to provide information to students, to interact wherever they are, for sure, because they have access to the internet, using whatever device.----sense of appreciation , encouragement for prior planning -----home grown solutions –champions • ADB project- recourse mobilisation- govt grants, we were able to benefit by extending the fibre optic networks across our buildings, acquire a data center and equipment that would allow for storage of huge data in our system. –ICT infrastructure boost. We're also able to acquire specialized training on eLearning- Faculty capacity development. This has come in handy in that institution is not yet there but I think that it is moving on the right path if we're not for if we're not for the lock downs and closures. I think that we will be getting to a stage where eLearning is beginning- sense of progress and hope	• ICT infrastructure boost.
R: Thank you very much proof that is very comprehensive. I congratulate you upon all the Success in digitalising your institution? And I'm aware, your university is far ahead in technology, for example, in having an E campus, AIMS , it's been ahead of most institutions in this country. allow me to take you to the period of COVID . I imagine ADB and then some of these establishments were already there before COVID came in to, lock down of the University. What were the major outcomes of these prior interventions? were they able to allow you to continue teaching and learning during that COVID time?		
HL 10: when covid came in, we had a challenge. The challenge was the quick switchover from what was rather a voluntary exercise to moving it to space of almost requiring members of staff to do it. Now, two things there, members of staff themselves were taken by surprise that now, they were being required to move their teaching to elaerning in a small time space, that they had was now much more stiff than we had three years ago, when it was more or less a voluntary thing. So, that became a challenge because not everyone was prepared for it and the challenge because not everyone had the right attitude towards using technology. therefore there was a degree of have doubts, whether it would succeed, whether it will lead to successful learning process. So that's from the teaching side. From the student side, it was also a challenge because while we prepared some of the teachers with we had never had time to prepare students adequately for eLearning. And so, when COVID comes in, we are faced with an organizational problem, because we now must bring students on board rather quickly, we must bring stuff rather quickly to elaerning. now in the first lockdown two things happened there one, we were not successful to do elearning in the sense that is generally understood. So we took that opportunity to prepare staff more for remote assisted learning. In other	• we had a challenge- felt hardship/ pressurized / felt over whelmed • challenge was the quick switchover from what was rather a voluntary exercise to moving it to space of almost requiring members of staff to do it- fast change –switchover from autonomy to mandatory • staff themselves were taken by surprise that now, they were being required to move their teaching to eLearning in a small time space- sense of shock and unpreparedness • not everyone was prepared for it and not everyone had the right attitude towards using technology. therefore there was a degree of doubts, whether it would succeed, whether it will lead to successful learning process- sense of doubt and mistrust – attitude -fear • we had never had time to prepare students adequately for eLearning. And so, when COVID comes in, we are faced with an organizational problem- we have to bring students and faculty on board quickly – inadequate sense of mobilization	• felt hardship/ pressurized / over whelmed • fast change –switchover from autonomy to mandatory • sense of shock and unpreparedness • sense of doubt and mistrust – attitude –fear • inadequate sense of mobilization • failed adaptation to eLearning

words, we provided them with technology where they could make material available for students to access and then be able to follow up students either through social media or WhatsApp was particularly useful or through emailing and things like that. So I can say that the the first lockdown was more like To say, well, you now must get on with it. So we did not, we did not get learning actually going on. Now, when students came back, they came back in phases. So the first phase was that all final year students, and that was a real opportunity for us now, try out a more practical way. Teaching through elearning. I should say that I think that first time was reasonably successful majority of staff were able to get on board, they were able to provide training and learning for the students, not fully integrated online, but at least able to do a blended type of learning where students are able to access material and able to interact with the lecturer off station. That gave us a good ground to build confidence in staff. But when the continuing students came in, that was I think about January, we're a bit more prepared to do that. The students have been coming along, they're more, ready to access technology. But I think they're frustrated by our inability to provide adequate access to all of them. Because we simply were not able to,, the investment that we have done is not enough to guarantee and ensure that students are able to access internet whenever and wherever. And so that becomes a challenge, especially that most of our students out of campus sort of have to depend on their own capacity, and financial ability for data. However, we, part of the investment was to provide some hotspots over the campus, I think, nearly 400 hotspots spread across the university, and also to provide some large labs where students could access. So in the last session before this lockdown, it was now possible for students who do not have access to internet to come on campus, not for the purpose of being in the lecture room. But for the purposes of being able to access the internet. And through the internet, they'd be able to access the learning materials, and then from time to time be able to engage with the lecturer. So that's the process which we've been having, and was interrupted by the current lockdown. Because again, we were taken by surprise, we must shut down the university. But I think that we moving on , well, to build for a more sustainable use of blended learning in the future. Where we i say that I think staff have come on board. there's adequate technical capacity to support them in elearning, and the students have also come on board. We have reasonable I wouldn't say adequate, but I think reasonable, technical environment to be able to deliver eLearning within the circumstances	• we were not successful to do eLearning in the sense that is generally understood- failed adaptation eLearning- • So we took that opportunity to prepare staff more for remote assisted learning- mobilized faculty for remote learning • we provided staff with technology to make material available for students to access and follow up students either through social media or WhatsApp was particularly useful or through emailing-provision of access to technology and learning materials ; adaptation of social media • So we did not, we did not get learning actually going on-discontinuity of T/L • when students came back, they came back in phases. and that was a real opportunity for us try out a more practical way of Teaching through eLearning-phased resumption of learning is easing on pressure of adaptation • for the first time was reasonably successful majority of staff were able to get on board, provide training and learning for the students, not fully integrated online, but at least able to do a blended type of learning where students are able to access material and able to interact with the lecturer off station- sense of reasonable success- improved mobilization of both faculty& students- adaptation of blended approach – basic sense of interaction /learning • That gave us a good ground to build confidence in staff-sense of confidence and preparedness • The students have been coming along, they're more ,ready to access technology-sense of students readiness • they're frustrated by our inability to provide adequate access to all of them- sense of students' frustration –inadequate access to internet • we simply were not able -the investment that we have done is not enough to guarantee and ensure that students are able to access internet whenever and wherever- inadequate infrastructure investments – unavailability of financial resources – struggling institutional economies • challenge, especially that most of our students out of campus sort of have to depend on their own capacity, and financial ability for data.- inadequate sense of cost sharing • we are part of an investment now that has provided 400 hotspots over the campus and large labs .- so it's now possible for students who do not have access to internet to come on campus, not for the purpose of being in the lecture room but access the learning materials- improved infrastructure &on campus access to internet, materials & facilitators on through partnership • we were taken by surprise, we must shut down the university-abrupt lockdown creating motivation and adaptation of DTL	• mobilization of faculty for remote learning • provision of access to technology and learning materials ; • adaptation of social media • discontinuity of T/L • - sense of reasonable success- • faculty& students- adaptation of blended approach – • basic sense of interaction /learning • confidence and preparedness • students readiness • students' frustration – • inadequate access to internet • • inadequate infrastructure investments – • unavailability of financial resources – • struggling institutional economies • .- inadequate sense of cost sharing • improved infrastructure & • on campus access to internet, materials & facilitators on through partnership • abrupt lockdown creating motivation and adaptation of DTL • sense of direction , hope for sustainable blended learning in the future • • availability of DTL support has motivated adaptation

	• But I think that we moving on , well, to build for a more sustainable use of blended learning in the future- sense of direction , hope for sustainable blended learning in the future • staff have come on board. there's adequate technical capacity to support them in eLearning, and the students have also come on board- availability of DTL support has motivated adaptation	
R: Thank you Prof. That is very inspiring. And I see your institution has done a lot of work to enable students to continue learning. Allow me take you back to the COVID part where you said , they didnt get to learn, there was no continuity, because of the different challenges you alluded to . As the leader of the institution or university. How did that make you feel?		
HL10: The philosophical approach we have taken in the deploying technology is to say that technology will be acquired, will be appreciated and will be utilized in an evolutionary manner. We are more sensitive to culture change , mind change , because of the history of the university, we will found that it was better to introduce change gradually than to introduce it at once, with a rigid policy requirement, and trying to enforce it through policy measures. So what that means is that we will take a little longer time getting buyins by staff and students, but we believe that, that longer time will pay off ounce staff and students buy in, then we'll be able to move a bit faster at implementation in their use, and in integrating technology in their work. So because of this particular approach, sometimes it feels like it is sluggish, you know, it feels like you know, you have an agenda, you'd like people to move on with elearning atleast blended, but its taking a little longer than it is required, or more than you would want to take. So, that particular approach that we have used, I think, in the short term, does not immediately deliver the goods that you like, you have a few who will quickly adopt the technology. I remember the first group that really was successful was the early childhood department, which used elearning, for training the students outside of the university in the PTC is across the country. And they did so successfully, that now when became a need for others, they were the ones to tell the story that it actually works, that we can get there. So the buyin is still a process. And I think that we would want to say that, i think that now most staff do appreciate the need, they can now be able to, to appreciate the technical support that we provide, and the environment and where we have shortcomings, we are able to see how we can deal with them. So that's from a broader perspective of how we've come along . The truth is that we've not yet invested adequately and enough to be able to get everyone move on to elearning and to be able to get the students to really get on board. Now, you hear a few examples of successful classes, a few examples of students appreciating that they are you know that they have interacted, they have learned. So these examples, which are now beginning to be almost in every faculty, I think that in the coming one or two should now lead us to a proper blended curriculum integrated for the students to learn. So yes, you asked about learning by the students. Yes, learning happens where the instructor is fully on board, and keep these students engaged. And learning also happens in those classes and groups that have formed around themselves- peer capacity, encourage one another to access material and to interact with the instructor. This last point I think is very important that students on their	• The philosophical approach we have taken in the deploying technology is to say that technology will be acquired, will be appreciated and will be utilized in an evolutionary manner- sense of direction – sense of patience –evolutionary DTL integration • sensitive to culture change-sense of institutional culture , mind change , because of the history of the university- university based on face to face we will found that it was better to introduce change gradually than to introduce it at once, with a rigid policy requirement-none coercion , and trying to enforce it through policy measures • we will take a little longer time getting buy ins by staff and students-soliciting buy ins form both staff & students • So because of this particular approach, sometimes it feels like it is sluggish, you know, it feels like you know, you have an agenda, you'd like people to move on with eLearning at least blended, but its taking a little longer than it is required, or more than you would want to take- snail pace of DTL initial integration but hopeful for to pay off in the future • you have a few who will quickly adopt the technology- early responders • I remember the first group that really was successful was the early childhood department, which used eLearning, for training the students outside of the university in the PTC is across the country. And they did so successfully, that now when became a need for others, they were the ones to tell the story that it actually works, that we can get there- inspiration from success stories • i think that now most staff do appreciate the need, they can now be able to, to appreciate the technical support that we provide, and the environment and where we have shortcomings, we are able to see how we can deal with them- inspiration from lessons learnt • a broader perspective of how we've come along . The truth is that we've not yet invested adequately and enough to be able to get everyone move on to eLearning and to be able to get the students to really get on board- broader perspective – investment-getting students/faculty on board	• sense of direction – sense of patience –evolutionary DTL integration • institutional culture • university based on face to face • change gradually • none coercion of stakeholders • soliciting buy ins form both staff & students • snail pace of DTL initial integration but hopeful for to pay off in the future • early responders • inspiration from success stories • inspiration from lessons learnt • broader perspective –investment-getting students/faculty on board • adapted a phased integration approach • adapting a holistic approach to DTL • content-facilitator-students interaction – enabling learning to take place –Anderson2006- 3 pillars of Distance education • realization of the evolving HE landscape

own have realized that they need to appreciate that the teaching has changed. For now and for the time to come. Teachers will be engaging them on their understanding information, more than on providing the information . and therefore you find in the last one month or so, if you came to campus, you will find students discussing material possibly having access to it, either through remote assisted technologies or from the website of the university, or directly with WhatsApp groups from the teachers. So you find groups from students themselves and supporting each other able to meaningfully to learning Using technology, not just learning management system, that's high end. They also use things like WhatsApp, they use things like direct access to website, and then peer learning through Groups.	• few examples of successful classes, a few examples of students appreciating that they are you know that they have interacted, they have learned. So these examples, which are now beginning to be almost in every faculty, I think that in the coming one or two should now lead us to a proper blended curriculum integrated for the students to learn- adapted a phased integration approach • learning happens where the instructor is fully on board, and keep these students engaged. And learning also happens in those classes and groups that have formed around themselves- peer capacity, encourage one another to access material and to interact with the instructor- adapting a holistic approach to DTL including content-facilitator-students interaction – enabling learning to take place –Anderson2006- 3 pillars of Distance education • I think is very important that students and faculty on their own have realized that they need to appreciate that the teaching has changed- realization of the evolving HE landscape • Teachers will be engaging them on their understanding information, more than on providing the information . and therefore you find in the last one month or so, if you came to campus, you will find students discussing material possibly having access to it, either through remote assisted technologies or from the website of the university, or directly with WhatsApp groups from the teachers- evolving roles of both students and faculty- faculty no longer the custodian of knowledge but a facilitator • you find groups from students themselves and supporting each other able to meaningfully to learning Using technology- emerging of peer learning and support • not just learning management system, that's high end. They also use things like WhatsApp, they use things like direct access to website, and then peer learning through Groups- bringing of own devices- social media learning	• evolving roles of both students and faculty- faculty no longer the custodian of knowledge but a facilitator • emerging of peer learning and support • bringing of own devices- social media learning
R: Thank you Prof, this is really getting interesting. you mentioned two things. One, the buying in of the lectures or the facilitators, it's scanty, I really want to know what is it like to overcome that rigidity, the mind set, and the conservatism of the workforce ?	RQ2	
HL10 31:30		
It is very difficult. Of course, there are two approaches to these things. One is to say, this is a Policy, this is the direction of the university, everyone must get on board. You allow that to happen, you allow the policy statement and the direction to be communicated by the leadership of the university by the Vice Chancellor and his team, per say, this is where we go. But you also realize that between the direction and the action, there is a gap. And so you must allow for people to come on board truth be said , those of our staff, who be more older, the older staff, have been teaching using traditional methods now find this quite a tough challenge to Get on board with, but young people, those who have finished their PhDs in the last three or four years, from other universities, those coming in from the	• It is very difficult. Of course- • One is to say, this is a Policy, this is the direction of the university, everyone must get on board. allow the policy statement and the direction to be communicated by the leadership of the university by the Vice Chancellor and his team. But you also realize that between the direction and the action, there is a gap- reluctant to engage policy direction for DTL • allow for people to come on board- sense of autonym truth be said , those of our staff, who be more older, the older staff, have been teaching using traditional methods now find this quite a	• It is very difficult. Of course- • - reluctant to engage policy direction for DTL • sense of autonym • exercise sense of tolerance, patience , sense of empathy for the none digital natives –

States find this easier because they have been exposed to it. So what you want to do then is to provide the synergy to draw energy from the youngest academic staff for whom this is easy. and use that as a rallying ground to encourage and I use the word encourage, encourage the more senior people that can be supported also using technology. So that is a process which we are seeing and say its not time to say well, now everybody's there, we are not yet there. But we need that in order to change attitudes. Once you have, the young people, and three, four or five departments with the real success stories, to then you begin to get others into conversation. One of the things we had wanted to do for which we're not able because of the closure, we wanted to organize a sort of a workshop for storytelling for departments, and people who have done this successfully, to be able to share their story with others in a way of encouraging that it is a direction that we all want to go and see direction but each one of us actually can if you have the right attitude and you can be supported.	tough challenge to Get on board – exercise sense of tolerance, patience , sense of empathy for the none digital natives – • provide the synergy to draw energy from the youngest academic staff for whom this is easy. and use that as a rallying ground to encourage and I use the word encourage, encourage the more senior people that can be supported also using technology- encouragement of collaborative learning amongst younger and older faculty – strengthen ICT support systems • we need that in order to change attitudes. Once you have, the young people, and three, four or five departments with the real success stories, then you begin to get others into conversation.- success stories to inspire conservations- influence change of stakeholders' attitudes • we had wanted to do for which we're not able because of the closure, we wanted to organize a sort of a workshop for storytelling for departments, and people who have done this successfully - Closure due to covid19 hindered storytelling and sharing of success stories	• encouragement of collaborative learning amongst younger and older faculty – strengthen ICT support systems • .- success stories to inspire conservations- influence change of stakeholders' attitudes • Closure due to covid19 hindered storytelling and sharing of success stories
R: Thank you Prof. I noticed there's a lot of decentralized autonomy in the adaptation of digitalization at your university. Where does this leave the students? if there are facilitators that completely fail to come on board.		
HL10: What we've done and I know is going on is to say that If you are not yet ready, you will still do most of your most of your teaching in the traditional way. But we want to encourage you that you know, you begin to do you know 10% or less and no try to sort of get into the current way of doing things. Now, at the moment, there is pressure. And this is the beauty of it, pressure comes from about three directions. One is pressure of policy, the pressure or process to say this is the direction that as a university we have agreed to. So, as our staff, you must move into this direction. So, this is that pressure. The second pressure is from your colleagues, your peers who will say, but we are doing it, how come you are not doing it? What is the problem? How can you be helped? I think if you create that kind of pressure within departments and faculty it you'll be able to win over people, even those who are in a more difficult situation. But I think the third question, for me is the one interesting one is pressure from the students. Because if we, if you build capacity among the students that they will not need to sit in a lecture room to listen to you telling them the things they should have found by reading, then,we're in a good space, because the students will now begin to demand that give us the material ahead of time. Let us access this wherever we are. So once the students begin to come on the board, then the slow ones, will find that they must, they must hurry, because now time is moving quite quickly. And eventually, maybe not in the next two to three years. But if you give it about five years to be mandatory, that if you're a member of staff, require you to upgrade your skills, we as a university will be able to provide training, regimes capacity, even using technology itself, by putting things on you to enable you to learn how to do we have this experience quite differently, though, I think it was helpful. When we started the online admission application process and this payment process. Many people are very skeptical, that would not be successful. But we run the system	• If you are not yet ready, you will still do most of your most of your teaching in the traditional way. But we want to encourage you that you know, you begin to do you know 10% or less and no try to sort of get into the current way of doing things- usage of both traditional and DTL – neutral state of transition • at the moment, there is pressure from about three directions. One is pressure of policy- university& staff direction-. The second pressure is from your colleagues, your peers who will say, but we are doing it, how come you are not doing it? How can you be helped? I think if you create that kind of pressure within departments and faculty it you'll be able to win over people. third ,for me is the one interesting one is pressure from the students- integrated solution- usage of 3 pressures - policy , peer pressure in the faculty, students demand to generate compliance • if you build capacity among the students that they will not need to sit in a lecture room to listen to you telling them the things they should have found by reading, then, we're in a good space, because the students will now begin to demand that give us the material ahead of time.- students DTL capacity development to enable transition • if you give it about five years to be mandatory, that if you're a member of staff, require you to upgrade your skills, we as a university will be able to provide training, regimes capacity, even using technology itself, by putting things on you to enable you to learn how to do we have this experience quite differently, though, I think it was helpful.- policy enforcement requires more time – continuous professional development –faculty support	• usage of both traditional and DTL – neutral state of transition • integrated solution- usage of 3 pressures - policy , peer pressure in the faculty, students demand to generate compliance • students DTL capacity development to enable transition • policy enforcement requires more time – continuous professional development –faculty support • run parallel systems -use of visuals , manuals to support integration processes

alongside a public education, technology driven information board, so you would go to our website, you would access or how to do , how to apply , you access that you go through a video, how to do it, using YouTube, and so on. And even the very first time it was very, very successful. So I think that we'll be able to employ all these various approaches in order to generate compliance.	• When we started the online admission application process and this payment process. Many people are very skeptical, that would not be successful. But we run the system alongside a public education, technology driven information board, so you would go to our website, you would access or how to do , how to apply , you access that you go through a video, how to do it, using YouTube, and so on- run parallel systems -use of visuals , manuals to support integration processes	
R: Thank you Prof. another thing you talked about is resources. You say the university as not invested enough. I would like to know what is it like to mobilize resources for digitalization of teaching and learning?		
HL10: You see, there's a time when people thought that investing in ICT was luxury, was an option. But now it is not. And because it is not. We would like to see, Unfortunately, it is now a national program area for the country within the NDP three. One of the 18 national program areas is digitalization, which for us is now good news. It now means that we can rally ourselves as a country and rally government to say this cannot happen unless you give the institution's adequate funding for it. You see, so I think that It is not easy. I mean, in the last eight years of my stay in this institution, we have invested meager resources really, but simply doing the right things over time is what has led us to where we are. But in terms of actual financing has been very, very meager if it were not for the support of ADB. I think we not have made the current progress. So, it's going to take one, the country/ government say we must put money aside, not just to haverst innovation. Yeah, putting money aside for young people who are skills to develop applications. And so that's cool, but not where we are looking, we are now looking for money to put into universities. So universities can build the adequate environment for eLearning and blended learning. So first government, it must realize that this is an area where we must support universities and put money directly into universities earmarked for ICT, investment integration, and elearning. The second is for university councils to appreciate that, , as governing organs of the university, that they must appreciate now the role of ICT in teaching and learning, and therefore be able also to lend voice, not only to government, but lead voice within the networks of universities, within other organizations, that we must find the resources we need to prepare universities. So they can be able to give a meaningfull learning to our young people . this is absolutely important its not just covid, Indeed, when we thought about elearning, we were about elearning in terms of increasing access to higher education. If we do it right, we should be able to nearly double the number of students who are able to get into higher education, simply by leveraging on ICTs. If we see it this way, then this is an area where we need to do our best put in enough money. So we can match the technologies, we can match the capacities we need. And we can match the needs of our students. The third is for priority within the university funding regimes. Within the strategic plans of the university, and within the actual budgets, year to year budgets over universities, we should now begin to increase our funding for ICT intergation in to t/L. If we donot do that we are likely lose the academy , and out seed with the rest of the universty and world over	• there's a time when people thought that investing in ICT was luxury, was an option. Now its not - it is now a national program area for the country within the NDP three- One of the 18 national program areas is digitalization- which for us is now good news---none mandatory/ priority budgetary area initially – today its priority under NDPIII • It now means that we can rally ourselves as a country and rally government to say this cannot happen unless you give the institution's adequate funding for it- lobbying government for funding • I mean, in the last eight years of my stay in this institution, we have invested meagre resources really, but simply doing the right things over time is what has led us to where we are.- consistence – small steps in the right direction • if it were not for the support of ADB. I think we not have made the current progress.-funding from Development partners • we must put money aside, not just to harvest innovation. Yeah, putting money aside for young people who are skills to develop applications- intentional govt resources allocation for home grown solutions • So first government, it must realize that this is an area where we must support universities and put money directly into universities earmarked for ICT, investment integration, and eLearning- increased govt budgetary allocation to support to universities • university councils to appreciate that, , as governing organs of the university, that they must appreciate now the role of ICT in teaching and learning, and therefore be able also to lend voice, not only to government, but lead voice within the networks of universities, within other organizations, that we must find the resources we need to prepare universities- resources mobilisation through university councils , networks • Indeed, when we thought about eLearning, we were about eLearning in terms of increasing access to higher education. If we do it right, we should be able to nearly double the number of students who are able to get into higher education, simply by leveraging on ICTs. If we see it this way, then this is an area	• none mandatory/ priority budgetary area initially – today its priority under NDPIII • lobbying government for funding • .- consistence – small steps in the right direction • funding from Development partners • intentional govt resources allocation for home grown solutions • increased govt budgetary allocation to support to universities • resources mobilisation through university councils , networks • massification to increase university revenues • reallocation of existing university funding to DTL – placing DTL in university strategic plans with actual budgets

	where we need to do our best put in enough money- massification to increase university revenues	
	• within the university funding regimes. Within the strategic plans of the university, and within the actual budgets, year to year budgets over universities, we should now begin to increase our funding for ICT integration in to t/L- reallocation of existing university funding to DTL – placing DTL in university strategic plans with actual budgets	
R: very comprehensive and encouraging. Now that you talked about the strategic plan and the policies, I am aware- I dont know about your University, that many higher education institutions, even before COVID, they had these policies, strategic plans, budget for eLearning. But not much was showing for all these, there was no action. at that particular time, how are you aligning these budgets, this strategic plan with the leadership mind-sets?		
HL10: You see, in moving an institution in area like this, yes, I agree. You must have policy frameworks, you must begin to speak to faculty leaders and say to them, well, as part of our requirements, we want to see that there is adequate within the resources available, that emphasis is being put on teaching and learning using ICT. Now, for the next one or two years, it may not look like you know, I am an evolutionist in my philosophy. It may not, look like there's not much you have done. But if you begin to tell people to move some of the money, 10% of the money that you were putting in workshops and so on. Now, let us move it to enable us to Yes, we shall have workshops, but there, are geared towards building our capacity for learning, for using technology to learn and to teach and research. people begin to appreciate and our experiences is that you can do a lot with little, you know . So what is required is to begin to say that this direction is a survival strategy. So, because its a survival strategy, whatever resources we have, we must ensure that the strategy is receiving reasonable attention, I use the word reasonable because it will not be possible to make a quick turn round and say now, all the monies must go to ICT and so on. But we'll begin to make the adjustments. For example council has already made what I think is a good adjustment they said we want to focus on some three priorities as a council , so, they said our first priority will be that we try and ensure that there is adequate resources, financial resources to the university. Then they said the second one, though, will be that we would like to see that ICT is being adequately funded. So that can be used for teaching and learning. But for me that is good, even without increasing my budget, the fact that I have a council which is pronouncing itself that this is a priority for the university is good , then we can now begin to move funding into that direction to affirm the position of council. So, the organizational change that is required , we have to rely on how these leadership positions translate into the actual work in terms of budget. So when we are having a participatory workshop at the beginning of the financial year. We are planning for the following year, we now have a good environment to say, given the limited resources that we have. How do we fund ICT? How do we fund learning? How do we fund our capacity to deliver? So probably with a few ideas here, just to say that the actual funding itself may not change drastically.over time	• You see, in moving an institution in area like this, yes, I agree. You must have policy frameworks, you must begin to speak to faculty leaders and say to them, well, as part of our requirements, we want to see that there is adequate within the resources available, that emphasis is being put on teaching and learning using ICT. Now, for the next one or two years, It may not, look like there's not much you have done, but I am an evolutionist in my philosophy- recognises the use of policy but gradual enforcement – negotiation • But if you begin to tell people to move some of the money, 10% of the money that you were putting in workshops and so on. Now, let us move it to enable us to Yes, we shall have workshops, but they're there, are geared towards building our capacity for learning, for using technology to learn and to teach and research. people begin to appreciate and our experiences is that you can do a lot with little, you know .-shifting bits /small percentage of the institutional budgets into DTL activities • say that this direction is a survival strategy. So, because its a survival strategy, whatever resources we have, we must ensure that the strategy is receiving reasonable attention, I use the word reasonable because it will not be possible to make a quick turn round and say now, all the monies must go to ICT and so on- treating DTL as an emergency / institutional survival / bloodline / -prioritising DTL in the institutional vison/mission • see that ICT is being adequately funded. So that can be used for teaching and learning. But for me that is good, even without increasing my budget, the fact that I have a council which is pronouncing itself that this is a priority for the university is good- Top institutional governing body commitment – no incremental budgets but reallocation of funds	• recognises the use of policy but gradual enforcement – negotiation • shifting bits /small percentage of the institutional budgets into DTL activities • treating DTL as an emergency / institutional survival / bloodline / -prioritising DTL in the institutional vison/mission • Top institutional governing body commitment – no incremental budgets but reallocation of funds • Organisational change dependant on alignment of leaders' mind-sets/ strategy/ enforcement • participatory approach – joint mgt level braining storming • increase ICT representation at strategic level

we think that growth, We need a mindset which allows us to realign in the right way resources we have so that the ICT receives attention on the priority at every level, I think at faculty level, at departmental level and university therefore people who are in budgeting and strategic management, part of their job will be to see that this alignment actually takes place. this is a gradual thing	• the organizational change that is required , we have to rely on how these leadership positions translate into the actual work in terms of budget. Organisational change dependant on alignment of leaders' mind-sets/ strategy/ enforcement • when we are having a participatory workshop at the beginning of the financial year. We are planning for the following year, we now have a good environment to say, given the limited resources that we have. How do we fund ICT? How do we fund learning? How do we fund our capacity to deliver? So probably with a few ideas here, just- participatory approach – joint mgt level braining storming • need a mindset which allows us to realign in the right way resources we have so that the ICT receives attention on the priority at every level, I think at faculty level, at departmental level and university- increase ICT representation at strategic level	
R: Thank you. So my wondering about organization change, change of institutional culture, okay. So how has DTL changed the culture of your organization?		
HL10 :. What are we changing? as a university, I think what we are changing now is that people, whether you're a student, or you're staff, you are a manager and administrator, we would like you to be looking at ICT as your first form of resource for efficiency. what are we trying to do?, we are trying to encourage the administrators to use the computers for bringing efficiency to their work in terms of communication, record processing, record record management. I would say that in the last in the last three months, actually, all our all our council meetings were nearly online, all of them except maybe one or two where we required to be face to face, that we are now able to deliver a council meeting online including access to all documents that are required . We've been able to run senate online using technology. While it is working for teaching learning, it should also work for management , most of our top management are now online , yes! it was because of COVID. But no, it will now become part of our culture that we will not have to meet physically to be able to conduct a top management meeting, we can be able to do this anywhere . So the organizational culture, which is beginning to take root is to say that technology is available , we embrace it and and utilize it and use it will be more efficient at what you do than we were. So it calls for continuous reminder. I don't want the word training. Every time you see we're training people they feel that you were not appreciating that they know enough. I'm so I use the word reminder that, you know we need to keep reminding ourselves that we must embrace technology. And the key point is this have within each stakeholder, within each within each stride if you want, people who are technologically aware. So you have within top management, you must have advocates, you must have champions, that's the word must have champions within management within Senate, within council people to not only speak for but actually use. Then you get	• I think what we are changing now is that people, whether you're a student, or you're staff, you are a manager and administrator, we would like you to be looking at ICT as your first form of resource for efficiency- institutionalisation of ICT efficiency • administrators to use the computers for bringing efficiency to their work in terms of communication, record processing, record management- institutional evolved channels of communication • the last in the last three months, actually, all our all our council meetings were nearly online, all of them except maybe one or two where we required to be face to face, that we are now able to deliver a council meeting online including access to all documents that are required- evolved sense of institutional operations • While it is working for teaching learning, it should also work for management , most of our top management are now online , yes! it was because of COVID. But no, it will now become part of our culture that we will not have to meet physically to be able to conduct a top management meeting, we can be able to do this anywhere- leading by example – sense of institutional ICT assimilation • So the organizational culture, which is beginning to take root is to say that technology is available , we embrace it and utilize it and will be more efficient at what you do than we were. So it calls for continuous reminder.-ICT declaration for efficiency	• institutionalisation of ICT efficiency • institutional evolved channels of communication • evolved sense of institutional operations • leading by example – sense of institutional ICT assimilation • ICT declaration for efficiency • exhibit a sense of appreciation for workforce/ stakeholders • recognition of champions / advocacy at every level • consistency in advocacy work • belief of accumulated synergy as a driver of cultural change

champions within the administration within the administrative people who are actually using who, when you train them the first day, they're on top of things that they can help others to come along. So I think if we do that, over time, five, four years down the road, we should have created the sort of culture that is ICT driven. for me, I'm a slow one. And I'm not one who says that Take policy and within one year , require everybody to do it. That's one way of doing it, but I've not found it very successful. I like gradual, I like putting in place the synergy points, and then allow those to drive the cultural change.	• I don't want the word training. Every time you see we're training people they feel that you were not appreciating that they know enough. I'm so I use the word reminder- exhibit a sense of appreciation for workforce/ stakeholders • each stakeholder, within each within each stride if you want, people who are technologically aware. So you have within top management, you must have advocates, you must have champions, that's the word must have champions within management within Senate, within council people to not only speak for but actually use- recognition of champions / advocacy at every level • So I think if we do that, over time, five, four years down the road, we should have created the sort of culture that is ICT driven.- consistency in advocacy work • I'm not one who says that Take policy and within one year , require everybody to do it. That's one way of doing it, but I've not found it very successful. I like gradual, I like putting in place the synergy points, and then allow those to drive the cultural change.- belief of accumulated synergy as a driver of cultural change	•
R: Okay, that is very good, Now that people are working from home. Have you developed new guidelines for HRM?		
HL10: No, we have not. Okay, other than circulars for example, that, you know, say, guide staff on 20% presence in office with at the moment, I think we are leaving this to heads of departments to be able to, establish performance outputs that will be required from members of staff, if they are not on station, that will be a bit harder for us to work out. Because I think that it will take quite a lot to be able to change policy, so that it is aligned technology. So not yet done. But I think it's something that partly needs to be addressed . its exactly the same as now, the performance framework for lectures , how do you know that I have actually conducted online teaching and the class actually happened and that the students have not been disadvantaged . So all these are still open to us , we have not yet addressed them.	• No, we have not. Okay, other than circulars for example, that, you know, say, guide staff on 20% presence in office with at the moment-I think we are leaving this to heads of departments to be able to, establish performance outputs that will be required from members of staff, if they are not on station, that will be a bit harder for us to work out appreciation of emergency of virtual teams - mgt of dispersed teams still unplanned – performance outputs measured using existing traditional parameters – decentralised at departmental level - expected difficulty in mgt of dispersed teams • But I think it's something that partly needs to be addressed . its exactly the same as now, the performance framework for lectures , how do you know that I have actually conducted online teaching and the class actually happened and that the students have not been disadvantaged- workload issues arising – performance monitoring not addressed- expected to disadvantage the students and the institute – need for streamlining of HRM of dispersed teams	• appreciation of emergency of virtual teams - • mgt of dispersed teams still unplanned –performance • outputs measured using existing traditional parameters – decentralised at departmental level - expected difficulty in mgt of dispersed teams • workload issues arising – performance monitoring not addressed- expected to disadvantage the students and the institute – need for streamlining of HRM of dispersed teams
R: okay, still, I would like to take you to the finances now that the lecturers are working from home and they are teaching online, are there guidelines for providing logistics, because initially the institution to add the logistics, now logistics are changing to maybe data , are there guidelines, providing that type of logistical or infrastructure for the facilitator?,		

HL10: I think it is still with us to review, we have not. In the last one year, I think we just taken this as a crisis environment, crisis, because even with budgets, we have not been able to access all our budgets with in the year, so to be able to provide that sort of facilities that staff will need. What we have done, though, is to say that if you are able to access the university network, you should be able to get most of your work done. Now, the universities are part of the REN- research Education Network in Uganda, i think that from that Consortium, we should be able to leverage our access to, electronic resources rather easily. REN has provided what is called EDROOM, which now we need to promote, because it means that you can access your university network remotely, you don't have to be have to be on the university itself to be able to access that. So if we use some of those tools and bring them into policy, it should be possible to support our staff moving to this direction, in a lot more meaningful way. Of course, there are things like sitting down to ask, what do we do in order to provide them with the data and so on and so forth. We tend to think, or I tend to think that ultimately, the students will be the ones who will be at a distance. The staff will be required from time to time to come to the University to prepare their materials to be able to access University resources, and then be able to live with some of the technologies. But you asked a good question which is really part of financial planning. investment in ICT must also look into things like data. once you are on campus ,there is no Problem, you be able access but if you are working remotely, how do we support you, as our staff to ensure that? So again, part of the team conversation, learning from others, universities that are using elarning and blended learning, how do it? i think you be able to learn from others? In order to create policy provisons and visions?	• I think it is still with us to review, we have not. In the last one year, I think we just taken this as a crisis environment, crisis, because even with budgets, we have not been able to access all our budgets with in the year, so to be able to provide that sort of facilities that staff will need- need for a review for DTL logistics , existing covid 19 crisis has hindered budgetary access • What we have done, though, is to say that if you are able to access the university network, you should be able to get most of your work done. Now, the universities are part of the REN- research Education Network in Uganda, i think that from that Consortium, we should be able to leverage our access to, electronic resources rather easily. REN has provided what is called EDROM, which now we need to promote, because it means that you can access your university network remotely- encouraged optimal usage of institutional network in case of access , membership to a consortium- REN is enabling EDROM – remote access / off campus to institutional network – partnerships • But you asked a good question which is really part of financial planning. investment in ICT must also look into things like data. once you are on campus ,there is no Problem, you be able access but if you are working remotely, how do we support you, as our staff to ensure that? So again, part of the team conversation, learning from others, universities that are using eLearning and blended learning- benchmarking with sister institutions	• need for a review for DTL logistics , existing covid 19 crisis has hindered budgetary access • encouraged optimal usage of institutional network in case of access , membership to a consortium- REN is enabling EDROM – remote access / off campus to institutional network – partnerships • benchmarking with sister institutions
R: Thank you so much prof. Still, I'm looking at finances. I'm not sure. Maybe you guide me , Are allowances being paid to council or Senate for Online sittings?		
HL10: Yes, we do pay for seating allowances. , in fact for Council, From the last Council, which is about four years ago, we decided that we would by way of policy, We provide laptops for all our council members, and we provide them with data. So they can access materials that are required for their function. Now, if you want to cascade that down, to say that to heads of department, to teachers, you are talking about a very big bill, which you must be very careful about before you go there , So again, you want to go in a way that enables you to manage, but not in a way that makes it impossible for you to manage	• we do pay for seating allowances. , in fact for Council, From the last Council, which is about four years ago, we decided that we would by way of policy, We provide laptops for all our council members, and we provide them with data. So they can access materials that are required for their function.- facilitation for online logistics to top mgt but not for T/L because of a projected high bill - causation is being exercised	• facilitation for online logistics to top mgt but not for T/L because of a projected high bill - causation is being exercised
R: Yes, that's right. But was also looking at for example, council? Are these allowances still being paid for online meetings sittings?		
HL10: Yes, because you see, it is the same is the same question with students, students are asking now that we are online, are you going to reduce my fees? And I will say no, I cannot reduce your fees, actually, I should increase your fees. But I do not charge you for the time you spend into the university. I charge you for the knowledge you get. And the accreditation I give on your transcript that you actually have acquired this knowledge with the attended competence. So if you acquire that knowledge in eight to 10 weeks, instead of 17 because of technology, I cannot charge you less. in fact technology is reducing time, but it's instead,	• Yes, because you see, it is the same is the same question with students, students are asking now that we are online, are you going to reduce my fees? And I will say no, I cannot reduce your fees, actually, I should increase your fees. But I do not charge you for the time you spend into the university- online logistic facilitation projected to increase – saves time and convenient but costly	• online logistic facilitation projected to increase – saves time and convenient but costly • online logistic facilitation a token of appreciation for persons input into policy and strategy , recognises sense of participation in DTL

expensive. I either maintain the fees or even charge a little higher. So the question of fees or allowance is what are you paying for when you pay? It which is my understanding. When I pay a council member, an allowance. This is just a token of appreciation of the input into the policy and the strategic framework of the university. They will still give that input when they are at home , when they are using technology. Does it remove the value of their participation? So wherever they are, for so long as they are participating, and giving me the input . I think that their allowances should be paid.	• When I pay a council member, an allowance. This is just a token of appreciation of the input into the policy and the strategic framework of the university. They will still give that input when they are at home , when they are using technology. Does it remove the value of their participation?- online logistic facilitation a token of appreciation for persons input into policy and strategy , recognises sense of participation in DTL	•
R: Okay. like you say, it depends what you're paying, because most of these allowances, what time does transport refunds, and so on. So it depends with what you're paying. That's		
HL10: even when you say it is transport allowance. we are not paying anybody transport, its just a label . we are simply facilitating you to make appropriate input into our governance processes, policy processes.	• even when you say it is transport allowance. we are not paying anybody transport, its just a label. we are simply facilitating you to make appropriate input into our governance processes, policy processes- online payments / allowances are tagged to input into the institutional processes not to physical presence	• online payments / allowances are tagged to input into the institutional processes not to physical presence
R: All right, thank you so much Prof . I've really liked interviewing strategy. It brings another picture because my interviews have evolved strategy and operations. There's a different picture between strategy and operations. As I listen to your talk, it looks like the way you say that you are revolutionary, indeed you are! technology has shaped your life. Leadership practices and roles and skills. I don't know, if that's the case ?		
HL10: It has always, by the way, it's not just now it has always. I have a long ribbing with technology right from the time I started work. And therefore, every time you know, I look up how can use technology to do my things? And yes, you are right, it certainly has changed the way I look at organizations, the way I look at what is meant by efficiency, the way I look at I mean, how do you manage risks, I mean, even this technology thing itself presents me with a leverage, the risk is that unless you are completely in charge of the technology, you will need to depend on others. example, if we do not, as I said this 30 years ago, I hope now people can listen to me. If we will not build the adequate technical capacity, ICT system developers , engineers , who will be able not just to customize these technologies, but to be able to build our own .look at China, for everything that is China is their own. look at Africa , For everything that is in the West, we have none which is home grown, we are just wonderful users of the technology, which is for me, that is a risk, if we are going to move into ICT driven organizations, ICT driven learning, ICT driven system management and so we must be able to comeup things that we can manage we can own. So yes, I certainly have grown my understanding of leadership and , organizational effectiveness, because of my knowledge of ICT and my rubbing shoulders with ICT, as I'm encouraging others to get on board, I am aware of the risks. And as a government as universities, we must first do this technology, which is not owned is a very big risk, by the way.	• It has always, by the way, it's not just now it has always. I have a long ribbing with technology right from the time I started work. And therefore, every time you know, I look up how can use technology to do my things- prolonged usage of ICT-identifies self as a digital native • it certainly has changed the way I look at organizations, the way I look at what is meant by efficiency, the way I look at I mean, how do you manage risks, I mean, even this technology thing itself presents me with a leverage, the risk is that unless you are completely in charge of the technology, you will need to depend on others.- changed general outlook to life and work- it's a leverage for one self – but a sense of risk- capability/ being in charge/ building/ ownership of technology reduces sense of dependency on others – • look at China, for everything that is China is their own. look at Africa , For everything that is in the West, we have none which is home grown, we are just wonderful users of the technology, which is for me, that is a risk, if we are going to move into ICT driven organizations, ICT driven learning, ICT driven system management and so we must be able to come up things that we can manage we can own.- home grown solutions- sense of independency from a global, national and institutional perspectives • yes, I certainly have grown my understanding of leadership and , organizational effectiveness, because of my knowledge of ICT	• prolonged usage of ICT- identifies self as a digital native • changed general outlook to life and work- it's a leverage for one self – but a sense of risk- capability/ being in charge/ building/ ownership of technology reduces sense of dependency on others – • home grown solutions- sense of independency from a global, national and institutional perspectives • acknowledges that ICT improves leadership capacity & organisational effectiveness

	and my rubbing shoulders with ICT, as I'm encouraging others to get on board, I am aware of the risks - acknowledges that ICT improves leadership capacity & organisational effectiveness	
R: Very big risk. Has ICT changed your roles as leader in any way?		
The Directorate of ICT in the universities, actually directly reporting to me, that has come in handy, . The policy brief for ICT is because of my responsibility. But also now the when you look at the monitoring now , University strategy monitoring. if the university itself is wanting to be ICT driven , then the role of ensuring that it happens , is scaled down to every Planning Centre, every vote is really my job at a at the higher level. So if you move around I function a little differently from other from other DVC Finance and Administration because my my supervision of Finance and Administration is really about systems, is about technology acquisition, is about technology deployment , is about efficiencies out of these things. It's about getting more out of less- laughs	• The Directorate of ICT in the universities, actually directly reporting to me, that has come in handy- . if the university itself is wanting to be ICT driven , then the role of ensuring that it happens , is scaled down to every Planning Centre, every vote is really my job at a at the higher level increased responsibilities – demonstrates appreciation of work/ high level of work ethics as a result of DTL • I function a little differently from other from other DVC Finance and Administration because my supervision of Finance and Administration is really about systems, is about technology acquisition, is about technology deployment , is about efficiencies out of these things.- change in the how responsibility –ICT driven	• increased responsibilities – demonstrates appreciation of work/ high level of work ethics as a result of DTL • change in the how responsibility –ICT driven
R: And in terms of skills, I'm curious to know what skills you acquired because of technology? .		
HL10: rather than communication? am basically a systems person. Okay, I am among the first system analysis and designers in this country . i started working in Computing things way back in the 80S. So, I don't I don't know when to talk about acquiring skills , all that that I have, are technology skills	• rather than communication? am basically a systems person. Okay, I am among the first system analysis and designers in this country . i started working in Computing things way back in the 80S. So, I don't I don't know when to talk about acquiring skills , all that that I have, are technology skills- identifies self as a professional systems person – expert – communication and numerous ICT skills	• identifies self as a professional systems person – expert – communication and numerous ICT skills
R: The last but not least, the second last question. Do you think there was still a gap in our higher education leadership has embraced digitalization of teaching and learning, especially in the COVID. Period? .		
HL10: There is this distinct gap because many people think that this is about COVID. Okay, that two things COVID will stay a little longer in terms of its impact, but teaching and learning, using technology is not a covid matter. So, if you come to that point where you appreciate that this is not about COVID, this is about doing my job better. This is about doing my teaching and my learning in a manner that enables students to have more time for creativity, for innovation, for challenging given what I say and so on, then your direction changes, then you begin to say I should have started doing this yesterday. So it is not about COVID nothing. So let's put it this way that this is about the strategic survival of the academia, in our country, and because it is we must, reminding ourselves at all levels, right from VC , TOP management, Senate, deans, heads of departments, members of staff, and students, we must have within our framework of induction, within our framework of operation, a reminder process that this is not about it's not about managing by crisis, this is about our future, the better we do it, the more we guarantee our future as an institution of higher learning. So because of that, it is incumbent upon TMT of university, Senate in particular, we must have opportunities to reflect on how we are using ICT, it must be now part of our conversation, how is learning / teaching? How do we help each other? How do we put in place policies. So yes, the gaps are there. They must be closed deliberately, but also	• There is this distinct gap because many people think that this is about COVID. Okay, that two things COVID will stay a little longer in terms of its impact, but teaching and learning, using technology is not a covid matter- if you come to that point where you appreciate that this is not about COVID, this is about doing my job better - then your direction changes- dissociates DTL from Covid19, acknowledges Covid has a catalyst of DTL – need for appreciation of DTL as an enabler of learning , efficiency , creativity and innovation to aid transition • . So it is not about COVID nothing. So let's put it this way that this is about the strategic survival of the academia- need to recognise DTL as survival tactic for academia in our country • we must have within our framework of induction, within our framework of operation, a reminder process that this is not about it's not about managing by crisis, this is about our future – inbuilt frameworks for DTL induction for future institutional growth	• dissociates DTL from Covid19, acknowledges Covid has a catalyst of DTL – need for appreciation of DTL as an enabler of learning , efficiency , creativity and innovation to aid transition • need to recognise DTL as survival tactic for academia in our country • inbuilt frameworks for DTL induction for future institutional growth • TMT mgt points of reflection/ direction / mission on DTL integration • sense of vision for continuous professional development

strategically, knowing that this is something that we could be living with for along time. One of the things we'll put in our strategy for the next five years, is to create a sort of a academy for ICT pedagogy, in the previous plan, when we talked about pedagogy, for higher education, we were really thinking about how to help people that come from the teaching environment, know how to teach better, how to ensure that people are better. But now we want to improve the capacity to do those things, using technology. So, so that we are more deliberate, eventually, we shall require that you may be when you are appointed as an academic member of staff, you go through that for two weeks, so that we are sure that you have acquired the standard that is really required for you to be a good academic staff. So there's a lot of things for us to do. My view is that we should not be afraid of them, because they are many , should not be afraid of them because we don't have the finances. And we should simply provide a timeframe for those things to happen. realise the resources and ensuring that things are done.	• it is incumbent upon TMT of university, Senate in particular, we must have opportunities to reflect on how we are using ICT, it must be now part of our conversation, how is learning / teaching? How do we help each other? How do we put in place polices – TMT mgt points of reflection/ direction / mission on DTL integration • So yes, the gaps are there and need to bridge them- One of the things we'll put in our strategy for the next five years, is to create a sort of a academy for ICT pedagogy- sense of vision for continuous professional development • So there's a lot of things for us to do. My view is that we should not be afraid of them, because they are many , should not be afraid of them because we don't have the finances. And we should simply provide a timeframe for those things to happen. realise the resources and ensuring that things are done.- discourages sense of fear – calls for appropriate plans and timeframes	• discourages sense of fear – calls for appropriate plans and timeframes
R: thank you, this is the last question. Do you think the government is also responsible for some of these gaps in integrating, technology for teaching and learning? For example, at the start of covid , we noted that people do not trust technology for teaching and learning seeing from the type of communication that was coming through from the government from the ministry, and then we are aware the national council had never gazette any digitalization of teaching and learning.		.
HL10: Before COVID, no. but you see the key word is "opportunity", it would have taken us long to persuade governments, that they should be speaking loudly about these things. So this one year has presented an opportunity where the buy in from a government and national council have been so easy-laughs . All that we need to do is to remind that, integrating ICT in learning activities is not a covid matter is a survival matter. So they must keep talking about it, putting resources for it, and ensuring that there are frameworks for it. Every year, every planning session. so yes, the opportunity has, provided itself for governments to build this. And they must be able to take responsibility in three ways one, from the point of view of educational policy. That must happen and that's why I thought about the Minister of Education and National Council for higher education. But also from the point of view of acquiring technology and providing the environment for technical capacity to create a technology for ourselves. Now that that moves into the Minister of ICT, NITU, science, technology, innovation, they really must be speaking the same language, these things will not happen if universities are not given adequate funding. For this to happen, let me tell you, we've got to get money and send our younger people to study in the US, to study in Europe to study in China, some of them even have to go and study for a longer period three to five years, so that they can be able to acquire the trades. You don't want to just own technology that cheaply you must invest in and this is the job of	• Before COVID, no. but you see the key word is "opportunity", it would have taken us long to persuade governments, that they should be speaking loudly about these things.- sense of opportunity for DTL – sense of persuasion for Govt – no recognition and acceptance at National. • So this one year has presented an opportunity where the buy in from a government and national council have been so easy-laughs – need for govt / NCHE buy ins eased • So they must keep talking about it, putting resources for it, and ensuring that there are frameworks for it. Every year, every planning session. so yes, the opportunity has, provided itself for governments to build this.- opportunity for HEI to get Govt investment for DTL • • they must be able to take responsibility in three ways one, from the point of view of educational policy. That must happen and that's why I thought about the Minister of Education and National Council for higher education. But also from the point of view of acquiring technology and providing the environment for technical capacity to create a technology for ourselves. Now that that moves into the Minister of ICT, NITU, science, technology, innovation- infrastructure and capacity	• sense of opportunity for DTL – sense of persuasion for Govt – no recognition and acceptance at National • need for govt / NCHE buy ins eased • opportunity for HEI to get Govt investment for DTL • opportunity for tripartite agreement btn MOE/MICT/ MOFE to enable DTL regulatory frameworks , infrastructure/ capacity development and funding for HE

<table>
<tr><td>government. So that from your point of view of ICT and then there's the third one which is which is the financing. Government should now be able to say if we are going to spend 1 trillion shillings Every year or two, on ICT, how does that go? How is that trilion accessed and and impacted by by institutions of education, you see right now, the cost of banwidith for example ,when we started about five years ago with REN, we were paying about $100. Now that has come down to $20, acquiring one gigabyte, it is a cost that government should be able to say, maybe you find a way of picking them up. So that a university, just like a university dosent pay for library space, a university shouldnt pay for access to the internet, it should be provided as part of learning, part of the infrastructure we need for higher education. So, for me, I think the opportunity has provided itself, the conversations must continue, they must become deeper, they must be more deliberate, they must be higher level up to the president himself .for better investment for ICT for the education. how are ICT units positioned in the University, who leads ICT in the strategic position , the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT</td><td>development , third one which is the financing. Government should now be able to say if we are going to spend 1 trillion shillings Every year or two, on ICT, how does that go? How is that trilion accessed and impacted by institutions of education, -they really must be speaking the same language, these things will not happen if universities are not given adequate funding- opportunity for tripartite agreement btn MOE/MICT/ MOFE to enable DTL regulatory frameworks , infrastructure/ capacity development and funding for HE

• the conversations must continue, they must become deeper, they must be more deliberate, they must be higher level up to the president himself .for better investment for ICT for the education- consistent DTL conversions at National and institutional Levels
• how are ICT units positioned in the University, who leads ICT in the strategic position , the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT – strategic representation of DTL instead of operations</td><td>• consistent DTL conversions at National and institutional Levels

• strategic representation of DTL instead of operations</td></tr>
</table>

APPENDIX 10: HL7 THEMES

Themes	Sub-Themes	Exploratory notes
Digital experiences	Visioning digital strategies pre COVID-19	Existing traditional/blended learning programmes
		Inclusion of digitalization of teaching and learning in the institutional strategic plans
		Institutional digital regulatory framework e.g. polices
		Digitalisation of institutional services such as applications and admissions, accounts
		Institutional DTL low priority
		Centralised management
		Pockets of blended learning using both print and LMS
		Stakeholders' mistrust, resistance, fear toward digitalisation
		None enforcement of compliance
	Leveraging of existing institutional digital	Felt hardship/pressurized/felt overwhelmed
		Discontinuity of T/L

		Fast change –switchover from autonomy to mandatory
		Sense of shock and unpreparedness
		Sense of doubt and mistrust – attitude, fear
		Inadequate sense of mobilization
	Revisiting institutional strategies post COVID-19	Evolutionary approach to DTL integration—sense of direction, sense of patience, gradual change, non-coercion of stakeholders
		Acknowledgment of the sensitivity of institutional culture
		Acknowledgment of the fact that university is based on face to face setting
		Soliciting buy ins from both staff and students
		Snail pace of DTL initial integration but hopeful for it to pay off in the future
		Provision of access to technology and learning materials, adaptation of social media
		Phased resumption of learning is easing on pressure of adaptation
	Feeling threatened	Sense of hardship, pressurized and overwhelmed
		State of uncertainty
		Sense of frustration and disappointment
		Sense of discouragement
		Disrupted schedules and plans up to date
		Stakeholder doubt and mistrust, poor attitude and fear
	Rethink and reconnecting	Improved infrastructure and on campus access to internet, materials and facilitators on through partnershi
		Sense of direction, hope for sustainable blended learning in the future
		Availability of DTL support motivated adaptation for staff and students
	Neutral state of transition	Abrupt lockdown interrupted progress
		Motivation and adaptation of DTL
		Inspiration from success stories
		Few early responders
		Inspiration from lessons learnt

		Broader perspective–investment: getting students/faculty on board
		Adapted a phased integration approach
		Adapting a holistic approach to DTL including content-facilitator-students interaction – enabling learning take place –Anderson2006- 3 pillars of Distance education
		Realization of the evolving HE landscape
		Evolving roles of both students and faculty: faculty no longer the custodian of knowledge but a facilitator
		Emerging of peer learning and support
		Bringing of own devices, social media learning
Institutional culture	Evolved channels of institutional social interaction	Institutional adaptation and usage of social media emails, WhatsApp
		Online meetings and sharing of institutional documents
	Evolved mechanisms of institutional operations	TMT leading by example as early adopters of ICT in management processes – sense of institutional ICT assimilation
		Declaration of ICT as an institutional resource for efficiency for records management, communication
		online logistic facilitation/payment a token of appreciation for persons input into policy and strategy , recognises sense of participation in DTL
		Sensitivity to institutional culture
	Institutional consistent DTL advocacy- values and beliefs , missions and attitudes	exhibit a sense of appreciation for millstones achieved by workforce/ stakeholders
		recognition of champions / advocacy at every level
		emerging belief of accumulated synergy as a driver of cultural change
	Emergence of technology virtual workspace	appreciation of emergency of virtual teams -
		mgt of dispersed teams still unplanned –performance outputs measured using existing traditional paramet – decentralised at departmental level -
		expected difficulty in mgt of dispersed teams
		workload issues arising –
		performance monitoring not addressed- expected to disadvantage the students
		institute – need for streamlining of HRM of dispersed teams
		need for a review for DTL logistics , existing covid 19 crisis has hindered budgetary access

		facilitation for online logistics to top mgt but not for T/L because of a projected high bill - causation is being exercised
		online logistic facilitation projected to increase – saves time and convenient but costly
		online payments / allowances are tagged to input into the institutional processes not to physical presence
leadership capacity	evolved Leadership roles	increased responsibilities – demonstrates appreciation of work/ high level of work ethics as a result of DT
		change in the how responsibility –ICT driven -
	leadership roles and practices	prolonged usage of ICT
		home grown solutions -sense of independency from a global, national and institutional perspectives
	leadership knowledge and skills	identifies self as a digital native
		identifies self as a professional systems person – expert – communication and numerous ICT skills
		acknowledges that ICT improves leadership capacity & organisational effectiveness
		changed general outlook to life and work- it's a leverage for one self – but a sense of risk- capability/ bei in charge/ building/ ownership of technology reduces sense of dependency on others
Institutional adaptability	Mobilisation of the workforce	It is very difficult. Of course-
		sense of Decentralized autonomy
		exercise sense of tolerance, patience , sense of empathy for the none digital natives –
		encouragement of collaborative learning amongst younger and older faculty – strengthen ICT support systems#
		usage of both traditional and DTL – neutral state of
		Emerging sense of collective responsibility
		success stories to inspire conservations- influence change of stakeholders' attitudes
		Closure due to covid19 hindered storytelling and sharing of success stories
	Financial Resource mobilisation	none mandatory/ priority budgetary area initially – today its priority under NDPIII
		lobbying government for funding
		- consistence – small steps in the right direction
		funding from Development partners
		intentional govt resources allocation for home grown solutions

		increased govt budgetary allocation to support to universities
		resources mobilisation through university councils , networks
		massification to increase university revenues
		reallocation of existing university funding to DTL – placing DTL in university strategic plans with actual budgets
		encouraged optimal usage of institutional network in case of access , membership to a consortium- REN i enabling EDROM – remote access / off campus to institutional network – partnerships
		benchmarking with sister institutions
	Institutionalisation of DTL	reluctant to engage policy direction for DTL
		usage of both traditional and DTL – neutral state of transition run parallel systems
		use of visuals, manuals to support integration processes
		Students DTL capacity development to enable transition
		integrated solution- usage of 3 pressures - policy , peer pressure in the faculty, students demand to genera compliance
		policy enforcement requires more time – continuous professional development –faculty support
		recognises the use of policy but gradual enforcement – negotiation
		shifting bits /small percentage of the institutional budgets into DTL activities
		treating DTL as an emergency / institutional survival / bloodline / -prioritising DTL in the institutional vison/mission
		Top institutional governing body commitment – no incremental budgets but reallocation of funds
		organisational change dependant on alignment of leaders' mind-sets/ strategy/ enforcement
		participatory approach – joint mgt level braining storming
		increase ICT representation at strategic level
DTL gaps and mitigations	Inadequate support from the Government	Previous none recognition and appreciation of DTL by NCHE
		Required a lot of lobbying and persuading Govt
		Inadequate Govt DTL investments
		None existing DTL regulatory frameworks , robust infrastructure , capacity development and Funding
		None existing DTL conversations at National and institutional levels

		None DTL strategic representation
	Inadequate Institutional Leadership direction	yes - gap created by the fact that leadership associates DTL to Covid19,
		failed recognition and appreciation of DTL as an enabler of learning, efficiency, creativity and innovation
		failed recognition of DTL as a survival tactic for academia /HE in the country
		unbuilt in frameworks for DTL induction for future institutional growth
		none existing TMT mgt points of reflection/ direction / mission /usage / conversations on DTL integration in HE
		sense of fear DTL in HE
		inadequate vision for DTL continuous professional development
	DTL Mitigations	gap created by the fact that leadership associates DTL to Covid19,
		acknowledges Covid has a catalyst of DTL – need for appreciation of DTL as an enabler of learning , efficiency , creativity and innovation to aid transition
		need to recognise DTL as survival tactic for academia in our country
		inbuilt frameworks for DTL induction for future institutional growth
		TMT mgt points of reflection/ direction / mission on DTL integration
		sense of vision for continuous professional development
		discourages sense of fear – calls for appropriate plans and timeframes
		sense of opportunity for DTL – sense of persuasion for Govt – no recognition and acceptance at National
		need for govt / NCHE buy ins eased
		opportunity for HEI to get Govt investment for DTL
		opportunity for tripartite agreement btn MOE/MICT/ MOFE to enable DTL regulatory frameworks , infrastructure/ capacity development and funding for HE
		consistent DTL conversions at National and institutional Levels
		strategic representation of DTL instead of operations

APPENDIX 11: ACROSS ALL THE 7 CASES

Master Themes	Themes	Sub-Themes	Exploratory notes
Digital experiences	Visioning digital strategies pre-COVID 19		Existing traditional / blended learning programmes
			Inclusion of digitalization of teaching and learning in the institutional strategic plans
			Institutional Digital regulatory framework e.g. polices
			Digitalisation of institutional services such as applications and admissions , accounts
			Institutional DTL low priority
			Centralised management
			Pockets of blended learning using both print and LMS
			Stakeholders' mistrust, resistance , fear toward digitalisation
			None enforcement of compliance
	Leveraging of existing Institutional Digital	Feeling threatened	Sense of hardship, pressurized and over whelmed
			State of uncertainty
			Sense of frustration and disappointment
			Sense of discouragement
			Disrupted schedules and plans up to date
			Stakeholder doubt and mistrust, poor attitude and fear
		Changing practices	Rapid change from traditional teaching and learning to digitalisation
			switchover from autonomy to mandatory difficult
			Partial continuity of T/L such as research and other institutional services
			None operationalised regulatory frameworks e.g. SP , policies

			Sense of frustration- anxiety as there were no National DTL regulatory framework
			Sense of unpreparedness
		ICT infrastructure and Connectivity	Inadequate infrastructure investments
			Power outrages
			Unstable internet connectivity
			Inadequate access to ICT devices
			High internet costs
			Poor cyber security
		DTL Competencies	Inadequate online pedagogical skills
			Inadequate faculty/ students ICT skills
			Poor online support systems
			Inadequate access to Digital libraries / online resources
	Revisiting Institutional Strategies post- COVID 19	Digital institutionalisation	Approval of continuity plan
			Appointment of institutional Covid Online delivery Task Forces/ committees
			Benchmarking with other HEIs
			Acquisition of ODEL NCHE accreditation.
			Sense of leadership collectiveness
			Operationalisation of institutional Digital regulatory framework
			Operationalization of Institutional ODEL coordinating Centres
			resource mobilization and budget reallocations
			readjusting the TL time tables to get back on course
			Enforcement of Stakeholders' readiness and compliance

		institutional culture	Cognisant of changing Institutional traditional(face to face) setting/ structure
			gradual implementation of DTL
			none coercion of stakeholders
			Exhibition of patience for stakeholders' buy-ins/ mobilizations
			sense of confidence and preparedness
		ICT infrastructure and Connectivity	ICT infrastructure boosts
			ICT development strategy
			Engagement of telecoms for zero rate on eLearning
			Systems
			Collaborations with REN/NITAU to improve connectivity
			Operationalisation of LMS
		Stakeholders mobilisation	Massive stakeholder capacity development
			Strengthening stakeholders support system
			Identifying and deployment of champions
	Neutral state of transition	Unsettled state	Sense of students' frustration –inadequate access to internet-
			Inadequate infrastructure investments
			unavailability of financial resources – struggling institutional economies
			Sense of disappointment – faculty not practicing what they have leant
			Failed tracking of students online learning process such as attendance on zoom
			fast speed of transition
			Slow adoption of LMS
			reduced human contact worrying-
			Delayed transition – poor staff attitude towards DTL

			Inadequate sense of cost sharing
		Institutional rethink	Realization of the evolving HE landscape-
			Adapted a phased integration approach
			increasing stakeholders' engagements
			Strengthening stakeholders' support framework
			Emerging of peer learning and support
			Evolving ways of eLearning - social media learning
			Parallel implementation of both traditional Face to Face and Digital-Blended learning
			Inspiration from success stories
			Evolving roles of both students and faculty- faculty no longer the custodian of knowledge but a facilitator –
			Acquired sense of direction, hope for sustainable blended learning in the future
			Continuous Monitoring and evaluation of ICT stakeholders' capability
			Development of visual aids and recordings for stakeholders
			Improved infrastructure and on campus access to internet, materials and facilitators through partnership-
Institutional culture	Evolved channels of institutional communication- social interaction		Institutional adaptation and usage of social media emails, WhatsApp-
			Online meetings and sharing of institutional documents
	Evolved mechanisms of institutional operations- and practices legacy practices		institutional ICT assimilation
			Declaration of ICT as an institutional resource for efficiency for records mgt , communication
			online logistic facilitation/payment a token of appreciation for persons input into policy and strategy , recognises sense of participation in DTL-
	Institutional consistent DTL advocacy- values and beliefs , missions and attitudes		exhibit a sense of appreciation for millstones achieved by workforce/ stakeholders

			recognition of champions / advocacy at every level-
			emerging belief of accumulated synergy as a driver of cultural change-
	Emergence of technology virtual workspace		appreciation of emergency of virtual teams - Management of dispersed virtual teams still unplanned –performance outputs measured using existing traditional parameters – decentralised at departmental level - expected difficulty in mgt of dispersed teams-
			workload issues arising – performance monitoring not addressed- expected to disadvantage the students
			online logistic facilitation projected to increase – saves time and convenient but costly
			facilitation for online logistics to top mgt but not for T/L because of a projected high bill - causation is being exercised-
			online payments / allowances are tagged to input into the institutional processes not to physical presence
			Institute – need for streamlining of HRM of dispersed teams –
leadership capacity	evolved Leadership roles		increased responsibilities – demonstrates appreciation of work/ high level of work ethics as a result of DTL –
			change in the how responsibility –ICT driven –
	leadership roles and practices		prolonged usage of ICT –
			home grown solutions -sense of independency from a global, national and institutional perspectives-
	leadership knowledge and skills		identifies self as a professional systems person – expert – communication and numerous ICT skills
			acknowledges that ICT improves leadership capacity & organisational effectiveness-
			changed general outlook to life and work- it's a leverage for one self – but a sense of risk- capability/ being in charge/ building/ ownership of technology reduces sense of dependency on others-
resource mobilization and institutionalisation	Mobilisation of the workforce		It is very difficult-
			sense of Decentralized autonomy

				exercise sense of tolerance, patience , sense of empathy for the none digital natives
				students DTL capacity development to enable transition
				integrated solution- usage of 3 pressures - policy , peer pressure in the faculty, students demand to generate compliance
				usage of both traditional and DTL – neutral state of-
				success stories to inspire conservations- influence change of stakeholders' attitudes-
				Closure due to covid19 hindered storytelling and sharing of success stories
				encouragement of collaborative learning amongst younger and older faculty – strengthen ICT support systems
	Financial Resource mobilisation			none mandatory/ priority budgetary area initially – today its priority under NDPIII
				lobbying government for funding-
				consistence – small steps in the right direction
				intentional govt resources allocation for home grown solutions-
				increased govt budgetary allocation to support to universities
				resources mobilisation through university councils , networks-
				massification to increase university revenues
				reallocation of existing university funding to DTL – placing DTL in university strategic plans with actual budgets-
				encouraged optimal usage of institutional network in case of access , membership to a consortium- REN is enabling EDROM – remote access / off campus to institutional network – partnerships
				benchmarking with sister institutions-
				funding from Development partners-
	Institutionalisation of DTL			reluctant to engage policy direction for DTL-

			usage of both traditional and DTL – neutral state of transition run parallel systems
			policy enforcement requires more time – continuous professional development –faculty support-
			recognises the use of policy but gradual enforcement – negotiation –
			shifting bits /small percentage of the institutional budgets into DTL activities-
			treating DTL as an emergency / institutional survival / bloodline / -prioritising DTL in the institutional vison/mission-
			Top institutional governing body commitment – no incremental budgets but reallocation of funds
			organisational change dependant on alignment of leaders' mind-sets/ strategy/ enforcement-
			participatory approach – joint mgt level braining storming
			increase ICT representation at strategic level-
DTL gaps & Mitigations	Inadequate support from the Government		Previous none recognition and appreciation of DTL by NCHE
			Required a lot of lobbying and persuading Govt-
			Inadequate Govt DTL investments- opportunity for HEI to get Govt investment for DTL
			None existing DTL regulatory frameworks , robust infrastructure , capacity development and Funding –/ opportunity for tripartite agreement btn MOE/MICT/ MOFE to enable DTL regulatory frameworks , infrastructure/ capacity development and funding for HE
			None existing DTL conversations at National and institutional levels / consistent DTL conversions at National and institutional Levels -
	Inadequate Institutional Leadership direction		yes - gap created by the fact that leadership associates DTL to Covid19-/ recognition and appreciation of DTL as an enabler of learning, efficiency, creativity and innovation
			failed strategic recognition of DTL as a survival tactic for academia /HE in the country –

			unbuilt in frameworks for DTL induction for future institutional growth-
			none existing TMT mgt points of reflection/ direction / mission /usage / conversations on DTL integration in HE
			sense of fear DTL in HE-
			inadequate vision for DTL continuous professional development-
			None DTL strategic representation/ strategic representation of DTL instead of operations
	DTL Mitigations		lobbying government for funding-
			students DTL capacity development to enable transition
			encouragement of collaborative learning amongst younger and older faculty – strengthen ICT support systems
			usage of both traditional and DTL – neutral state of transition run parallel systems

APPENDIX 12: INDIVIDUAL FINDINGS (HL7- HL1)

Introduction

This appendix was developed to provide context and transparency for the study. This appendix provides the background and emergent themes and subthemes for each individual participant. An ideographic approach from IPA was used to explore how individual participants made meanings their lived experience as they transitioned from the traditional face to face to digitalisation of teaching and learning(DTL) in HE. Emphasis was focused on the experiential claims and concerns of the participants with the aim to understand their world and to describe what it is like (Larkin et al., 2006, p. 104). However, as the researcher, making meaning of participants' interpretations and decisions to generate themes was informed by my work experiences as a Head of the distance learning department in a public degree awarding HEI in Uganda.

As discussed in the thesis, this study consisted of seven participants and each other individual findings is presented in this appendix. The findings of each participant are presented in this chapter in form of an individual case including a brief background on the participant (per the interview) followed by the themes and subthemes that will emerge from the data. The findings of HL7 are presented in Chapter 4 and this appendix will only have HL7- HL1.

Individual Findings HL7

4.7.4.1 Introduction

This section was developed to provide context and transparency for the study. This section provides the background and emergent themes and subthemes for case HL7. An ideographic approach from IPA was used to explore how individual participants made meanings of their lived experience as they transitioned from the traditional face to face to digitalisation of teaching and learning(DTL) in HE. Emphasis was laid on the experiential claims and concerns of each participant with the aim of understanding and describing their world (Larkin et al., 2006, p. 104). This was informed by my work experiences as the head of the distance learning department in a public degree awarding HEI in Uganda. As pointed out earlier, the study comprised seven participants. However, for this section, only findings from participant HL7 shall be presented as the others are presented in appendix 5 Even though HL7 (stands for Higher Education Leader 7) was not the first participant interviewed, I selected him based on his rich transcript and his ability to tell his experience chronologically. The way he shared his experience aided me in organising the other six transcripts to form clear stories. After completing analysis of HL7, each participant was analysed chronologically. The interview questions used to collect data were directly linked back to the three primary research questions, which are:

RQ1. What are the lived experiences of leaders in a transitioning HE landscape?

RQ2. How is the HE landscape evolving amidst the digitalisation of teaching and learning?

RQ3. How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

The interview with HL7 resulted in five themes and eighteen subthemes. All the five themes, and nineteen subthemes that emerged from the HL7's data, were tabulated in the following table 12

Table 11: Illustrates the 05 themes, and 19 subthemes for HL7

Themes	Sub-Themes

Digital experiences	Visioning Digital strategies pre-COVID 19
	Leveraging of existing Institutional Digital
	Revisiting Institutional Strategies post- COVID 19
	feeling threatened
	Rethink and Reconnecting.
	Neutral state of transition
Institutional culture	Evolved channels of institutional social interaction
	Evolved mechanisms of institutional operations
	Institutional consistent DTL advocacy- values and beliefs , missions and attitudes
	Emergence of technology virtual workspace
leadership capacity	evolved Leadership roles
	leadership roles and practices
	leadership knowledge and skills
Institutional adaptability	Mobilisation of the workforce
	Financial Resource mobilisation
	Institutionalisation of DTL
DTL gaps and mitigations	Inadequate support from the Government
	Inadequate Institutional Leadership direction
	DTL Mitigations

4.7.4.2. Theme 1: Digital experiences

'Digital experiences' is a broader theme that emerged from research question one (RQ1). The theme examined how leadership made meaning of their lived experiences pre- and post-COVID-19 pandemic in HEIs. Using IPA and as part of RQ1, HL7 was asked to elucidate the meaning of digitalisation. HL7, conceptualised the meaning of digitalisation at two functional levels institutional management, and teaching and learning. He said that institutional management involved the usage of technology for efficient delivery of university mandates and leadership for example coordination, processing and management of information. Digitalisation of teaching and learning involved making the conversation between students and teachers more meaningful and creative without the restrictions of the mind process. He further explained that digitalisation basically meant:

- allowing processes which can be replaced by technology to be replaced by technology, while keeping sight on those human elements of leadership flexibility and a fast way of doing things.
- facilitators are no longer custodians of learning.
- students use technology to become active learners.

As part of RQ 1, I further asked HL7 to share with his digital experience pre- and post-COVID-19 pandemic as his institution transitioned from traditional to DTL for business continuity. HL7 reported that his ICT background had positively influenced his attitude and enabled him to vision and implement appropriate DTL strategies at his institution for business continuity amidst the COVID-19 pandemic. I analysed his digital experiences along the following six emergent subthemes; sense of visioning, leveraging of existing institutional strategies, institutional rethink, sense of being threatened, rethinking and reconnecting and, neutral state of transition.

Subtheme 1: Sense of visioning

He alluded to the fact that his institution had envisioned the transition of their learning processes from the traditional face to face to DTL four years ago. Practically, visioning involved inclusion of DTL in the institution's strategic plan as foresight of the future of learning:

> *About four years ago, we had a strategy for moving our learning/teaching processes from manual processes to those that are delivered through technology. We were trying to project for ourselves what the environment would be like four or five years down the road. So, application and appreciation of technology was important.*

It also involved investment in ICT infrastructure.

> *One of the things we did was invest in first procuring the system and be able to   customize it to our needs*

It also involved workforce mobilisation through lobbying and sensitization.

> *We started the process of buying in from staff by training people we felt would be interested because at that time it wasn't a policy.*

Visioning also involved the gradual process of transition through capacity building while allowing for freedom of learning or decentralized autonomy.

> *Trained staff to be able to look up their own material and learn how to provide that material on the system, then be able to create access for the students, initial for three years this was an experiment and was not a requirement*

It also involved appreciation and encouragement for prior planning through identification of digital champions.

> *Present circumstances, we feel very lucky that we did those experiments at that time, because now we have a group of teachers, lecturers who have become trainers of trainers, who have become people who encourage others that it is possible to do teaching and learning using technology, provide information to support students..--*

Resource mobilisation through government grants, development partners and students' tuition collection was also part of visioning.

During the African development bank project, we were able to benefit by extending the fibre optic networks across our buildings, acquire a data centre and equipment that would allow for storage of huge data in our system. We were also able to acquire specialized training on eLearning.

Visioning also involved a sense of progress and hope.

This has come in handy in that the institution is not yet there but I think that it is moving on the right path. If it were not for the lock downs and closures, I think that we would be getting to a stage where eLearning is beginning.

Subtheme 2: Leveraging of existing institutional strategies

HL7 was asked the about the outcomes of the prior DTL institutional projections and plans for the future before the COVID-19 pandemic that forced all education institutions to close under a presidential directive to curb its spread. He reported that his institution experienced a sense of hardship, pressure and was overwhelmed as it rapidly had to switchover from voluntary to mandatory stakeholders' participation in DTL.

When COVID-19 came, we had a challenge. The challenge was the quick switchover from what was rather a voluntary exercise to a space of almost requiring members of staff to do it.

He said that his institution experienced a bite of shock, a situation that rendered them unprepared even when they had initially made projections and plans to digitalise their programmes

Staff themselves were taken by surprise that now, they were being required to move their teaching to eLearning in a small time space.

While, his institution had initially thought that it had mobilised stakeholders, they realised that they had inadequately mobilised the stakeholders including faculty and students.

We had never had time to prepare students adequately for eLearning. And so, when COVID comes in, we are faced with an organizational problem. We have to bring students and faculty on board quickly.

Inadequate stakeholder mobilisation further resulted in stakeholders' doubt and mistrust, poor attitude, and fear.

Not everyone was prepared for it and not everyone had the right attitude towards using technology. Therefore, there was a degree of doubt, whether it would succeed, whether it will lead to successful learning process.

With such an unfavourable situation, he reported that his institution experienced a failed eLearning adoption hence discontinuity of teaching and learning.

We were not successful to do eLearning in the sense that is generally understood, so we did not get learning actually going on.

Subtheme 3: Institutional rethink

After the failed attempt to leverage the existing projected institutional DTL strategies, HL7's institution was able to rethink and forge a way forward. The rethinking process involved going back to the drawing board and brainstorming ways of engaging the emerging tension. According to HL7, his institution resolved on exploring an evolutionary approach to DTL integration. He said that they did not believe in policy enforcement but defining an institutional direction while exercising patience and non-coercion of stakeholders as they patiently solicited buy-ins from both staff and students.

The philosophical approach we have taken in deploying technology is to say that technology will be acquired, will be appreciated, and will be utilized in an evolutionary manner. We found that it was better to introduce change gradually than to introduce it at once, with a rigid policy requirement and trying to enforce it through policy measures. But we will take a little longer time getting buy-ins by staff and students.

HL 7 said that adoption of the evolutionary approach was due to the fact that they were cognisant of their institutional culture setting as a face-to-face institution with generally no robust online structures.

We are more sensitive to culture change, mind change given the fact that the history and structure of the university is founded on a face-to-face setting.

They acknowledged the snail pace of DTL initial integration but were hopeful for a pay off in the future.

So because of this particular approach, sometimes it feels like it is sluggish, you know, it feels like you know, you have an agenda, you would like people to move on with eLearning at least blended, but its taking a little longer than it is required, or more than you would want to take

While this institution was seen to be slow in its uptake of DTL, HL7 said that his institution continued to reboot its ICT infrastructure through the provision of access to technology and learning materials as well as the adoption of social media for general institutional communication.

We provided staff with technology to make material available for students to access and follow up students either through social media or WhatsApp was particularly useful or through emailing.

Using a phased approach to resumption of learning eased the pressure of transition.

When students came back, they came back in phases. And that was a real opportunity for us to try out a more practical way of teaching through eLearning.

HL7 reported that his institution achieved reasonable success in the mobilisation of both faculty and students, and the adoption of blended learning which allowed a basic sense of learning using smartphones.

For the first time, it was reasonably successful. The majority of staff were able to get on board, provide training and learning for the students, not fully integrated online, but at least able to do a blended type of learning where students are able to access material and able to interact with the lecturer off station.

According to HL7, his institution experienced a sense of students' readiness.

The students have been coming along. They are more, ready to access technology. That gave us a good ground to build confidence in staff and students.

Subtheme 4: Feeling threatened

HL7 hinted that while his institution had been able to rethink, strategize and redeploy, a few conflicts started arising. While faculty was able to upload some content for student access online, the students could not ably access the uploaded content because of inadequate access to the internet and as thus this created a lot of frustration for the students.

They are frustrated by our inability to provide adequate access to all of them.

He further acknowledged that his institution had not invested enough in its ICT infrastructure. Despite the institutional mishaps, students exhibited no sense of cost-sharing as they expected the institution to provide data bundles to enable them engage online while off campus.

The truth is that we have not yet invested adequately and enough to be able to get everyone move on to eLearning and to be able to get the students to really get on board. We simply were not able. The investment that we have done is not enough to guarantee and ensure that students are able to access internet whenever and wherever.

Subtheme 5: Rethink and reconnecting.

HL7 further stated that his institution having hit a brick wall retreated to rethink their strategy of engaging the rising digital conflicts and threats before redeploying. Therefore, his institution improved the ICT infrastructure and on campus access to internet, provided instructional materials, and developed facilitators' capacity through partnership.

We are part of an investment now that has provided 400 hotspots over the campus and large labs. So, it is now possible for students who do not have access to internet to come on campus, not for the purpose of being in the lecture room but access the learning material.

HL7 noted that the DTL support framework put in place at his institution motivated both staff and students to adopt to teaching and learning online.

Staff have come on board. There is adequate technical capacity to support them in eLearning, and the students have also come on board.

With the newly acquired sense of direction, HL7 said that his institution was hopeful for sustainable blended learning in the future.

But I think that we moving on, well, to build for a more sustainable use of blended learning in the future.

Subtheme 6: Neutral state of transition

While HL7's institution was starting to experience a sense of relief and direction, a second lock down was initiated. Fortunately, despite the abrupt interruption, his institution felt more motivation and even started sharing success stories to inspire other stakeholders including the late responders.

We were taken by surprise; we must shut down the university- progress interrupted by the current lockdown. We had organized a workshop for storytelling for departments, and people who have done this successfully. Successful was the early childhood department, which used eLearning, for training the students outside of the university in the PTC is across the country. And they did so successfully, that now when became a need for others, they were the ones to tell the story that it actually works, that we can get there.

HL7 also said that inspiration from lessons learnt enabled a holistic institutional perspective including stakeholders' participation towards DTL.

I think that now most staff do appreciate the need. They can now be able to appreciate the technical support that we provide, and the environment and where we have shortcomings, we are able to see how we can deal with them, looking at a broader perspective of how far we have come along.

Through a phased integration approach of both traditional and DTL, the institution has created more time for late responders.

If you are not yet ready, you will still do most of your teaching in the traditional way. But we want to encourage you that you know, you begin to do you know 10% or less and no try to sort of get into the current way of doing things.

HL7 further said that his institution was adapting a holistic approach to DTL including paying attention to required points of interaction that enable learning to take place online such as   content-facilitator-student interactions (Anderson 2006). He explained that Anderson (2006) was an ODEL standard that considers the three pillars which enable learning to take place online.

> *Learning happens where the instructor is fully on board, and keeps these students engaged. And learning also happens in those classes and groups that have formed around themselves- peer capacity, encourage one another to access material and to interact with the instructor*

HL7 was able to counsel his colleagues on the realization of the evolving HE landscape.

> *I think is very important that students and faculty on their own have realized that they need to appreciate that the teaching has changed.*

He educated them on the major implications such as the evolving roles of both students and faculty. He hinted that faculty was no longer the custodians of knowledge but facilitators and that students would be able to use their devices from anywhere at any time as active learners.

> *Teachers will be engaging the students on their understanding of instructional information and materials, more than on providing the information. And therefore, you find in the last one month or so, if you came to campus, you will find students discussing material possibly having access to it, either through remote assisted technologies or from the website of the university, or directly with WhatsApp groups from the teachers.*

Therefore, emerging of peer learning and support using social media was expected.

> *You find groups from students themselves and supporting each other to meaningfully learn using technology not just learning management system, that is high end. They also use things like WhatsApp, they use things like direct access to website, and then peer learning through groups.*

HL7 further hinted that his institution is also a member of the REN consortium to enable EDROM – remote/off campus access to the institutional network.
> *What we have done, though, is to say that if you are able to access the university network, you should be able to get most of your work done. Now, the universities are part of the REN- research Education Network in Uganda, I think that from that Consortium, we should be able to leverage our access to electronic resources rather easily. REN has provided what is called EDROM which now we need to promote, because it means that you can access your university network remotely.*

Summary of Theme 1

In summary, HL7 described his digital lived experience from both a personal and institutional perspective. He recognised the need to transit from traditional to DTL and highlighted the iterative transitional process which requires institutions to continuously leverage and revisit existing digital strategies to refinement. He acknowledged that the transition process would not be linear but gradual requiring a larger time frame of about five years.   He therefore called for institutions to exercise a lot caution and non-coercion of stakeholders. He in fact advocated for an evolutionary approach. Furthermore, he recommended that institutions and the government join forces and operationalise the NCHE ODEL accreditation guidelines including DTL regulatory and policy framework, ICT infrastructure, continuous professional development, ODEL support frameworks, budgetary considerations, coordinating units among others.

4.7.4.3 Theme 2: Evolved institutional culture

Evolved institutional culture was a broader theme that emerged from RQ 2. In order to understand how leadership was adapting to the changing HE landscape as a result of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL7 was asked how the process of DTL integration had evolved his institution. I analysed evolved institutional digital culture along the following emergent subthemes; evolved channels of institutional communication, evolved mechanisms of institutional operations, institutional DTL advocacy and, emergence of virtual teams.

Subtheme 1: Evolved channels of institutional communication

HL7 said that there were emerging channels of communication as a result of DTL including the official usage of social media, online meetings and online record keeping. He said that his institution had officially adopted the usage of social media such as emails, WhatsApp, websites for official communication amongst its stakeholders. Furthermore, HL7 hinted that his institution was expectant that all staff would leverage ICT as a tool for efficiency in terms of fast record processing and sharing of institutional documents.

> *Administrators to use the computers for bringing efficiency to their work in terms of communication, record processing, record management.*

HL7 also noted that his institution had started to hold meetings like council, senate, and departmental meetings including students' addresses online.

> *In the last three months, all our council meetings were nearly online. All of them, except maybe one or two, where we required to be face to face, that we are now able to deliver a council meeting online including access to all documents that are required.*

Subtheme 2: Evolved mechanisms of institutional operations

Another impact of digitalisation at an institutional level was the evolved mechanisms of institutional operations. HL7 said that his Institution's daily operations had changed in terms of delivery. He said that there was increasing usage of ICT in all the institutional functional areas such as accounts, students' applications, registrations and admissions, teaching and learning etc. HL7 asserted that his institution's top management team was at the helm of driving digitalisation as early adopters of ICT processes in their decision-making process which he said was increasing the overall institutional ICT acceptance and assimilation.

> *While it is working for teaching learning, it should also work for management, most of our top management are now online. Yes, it was because of COVID. But no, it will now become part of our culture that we will not have to meet physically to be able to conduct a top management meeting. We can be able to do this anywhere.*

He further hinted that his institution was beginning to declare ICT an institutional resource for efficiency for records management and communication through constant advocacy and reminders to its stakeholders.

> *So a new organizational culture is emerging, which is beginning to take root, is to say that technology is available, we embrace it and utilize it and will be more efficient at what you do than we were.*

HL7 said that it was now common place for his institution to pay for online logistics and facilitation. These payments include meeting allowances and data bundles.

When I pay a council member, an allowance, this is just a token of appreciation of the input into the policy and the strategic framework of the university. They will still give that input when they are at home, when they are using technology. Does it remove the value of their participation?

Subtheme 3: Institutional DTL advocacy

One other impact HL7's institution experienced was an emerging trend of DTL advocacy. HL7 said that they did this through appreciation of milestones and champions among others. He believed that if his institution carried on with the advocacy trend for the next five years, they would succeed in creating an institutional culture that is ICT driven. HL7 specifically said that institutional exhibition of a sense of appreciation for milestones achieved by the workforce and stakeholders was one of the components of advocacy that would continue to remind and inspire all the stakeholders of the DTL journey they have embarked on.

I do not want the word training. Every time you see we are training people they feel that you were not appreciating that they know enough. I'm so I use the word reminder.

Furthermore, HL7 said that his institution had begun identification and recognition of champions at every level and at the same time, these would be redeployed to motivate and inspire slow adopters

we must have champions within management, within senate, within council people to not only speak for but actually use.

HL7 said that his institution had resorted to the earlier ways of driving change such as accumulated synergy

I am not one who says that take a policy and within one year require everybody to do it. That is one way of doing it, but I have not found it very successful. I like gradual, I like putting in place the synergy points, and then allow those to drive the cultural change.

Subtheme 4: Emergence of virtual teams.

HL7 further hinted that digitalisation had led to the emergence of virtual teams creating flexible working schedules and conditions such as working from anywhere and anytime. While flexibility of virtual workspaces has much been appreciated, HL7 urged that management of dispersed virtual teams was still unplanned and therefore performance outputs were still measured using existing traditional parameters but decentralised at departmental level. However, he was expectant that difficulties would arise in the management of dispersed teams.

there are no new HRM structures, other than circulars, for example, guiding staff on 20% presence in office at the moment-I think we are leaving this to heads of departments to be able to establish performance outputs that will be required from members of staff, if they are not on station, that will be a bit harder for us to work out

HL7 was worried about the rising workload challenges such as performance monitoring which was expected to disadvantage the students.

But I think it is something that partly needs to be addressed. It is exactly the same as face to face , the performance framework for lectures, how do you know that I have actually conducted online teaching and the class actually happened and that the students have not been disadvantaged.

This called for institutional review and streamlining of management of dispersed teams including logistics, schedules, outputs and outcomes, and the wage bill.

I think it is still with us to review, we have not. In the last one year, I think we just taken this as a crisis environment. Crisis because even with budgets, we have not been able to access all our budgets with in the year. Therefore, we should be able to provide that sort of facilities that staff will need.

Citing an example of facilitation for online logistics to top management excluding teaching and learning, he said that because of a projected high online bill, his institution was exercising caution.

We do pay for seating allowances. In fact, for council, from the last council, which is about four years ago, we decided that we would, by way of policy, provide laptops for all our council members, and we provide them with data. So, they can access materials that are required for their function.

Furthermore, HL7 juxtaposed the challenge of online logistic facilitation to the students' demand to reduce tuition now that they were learning online without consumption of institutional facilities. He explained that stakeholders need to understand that online payments and allowances were tagged to input into the institutional processes not to physical presence. To the students he explained:

students are asking now that we are online, are you going to reduce my fees? And I will say no, I cannot reduce your fees, actually, I should increase your fees. In other words we do not charge students for the time they spend on the university but for the learning process.

And to staff, HL7 explained:

Even when you say it is transport allowance. We are not paying anybody transport, it is just a label. We are simply facilitating you to make appropriate input into our governance processes, policy processes.

4.7.4.4 Theme 3: Leadership capacity

As part of RQ3, HL7 was asked how digitalisation had affected him at a personal level in terms of leadership roles, practices and skills. HL7 asserted that digitalisation had evolved him personally in various ways as outlined in the following subthemes; evolved leadership roles, evolved leadership practices, and leadership skills.

Subtheme 1: Evolved leadership roles

HL7 said that he had acquired additional responsibilities such as creating an ICT driven institution. He however expressed appreciation of the additional work.

The Directorate of ICT in the university, is directly reporting to me, that has come in handy- . if the university itself is wanting to be ICT driven , then the role of ensuring that it happens , is scaled down to every Planning Centre, every vote is really my job at a the higher level

He further hinted that his role as deputy vice chancellor was quite different from his counterparts in other HEIs in that his responsibilities were more ICT driven and focused more on getting efficiencies out of the ICT systems.

I function a little differently from other DVC Finance and Administration because my supervision of Finance and Administration is really about systems, is about technology acquisition, is about technology deployment, is about efficiencies out of these things.

Subtheme 2: Evolved leadership practices

HL7 said that his prolonged usage of ICT had enable him develop a higher level of work ethics.

It has always, by the way, it is not just now it has always. I have a long ribbing with technology right from the time I started work. And therefore, every time you know, I look up how can use technology to do my things.

As a result of digitalisation, HL7 exhibited higher affinity for home grown solutions, which he said would reduce the sense of dependency from a global, national and institutional perspective. He is basically at the driving seat of producing home grown solutions through this institution.

Look at China, for everything that is China is their own. Look at Africa, for everything that is in the West, we have none which is home grown, we are just wonderful users of the technology, which is for me, that is a risk, if we are going to move into ICT driven organizations, ICT driven learning, ICT driven system management etc, we must be able to come up things that we own

Subtheme 3: Leadership skills

HL7 identifies himself as a professional systems person, an expert with communication and numerous ICT skills such as system analysis and design, software development among others.

Rather than communication? I am basically a systems person. Okay, I am among the first systems analysists and designers in this country. I started working in computing things way back in the 80s. So, I don't know when to talk about acquiring skills. All that I have are technology skills.

He however acknowledged that ICT had improved his leadership capacity and organisational effectiveness.

Yes, I certainly have grown my understanding of leadership and organizational effectiveness, because of my knowledge of ICT and my rubbing shoulders with ICT, as I am encouraging others to get on board, I am aware of the risks.

He further asserted that digitalisation had changed his general outlook to life and work. He said that ICT was a leverage for oneself but risky if one was incapable of being in charge through building their own technology.

It certainly has changed the way I look at organizations, the way I look at what is meant by efficiency, the way I look at I mean, how do you manage risks? I mean, even this technology thing itself presents me with a leverage, the risk is that unless you are completely in charge of the technology, you will need to depend on others.

4.7.4.5 Theme 4: DTL institutional adaptability

As part of RQ3. HL7 was asked to share how his institution was adapting to the emerged HE landscape. The theme, DTL institutional adaptability, was analysed in the following subthemes; mobilisation of workforce, financial resource mobilisation and DTL institutionalisation.

Subtheme 1: Mobilisation of the workforce

I asked HL7 what it was like to mobilise the workforce for DTL institutional adaptability. HL7 said that mobilising workforce for the emerged HE landscape as a result of digitalisation was very difficult given the fact that his institution had always practiced a sense of decentralized autonomy which had allowed faculty freedom to either engage or not in DTL. Moreover, further exercising a sense of tolerance, patience and empathy for the non-digital natives created more overhead administrative costs.

Truth be said, our older staff, have been teaching using traditional methods now find this quite a tough challenge to get on board.

HL7 notes that they had to counteract the difficult situation for business continuity through strategies like encouragement of collaborative learning amongst younger and older faculty and strengthening ICT support systems.

Provide the synergy to draw energy from the youngest academic staff, for whom this is easy, and use that as a rallying ground to encourage and I use the word encourage, encourage the more senior people that can be supported also using technology.

My institution is using both traditional and DTL to create more time for late responders.
As an institution, we have said that -If you are not yet ready, you will still do most of your teaching in the traditional way. But we want to encourage to begin to do you know 10% or less and try to sort of get into the current way of doing things.

We have also deployed an integrated solution that includes the usage of three kinds of pressures that is policy enforcement, peer pressure in the faculty, and students demand to generate compliance.

At the moment, there is pressure from about three directions. One is pressure of policy— university and staff direction. The second pressure is from your colleagues, your peers who will say, but we are doing it, how come you are not doing it? How can you be helped? I think if you create that kind of pressure within departments and faculty, you will be able to win over people. Third for me, is the one interesting one is pressure from the students.

The other strategy was students DTL capacity development to enable transition.

If you build capacity among the students that they will not need to sit in a lecture room to listen to you telling them the things they should have found by reading, then, we are in a good space, because the students will now begin to demand that give us the material ahead of time from faculty.

And of course, telling of success stories to inspire conservations and influence change of stakeholders' attitudes.
We need that in order to change attitudes. Once you have, the young people, and three, four or five departments with the real success stories, then you begin to get others into conversation.

Subtheme 2: Resource mobilisation

I asked HL7 what it was like to mobilise the financial resources for DTL institutional adaptability. HL7 said that his institution had for a long time perceived digitalisation as a luxury. However, today it is a priority under the National Development Plan III which makes it mandatory for HEIs to implement digitalisation. As such, the resistance to adoption of DTL has reduced.

There was a time when people thought that investing in ICT was luxury, was an option. Now it is not. It is now a national program area for the country within the NDP III. One of the 18 national program areas is digitalization which for us is now good news.

Now that DTL is a national priority, HL7 said that his institution was lobbying government for funding through various channels.
It now means that we can rally ourselves as a country and rally government to say DTL cannot happen unless you give the institution's adequate funding for it.

We are calling upon government to intentionally allocate resources for home grown solutions.
The country/government say we must put money aside, not just to harvest innovation. Yeah, putting money aside for young people who are skills to develop applications. And so that's cool, but not where we are looking, we are

now looking for money to put into universities so universities can build the adequate environment for eLearning and blended learning.

On the other hand, HL7 reported that his institution was also looking at external funders including development partners and collaborations.
If it were not for the support of African Development Bank, I think we would not have made   the current progress.

Furthermore, HL7 also hinted that his institution was exploring internal entities such as university councils and networks.
There is need for University councils to appreciate that, as governing organs of the university, that they must appreciate the role of ICT in teaching and learning, and therefore be able also to lend   voice, not only to government, but lead voice within the networks of universities, within   other organizations, so as to find the required resources for preparing universities for DTL

Reallocation of existing university funding to DTL as well as placing DTL in university strategic plans with actual budgets was also being explored.
Within the university funding regimes, within the strategic plans of the university, and   within the actual budgets, year to year budgets over universities, we should now begin to   increase our funding for ICT integration into teaching and learning.

More sustainably, HL7 said that his institution was exploring massification to increase university revenues.
Indeed, when we thought about eLearning, we were about eLearning in terms of increasing access to higher education. If we do it right, we should be able to nearly   double the number of students who are able to get into higher education, simply by   leveraging on ICTs.

Benchmarking with sister institutions to understand how they were raising resources for DTL was also explored.
So again, part of the team conversation is learning from others, universities that are using eLearning and blended learning.

As an institution, they were consistently moving small steps in the right direction.
I mean, in the last eight years of my stay in this institution, we have invested meagre resources really, but simply doing the right things over time is what has led us to where we are.

Subtheme 3: Institutionalisation of DTL

I asked HL7 what it was like to institutionalise DTL. HL7 said that his institution was operationalising NCHE ODEL standards including regulatory frameworks, ICT infrastructure, stakeholder capacity development, budgets among others. HL7 said that the first thing his institution did was declare DTL as critical for institutional survival and therefore prioritise it in the institutional vison, mission and strategic plan.

Say that this direction is a survival strategy. So, because it is a survival strategy, whatever resources we have, we must ensure that the strategy is receiving reasonable attention. I use the word reasonable because it will not be possible to make a quick turn round and say now, all the monies must go to ICT and so on.

Secondly, there was need to align the institution's leadership's mind-sets with the strategic plan, mission and vision to enable organisational change
For the required organizational change- we have to rely on how these leadership positions and roles translate into the actual work in terms of budget.

Thirdly, his institutional governing bodies were seen to commit through pronouncements on non-incremental budgets but reallocation of funds.

> *, the fact that I have a council which is pronouncing itself that DTL is a priority for the university is good.*

Reallocation of funds allowed for shifting of bits or small percentages of the institutional budgets to DTL activities to support the already struggling institutional economies.

> *you begin to tell people to move some of the money, 10% of the money that you were putting in workshops and so on to DTL. Yes, we shall have workshops, but they are geared towards building our capacity for DTL. People begin to appreciate and our experience is that you can do a lot with little*

On the other hand, while his institution was operationalising most of NCHE ODEL standards as indicated above, HL7 said that his institution was reluctant to enforce the policy direction for DTL.

> *One way is to say, this is a policy, this is the direction of the university, everyone must get on board. Allow the policy statement and the direction to be communicated by the leadership of the university by the vice chancellor and his team. But you also realize that between the direction and the action, there is a gap.*

However, he recognised the use of policy but with gradual enforcement through negotiations as the institution solicits for buy-ins.

> *You see, in moving an institution in an area like this, yes, I agree. You must have policy frameworks, you must begin to speak to faculty leaders and say to them, well, as part of our requirements, we want to see that there is adequate within the resources available, that emphasis is being put on teaching and learning using ICT. Now, for the next one or two years, it may not look like there is not much you have done, but I am an evolutionist in my philosophy.*

The institution being cognisant that policy enforcement required more time, was more focused on building pieces of the DTL framework including continuous professional stakeholder development and support, ICT infrastructure etc.

> *If you give it about five years to be mandatory, that if you are a member of staff, require you to upgrade your skills, we as a university will be able to provide training, regimes capacity, even using technology itself,*

Finally, HL7 said that his institution was following a participatory approach characterised by joint management level brainstorming.

> *When we are planning for the following year, we now have a good environment to say, given the limited resources that we have, how do we fund ICT? How do we fund learning? How do we fund our capacity to deliver? So probably with a few ideas here, just to say that the actual funding itself may not change drastically over time.*

4.7.4.6 Theme 5: DTL gaps and mitigations

DTL gaps and mitigations was the fifth broader theme that emerged from RQ4) This section was aimed at identifying the existing leadership gaps as HL7's institution transitioned to DTL so as to develop procedures and methods through design science that could ease the process. HL7 was asked whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of the COVID-19 pandemic. HL7 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. The subthemes, discussed in the following section, emerged from his narrative of the challenges experienced; national leadership DTL gaps, institutional leadership DTL gaps, and mitigations.

Subtheme 1: National leadership DTL gaps

National leadership DTL gaps consisted of the challenges HEIs experienced as a result of government policy. Given the fact that all institutions are implementers of government policy, HL7 said that government ODEL status was paramount. He said that previous non-recognition and appreciation of DTL by the National Council of Higher Education (NCHE), the national regulator of higher education, had negatively affected his institution's adoption and implementation of DTL pre-COVID-19 pandemic in various ways.

> *Before COVID, no. It was taking us long to persuade government. But you see, the key word is opportunity. It would have taken us long to persuade government that they should be speaking loudly about these things.*

Before the invasion of COVID-19, it required a lot of lobbying and persuading government to create an enabling environment for institutions to implement DTL. Therefore, the current lockdown and release of NCHE emergency ODEL presented an opportunity for his institution to embrace DTL lawfully.

> *So, this one year has presented an opportunity where the buy-in from a government and National Council of Higher Education have been so easy.*

HL7 further said that the non-recognition of DTL came with inadequate government funding and investments for DTL.

> *So, they must keep talking about it, putting resources for it, and ensuring that there are frameworks for it every year, every planning session. So yes, the opportunity has, provided itself for governments to build this.*

Non-recognition of DTL, according to HL7, created non-supportive structures for DTL including, non-existing DTL regulatory frameworks, robust infrastructure and capacity development.

> *They have not taken responsibility in three ways. One, from the point of view of educational policy. That must happen and that is why I thought about the Minister of Education and National Council for Higher Education. But also, from the point of view of acquiring technology and providing the environment for technical capacity to create a technology for ourselves.*

Subtheme 2: Institutional Leadership DTL gaps

Institutional leadership DTL gaps comprised of the leadership gaps HL7's institution experienced during the leveraging of DTL for business continuity during the COVID-19 pandemic. In acknowledgment of the gaps experienced, HL7 said that the major gap was created by the fact that his institutional leadership associated DTL to the COVID-19 pandemic rather than recognising and appreciating it as an enabler of learning, efficiency, creativity and innovation.

> *There is this distinct gap, because many people think that this is about COVID. Okay, that two things COVID will stay a little longer in terms of its impact, but teaching and learning, using technology is not a COVID matter. If you come to that point where you appreciate that this is not about COVID, this is about doing my job better, then your direction changes.*

More still, HL7 asserted that non-recognition and appreciation for DTL further escalated into non-development of institutional DTL frameworks for future induction and growth.

> *We must have within our framework of induction, within our framework of operation, a reminder process that this is not about it is not about managing by crisis, this is about our future.*

HL7 further asserted that lack of institutional DTL frameworks also resulted in lack of points for management reflection and as such creating a challenge for his institutional leadership to drive the mission and vision statements towards digitisation of teaching and learning.

> *It is incumbent upon top management team of university, senate in particular, we must have opportunities to reflect on how we are using ICT, it must be now part of our conversation, how is learning/teaching? How do we help each other? How do we put in place policies?*

HL7 said that there also existed a challenge of non-strategic representation for DTL and yet his institution's strategic leadership possessed limited understanding of digital integrations. This was a gap as there was no one to speak knowledgably about DTL at a strategic level. Instead, they relied on co-opting operations to drive the change.

> *How are ICT units positioned in the university, who leads ICT in the strategic position? the ICT has basically been positioned as an operational level and therefore lack a strategic representative who speaks and understands ICT.*

On the other hand, while HL7 acknowledged that his institution had made some strides in closing the gap in ICT and pedagogy skills capacity development, continuous professional development was still in its initial stages.

> So *yes, the gaps are there and need to bridge them. One of the things we will put in our strategy for the next five years, is to create a sort of a academy for ICT pedagogy.*

HL7 could not omit the issue of inadequate ICT infrastructure and connectivity. He said that his institution had not invested enough in the ICT infrastructure due to inadequate government funding. As such, most of their stakeholders especially the students complained about inaccessibility of ICT devices and internet connectivity besides high costs of data bundles. Conclusively, HL7 was cognisant that these challenges mentioned above were responsible for the fear, mistrust, and poor attitude towards DTL amongst stakeholders.

Subtheme 3: DTL mitigations

DTL mitigations comprised of the proposed leadership mitigations HL7's institution leveraged to reduce the impact of the DTL challenges experienced on business continuity during the COVID-19 pandemic. HL7 asserted that the COVID-19 pandemic had presented an opportunity for HEIs to get government investment for DTL and it was therefore dependant on the HE leadership to lobby for support.

> *So, they must keep talking about it, putting resources for it, and ensuring that there are frameworks for it every year, every planning session. So yes, the opportunity has provided itself for governments to build this.*

HL7 further recommended the need for a tripartite agreement between Ministry of Education (MOE), Ministry of ICT (MICT) and Ministry of Finance and Economic Planning (MOFE) to enable the operationalisation of the ODEL regulatory policy framework, ICT infrastructure and capacity development through funding for HE.

> *They must be able to take responsibility in three ways. One, from the point of view of educational policy. That must happen and that is why I thought about the Minister of Education and National Council for Higher Education. But also, from the point of view of acquiring technology and providing the environment for technical capacity to create a technology for ourselves. Now that moves into the Minister of ICT, NITU,*

science, technology, innovation, infrastructure and capacity development , third one which is the financing. Government should now be able to say if we are going to spend 1 trillion shillings Every year or two, on ICT, how does that go? How is that trillion be accessed and impact institutions of education, -they really must be speaking the same language, these things will not happen if universities are not given adequate funding

HL7 advocated for consistent national and institutional DTL conversations to enable the development of DTL induction frameworks for future institutional growth.

I think the opportunity has provided itself, the conversations must continue. They must become deeper. They must be more deliberate. They must be higher level up to the president himself. For better investment for ICT for the education, we must have within our framework of induction, within our framework of operation, a reminder process that this is not about it is not about managing by crisis, this is about our future.

Furthermore, HL7 asserted the need for strategic DTL representation instead of operations to enable the translation of DTL strategic plans into leadership mind-sets

4.8. Validity and Reliability

According to (Noble, 2015) qualitative research has been frequently criticized for lacking scientific rigour because it possesses poor justification for adopting research methods, inadequate transparency in data analysis and discussion of findings, hence, presenting and disseminating personal and biased knowledge. However, for this study, I ensured validity by clearly and accurately presenting participants' perspectives. While sending back the analysed findings for the participants to verify their utterances would have been the best validity to this study, I found it very demanding on the side participants. Instead, I engaged a parallel analyst alongside myself for audit purposes for the first transcript which created an independent version of the phenomena under study.

Also, to validate the findings of the study, I interviewed at least two participants from each HEI, most of the findings between the strategic and digital enthusiasts were found to correlate. Also, the usage of the golden interview question, 'did your existing eLearning systems enable your institution to continue teaching and learning during the lock down to curb the spread of COVID-19?', provoked the participants to become truthful. As information of all HEIs being unable to continue teaching and learning during lockdown was all over the news, it was therefore difficult for the participants to be untruthful. I also ensured reliability by making clear and transparent decisions based on theories and existing literature such that any other independent researcher can use and is able to arrive at similar or comparable findings.

4.9 Conclusion

This chapter has discussed the issues of methodology that underpinned the study by documenting the research planning, approach, paradigm, design and rationale for the methodological approach. IPA qualitative research approach guided by the social constructivist paradigm with an interpretive epistemology was engaged to answer the following research questions: What are the lived leadership experiences amidst a transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)?; How is the HE landscape evolving amidst

the digitalisation of teaching and learning and; How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

Semi-structured interviews were used to collect data from seven senior HE leaders purposely selected across five degree-awarding public HEIs in Uganda. Specifically, for this study, the idiographic philosophical approach from the IPA was deployed to analyse case by case before moving to the final analysis across all the seven cases. Three master, twelve themes and thirteen sub themes emerged from the data. Reliability and validity procedures for this study were also presented in this chapter. The following chapter 6 will cover the write up of the findings of this study across all the seven (07) participants; chapter 6- discussions of the findings in relation to literature and theoretical framework of the study as well as present the developed transitioning framework and; chapter 7- summary, conclusion and recommendation of this study.

HL6: Individual findings

Background

HL6 is aged 52 years, a deputy principal at one of the colleges at his institution for the last four years. His roles spans broadly strategy management and oversight of all DTL for his institution. Basically an eLearning promoter with vast experience with leveraging ICT for teaching and learning. He believes in enforcement of DTL using institutional policies.

The interview with HL6, generally resulted in to five Themes; 1) digital experiences, 2) evolved institutional culture, 3) leadership capacity, 4) Institutional adaptability and 5) DTL gaps and mitigations and; a total of fifteen (15) sub themes, all illustrated below.

THEME 1: Digital experiences

'Digital experiences' was a broader theme that emerged from research question 1 (RQ1). RQ1- What are the lived leadership experiences amidst transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)? Master theme 1 examined what meaning HL6 made of his lived digital experiences pre and post-Covid 19 pandemic. HL6, had a wealth of experiences in integrating digital solutions for teaching and learning. A member to DTL community of practice spanning the north and Sub-Saharan Africa were he has been able to develop a hybrid online design pedagogy for his institution. He conceptualised the meaning of DTL as teaching in a digital space whether in the classroom or outside using various learning activities. He actually said that DTL meant employing approaches and methods that utilize digital systems or digital technologies to extend learning to the students. As a digital enthusiast, HL6 felt over worked and stressed. He said that he was hired at the university as a lecturer but because of his area of expertise, he found himself in a position with additional none streamlined workload of lobbying colleagues and administration to take up DTL.

It's huge workload because taking people to a sphere or a space which they're not necessarily used to requires a lot of cajoling a lot, of convincing and it takes a resilient mind to be able to, to continue actually lobbying your colleagues, lobbying your friends, so lobbying your administrators, leaders to be able to take on this. you have to give or bring in a lot of reason as to why they should be able to get onto digitalized education. The other thing is that first of all, they look at you as an equal to them, then they ask, Why are you so much bothered with them? Why don't you leave them in their own space? Why so much, but is there any hidden interest or is there any motive behind it or what? So, it takes a lot of time trying to convince. So, yes, there is a lot of workload that is involved. And besides that, this workload is may not be mainstreamed within the normal functions of staff.

While HL6's experience was stressful, he was actually motivated, felt a sense of accomplishment and worthy from personal contribution towards DTL at his institution. He described himself as a futurist in the area of DTL. I analysed

his digital experiences along five themes including; Sense of Visioning, leveraging of existing Institutional strategies, Institutional Rethink, Sense of being threatened, Reconnecting / rethink, Neutral state of transition.

SUBTHEME 1: Sense of Visioning.

He alluded to the fact that his institution from it birth had an inbuilt open, distance and eLearning function for the external students who studied on part time basis. And therefore they had structures including policy however none mandatory operationalisation across his institution.

Our experience as a university is that before COVID-19, we had attempted to digitalize but most of the digitalization that we're doing was in a traditional distance learning programs

HL6 said that while his institution had an ODEL policy in 2015 and a learning management system(LMS), there was none enforcement for compliance for DTL hence his institution engaged stakeholders' autonym in the uptake of DTL.

> *While we had an ODEL policy in 2015, It was not mandatory for one to go online or to put their work online. There was a learning management system in place Yes, but it was kind of an optional system which was there and if you wanted you could use, if you didn't want to not you will not use. So yes, the digitalization was on a voluntary basis before COVID-19*

On the hand, though, HL6 said that his institution had an existing high uptake of digitalizing institutional functional services such as HRM, finances, admissions and registrations among others

> *The university had digitalized almost all its processes, human service processes, academic registry processes, library processes, and so on. They were all digitalized. So it was only the function of teaching and learning which had not been seriously digitalized*

That aside, HL6 asserted that his institution had adopted a creative, customized, tailor made contextual DTL capacity development model from benchmarking partner institution both in the Sub-Saharan and North Africa.

> *method adapted from the methods that are attained from the south and the methods that are obtained from the north. And we've come up with what we call a sub Saharan onlinisation pedagogy, this sub Saharan onlinisation pedagogy , has a number of steps that we do take and these steps are kind of customized for our own environment here*

More still, the DTL capacity development model adopted, required his institution to deploy a concurrent capacity and instructional development strategy to consolidate gained skills including the usage of blend of Digital tools

> *ensure that we do our development transversally, we develop our courses transversally, we don't train and then later on require somebody to develop a course, we found out that that method does not work- we ensure that the courses are developed when the learners still have the skill*
> *So we use the synchronous tools, and the asynchronous tools, the synchronous tools that we use include teleconferencing systems, like zoom here, now Big Blue baton, Skype, Google meet*

HL6, said that DTL model further required that his institution does a stakeholder needs analysis for every DTL capacity development regime

> *if we are to develop a course, that course usually starts with the learning needs, or the market demands for a course. And these are easily attained from a beneath assessment surveys or something like that, something that will have been created*

HL6 , finally said that while the existing ODEL policy had not been operationalised pre COVID19, his institution had engaged existing institutional polices such as quality assurance and gender policy among others to support the integration of DTL for the part time students

> *other policies like intellectual property policies quality assurance policy, Teaching, Learning policy, gender policy, these also help us because there are certain gender issues that we need to take care of as we teach online. policies on examinations, This ICT policy is one that talks about how to acquire technologies, how to maintain them, the security, i mean security of users*

SUBTHEME 2: leveraging of existing Institutional strategies

HL6 was asked the about the outcomes of the prior DTL institutional strategies when COVID19 pandemic invaded the country and all education institutions under the presidential directive including his institution were required to close due to a lockdown to curb the spread of the COVID19 pandemic. He hinted that his institution experienced;

State of uncertainty as his institution and stakeholders were not sure of what would happen amidst the outbreak of COVID19 pandemic

Fear of COVID19 pandemic *repercussions caused discontinuity of T/L-*
we were not sure of what next. Everyone wasn't sure what next. And everyone was stigmatized that COVID19 going to wipe us all out. So many lectures, went to their farms and so on

HL6 said that the government did not also mitigate the situation but instead worsen it, by discouraging early responders from embracing DTL for business continuity. However, as an ODEL institute in his institution, HL6 said that they continued to work behind the scenes. First, they presented a business continuity proposal to their institutional management which got approved.

But for us as the Institute of ODEL, we were busy, right from the day of closure of the university, to date. before closure of the university, we presented the paper to management on how we could be able to continue teaching and learning during COVID-19. And the beauty is that management listened to us and they said,

Next, HL6 said that as an ODEL institute, the started mobilising staff for capacity development using Zoom at home.

Yes, so we started inviting people who could voluntarily come for training, to be able to put their courses online. So we invited people voluntary for training some came , and didn't.

However, HL6 noted that there was partial continuity of other institutional services such as community out reaches, the rotary Centre, PHD / Masters students research supervision and via-vocs among others.

So a number of teaching and learning activities, yes, continued because in a university, it is not only going to the class, all university has three major functions, one research, two, teaching and learning. And then three community outreach. You can see that community outreach was at the height at the peak during the COVID-19 because we had the faculty like from medicine, social sciences that were working with communities to ensure that testing is going on. We are trying to find a trends of Covid19 research such as ventilator, stigmatization and research was continuing students were being supervised online. Even later on, we started holding online vaivocs for PhDs and masters. So what was only not going on was classroom teaching or online teaching

On the other hand, though, HL6, seemed to hang on the previous glory of the institution and perceived DTL has a sign of institutional accomplishment as seen by the different comparison he made between his institution and the various entities such as nursery schools and none existent institutions.

how can our University be similar to a nursery school or rural kagadi university or another university there, My university started in 1922, and should be rated at the same rate with those other universities like covered UCT, Harvard , Korea and so on. And those universities were open for teaching and students were learning.

More still, HL6 said that he expereinced a sense of frustration and disappointment as his institution which was rated as first class could not leverage DTL for business discontinuity.

Of course I felt bad the university of this caliber, It's a university which is normally rated first class should have continued its TL, So I felt very bad, because I think we had to be measured much better than those other. Those are the other universities, which just started recently

HL6 , further indicated that not only was he frustrated by his institution's failure to leverage DTL for business continuity during the COVID19 pandemic, but he expereinced more frustration from the fact that the government discouraged early responders including HEIs from embracing DTL and instead invoked a blanket closure

So I really felt very, very bad. And I felt very bad, because government should have encouraged universities to build capacity and teach online. But there was a blanket closure of all universities, all education institutions, close, you know, so I don't feel good as a promoter

More still, HL7 said that as a promoter of DTL, his frustration resulted into discouragement as his efforts and struggles to integrate digitalisation at his institution was left unrecognised and to waste

. And as somebody who has been trying also to as much as possible struggle to ensure that online, online teaching and learning is taking shape, I felt very bad

Conclusively on the issue of frustration, HL6, indicated that, he could have felt at least comforted if his institution had leveraged the existing DTL strategies and received stakeholders' resistance instead.

here was also some resistance in some universities, but they were learning, at least, you need to have the students resist or the community resists

Furthermore, HL6 said that during the leveraging of the existing DTL strategies, his institution experienced an ICT infrastructure challenge including;

Unstable internet connectivity

internet is still a big challenge in our region, Not only in terms of bandwidth, but in terms of connectivity

stakeholders' limited access to ICT devices

access to devices, especially for students, and also for staff, because you would find that staff have laptops, they have devices

none existing culture of Bring your own device (BOD)

But when it comes to teaching and learning some staff say I don't want to use my computer for teaching and learning. whether they have another laptop, or whether they have five laptops or whatever. So it looks like the staff want another additional computer. We have always tried to tell them that a computer is a computer, you can always use it for all the functions

HL6, hinted that his institution discovered that they had not done enough mobilisation as various stakeholders were seen to exhibit a sense of mistrust and rigid mind-set towards DTL

Many of our colleagues think that online learning is inferior quality, or digitalize learning is of an inferior quality

Also HL6 said that most of the faculty possessed inadequate capacity to design and teach online courses

Most of the staff don't have the capacity to develop digital education. Neither do they have the capacity to facilitate in the digital education system.

However, HL6 asserted that much as faculty possessed inadequate digital capacity, they were also reluctant to participant in DTL capacity building activities

they're not willing to, even if they don't have the capacity, many of them are not willing to actually seek for solutions to be able to build their capacity. They are not willing, they are reluctant to and yet, they don't have the capacity, you would find you would say yes, because they don't have the capacity, they will be the first people to seek for that

SUBTHEME 3: Institutional Rethink

After the failed attempt to leverage the existing projected institutional DTL strategies, his institution was able to rethink and forge a way forward. The rethinking process involved;

Notwithstanding the frustration as a result of discontinuity of the institutional business, HL6 hinted that as leader, he also got motivated given the much work that needed to be done to take his institution back track.

It just motivated me to continue because I realized that we still had a lot of work to do, not only, at the university, but also in the government.

HL6 said that he realized that HEIs were a sub system of the government which reflected government policies and therefore if he needed his institution to leverage DTL he had to work together with the government. While he continued to lobby his institution, HL6 said that he also lobbied government to recognise DTL as alternative mode of delivery.

I realized that the university only reflects what the government is, in terms of the capacity. So I continued with my lobbying   at the university to ensure that we can be able to fast track online teaching .I said, since what happens in our institutions is a replica of what happens in a government, I also had to confront the Ministry of Education, to tell them, You are here grappling with many issues, that you don't know. So I went to the Minister of Education and National council of Higher Education, and offered for free to give them a solution. I gave them an open position paper on what government should do, at least for higher education institutions. And I'm happy that based on those discussions, the President was able to see the importance. I mean, to see that ODEL could be able to work?

More still, HL6 said that he was appointed to chair his institutional online delivery committee to fast track eLearning for business continuity and as a committee they were able to apply and acquire National Council of Higher Education(NCHE) Open, Distance and eLearning(ODEL) accreditation

I was actually appointed as the chairperson of elearning, fast tracking committee to fast track the implementation of elearning at my institution and indeed, we did the job including acquiring National Council of Higher Education(NCHE) Open, Distance and eLearning(ODEL) accreditation

HL6 said that his after institutional acquisition of the NCHE – ODEL accreditation, his institution started a phased Operationalization of DTL polices through adhoc mgt letters to faculty

ODEL policy is the overarching policy. Yes, then, of course, we have for other policies like intellectual property policies, we have the quality assurance policy, we have the Teaching, Learning policy, We have even gender policy, these also help us because there are certain gender issues that we need to take care of as we teach online. And then we have policies on examinations, then we have this ICT policy factor is very big. But they also ad hoc policies that are made by the management. For example, if the management writes a letter, and everyone should be able to have all your courses with the materials

HL6 further said that his institution was seen to demonstrate collectiveness in executing institutional leadership responsibilities for DTL.

So management interventions are there. They're very important. Having the policy is one thing, but having the management also intervene and coming into spark the development   is very important. So the managers come in and write letters, the Vice Chancellors, the Deputy Vice Chancellors, and so they come in and communicate the directors of human resource directors of quality assurance come in and communicate

HL6 said that his institution strengthened the Institute of open distance and eLearning, an institute that mandated with the responsibility of ensuring that stakeholders integrate eLearning within the mainstream in a professional way

We've been able to strengthen the Institute of open distance and elearning at the university. And this institute is the one which is charged with the responsibility of ensuring that people are integrating elearning or distance learning Oh, open learning within the mainstream in a professional way.

Furthermore, HL6 asserted that as part of the rethinking process, his institution put in place massive, sensitisation, capacity and instruction material development workshops for stakeholders. Resulting into the development of over 1000 online courses, 1000 and 10,000 trained faculty and students respectively.

we've been able to develop more than more than 1000 courses and put them online. We've also been able to train more than 1000 lecturers in through online course development. We've been able to train learners all the freshers for example. We've been able to sensitize them and induct them on the practices of ODEL. And the freshers in my institution are more than 10,000. We've been able to develop guidelines on how to guidelines on how to use the learning management system by students and by staff

SUBTHEME 4: Neutral state of transition

HL6 said that the fact that his institution was able to rethink, strategize and redeploy, they achieved substantive outcomes including;

An increased uptake for digitalization, especially in teaching and learning

However, after COVID-19, we are seeing an increased uptake for digitalization, especially in teaching and learning.

HL6, further said that his institution was able to create DTL awareness to 100% of faculty and over 30,000 students' population

We've been able to have an awareness of the entire university, over 30,000 students are now aware about the concept of order, open distance and elearning. And I could say also 100% of all the stuff at the university now have awareness about the concept of order. Because Previously, we would talk about ODEL and people never know what it was.

More still, as result for the institutional rethink, HL 6 urged that his institution was able to get back to its feet for business continuity using DTL

one of the outcome is that we were able to have the university get out of the slumber, I mean, get out of the limbo, where it had been thrown by the COVID-19 pandemic, initially all education institutions had been closed. And with the support from ODEL or with the ODEL techniques and approaches, we were able to lift our university, get back to the feet again. And we are moving. So I think that's an outcome. So learning continuity is an outcome

HL6, further said that one of the outcomes was that lecturers were capacitated to facilitator role through building capabilities such as online pedagogy, design, teaching and assessments.

And also the outcome is the lecturers are now, more of teachers than just lecturers. They're more learning designers. Because there is no way you can do online education without being without going through online pedagogical training which has enabled them to teach and evaluate their students to become more responsible and more relevant to the 21st century requirements

Also, HL6 said that the culture of online learning was beginning to emerge as his institution experienced a shift in students' mind as more students were seen to look for online resources from the LMS

the culture of online learning is picking. Students are now looking for LMS as a as a resource, just as they could those days, look for the book for the library, and they say, I'm going to the library you would do nowadays, you can hear students say, I'm going to LMS, I'm going to LMS, the courses on LMS! or this assignment is on LMS we are going to post it on LMS. So in terms of teaching and learning, you will see that there has been a shift in mind of where students are actually looking for learning resources and learning activities online

On the other hand, though HL6 cited a number of conflicts, his institution is still experiencing as a result of DTL including;

HL6 hinted that his institution was still experiencing a challenge of poor mindset amongst it stakeholders as they continued to view DTL as an inferior product

Number one challenge has been Of course, mindset. Many of our colleagues think that online learning is inferior quality , or digitalize learning is of an inferior quality. That one is a serious challenge, which is still there

HL6 also cited inadequate management financial support as a major hindrance to DTL

The second challenge is lack of management support. And here we talk about funding. Funding for digital education. Especially the digital teaching and learning has not been forthcoming. But funding for other processes. Like those administrative processes, financial management, records management, somehow that one has been there. at least, the university could secure some funding to be able to set up those, those processes and also be able to enforce them. But funding for the teaching and learning bit of the digitalization has not been so forthcoming.

Probably because of inadequate funding, HL6 noted that his institution was unable to support the installation of a robust ICT infrastructure leading to creation of challenges as such as unstable internet connectivity, none access to ICT devices among others

> *internet is still a big challenge in our region, Not only in terms of bandwidth, but in terms of connectivity. In terms of presence, there are some areas where there is no presence of network. So even if you have the bandwidth, even if you have your data, you cannot be able to access internet in those areas. There's been a challenge of access to devices, especially for students, and also for staff, because you would find that staff have laptops, they have devices. But when it comes to teaching and learning some staff say I don't want to use my computer for teaching and learning*

THEME 2: Evolved institutional culture

'Evolved institutional culture' was a broader theme that emerged from research question 2 (RQ 2). RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning. In order to understand how leadership was adapting to the changing HE landscape as a results of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL6 was asked how the process of DTL integration had evolved his institution. I analysed theme 2- 'Evolved institutional culture' along four emergent sub themes including; Evolved channels of institutional communication, Evolved mechanisms of institutional operations, Institutional DTL advocacy and, Emergence of virtual teams.

SUBTHEME 1: Evolved channels of institutional communication

HL6 said that there were emerging channels of communication as a result of DTL including the official usage of social media, online meetings and online record keeping. More still, HL6 said that there an increased usage of videoconferencing tools such as zoom for teaching and learning as well as communication at his institution.

> *We continued working, but we were working from home. And people were mainly using zoom, the Mail's and other and other systems to communicate. So we use the synchronous tools, and the asynchronous tools, the synchronous tools that we use include teleconferencing systems, like zoom here, now Big Blue baton, Skype, Google meet*

SUBTHEME 2: Evolved mechanisms of institutional operations

Another impact of digitalisation at an institutional level was the 'Evolved mechanisms of institutional operations'. HL6 said that his institutional daily operations had changed in terms of delivery. He said that there was increasing usage of ICT in all the institutional functional areas such as accounts, students' applications, registrations and admissions, teaching and learning etc.

> *The university had digitalized almost all its processes, human service processes, academic registry processes, library processes, and so on.*

Furthermore, HL6 said that a culture of online learning was picking in the institution including shifting stakeholders' mind sets towards DTL, increased usage of the learning management system(LMS)and, digital library etc.

> *So in terms of teaching and learning, you will see that there has been a shift in mind of where students are actually looking for learning resources and learning activities online. Students are now looking for LMS as a resource, just as they could those days, look for the book for the library, and they say, I'm going to the library you would do nowadays, you can hear students say, I'm going to LMS*

HL 6 also cited an increased number of online courses on the institutional learning management system and the LMS becoming the gateway for learning at his institution

> *we've been able to develop more than more than 1000 courses and put them online*

DTL is changing the way we learn and teach So that LMS now becomes the gateway to anything that you want from the university. Yeah. So digitalization is changing the way we learn, the way students learn. aah , is enabling learners learn from anywhere. And the time most of the teachers work from anywhere, anytime

SUBTHEME 3: Institutional DTL advocacy

One more other impact HL6's institution experienced was an emerging trend of DTL advocacy. HL6 said that he as a promoted he was tasked with convincing colleagues including faculty, administrators and institutional leaderships to partake of DTL. A task he found very challenging as it required a lot of resilience.

> *especially for the promoters for digital learning. It's huge workload because taking people to a sphere or a space which they're not necessarily used to requires a lot of cajoling a lot, of convincing and it takes a resilient mind to be able to, to continue actually lobbying your colleagues, lobbying your friends, so lobbying your administrators, leaders to be able to take on this, you have to give or bring in a lot of reason as to why they should be able to get onto digitalized education*

HL6 said that not only did he advocate at this institution but also approached the Ministry of education(MOE) and National council of Higher education (NCHE)and pushed for the recognition of DTL. HL6 also said that he even provided pro-bono services to MOE by developing National Open, distance and eLearning (ODEL) position paper.

> *since what happens in our institutions is a replica of what happens in a government, I also had to confront the Ministry of Education, to tell them, You are here grappling with many issues, that you don't know. So I went to the Minister of Education, and offered for free to give them a solution. I gave them an open position paper on what government should do, at least for higher education institutions. And I'm happy that based on those discussions, the President was able to see the importance. I mean, to see that ODEL could be able to work? Then we had to go to the National Council for education to guide also, what should be the guidelines for institutions to open and we were able to develop this guideline for universities that wish to open, what should they put in place, and so on*

SUBTHEME 4: Emergence of virtual teams

HL6 further hinted that digitalisation had led to the emergence of virtual teams creating flexible working schedules and conditions such as working from anywhere and anytime.

> *DTL is enabling learners learn from anywhere. And the time most of the teachers work from anywhere, anytime.*
However, HL6 noted that there was no new institutional HRM policies but government circulars were in place to guide on HRM issues that rose from virtual dispersed teams

> *I haven't seen any but this is a public service University. So the circular which was issued by the Permanent Secretary, Minister of Public Service is actually helping a lot*
More still, HL6 indicated that there had emerged holding of virtual meetings including Council, Senate, Colleges and department.

> *Nowadays, Senate is organized and you we have, we have people attending online, and we have people attending virtually any meeting now in the university*
However, asserted that his institution continued to pay Sitting allowances that had then been logged as transport allowance for virtual meetings for external institutional governing organs
> *In the University, it's only the university Council, ever since time immemorial, since maybe 2010 that pay siting allowances All other meetings, we don't pay sitting allowances, including Senate, specially members of the university, but if you are, if you are Senator member and you come from outside you are paid.*

More still, HL6 noted that payment of data bundle refunds instead of transport refunds emerged.
> *So, when somebody is participating in an online environment, you we pay, we pay data okay, we pay them data, if we are training them when they are working online, we pay them data. But nowadays, the policy of government is you just have to deposit data on somebody is phone*

HL6, further said that while all the online lectures were expected to be held at the institutional premises, faculty were allowed to claim data refunds for evening classes-

they are facilitated with the data for evening teaching

THEME 3: Evolved leadership Capacity

As part of research question 2, RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? HL6 was further asked how digitalisation had changed him at a personal level in terms of his leadership roles, practices and skills. HL6 asserted that digitalisation had evolved him personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills.

SUBTHEME 1: evolved Leadership roles

HL6 said that had been received institutional recognition as an expert to first track institutional DTL

was actually appointed as the chairperson of elearning, fast tracking committee to fast track the implementation of elearning at University, and indeed, we did the job.

Not only did his leadership capacity impact on his institution alone, HL6 said got so passionate to a point of offering probono DTL advisory services at National level

So my leadership, therefore did not just stop at the university level, but it also went to the national level.
So I went to the Minister of Education, and offered for free to give them a solution. I gave them an open position paper on what government should do, at least for higher education institutions. And I'm happy that based on those discussions President was able to see the importance.

Furthermore, HL6 indicated that because of his leadership skill, he got contracted by the NCHE the educational regulators to develop DTL guidelines

Then we had to go to the National Council for education to guide also, what should be the guidelines for institutions to open and we were able to develop this guideline for universities that wish to open,

SUBTHEME 2: evolved leadership practices

HL6 said that now believes that bottom up approach can yield better institutional change especially in a crisis as it enables none experienced leaders to raise to the task. HL6 said that while he was not among the heads of HEIs in the country, he was able to pushed government to act and gazette DTL standards.

Because when my university was opened, other universities also started saying that" How are parents going to look at us? how are students going to look at us? if we don't open" so they also struggled as much as possible to ensure that they evaluated, and reopened online simply because my University took a lead. I think so if my team had not taken a lead, then I'm sure many universities would be still there, trying to wait for government open

SUBTHEME 3: leadership skills

HL6 identifies self as futuristic leader in the digitalisation industry

I think for me, I appreciate the fact that, I've been ahead of time in my work, what can I say? I think I've been a futurist, a future, kind of future leader. Somebody who thinks ahead of time. I first saw that learning ahead there is going to be mainly fused online and classroom. When I started my PhD in 2005. I realized that mobile working was going to be the thing. And when I started, many people thought, that, I'm just crazy

More still HL6 said that had become professional lobbyist as seen from the fact that he had lobbied both the government and his institution to uptake of DTL

So I continued with my lobbying at the university to ensure that we can be able to fast track online teaching. I also had to confront the Ministry of Education, to tell them, You are here grappling with many issues, that you don't know. So I went to the Minister of Education, and offered for free to give them a solution

8

THEME 4: DTL Institutional adaptability

More still, as part research question 3, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL6 was asked to share experience his institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change he evidenced above. I analysed theme 4 – 'DTL Institutional adaptability' across three subthemes including; Mobilisation of workforce, Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL6 What it was like to mobilise the workforce for DTL institutional adaptability. HL6 said that mobilising workforce for the emerged HE landscape as a result of digitalisation was hinged on numerous factors including; HL6 perceived management commitment as a major contributor to effective mobilisation of workforce for DTL

> *Having the policy is one thing, but having the management also intervene and coming into spark the development is very important. So the managers come in and write letters, the Vice Chancellors, the Deputy Vice Chancellors, and so they come in and communicate the directors of human resource directors of quality assurance come in and communicate*

HL6 further said that his institution was periodically reporting on the DTL direction and milestones to all stakeholders.

> *So the managers come in and write letters, the Vice Chancellors, the Deputy Vice Chancellors, and so they come in and communicate the directors of human resource directors of quality assurance come in and communicate*

More still, HL6 said that his institution had started to recognise DTL as incentive for promotion

> *there's been some incentive that has been provided when it comes to human resource, that during promotion, you can also be able to mention that you have created courses to enable you earn promotion points*

HL6 further asserted that his institution was continuously sensitising and convincing of stakeholders on the benefits of DTL such as flexibility, time saving among others.

> *also talk to them and convincing them that when you have created your online course, you have, almost solved 90% of your workload*

More still, HL6 said that his institution was conducting demonstration sessions and sharing of success stories and testimonies of DTL amongst their stakeholders to change attitude and rigid mind sets so as increase DTL uptake.

> *Then you see them start to copy up and also showing them well developed courses. , aah, that of kind, of students commendations for courses that have been done and also, students themselves, those that have participated online, giving testimonies are positive*

SUBTHEME 2: Financial Resource mobilisation

I further asked HL6 What it was like to mobilise the financial resources for DTL institutional adaptability. HL6 said that his institution for a long time had indicated there were no resources for eLearning. However, his team had managed to convince management that the institution was actually saving resources on none institutional expenditure

> *People were saying we don't have money for eLearning, we were able to convince management that we have a lot of money in fact, we I've been saving a lot of money. We showed them how they're saving money. We show them the things we've talked about here. That if people are coming for meetings, and you're paying them a transport refund, that meeting can beheld online and transport refund converted into data. if you're paying for electricity, in lecture rooms, and so on, the amount you pay will not be the same as the amount you pay when there are no students.*

HL6 further indicate that his team was encouraging management to use the save resources to upgrade the ICT infrastructure

So can you be able to reshuffle and reallocate for the budget, save and buy some equipment, upgrade the server and reconfigured it for online learning, online teaching online working?

More still, HL6's institution was writing grants to secure DTL funds

through writing of grants, we've been able to secure some grants,
HL6' institution was also engaging Budgetary allocation

SUBTHEME 3: Institutionalisation of DTL

Furthermore, 1 asked HL6 What it was like to institutionalise DTL. HL6 said that his institution was operationalising NCHE ODEL standards including regulatory frameworks, ICT infrastructure, stakeholder capacity development, budgets, strategic among others. More still, HL6 said that he was appointed to chair his institutional online delivery committee to fast track eLearning for business continuity and as a committee they were able to apply and acquire National Council of Higher Education(NCHE) Open, Distance and eLearning(ODEL) accreditation. HL6 said that his after institutional acquisition of the NCHE – ODEL accreditation, his institution started a phased Operationalization of DTL polices through ad-hoc management letters to faculty. HL6 further said that his institution was seen to demonstrate collectiveness in executing institutional leadership responsibilities for DTL. HL6 said that his institution strengthened the Institute of open distance and eLearning, an institute that mandated with the responsibility of ensuring that stakeholders integrate eLearning within the mainstream in a professional way. Furthermore, HL6 asserted that as part of the rethinking process, his institution put in place massive, sensitisation, capacity and instruction material development workshops for stakeholders. Resulting into the development of over 1000 online courses, 1000 and 10,000 trained faculty and students respectively.

THEME 5: DTL gaps and mitigations

'DTL gaps and mitigations' was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? This section was aimed at identifying the existing leadership gaps as HL6's institution transitioned online so as that I could improve the situation with better procedures and methods through design science. As part of research question 3, I ask HL6 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL6 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. Therefore, along his narration of the challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps

Subtheme1 - 'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL 6 said that government ODEL status was paramount. He said that previous none recognition and appreciation of DTL by National Council of Higher Education(NCHE) the national regulator of higher education had negatively affected his institutional adoption and implementation of DTL pre COVID19 pandemic and as such his institution was unable to use DTL for business continuity

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL6's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. In acknowledgment of the gaps experienced, HL6 said that transiting HEIs to the terrain of DTL is still a gap because HEIs were setup as Face to Face and therefore would require overhauling of the existing leadership practices to meet the needs of 21st century

Changing universities to the terrain or digital education because the university was originally set up for face to face, many universities are engaged in face to face teaching, but there is need for an overhaul the leadership practices and infrastructure set up of the university to be able to support online or digital education

HL6 further said that his institution exercised inadequate enforcement for compliance amongst facilitators which continued to create a skills gap as a number of faculty who lack both ICT and pedagogical skills would not show up for DTL activities.

> *Deliberated refusal of DTL uptake of stakeholders - I think we need some, we need to use some sticks. Instead of all the time using the carrot, we need to use some stick to be able to enforce. There are lecturers who have been trained online , But they have deliberately not taken it up*

Furthermore, HL6 hinted that his institution had failed to establish a reasonable reward system for stakeholders participating DTL including module development, online support among others.

> *I think, should be some reward system , for people that are developing these online courses because they are developing almost an academic paper or an academic journal paper , its even more hectic. if there is some deliberate rewards for this, I think that will be a positive step towards encouraging adoption of elearning.*

HL6 hinted that his institution was still experiencing a challenge of poor mindset amongst its stakeholders as they continued to view DTL as an inferior product

> *Number one challenge has been Of course, mindset. Many of our colleagues think that online learning is inferior quality , or digitalize learning is of an inferior quality. That one is a serious challenge, which is still there*

HL6 also cited inadequate management financial support as a major hindrance to DTL

> *The second challenge is lack of management support. And here we talk about funding. Funding for digital education. Especially the digital teaching and learning has not been forthcoming. But funding for other processes. Like those administrative processes, financial management, records management, somehow that one has been there. at least, the university could secure some funding to be able to set up those, those processes and also be able to enforce them. But funding for the teaching and learning bit of the digitalization has not been so forthcoming.*

Probably because of inadequate funding, HL6 noted that his institution was unable to support the installation of a robust ICT infrastructure leading to creation of challenges as such as unstable internet connectivity, none access to ICT devices among others

> *internet is still a big challenge in our region, Not only in terms of bandwidth, but in terms of connectivity. In terms of presence, there are some areas where there is no presence of network. So even if you have the bandwidth, even if you have your data, you cannot be able to access internet in those areas. There's been a challenge of access to devices, especially for students, and also for staff, because you would find that staff have laptops, they have devices. But when it comes to teaching and learning some staff say I don't want to use my computer for teaching and learning*

SUBTHEME 3: DTL mitigations

Subtheme 3- 'DTL Mitigations' comprised of the proposed leadership mitigations HL6's institution leveraged to reduce on the impact of the DTL challenges experienced for business continuity during the COVID19 pandemic. HL6 proposed the following mitigations;

The need for HE leadership to accept and recognise that the HE landscape is transitioning from the traditional face to face to digitalisation of teaching and learning, therefore the need acquire the needed knowledge and social competencies for effective leadership of newly emerged virtual HE landscape; Increased internal and external funding towards DTL at HEIs; Increase ICT infrastructure investments including boosting of the ICT infrastructure; Stakeholders capacity development and develop and operationalise institutional stakeholder support frameworks

HL5: Individual Findings

Background

HL5 was aged 54 years. Currently a Vice Chancellor of the University and the position puts him at the helm of the institution as the overall finance, academic, and chief administrator of the university. HL5 was in charge of all aspects of the university. His daily roles involved activities related largely at a monitoring and support levels. He was the chief executive and reported directly to the University Council. So ordinarily every day, he spent his time in meetings of management, monitoring the various activities in the units, or in meetings of council, reporting about the various activities in the university. HL5 further said that at times he took time to interact with members of the university, various stakeholders of the university, both within and outside the university for purposes of resource mobilization and advocacy and the enhancing the visibility of the university. HL5 was basically very optimistic about the integration of DTL as he harboured a projection that by 2025, the uptake of DTL would be at 100%, a projection his stakeholders think is very ambitious. The interview with HL5, generally resulted in to 05 Themes and 17 Subthemes: resulted in to five Themes; 1) digital experiences, 2) evolved institutional culture, 3) leadership capacity, 4) Institutional adaptability and 5) DTL gaps and mitigations and; a total of 15 sub themes all, which are presented below

THEME 1: Digital experiences

'Digital experiences' was a broader theme that emerged from research question 1 (RQ1). RQ1- What are the lived leadership experiences amidst transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)? The master theme examined how leadership made meaning of their lived digital experiences pre- and post-Covid-19 pandemic in Higher Education Institutions (HEIs). Master theme 1 examined what meaning HL5 made of his lived digital experiences pre and post-Covid 19 pandemic.

HL5, had a wealth of digital experience including designing and teaching an online course under USAID for people who were handling ARVs. As Vice Chancellor, he was a key actor promoting online learning at his institution. He conceptualised the meaning of digitalisation at two functional areas- Institutional management and Teaching and learning. He said that Institutional management involved the usage of technology for efficient delivery of University mandates and leadership for instance coordination, processing and management of information while Digitalisation of teaching and learning involved the use of technologies for teaching and learning away from the classroom.

While he identified himself as ambitious and passionate about the integration of DTL so as to increase access to teaching and learning anywhere and anytime, he was also aware of DTL could exclude other persons that were marginalised by unstable internet connectivity and inadequate computer skills among others. So he was an advocate for blended learning to improve inclusion. I analysed his digital experiences along 4 sub themes including; Sense of Visioning, leveraging of existing Institutional strategies, Institutional Rethink and, Neutral state of transition.

SUBTHEME 1: Visioning pre Covi19 DTL strategies

I asked HL5 to share with me his experiences with digitalization of teaching and learning at his institution. HL5 said that his institution had been using a number technique to integrate DTL pre COVID19 pandemic. First of all, he said that he had presented a 75% DTL compliance projection for 2025 to his top management before the invasion COVID19 pandemic. HL5's top management expressed disbelief and were dismissive of his projection, however little did they know that there would be a problem of COVID19 to catalysis and accelerate the uptake of DTL at HEIs. HL6 said that he was actually fascinated the fast pace of transition to DTL.

> by 2025, 75% of the programs at this university will be online, I presented that to top management and there was an uproar. They said it is impossible. It is extremely impossible that by 2025 that we would have 75% of the courses online. And however, little did people know that there would be this problem of COVID. I'm actually fascinated at the pace of transition from face to face to DTL increasing my projection to 100%

HL5 further said that his institution had an existing regulatory frameworks and policies such as Open, Distance and eLearning (ODEL), Research and ICT policies that support a number of issues including online learning, intellectual property and, cybersecurity etc.

We have The Open and distance learning policy. We have got the... the research policy, which recognizes a number of other issues like intellectual property. And the and we have the ICT policy, which also covers issues with cybersecurity.

Furthermore, HL5 said that his institution had developed an ICT development plan to guide the phased rollout of an appropriate ICT infrastructure

I think the approach has been that the we put the basic infrastructure. And the fortunate with that was done partly by, we've been over time looking at our ICT capability, which by far is critical for the digitization process

HL5 also hinted that his institution under the Higher Education, Science and Technology (HEST)/ African Development Bank(ADB) project had been support to its current installations of basic ICT infrastructure such as computers, LMS among others.

funded by government. Let's rewrite the extent we go to boost from African Development Bank with included having more computers, increasing the computer ratio in the university. We have to put up the learning management system has been supported by the African Development Bank.

More still, HL5 asserted that his institution had continuously developed Staff capacity in DTL over time to tune of 40%

And there has been a lot of training by staff trying to build capacity of the staff

And by the time COVID came, in the university, we had the about 40% staff who were sort of convinced , or when they're going through some, some kind of training on either developing content or learner support approaches.

HL5 said that his institution had developed an online course for faculty, however on attendance was initially on voluntary basis.

And this team has developed some course which all staff are taking, initially it has been your voluntary basis.

HL5 also said that pre COVID 19 invasion, most of the stakeholders had poor attitudes and mind-sets that perceived DTL as an inferior good and institutional adoption meant compromising quality of teaching and learning.

The first challenge has been the attitude of people up to day there are people who thinks that the by going to online , were are compromising quality

SUBTHEME 2: leveraging of existing Institutional strategies

HL5 was asked the about the outcomes of the prior DTL institutional projections and plans in the future when Covid 19 invaded the country and all education institutions under the presidential directive including his institution were required to close due to a lockdown to curb the spread of the covid19 pandemic. He hinted that his institution experienced;

HL5 said that his institution definitely closed down following the presidential directive to curb the spread of COVID 19. However, as an institution there were not prepared for the prolonged lockdown

You know the close down was at one point also absolute , there was a time when they said 'stop , don't move and all that . And many people thought this is going to be a temporary two weeks. or one month problem. But later on, it became a clear

However, HL5 said that as administrator, he continued to work normally but it meant he had a few hands to rely on

Fortunately for me as an administer, i think i continued working normally. The lock down, haa simply meant that I have few hands to rely on in my work but I was in the office regularly

More still he was quick point out that while the teaching and learning did continue during the COVID 19 pandemic lockdown, the existing ICT infrastructure supported partial continuity including the research arm of his institution on social media.

the university research arm through online/ social media conversations , seminars and modelling on the dynamics of the Covid19 pandemic, manufacturing of sanitizers and outreaches but Total closure of the teaching and learning arm except for a few students / faculty exchanges of course outlines and resources

HL5 further urged that the existing regulatory frameworks and policies were valuable in supporting his institution to acquire the National Council of Higher Education (NCHE) ODEL accreditation.

Yes, absolutely. They helped us to go on normally / no not normally , but they were valuable the ODEL policy helped a lot. Because even during the NCHE assessment, it was quite good that we had it. That one helped the adaptation. Even possibly the research policy helped

On the other hand, though HL5 expressed his frustration of the fact that the students missed on their learning milestones however the situation required exercising a lot of patience or risk the lives of the students and faculty

Well, teaching and learning, obviously, we were, we thought that the students would miss out. It meant exercising a lot of patience or risk the lives of the students and faculty. And the and that it is risky, to be able to, to do things normally. So whatever feelings, we knew that these were things that were inevitable, we would wish our students to be on normal course. But years where we knew that there was a real risk out there. So I think we thought that this is something which we, we need to be patient with and find the lasting solution.

HL5 also was worried on how to pull his institutional teaching and learning arm as well as the funding cycle back to normal.

You know, as the leader of an institution, when there is a situation, which makes everything almost come to a standstill? always your worry is how do you pull back to normal

Specifically, HL5 was worried on how to get back faculty and students who had been seated in the community for a year or six months thinking about survival back to scholarship

How will you get a teacher who has been out there seated for a year? Or for six months? How do you get him back to normal? How do you get your students who has been, you know, away in the communities , thinking about different things, time with thinking about survival? How do you get back this person to scholarship? I think those are the challenges.

HL5 said it also meant readjusting the teaching and learning time tables to get back on course to fit in the new normal-

And then as the time increased duration of COVID increased, we started feeling how would we be able to, to add just the time tables, so that we get back on the original course . But of course, we knew that the there is a problem around the world, which we need to solve.

While, HL5 would have wanted to leverage DTL to comfort his worries above, he perceived his environmental context of HE as unready for DTL. Given the fact that most of his institutional stakeholders including top management had been dismissive of his DTL claims.

By 2025 , 75% of the programs at this university will be online, I presented that top management and there was an uproar. They said it is impossible. It is extremely impossible that by 2025 that we would have 75% of the courses online. And however, little did people know that there would be this problem of COVID

More still, HL5 also perceived the negative attitudes of his stakeholders such as; DTL meant compromising quality and, cybersecurity attacks and threats as a limitation to how much he could use DTL

The first challenge has been the attitude of people , up to day there are people who thinks that the by going to online , were are compromising quality and they are people who think that the we cannot continue to go digital because of issues related cybersecurity, in managing data, in managing, our admission systems, in managing our financial management systems

On the other hand, HL5 sought about running a parallel learning system of both traditional and DTL, however the stakeholders also cautioned, how fast his institution was transitioning given the fact that they had not received additional budgets from Ministry of education and Ministry of Finance and planning. These huge unplanned initial investments were expected exert more pressure on existing institutional resources.

we are Crossroads as to how we should be investing because many institution is made ends up retaining the investments in the analog as well as looking for more investments in the digital, meaning that we might need more resources than actually we think because we are now running the two parallel because of the doubts and

attitudes. Many people will tell you that perhaps, We are moving too fast, we still lack resources as an institution is to be able to go completely digital.

Furthermore, HL5 said that his institution still experienced a challenge of inadequate infrastructure in the process of leveraging existing DTL strategies business continuity. His institution did a research and discovered that not only did many students have no access to internet and ICT devices but sought they could not study online

we've done assessments, to look at what is available, a number of students do not have access to internet, many lack devices to use, like smartphones, and many simply think they cannot manager online training

SUBTHEME 3: Institutional Rethink/ self-organising

After the failed attempt to leverage the existing institutional DTL strategies, his institution was able rethink and forge a way forward. The rethinking process involved going back to the drawing board and brainstorming ways of engaging the emerging tension. HL5 hinted that his institution put in place a numbers of strategies including;

HL5 said that one of the strategies during the rethinking stage was resource mobilization from the government, donors, and budget reallocations to embrace their institution ICT needs.

We have been adjusting our budgets towards putting needs ICT,
enhancing the funding for digitization, in terms of infrastructure, by the way, there are a number of software with we are subscribing to supports various aspects of teaching and learning and research

More still, HL5 hinted that his institution was undertaking a development and review of its regulatory policy framework to align with major institutional adjustments that arose from digitalization.

So they are lot of internal adjustments that we need to make. Attend and digitization and no doubt our committee here audit committee also recommended review of all the policies to ensure that we harmonize, the with the currency adjustments which are arising out of digitization. many policies have recently been revised to be able to accommodate online a couple abilities. For instance, previous admissions is used to be manual, they are now online. The finances you used to be we now have new guidelines really for approval of expenditures

Furthermore, as a part of operationalizing its ODEL regulatory policy framework, HL5 said that his institution was hiring an eLearning administrator as well as identifying champions and reallocating them to areas of need.

then there is human resource currently, or the institution who is trying to get people who can support the online systems. And then we have to retool most of our existing staff to be able to be adopted, to be able to move to digital.

As part of operationalising the NCHE ODEL accreditation, HL5 said that his institution appointed an Online Delivery Committee at different levels including institutional and faculty to coordinate the function of online learning.

we are continuing to developed a team, we have put up with committee at university level and faculty level to coordinate our online training.

HL5, further said that the online delivery committee developed an online course for mandatory faculty digital capacity development

And this team has developed some course which all staff are taking, initially it has been your voluntary basis. But now we are demanding that all staff should go through this course.

More still, HL5 said that his institution put in place a robust students' support system including continuous students' engagement to identify and offer solutions to existing students' challenges such as poor internet connections and also the aspect of counselling. HL5 further said that the deans have been empowered to continuously counsel and support students to study online

so we have a program for engaging students regularly, to discuss with them some of the challenges they're missing. And we will advise all faculties to ensure that they regularly meet with the students online to point out some of the challenges and how we can we can solve them.

we are supporting the students both through the student learner support system, but also on the aspect of counseling . We have we empower the dean is to continue counselling students, because many of them when they meet challenges, they drop out of the lecture, they think the system will not work.

HL5 also indicated that their quality assurance system had been adjusted to ccontinuously monitor and evaluate online learning including assessing ICT capabilities such as students' computer rations, students support, ODEL progress and sharing of lessons learnt.

If we are to learn, we are monitoring the process, we will basically carried out a survey to also bring in the users particularly the students. we have adjusted our monitoring system to capture online challenges. quality assurance department is picking issues of online almost on a weekly basis.

Next, HL5 said that his institution was attracting new partnerships including National Information Technology Authority, Uganda (NITAU), Research and Education Network for Uganda(RENU) and Airtel to strengthen its ICT infrastructure

we are working with NITAU to ensure that we are linked to the internet backbone to all our campuses they haven't been like that, we are working with RENU to help us with a server which is free from cyber security, which has reasonable cyber security collective, and we also use them to store data in the common internet cloud , we are working with Airtel to zero rate the students so that they can access our learning management system

SUBTHEME 4: Neutral state of transition.

HL5 said that the fact that his institution was able to rethink, strategize and redeploy, they achieved substantive outcomes including; Perceives running of parallel learning systems of both traditional and DTL and fast speed of transition

THEME 2: Evolved institutional culture

'Evolved institutional culture' was a broader theme that emerged from research question 2 (RQ 2). RQ2**-** How is the HE landscape evolving amidst digitalisation of teaching and learning? In order to understand how leadership was adapting to the changing HE landscape as a results of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL5 was asked how the process of DTL integration had evolved his institution. I analysed theme 2 - 'Evolved institutional culture digital' along four emergent sub themes including; Evolved channels of institutional communication, Evolved mechanisms of institutional operations, Institutional DTL advocacy and, Emergence of virtual teams.

SUBTHEME 1: Evolved channels of institutional communication

HL5 said that there were emerging channels of communication as a result of DTL. He argued that DTL had eased and centralised information sharing at his institution especially across his multi- campus setting of four sites across the country

one of the motivation for going into digitalization was to try to ease into management you have the multi campus structures, you, you can imagine, if we had online capability, so that somebody in town A, somebody in town B , can share, you know, the results with the central system, can share the timetables, the teaching timetables with everybody

More still, HL5 asserted that his institution had adopted the usage of social media such as emails, WhatsApp- Zoom and website for both internal and external stakeholders' communication.

Now during that time, there were calls, emergency calls for research. And those came up, we realized that researchers should be able to move during the lockdown. And that's the time when a lot of conservation started online on research aspects. People were debating COVID19 scientifically in social media everywhere and how to deal with the problem. and then gradually people talking about modelling how the disease dynamics are going. And that's how we started getting the first research seminars online

HL5 further said that his institution was holding virtual meetings including Council, Senate and department across its multi-campus setting

we used to spend whenever we had the general management meeting, this meeting attended by Deans of the various the six campuses together with top Management. But now, we meet Deans the way am discussing with you on Zoom.

SUBTHEME 2: Evolved mechanisms of institutional operations

Another impact of digitalisation at an institutional level was the 'Evolved mechanisms of institutional operations'. HL5 said that his institutional daily operations had changed in terms of delivery. HL5 urged that digitalisation had enabled and eased monitoring, supervision and management of the multi campus structures

> *That capability would go along the way is more smoothening administration's, so that was the initial motivation and definitely digitalization is coming with lots of benefits to a multi- campus structures, I want believe that even more than . I think digitalization is bringing the whole university close to the managers , VC or the human resource I can see which staff took leave when? So, in that way, it is strengthening supervision*

More still, HL5 asserted that DTL had created a of flexibility for faculty that had been constrained by distance , time and location
> *Now, if we have a digital capability and if this lecturer is able to give his 8 clock lecture in the morning from home. This is a big transition from the traditional culture of a lecturer*

HL5 urged that that flexibility of DTL was enabling institutional savings on resources on items like staff online meetings in multi-campus setting
> *we used to spend whenever we had the general management meeting, this meeting attended by Deans of the various the six campuses together with top Mgt and if you looked on the budget, I think for this meeting to take place, we needed about3- 4 million ; A Dean would need the fuel, may be some would need fuel of about UGX 300,000. Then per dime of one night to sleep near the university .*

and such saving would be reallocated especially to the boasting of the ICT infrastructure for instance acquisition of ICT devices and data bundles all which would be used for online facilitation
> *But now , we meet Deans the way am discussing with you and that resource could be used to buy a projector for each campus. So, there is likely to be increased investments in the in the ICT infrastructure and I believe , there is also big savings as a result of this digitization in the long run.*

HL5 also noted that DTL had created a centralized university system which brought university closure to the managers instance university secretaries online approval of financial expenditures, VCs are able to view online class schedules , faculty workloads , leave schedules

> *Previously, the University Secretary had delegated roles of financial management to faculties, the faculties could be initiated and spend money using cheques but now all the money in the university was put on one central system , he is now required to click a button on each expenditure in, the University. soon as the vice chancellor, I'm going to look at the timetables and make comments previously it was not possible that the Vice Chancellor could look at the analog timetable around the university but with the current system we are we are putting our time tables online, I can check and see Dr So and So , what is his workload this week?*

HL5 further said that his institution had introduced Standard operation procedures (SOPs) for staff safety during COVID19 pandemic
> *have introduced today SOPs. So since COVID. Really, we have introduced maybe two or SOPs were approved by Council these are , the guidelines, internal operational guideline is to ensure the safety of staff and students those were approved.*

SUBTHEME 3: Institutional DTL advocacy

One more other impact HL5's institution experienced was an emerging trend of DTL advocacy. HL5 re-echoed that it had always been very difficult to lobby government and National Council of Higher Education(NCHE) to recognise, acceptance and regulate DTL in the past. Therefore development of ODEL emergency guidelines by MOE and regulators - NCHE is an opportunity that has enabled big strives that could been achieved in 20years .
> *the advocates for online from government is a big blessing , Because now , and we now have opportunity because the National Council for higher education, which has also been you know, having challenges of accepting*

onlinisation as standard as fully acceptable , you can get narrations from program universities that have been running online programs, how they struggle to get those programs accredited . Now, if the National Council for higher education has also softened and they allowed all the universities to try out online, I think we've made big strides, which we could possibly have not have made it the next 20 years.

While , HL5's top management was dismissive of his 75% DTL compliance projection by 2025, he in fact thought that given the current COVID 19 situation, DTL compliance will be at 100% by 2025.

> *when we propose to people, that by 2025 , 75% of the programs at my institution will be online, I presented that top management and there was an uproar. They said it is impossible. It is extremely impossible that by 2025 that we would have 75% of the courses online. And however, little did people know that there would be this problem of COVID. I'm actually fascinated at the pace of transition from face to face to DTL. Yes, even the changes we are talking about we have extremely low , I strongly suspect that by 2025 almost 100% of our programs, at least the biggest portion is of these programs would be online*

SUBTHEME 4: Emergence of virtual teams

HL5 further hinted that digitalisation had led to the emergence of virtual teams creating flexible working schedules and conditions such as working from anywhere and anytime.

> *A lecturer , who sleeps in town A, has to do about 15 kilometres to reach , 15 kilometres of a terrain where you don't have borders- borders and the taxis as in the capital city . Now, if we have a digital capability and this lecturer will be able to give his 8 clock lecture in the morning from home*

And with such flexibility of working, HL5 said that a remote working Policy was in offing to monitor the emerged virtual teams

> *We are now introducing a policy on remote working. Because we think that its important, but it hasn't been approved by Council. It is a new policy coming. of course the most of the monitoring parameters have to be adjusted, how to monitored.*

More still, HL5 noted that his institution was digitalising its Human Resource Management Information System to easy tracking of staff performance.

> *We are currently also working on the Human Resource Management System, digitizing it.I'm going to look at the timetables and make comments previously it was not possible that the Vice Chancellor could look at the analog timetable around the university but with the current system we are we are putting our time tables online, I can check and see Dr So and So , what is his workload this week?*

With the emergency of virtual teams, HL5 urged the need to review workload and logistic polices so as to streamline and create confidence for faculty that were teaching online. He said that his institution had replaced logistics such mileage with airtime or data bundles and workload payments for online teaching had remained as for the physical classrooms.

> *recently, the part time lectures have said that now, you want us to prepare our material give you and after giving you that material on the LMS , you are free to chase us. . So, you need to redefine what even , part timing is . Because the part timer used to gain my mileage by walking to Class, , you pay him transport and you pay him per hour but now if you are saying that the you don't need to walk to class, you are at home. So maybe you don't need to give him transports, then, the material he is sending , he is loading it on the learning management system, meaning you don't need him. So, they are things we need to redefine and definitely as you asked earlier, you we need to review , instead of allowances ,*

and HL5 said that no major adjustments on workloads were expected in the future at his institution

> *No, we have not adjusted the working hours and the I think that those are some of the things which will come into play in the near future. We personally need to review the manual and perhaps elements of these will be catered for in the remote working policy because when we do that policy, we have catered for the hours in the remote way*

THEME 3: Evolved leadership Capabilities

As part of research question 2, RQ2- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL5 was further asked how digitalisation had changed him at a personal level in terms of his leadership roles, practices and skills. HL5 asserted that digitalisation had evolved him personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills.

SUBTHEME 1: Evolved Leadership roles

I asked HL5 , how DTL had changed his leaderships roles, at first he disagreed that DTL had changed the usual VC leadership roles , and had this to say "

> *I don't think that , the digitalization should change my roles, the monitoring ,the oversight, the supervision of financial management in the university, this supervision of academic management in the university, this supervision of administrative manage should remain, but may be now the practices have to change and they are gradually changing"*

however, on second thought he acknowledged that indeed his roles had changed as a result of DTL "

> *yes, you are, you are right to say that the roles , can change because soon as the vice chancellor, I'm going to look at the timetables and make comments previously it was anything that the Vice Chancellor could look at the analogue timetable around the university but with the current system we are we are putting our time tables online, I can check and see Dr So and So , what is his workload this week?*

He further hinted on the additional roles for university mangers

> *Previously, the University Secretary had delegated roles of financial management to faculties , the faculties could be initiated and spend money using cheques but now all the money in the university was put on one central system , he is now required to click a button on each expenditure in, the University*

More still he recognised that the Learning Management System had changed the type of Faculty – students learning engagements and roles specifically asserting that the faculty was no longer the custodian of knowledge but a facilitator and the students were using ICT devices to become active learners

> *recently, the first time have said that now, you want us to prepare our material give you and after giving you that material on the LMS , you are free to chase us. . So, you need to redefine what even , part timing is . Because the part timer used to gain mileage by walking to Class, , you pay him transport and you pay him per hour, but now if you are saying that the you don't need to walk to class, you are at home. So maybe you don't need to give him transports, then, the material he is sending , he is loading it on the learning management system, meaning you don't need him*

SUBTHEME 2: Evolved leadership practices

I asked HL5, how DTL had changed his leaderships practises, HL5 agreed that his practices had changed from manual to online but gradually. HL5 said that he was able to gather, collect and process information faster online for decision making.

> *If it is supports supervision, how am I doing it? I'm able to do it online, if it is gathering information from for monitoring purposes from the various campuses, how do we do it , instead of somebody working where we are getting information quickly, online, and we are able to take decisions.*

More still, HL5 urged that his practices had changed from managing on campus workforce to dispersed virtual teams and therefore he was exploring various ways of supporting the emerged virtual teams to execute their duties smoothly.

> *we need to review , instead of allowances , we used to give you , haa , even, Council used to get some transport facilitation. But online they are no longer coming, And the we need now to say how is Council supported to do its work . airtime is a new facilitation. It was not there before we used to have mileage and per diem. So they are lot of internal adjustments that we need to make*

Another leadership practice HL5 adopted included online management of an integrated institutional system with centralized approvals of institutional payments and institutional schedules among others

SUBTHEME 3: Leadership skills

I asked HL5, how DTL had changed his leaderships skills, HL5 said that DLT enabled him to improve his online capabilities. HL5 also indicated that he was able to manage, support, supervise and monitor virtual teams in the different six multi-campus setting of his institution online. Also, digitalization had strengthened his joint supervision skills across his multi-campus setting.

THEME 4: DTL Institutional adaptability

More still, as part research question 3, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL5 was asked to share experience his institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change he evidenced above. I analysed theme 4 – 'DTL Institutional adaptability' across three subthemes including; Mobilisation of workforce Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL5 What it was like to mobilise the workforce for DTL institutional adaptability. HL5 said that his institution was using a number of tactics including; Staff capacity development and sensitization drives to influence attitude and mind set change towards DTL

> *we are training a number of staff massively. we hope that our training program will help to change the attitude*

HL5 also hinted that his institution was identifying, retooling and redeploying existing ODEL knowledgeable staff.
> *we have also, we have done a scan across the university, human resource produced for us, a list of technician who are knowledgeable because this the issue of lack of resources to meet the needs, we have look within the existing resources. And we looked at the technicians are trained in ICT, people who know Online, and we are redeploying them*

More still, HL5 hinted that his institution was identifying and deploying champions in the various campuses to motivate and inspire others
> *ensure that there is a team now at every campus, there is a core team of people who are trained in your onlinisation . And these are people who have been identified carefully, have the motivation to go online. We hope that those people will help us to motivate and inspire the others really, in most cases and so we hope that our training program will help to change the attitude But we have champions now*

Furthermore, HL5 indicated that his institution was recruiting a few new staff to boost their online learning capacity

> *To a small extent pulling some new staff, but that is really to small extent. obviously now being able to have online training, ICT capacity is a big advantage if you were to join me our university as a staff.*

SUBTHEME 2: Financial Resource mobilisation

I asked HL5 What it was like to mobilise financial resources for DTL institutional adaptability. HL5 said that his institution was using a number of tactics including; Attracting new partnerships

> *There has not been incremental budgets to support the necessary investment, in online that is required that is actually which surprised many people. So the that's one thing, but two, we are attracting new partners*

HL5, further said that his institution was adjusting and reallocating budgets towards the DTL cause.

> *you will know from Ministry of Finance that no budgets were changed in the favour of online but they called for adjustments or reallocation internally within the budget to ensure that you now focus DTL*

SUBTHEME 3: Institutionalisation of DTL

Furthermore, 1 asked HL5, what it was like to institutionalise DTL. HL5 said that his institution was operationalising NCHE ODEL standards including regulatory frameworks, ICT infrastructure, stakeholder capacity development, budgets, strategic among others. HL5 indicated that his institution was following a phased approach to operationalise its regulatory and ODEL policy framework for instance, he said that his institution had only hired a distance learning coordinator just six months ago.

> *while the policies themselves provide for administrative structures? We were only able to appoint a distance learning coordinator in the University about six months ago*

Furthermore, as part of institutionalisation of DTL, HL5 said that his institution had appointment of an ODEL coordinating committee to coordinate the institute DTL function of the institute

> *we are continuing to developed a team , we have put up with committee at university level and faculty level to coordinate our online training. And this team has developed some course which all staff are taking*

More still, HL5 said that his institution had enforced mandatory continuous staff capacity participation on the online skills building short course

> *initially it has been your voluntary basis. But now we are demanding that all staff should go through this course.*

More still, HL5 said that his institution put in place a robust students' support system including continuous students' engagement to identify and offer solutions to existing students' challenges such as poor internet connections and also the aspect of counselling. HL5 further said that the deans have been empowered to continuously counsel and support students to study online

> *so we have a program for engaging students regularly, to discuss with them some of the challenges they're missing. And we will advise all faculties to ensure that they regularly meet with the students online to point out some of the challenges and how we can we can solve them.*
>
> *we are supporting the students both through the student learner support system, but also on the aspect of counseling . We have we empower the dean is to continue counselling students, because many of them when they meet challenges, they drop out of the lecture, they think the system will not work.*

HL5 also indicated that their quality assurance system had been adjusted to ccontinuously monitor and evaluate online learning including assessing ICT capabilities such as students' computer rations, students support, ODEL progress and sharing of lessons learnt.

> *If we are to learn, we are monitoring the process, we will basically carried out a survey to also bring in the users particularly the students. we have adjusted our monitoring system to capture online challenges. quality assurance department is picking issues of online almost on a weekly basis.*

Attracting new partners such as National Information Technology Authority, Uganda (NITAU), Research and Education Network for Uganda(RENU) and Airtel to strengthen its ICT infrastructure

> *we are working with NITAU to ensure that we are linked to the internet backbone to all our campuses they haven't been like that, we are working with RENU to help us with a server which is free from cyber security, which has reasonable cyber security collective, and we also use them to store data in the common internet cloud , we are working with Airtel to zero rate the students so that they can access our learning management system*

THEME 5: DTL gaps and mitigations

DTL gaps and mitigations was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is the HE landscape evolving amidst digitalisation of teaching and learning? This section was aimed at identifying the existing leadership gaps as HL5's institution transitioned online so as that I could improve the situation with better procedures and methods through design science. As part of research question 3, I ask HL5 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL5 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. Therefore, along his narration of the

challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps and Mitigations

Subtheme1 - 'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL 5 said that government ODEL status was paramount. HL5 said that previous none recognition and appreciation of DTL by National Council of Higher Education(NCHE) the national regulator of higher education had negatively affected his institutional adoption and implementation of DTL pre COVID19 pandemic.

> *National Council for higher education, which has also been you know, having challenges of accepting onlinisation as standard as fully acceptable , you can get narrations from program universities that have been running online programs, how they struggle to get those programs accredited*

HL5 further urged that his institution has also been challenged by the inability of the government to support and provide incremental budgets for ICT investments

> *you will know from Ministry of Finance that no budgets were changed in the favour of online learning but they called for adjustments or reallocation internally within the budget. There has not been there hasn't been incremental budgets   to support the necessary investment, in online that is required that is actually which surprised many people*

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL5's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. HL5 said that the first challenge has been stakeholders' poor attitudes and mind sets towards DTL

> *The first challenge has been attitude of people , up to day there are people who thinks that the by going to online , were are compromising quality and they are people who think that the we cannot continue to go digital because of issues related cybersecurity, in managing data, in managing, our admission systems*

More still, HL5 indicated that his institution had also suffered a setback in terms of funding given the fact that the transition was very fast and therefore lacked an opportunity to negotiate with the funders to support DTL.
> *one of the biggest dilemma of this transition, is that we will did not sit down to ascertain and to agree with the funders of the universities to vary in a commensurate way the necessary investment to support this transition*

While HL5, was in support of running parallel systems of both traditional teaching and DTL, he said that it had created a financial challenge as his institution risked with unbalanced way of funding either of the two.

> *we   are Crossroads as to how we should be investing because many institution is may end up retaining the investments in the analog as well as looking for more investments in the digital ,meaning that we might need more resources than actually we think because we are now running the two parallel*

HL4: Individual findings

Background

HL4 was aged 47 years, head of the quality assurance unit of her institution. Her roles spans broadly managing the quality assurance function of her institute specially quality of teaching and learning and designing policy and assessment tool.   She was an online learning expert with more than ten years' experience in increasing access to education through open, distance and eLearning(ODEL). She was an eLearning promoter with positive eLearning experience, however feels very frustrated by the progress and slow pace of transition. She was always questioning herself whether she had the capacity to enable her institutional to transit successfully to online mode of delivery.

My interview with HL4, generally resulted in to 05 Themes and 15 Subthemes as illustrated below.

THEME 1: Digital experiences

'Digital experiences' was a broader theme that emerged from research question 1 (RQ1). RQ1- What are the lived leadership experiences amidst transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)? The master theme examined how leadership made meaning of their lived digital experiences pre- and post-Covid-19 pandemic in Higher Education Institutions (HEIs). Master theme 1 examined what meaning HL4 made of his lived digital experiences pre and post-Covid 19 pandemic.

HL4, had a wealth of digital experience spanning her whole professional life. she conceptualised the meaning of digitalisation She basically conceptualises DTL as the act of using information and communication technologies to enhance teaching and learning either in fully online or blended and also the usage of educational technologies in the face to face programmes. I analysed her digital experiences along 4 sub themes including; Sense of Visioning, leveraging of existing Institutional strategies, Institutional Rethink and, Neutral state of transition.

SUBTHEME 1: Sense of Visioning

HL4 said that from its angulation, her institution was profiled as techno science offering mostly blended learning programmes and therefore had an approved eLearning policy that had been derived from the ICT policy

> *But right from its beginning, it profiled itself as a university that uses technology. Actually, if you look at the website, you might still be able to see where they have a tag attached to their name, like in University of technoscience. And the based on that, from the beginning, they said for them, they were using blended learning. we have a policy on eLearning which is a derived from the ICT policy, both of those are already approved policies*

Furthermore, HL4 asserted that her institution had partially operationalized the eLearning policy to guide the percentage of online learning at 30%.

> *And then secondly, we also had in the policy, I think states that the minimum for a teacher really blend is 30% of the course should be online*

As well as the setting up of MOODLE platform (Learning Management System- LMS) including uploading of courses however most of the uploaded instructional materials were mostly none interactive.

> *indeed set up an in house learning management system, which is based on Moodle, and they the courses were set up in it, some lecturers, had developed some resources in it. lots of their resources, were uploading notes, uploading maybe articles making links to books with a very little interactivity.*

and more still, the usage of the LMS was autonomous as it was only used by interested faculty

> *As I said earlier, it was not really like everyone being encouraged to do it seems that at that time, it was like those who are willing or able, they read it, then they had that training for all their stuff. And from that, on the end, they expected that all the staff would be using, but still, not everyone is using it. And those who are using it, do use it in different degrees, there are those who are very enthusiastic*

However , during the lock down, HL4 said that her institution integrated another application for synchronous teaching and learning i.e. Big Blue Button-

> *So We had an integrated application for synchronous teaching and learning, especially when the students were sent away during the lockdown. It is called Big Blue Button.*

HL4 further indicated that she had built DTL capacity for about 45% of faculty preCOVID19 pandemic invasion.

> *So I trained about 45% staff of the university in blended*
> *And teachers were taught how to use the big blue button , there is one staff member who's actually good in it, is making use of it. And they he actually supported them, the teachers in training, how to use the big blue button for teaching and learning.*

HL4 also said that she had set up a stakeholder DTL support framework including WhatsApp to support the staff to upload and teach online courses at here institution.

I happen to still continue supporting the staff, then the dean came to me said our programs are not online. Yeah. I said, Why are they not online? Then he told me the challenges that were there, I said, let just give me the name of programs supposed to be online and the lecturers and I'll set them up for you. And I set them up . I had to use a WhatsApp, I had to teach my students using WhatsApp",

Furthermore, HL4 indicated that her institution under the Higher Education, Science and Technology (HEST)/ African Development Bank(ADB) project had been supported in the its current installations of ICT infrastructure such as computers to support online learning

was part of the ADB HEST5 where they had training and then they received I think some computer systems or the technologies to enhance the Online Teaching and Learning including that training

SUBTHEME 2: leveraging of existing Institutional strategies

HL4 was asked the about the outcomes of the prior DTL institutional strategies in the face of the COVID19 pandemic were all education institutions under the presidential directive including hers were required to close due to a lockdown to curb the spread of the COVID19 pandemic. HL4 said fortunately, lockdown came when most of their students were awaiting exams and therefore a few students were being disadvantaged. However, for the continuing students, HL4 said that her institution was unable to continue teaching and learning online effectively even if there had profiled as a blended learning with a reasonable DTL institutionalization. HL4 further cited a partially negative experience along 6 major areas including; eLearning policy operationalisation, ICT infrastructure and connectivity, Faculty and student's capacity development and; faculty and students support framework, stakeholders' attitude and mind sets;

HL4 urged that her institution had partially operationalized eLearning policy excluding the establishment of the eLearning unit and staffing. Therefore, when, the president locked down education institutions, her institution lacked personnel to coordinate and monitor the DTL activities smoothly.

we are not operationalizing the online learning policy properly or as it should be, because according to the policy, they're supposed to be a unit for eLearning. And I think it will also be related to the staffing- we do not have in terms of staffing, for eLearning, they are not really following it up., we do not have an E learning unit, that can support staff who have challenges

Furthermore, HL4 urged that the lack of the eLearning unit had led to the sub sectioning of the eLearning function under the quality assurance and ICT departments which also were under staffed and as such made eLearning none manageable and inefficient

at the moment is basically me and then the technical people who are in the ICT department, who are trying to help/ support with the teaching and learning online. which to me is okay, but I would need more people in quality assurance, where maybe one who can focus on the quality of teaching and learning in terms of the online

Furthermore, HL4 said that her institution was challenged with capacity gaps during the leveraging of the existing DTL strategies amidst the COVID19 pandemic. Her institution discovered that despite the numerous capacity development drives, faculty was still unable to use the LMS

Last year, I did a survey with the with the students about actually Online Teaching and Learning. indeed, some of them did say that they are some of the lecturers who are not even using that thing. learning platform. So they were saying that some of the lecturers are not using LMS.

However, HL4 noted that faculty preferred to teach using WhatsApp, a more user friendly application in terms of skills and internet connectivity

I had to teach my students using WhatsApp", so challenges in relation to network and applications not working or maybe staff not being very familiar with the application, then, of course, this one has found a found an alternative, he set up a WhatsApp group and she said it was better than the Big Blue Button

While the LMS was well setup, HL4 said it was underutilized for learning as students preferred not online.
I think they were not putting LMS into practice. So in this case, they were saying for them to want face to face not online, even given the challenges of the current situation where people were even told to stay home

students were sent home, they would take advantage of the online version, and they will continue with their work

Note only was her institution challenged with faculty adoption, HL4 noted that she had also discovered that about only 50% of students could access the online system.

say 50% really were able to access online? Yeah, they weren't. And I think, because I sent it to all the students, and I think by then there were about 300 students, and only around 60 students were able to, to fill in the survey. And that showed also to me, that may be it is actually the ones who are able to log online that were able to fill in the majority maybe had challenges.

The students cited connectivity and power issues in their rural setting including unstable and poor internet speed

And even those ones who looked online actually said they had challenges of network .
They're in the villages. And some of the reasons also they indicated for saying that they don't log easily online is wherever they were located.

Which was also in line with HL4's institutional network experience of poor bandwidth

we had a challenge with the network and we still have a challenge with network much as It is a University of techno science, it still as internet issues. practically we can't upload the videos .But you can't. with two MBs you can't upload anything that maybe if you upload it in a YouTube and you make a link perhaps a that way there was a time they did actually a review of the internet speed in different institutions and we were the lowest.

More still, HL4 said that his institutional digital experience was challenged with none enthusiastic stakeholders with poor attitudes towards DTL

I think it is something of attitude. For example, I even set up an orientation, course, for orienting staff to teach online in that Moodle platform where every staff can roll into. And I tried to do step by step, what a person can do when you log in what you do, how you set up your courses, you need some instructional design, how you develop your instructional design, some of them are recorded, I even sourced some videos that i useful that explain steps. And some still call and say " how do you do this"?

HL4 further attributed the reluctance to adopt to institutional lack of ownership given the fact that DTL was more of an external project

What disappointed me was that? I think they were not putting it into practice. Maybe it was because of that thing being an external project that funded it. I don't know if internally, they internally, they said they have been using blended learning

Therefore, with such a negative digital experience, HL4 felt frustrated and disappointed

I feel a little bit disappointed and yeah, that people are not making use of it. What disappointed me was that? I think they were not putting it into practice

HL4 said that she slid into a journey of self-validation and doubt of self to drive DTL institutional transition.

Done everything as DL promoter but nothing is taking off And maybe they I don't know if there's something in me that is not making people to get enthusiastic about it

SUBTHEME 3: Institutional Rethink

After the failed attempt to leverage the existing institutional DTL strategies, her institution was able to rethink and forge a way forward. The rethinking process involved going back to the drawing board and brainstorming ways of engaging the emerging tension. HL4 hinted that her institution put in place a numbers of strategies including; Increased management support. HL4 said that her Vice chancellor jointly with the institution management team were mobilising resources and faculty towards DTL.

what I know is that the VC is actually mobilizing both faculty and financial resources

More still, HL4 hinted that her institution was identifying and recognizing DTL Champions and redeploying them to encourage other stakeholders

I got two staff members,. So I looked at the courses, and they were doing something relatively good. So I asked them to come and give us the teachers side of the view for the students for this incoming students so that maybe the students can prepare themselves that this is going to be a mode of teaching and learning. One day, I think you could see the enthusiasm also in those other teachers

HL4 further indicated that her institution was conducting massive stakeholders' sensitization and capacity development workshops on DTL principles as well as influence change of attitudes and mindsets towards DTL

I think the focus right now is more of training stuff in developing courseware development. need a different attitude towards this new way of teaching and learning. if somebody does not change their attitude, the person would still use this the methods for teaching face to face

More still, HL4 cited improved stakeholders' DTL support frameworks at her institution

I think, including me paying attention to supporting staff in using those resources they have developed for teaching and learning purposes

HL4 further noted that her institution was improving its ICT infrastructure including internet connectivity and negotiating for zero rate internet connection from telecommunication companies

now ICT people said they are going to increase the bandwidth or the internet that we are having. So that will help them also increase the upload size we actually had zero rating on the on our websites

SUBTHEME 4: Neutral state of transition

HL4 said that the fact that his institution was able to rethink, strategize and redeploy, they achieved substantive outcomes including; Sense of confidence to motivate stakeholders. HL4 with a the few enthusiastic, she was positive that DTL would take off in the future

One day, I think you could see the enthusiasm also in those in those teachers. But apart from those ones. Yeah. Which makes you feel very happy that at least there are some. but they are just not I would have loved at least maybe if it was 40% of staff with that kind of enthusiasm. That would be great here.

More still, HL4 said that while her institutional stakeholders were slow to adopt DTL, she was eager to provide support through the development of visual aids and recordings to aid the DTL skills acquisition.

I even set up an orientation, course, for orienting staff to teach online in that Moodle platform where every staff can roll into e. And I tried to do step by step, what a person can do when you log in what you do, how you set up your courses, you need some instructional design, how you develop your instructional design, some of them are recorded, I even sourced some videos that i useful that explain steps

THEME 2: Evolved Institutional Culture

Evolved institutional culture' was a broader theme that emerged from research question 2 (RQ 2). RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? In order to understand how leadership was adapting to the changing HE landscape as a results of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL4 was asked how the process of DTL integration had evolved his institution. I analysed theme 2- Evolved institutional culture digital along four emergent sub themes including; Evolved channels of institutional communication, Evolved mechanisms of institutional operations, Institutional DTL advocacy and, Emergence of virtual teams.

SUBTHEME 1: Evolved channels of institutional communication

HL4, said that faculty in her institution had resorted to using social media such as WhatsApp instead of the MOODLE platform for teaching and learning. She attributed social media usage to the fact that it was user friendly and resilient on the unstable internet connection.

And one of the staff I just happen to move around on a different issue of quality, and then the staff told me, "thank you for coming here, you know, this big blue button of yours is not working. And then for me, I had to use a WhatsApp, I had to teach my students using WhatsApp"

SUBTHEME 2: Evolved mechanisms of institutional operations

HL4 alluded that the operations of her institution had evolved in various ways a result of DTL. She urged that the fact that her institution had profiled itself as blended or techno science, blended learning was recognised as the major mode of delivery which necessitated the setting of basic infrastructure such the MOODLE platform and an accompanying eLearning policy.

right from its beginning, it profiled itself as a university that uses technology. Actually, if you look at the website, you might still be able to see where they have a tag attached to their name, like in University of techno science. And the based on that, from the beginning, they said for them, they were using blended learning. They indeed set up an in house learning management system, which is based on Moodle, and they the courses were set up in it, some lecturers, had developed some resources in it.

Furthermore, HL4 note that techno science profile had further given birth to a few DTL enthusiastic and champions who are spreading DTL including online assessment such as discussion forums, online marks

they actually give interactive activities for their students. And you see marks also, like those, two teachers, they also showed their students, the marks from assignments, forum discussions, those kinds of things

SUBTHEME 3: Emergence of virtual teams

HL4 indicated that there was an emerging trend of virtual Teams that are being monitored using the government 30% work capacity circular to curb the spread of COVID19.

No. we don't have any new HRM polices . Okay, now they said 30% of the staff supposed to be going to the institution to work from there

THEME 3: Evolved Leadership capacity

As part of research question 2, RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? HL4 was further asked how digitalisation had changed her at a personal level in terms of his leadership roles, practices and skills. HL4 asserted that digitalisation had evolved her personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills.

SUBTHEME 1: evolved Leadership roles

HL4 noted that her leadership roles have increased from just being quality assurance to transitioning her institution online.

The one thing, which what I see happening is really making me feel is or do is to question my self, how, what can I do to encourage or to make it maybe simpler for staff or to encourage staff to be able to engage in teaching and learning online?

As well as her auditing institutional online systems to ensure that they align with National council of higher education (NCHE) accreditation standards

the program's administrators role was to receive content from the lecturers and set it up in the online learning management system. Having vetted it, to ensure that it follows all the standards for the university and also for the National Council of education

More still, HL4, said that she was also tasked to deal with both faculty and students DTL capacity development initiatives.

I used also to train the lecturers in online teaching and learning. I would also I oriented the enrolled students for online teaching and learning

Additionally, HL4 indicated that she was also engaged with ensuring and creating DTL stakeholder support and coordination systems

I think, including me paying attention to supporting stuff in using those resources they have developed for teaching and learning purposes

SUBTHEME 2: evolved leadership practices

Alluding to the fact that HL4 was an experienced online learning specialists, she said that such a responsibility had changed a number of her leadership practices including;

Stakeholders engagement. HL4 noted that DTL cannot diffused appropriately in any institution without collective responsibility of all stakeholders. She urged that she had to improve her mobilisation skills for inclusion and engagement of all different   synergies and sharing of skills
But I think also engaging, getting to the students & staff to make them. Active is also another part of the story

Online support mechanisms. HL4 was cognizant of the fact that DTL integration was hinged on support frameworks and therefore part of her leadership practices has included provision of more support to the stakeholders such as creation of visuals, training workshops etc
I even set up an orientation, course, for orienting staff to teach online in that Moodle platform where every staff can roll into. And I tried to do step by step, what a person can do when you log in what you do, how you set up your courses, you need some instructional design, how you develop your instructional design, some of them are recorded, I even sourced some videos that i useful that explain steps

Contextual integration of DTL. HL4 also said that her integration practices were contextual given the fact that, her experience elsewhere especially at her Master's class could not fit I her new environment without adjustments

My experiences, I still think my standard is really of that one where I would think out like staff to be moving towards that kind of teaching and learning engagement of students, which perhaps we are not yet.

SUBTHEME 3: leadership skills

HL4 identifies self as very experienced in online learning and therefore possessed expert skills including design and facilitating online courses and generally setting up of online programmes

I think my experience also in online learning. But one in a Master's Course I did in educational technology, my research was actually on using a synchronous online discussion forums for teaching and learning

HL4 also said that because of her additional responsibility of enabling DTL at her institution, she had acquired research skills in online industry as she needed to continuously monitor and evaluate the progress of online learning in her institution such that she would able informed advisory services to her management.
one time I did a survey. Last year, I did a survey with the with the students about actually Online Teaching and Learning. I sent an email-   . But one of the questions I asked the students was, if they are able to, to learn online, during the during the lockdown

More still, HL4 hinted that she had acquired specialist skills in designing and teaching interactive online courses including the usage of online tools such as wikis, Moodle , discussion forums

I have enabled both faculty and students'' usage of online interactive tools such discussing in forums or maybe making contributions in Wikis or uploading even their own videos in response to something the teacher has engaged them in or doing some project work like that. It is a lot of work.

THEME 4: DTL Institutional adaptability

More still, as part research question 2, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL4 was asked to share experience her institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change she evidenced above. I analysed theme 4 – 'DTL Institutional

adaptability' across three subthemes including; Mobilisation of workforce Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL4 What it was like to mobilise the workforce for DTL institutional adaptability. HL4 said that her institution was increasing management support. HL4 said that her Vice chancellor jointly with the institution management team were mobilising resources and faculty towards DTL.

> *what I know is that the VC is actually mobilizing both faculty and financial resources*

More still, HL4 hinted that her institution was identifying and recognising DTL Champions and redeploying them to encourage other stakeholders

> *I got two staff members. So I looked at the courses, and they were doing something relatively good. So I asked them to come and give us the teachers side of the view for the students for this incoming students so that maybe the students can prepare themselves that this is going to be a mode of teaching and learning. One day, I think you could see the enthusiasm also in those other teachers*

HL4 further indicated that her institution was conducting massive stakeholders' sensitization and capacity development workshops on DTL principles as well as influence change of attitudes and mindsets towards DTL

> *I think the focus right now is more of training stuff in developing courseware development. need a different attitude towards this new way of teaching and learning. if somebody does not change their attitude, the person would still use this the methods for teaching face to face*

More still, HL4 cited improved stakeholders' DTL support frameworks at her institution

> *I think, including me paying attention to supporting staff in using those resources they have developed for teaching and learning purposes*

HL4 further noted that her institution was improving its ICT infrastructure including internet connectivity and negotiating for zero rate internet connection from telecommunication companies. More still, her institution was also allocating data bundles to early responders as well as withdraw of data bundles from none responders

> *now ICT people said they are going to increase the bandwidth or the internet that we are having. So that will help them also increase the upload size we actually had zero rating on the on our websites. IT systems administrator said he stopped allocating data for some lectures in education because education people are the most culprits did not want to go online into the blended learning platform, I'm not going to give you internet. So he's he said the person involved is changed a bit.*

SUBTHEME 2: Financial Resource mobilisation

I further asked HL4, what it was like to mobilise the financial resources for DTL institutional adaptability. HL4 said that her Vice chancellor was reallocating resources from existing institutional budgets towards DTL given the fact that the government had not released any addition funds towards DTL at HEIs.

> *what I know is that the VC is actually mobilizing financial resources from existing budgets*

More still, HL4 indicated that her institution was joining available consortium for instance **Research** and **Education Network** for **Uganda(RENU)** were member institutions are able to pool infrastructure resources and make more saving at their institutions. Furthermore, HL4's institution was writing grants for instance Higher Education, Science and Technology (HEST)/ African Development Bank(ADB) project which supported both ICT infrastructure and Faculty capacity development

> *it was part of the ADB HEST5 where they had training and then they received I think some computer systems or the technologies to enhance the Online Teaching and Learning including that training*

SUBTHEME 3: Institutionalisation of DTL

I asked HL4 what it was like to institutionalize DTL at her institute, she referred me to part of the rethinking process were her institution was partially operationalizing the ODEL policy. HL4 still though that one of the best ways to institutionalize DTL was through recruitment of personnel to follow up on stakeholders which still her institution had not done yet.

> *I think for me, if they engage someone specifically for eLearning, that person would be able to implement some of these things as indicated in policy structure.*

Hl4 also urged that her institution was also not enforcing policy by enabling decentralized autonym amongst the stakeholders including faculty and students hence hindering adoption of DLT at her institution.

THEME 5: DTL gaps and mitigations

'DTL gaps and mitigations' was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions?

This section was aimed at identifying the existing leadership gaps as HL4's institution transitioned online so as that I could improve the situation with better procedures and methods through the design science. As part of research question 3, I ask HL4 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL4 said that given the fact that her institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. Therefore, along his narration of the challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps and Mitigations

Subtheme1 - 'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL 4 said that government ODEL status was paramount. HL4 wondered how the government was hoping to promote DTL by increasing taxes on education technologies including internet connectivity. She said that internet connectivity was already a major hindrance to DTL and therefore government direction to increase taxes was worsening the already bad situation hence reducing access and inclusion to education especially in the period of the COVID19 pandemic.

> *Did they even say that there's going to be a charge on internet isn't it? So I kept asking myself, this is the same government that wants people to go online. So you are increasing the charges and taxes on connection network. If staff are finding it challenging, what about students who do not have funds? Who are struggling?*

More still, HL4 expressed dissatisfaction towards government inadequate financial support towards DTL. She said that while the government was encouraging HEIs to take up DTL for business continuity, there were no additional budgets rather budget cuts.

> *I don't know how that issue of resources will be addressed, given the fact that the government actually even with the lockdown, they cut the budget. still telling people you go online as if online is without a budget, they never cater for that*

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL4's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. In acknowledgment of the gaps experienced, HL4 said that the major gap was created by the fact that his institutional leadership could not enforce the eLearning policy. In fact, HL4 said there existed a gap between policy and practice. Instead, her institutional leadership gave more lip service rather with nothing on ground.

> *there is a gap between policy and practice. policy is not being implemented. what I saw in the learning platform was not really what I expect it for an institution that said they had been using it right from the beginning. So anyhow, there is a lot of talk*

Also, HL4 said that his institution was experiencing a challenge of inadequate financial resources coupled with low students' enrolments also hinder its ability to generate enough revenues to support DTL

> *I don't know how that issue of resources will be addressed, given the fact that the government actually even with the lockdown, they cut the budget. still telling people you go online as if online is without a budget, they never cater for that yet the students are few Really? Maybe, I think less than; should be less than 1000 yet.*

HL4 further said that her institution was experiencing poor ICT infrastructure including unstable internet connectivity and low bandwidth which has discouraged many stakeholders including students and faculty to adopt DTL.

> *we have challenges with the internet of things, which makes some people also get discouraged.*

More still, HL4 asserted that her institution was also inadequately equipped in terms of personnel for eLearning resulting into delegation of eLearning workloads to other departments that were equally understaffed.

> *the resources in terms of personnel, the personnel on the ground that who would really help, to push things to follow things up to support staff and students on a day to day basis, which would be very useful, that one is not there*

Of course understaffing created other challenges including inadequate support systems. While it is prevalent that DTL is sustainable and diffusible through robust support structures, HL4 said that her institution had none available systems to offer support as needed by stakeholders.

> *we'll also need to shift to supporting staff in using that courseware for teaching and learning. How do they engage with the students, some of them even marking assignments online is still an issue?*

Furthermore, HL4 indicated that while her institution had conducted stakeholders' capacity development workshops, there were still in the initial stages with basically one weeks training which she deemed inadequate to inculcate enough pedagogical and ICT skills

> *part of it will also be gaps in training staff, the training was just for one week can't do everything, we were focusing on developing resources for teaching and learning. And you don't have any practice on how they use their resources for teaching and learning. So they were not taught, for example, how to mark assignments online. I remember looking at how they their assignments were submitted online students submit, but you don't see that it is feedback given to this today*

SUBTHEME 3: Mitigations

Subtheme 3- 'DTL Mitigations' comprised of the proposed leadership mitigations HL4's institution leveraged to reduce on the impact of the DTL challenges experienced for business continuity during the COVID19 pandemic. First, like all the other participant, HL4 was quick to address the government challenges towards DTL. She proposed that government needed to reduce or just remove the taxes that had been imposed on ICT infrastructure including the data rates that were becoming very costly for the stakeholders.

> *The Ministry of Education, maybe they need to subsidize or whatever the case, it is very expensive. If staff are finding it challenging, what about students who do not have funds? Who are struggling? Maybe they are dependent on someone who might even say okay, for me, the most important thing is feeding, your Internet of Things. I don't know. So the government really needs to do something about that internet, they are just shooting themselves in the foot by putting taxes on internet.*

Furthermore, HL4 advised that there was need for more government investments and budget allocations to HEIs for promotion of DTL through improved connectivity

> *So I think they need to consider moving a lot of resources to focus on that as well. Or at least to give budgetary considerations for online teaching and learning. The government also needs to address something about the internet.*

More still, HL4 said that there was need for increased stakeholders' engagements and sensitization to address the negative faculty and students' experiences of DTL at her institution

> *I think you can put everything and the students don't come to your eLearning course. Yeah. Then you get to find out from the students side , what is the issue? what are the challenges that makes them not to engage online? Is it just say they don't want or is it because they have had experiences that are not so positive? And if so, how would you address those experiences which are not so positive*

HL4 also proposed the need for her institution to improve stakeholder DTL support through recruitment of personnel for setting up, implementing and evaluating institutional DTL structures

> *So getting a person who is directly in charge of that would really help address that those kinds of issues. As I said, you would need to be close to those people find out what their challenges are, and show to them how, whatever they could do a little thing they can do can make maybe a big difference for the students.*

HL4 also proposed that her institution enforced mandatory 30% participation of all her stakeholders including faculty and students as stipulated in the eLearning policy

> *And then secondly, we also had in the policy, I think states that the minimum for a teacher really blend is 30% of the course should be online. That's the minimum. So in principle, everyone should really be online and should engage their students online as well.*

HL3: Individual findings

HL3 is aged 53 years, Head of the Distance learning department in his institution for 11 years.   His roles spans broadly general department management, faculty and students' mobilisation, scheduling and conducting face to face session and school practice, coordination of 15 centres as well as provision of ODEL advisory services to management. He possesses vast experience in traditional distance learning mode of delivery and has just started engaging with digitalisation of teaching and teaching after the invasion of Covid19. My interview with HL3, generally resulted in to 05 Themes and 15 Subthemes as illustrated below

THEME 1: Digital experiences

'Digital experiences' was a broader theme that emerged from research question 1 (RQ1). RQ1- What are the lived leadership experiences amidst transition from traditional to Digitalisation of Teaching and Learning (DTL) in Higher Education (HE)? The master theme examined how leadership made meaning of their lived digital experiences pre- and post-Covid-19 pandemic in Higher Education Institutions (HEIs). Master theme 1 examined what meaning HL3 made of his lived digital experiences pre and post-Covid 19 pandemic. HL3, had minimal digital experiences staring with covid19 lockdown, however he has been enabling and increasing access of education to dispersed environment through the use of print instructional materials. He was experienced in supporting distance learning and special needs students. To him DTL meant doing everything in electronic mode, part of it is online learning and the other part is where a student does self-service such as checking and finding his own results as marked by the lecturers. He further explained that DTL meant moving away from the traditional print pen and paper business into electronic systems. HL3 basically had a poor digital experience , and felt left out, ignored and less motivated during institutional DTL planning processes. However, he was prepared learn new knowledge about DTL. I analysed his digital experiences along four subthemes including; Sense of Visioning- pre-covid19, leveraging of existing Institutional strategies, Institutional Rethink, Neutral state of transition.

SUBTHEME 1: Sense of Visioning- pre-covid19

He alluded to the fact that he started working with the traditional ODEL at his institution in 2000 using basically print materials. HL3 said that it was until the invasion of the COVID19 pandemic that his institution started considering digitisation of teaching and learning. HL3 said that initially his institution through the Distance learning department run 15 centres across the country to support the in-service students away from the institution.

> *Digital experiences here are very minimal. As I told you earlier, we are more into the traditional way of doing it,- print mode, the digital experience is beginning now to come in , one form of DTL is that we trying to upload these study materials into the LMS. That's how we're trying to do it now, because of this pandemic. But all along, we have never been into the digital watermark.*

However, HL3 asserted that preCOVID19, his institution had exhibited a sense of disinterest, inadequate acceptance and almost rejection and none recognition of the then distance learning mode of delivery and therefore most of his time was spent lobbying management for support. HL3 said as result he felt ignored as he had to continuously and repeatedly educate and sensitize stakeholders including management and faculty

> *many things about distance learning, a matter of seeing that word will be thrown here, somebody that's not even the read. It might not even be something you that is supposed to be handling in this department, but somebody just says - haa , just throw it to the department Yeah, you know, you have to lobby management, for example, let us go to a, basic level- having these gadgets -your computers and connectivity, it took us a lot of time to have it , that aspect of lobbying and requested here and there . You keep on educating management about DL. You keep going there and explaining every now and then So there's all that lobbying, there is all that you know all the time educating people. explaining about what DL is, etc.*

Therefore, when his institution went digital, his department was left out of the planning sessions as his institution continued to pay little attention and consideration to traditional Distance learning issues.

> *when the university went in on digital, with the conventional programs, this department was left out. it was the last to be considered. at a very low level ODEL consultation , like you are a consumer , And, yeah, it was done at a certain level*

On the other hand, though, HL3 was aware that his institution had an e-Campus online platform that allowed for two functionalities namely Learning management system (LMS) and records management including online students' admissions, registration and tuition payment etc.

> *the university has what we call e- compass. And of course, when students get out of this place, they go through maybe other platforms to access it. That is e-campus has got the learning management system, it has many things such as admission of students' registration, payment of fees etc.*

HL3 also said there exited an ODEL policy at his institution to guide the procedures of traditional distance learning.

> *It used to be there when this ODEL was started, but it was a weak one. It was not addressing many things that we are seeing today, it was not very comprehensive*

SUBTHEME 2: leveraging of existing Institutional strategies

HL3 was asked the about the outcomes of the prior DTL institutional structures in the face of COVID19 pandemic where all education institutions under the presidential directive including his institution were required to close due to a lockdown to curb the spread of the covid19 pandemic. He hinted that his institution experienced; HL3 acknowledged that the print instructional materials enabled learning to continuing at the distance learning department but not the rest of the institution during the Covid 19 pandemic. The distance learning students were able to pick their well pedagogically developed materials from the institutional learning centres across the country

> *Yeah, because if students got any study materials or the module, they would read on their own . because that module is a teacher. So when I have it i can study , it's written in such a way that they are really interactive to read on their own and be able to do certain things, although at a certain point, you will really need some voice- or some face seeing your lecturer, your tutor, your facilitator once in a while, be it on phone or email to guide you, to tell you something about it.*
> *Yeah, of course, just because we were University, the advantage of the students of Distance Learning have is that they have their study materials, whereas here they have to wait for the lecturer's face to face. Of course. it helped to send out modules and students accessed them from the coordinating centres PTCs and read on their own.*

However, HL3 noted that his departmental academic schedules were disrupted and they have been unable to conduct any face to face sessions update. Majorly because of the various restriction such as Standard Operational Procedures (SOPs) and limited movement.

> *yeah, it really disrupted our planning , because we have a kind of schedule for face to face sessions each given academic year, say for example, there are programs like diploma in special needs education, Jan ,May, August, September are face to Face sessions. It disrupted up to day,*

there are so many restrictions that came in, first of all, you know, that the standard operating producers-SOPs , and whatever it was kind of difficult, we couldn't go out, we were just here and maybe the other big piece

HL3 was expressed worry about the very complicated situation and sought that students could get frustrated and cross to other programmes or even to other institution

as they come you bring this group of teachers the other group is teaching it became so complicated. And we are worried that some of our students may have to cross to other programs and institutions.

SUBTHEME 3: Institutional Rethink

After the failed attempt to leverage the existing projected institutional DL strategies, his department in collaboration with the institution was able rethink and forge a way forward. The rethinking process involved;   HL3 asserted that despite the fact his department was ignored during the planning stages, his institution acquired the National Council of Higher Education (NCHE)Open, Distance and eLearning (ODEL) accreditation to guide and streamline the roll out of digitalisation of teaching and learning. As part of the operationalisation of the NCHE ODEL accreditation, HL3 said his institution reviewed the ODEL Policy so as to improve its affordances to cater for digitalisation.

It used to be there when this ODEL was started, but it was a weak one. It was not addressing many things that we are seeing today, it was not very comprehensive.

Furthermore, HL3 said his institution started massive faculty mobilisation and capacity development including designing and uploading online content on the LMS, zoom, Google classrooms WhatsApp.

That's the time now the university decided to serious online business, training staff and Asking staff to transform some of the courses into online. That's the time now the university decided to train staff. one form of DTL is that we trying to upload these study materials into the LMS

More still, HL3 indicated that his institution through the directorate of ICT had established an online support framework including designated persons to assist staff on different online functionality such as designing and upload content and students results on the e-campus platform.

We have continued, but we are assisted by the, what we call a Directorate of ICT in the university. There are people who help us on specific aspects. When it comes to results, there are people who will come and help us and design the format for distance learning, and so forth

HL3 further said that his institution was pronouncing itself on the newly found direction of DTL to counteract the stakeholders' poor mind sets and attitudes. However, there exited none mandatory pressures from his institution

resistance with time will decrease, keep talking to people keep on telling people that, you know, we're moving. And then also training people, on how to go about it is crucial. advocating for it, speaking about it. And then the policy of course aspect has come in. the policy on online.

SUBTHEME 4: Neutral stage of transition

HL3 hinted that his institution was able to rethink, strategize and redeploy. HL3 asserted that his institution was at the start of DTL transition gradually moving from the manual to basic digitalisation.

the digital experience is beginning now to come in , one form of DTL is that we trying to upload these study materials into the LMS. we are transferring all our students into the university data system, whereby they do everything online registration, this prospective oneself to apply online you know, instead of the previous model of real manual thing.

More still, HL3 said that his institution was oscillating in between the traditional and digitalisation of teaching and learning awaiting collective acceptance of all stakeholders.

Because the other part the digitalization is a welcome idea. But on the other part of it, there are some people who are saying no, we still want to remain. That is why we are even delayed to our many programs being converted to online because all that feeling and attitude of staff

however, HL3 was quick to note that along the redeployment a fewer conflicts started arising with less impact as compared to the pervious time. HL3 noted that his institution partially operationalised the NCHE ODEL accreditation as his institution could not ably guide on what percentage of programme could be constitute online or face to face

> *But he, you know, the accreditation just stated that this course will run online and face to face but no specific percentage was indicated. But you don't say, what, how much online? How much is most of our curriculum? Because NCHE does the accreditation and all that. They just want to see that write-up but going down to those details, I have not seen anything on the programs. it's not giving a definite percentage of what this program should be online, and how much should we face to face?*

HL3 said that while faculty was able to upload some content online for the students, the students could not ably access the uploaded content majorly because the online students' registration was unsuccessful to enable access for students to the uploaded materials

> *We also attempted and uploaded some of this modules- study materials into online but the students could not access them online. First, all needed to be registered by the university online and accounts created for them, like, you know, the usernames and passwords. We attempted it, but it didn't work out well*

More still, HL3 indicated that his institution experienced a challenge in mobilising stakeholders including poor attitudes towards DTL

> *Yeah, mobilisation is still a big challenge a big push. you know, training is one thing. adapting is another. It's a slow, slow pace thing, slow paced even delayed our many programs being converted to online because all that feeling and attitude of staff*

THEME 2: Evolved institutional culture

'Evolved institutional culture' was a broader theme that emerged from research question 2 (RQ 2). RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? In order to understand how leadership was adapting to the changing HE landscape as a results of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL3 was asked how the process of DTL integration had evolved his institution. I analysed theme 2- Evolved institutional culture digital along four emergent sub themes including; Evolved channels of institutional communication, Evolved mechanisms of institutional operations, Institutional DTL advocacy and, Emergence of virtual teams.

SUBTHEME 1: Evolved channels of institutional communication

HL3 said that his department was still using a face to face approach for meetings with 15 centre managers and faculty during board and committee meetings. However, with the invasion of COVID19 pandemic, physical meetings have been suspended.
> *Yeah, we have people that we always meet, these are the team leaders. For each centre, we have 15 team leaders. So we have to meet them physically. They're 15, we meet them physically discussing issues, maybe results issues, maybe how to run following or next to face session. I have to be in physical meetings in the Faculty of Education because all our results are channelled through faculty of education for further discussion. However, No! we are not even supposed to be meeting here, Yes. Right. And now they have suspended physical meetings*

More still HL3 asserted that Information dissemination was still traditional given the fact that they had not started engaging with the centres on zoom

> *We cannot get them anywhere, we can only send information. still don't have a zoom meeting to the centres. No, we don't have anything in the centres*

However, HL3 urged that bureaucracy structures within the school were starting to breakdown as it was then common to communicate using social media with Dean though he was quick to attribute it to the personality traits

> *bureaucracy is very high at institutional levels but my Dean , I can communicate to her, she likes it. Again, its personality and all that. And I THINK other DEAN'S may also be doing that*

SUBTHEME 2: Evolved mechanisms of institutional operations

HL3 further said that because of the COVID 19 invasion, his institution was operating at 30% office attendance but working has continued at home.

> *In an office like this, there must be only 30% of staff. That's why you see most of the doors are closed. I think we are only 3 who are around.*

However, asserted that his institution was at the start of DTL transition gradually moving from the manual to basic digitalisation.

> *the digital experience is beginning now to come in , one form of DTL is that we trying to upload these study materials into the LMS. we are transferring all our students into the university data system, whereby they do everything online registration, this prospective oneself to apply online you know, instead of the previous model of real manual thing.*

And therefore all students were continuing with learning at their own pace using study materials and a few online resources.

> *our students are teachers, teachers who are ready diploma and others who are going for degree. So they're in their schools, they're studying their modules if they have, they have to study on their own at the moment.*

Hl3 also noted that online support had become a major institutional functional area.

> *Designated persons to assist staff on different online functionality including results / designing online materials, ODEL support*

SUBTHEME 3: Emergence of virtual teams

Furthermore, HL3 indicated his institution was encouraging and providing guidance on working at anywhere or home as virtual teams started emerging

> *I think institute is literally just moving towards what is happening the rest of the world . You see as University you don't need to stagnate in one position, you have to move on. You know, this thing of coming to the office and all that , you should not be seen all the time in the university , this must change. You don't need to be in order to teach i can teach in my sitting. if really we embraced digitalization online you can do it anywhere.. So even here, you don't need to be here for teaching to be effective*

THEME 3: Evolved leadership Capacity

As part of research question 2, RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? HL3 was further asked how digitalisation had changed him at a personal level in terms of his leadership roles, practices and skills. HL3 asserted that digitalisation had evolved him personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills

SUBTHEME 1: evolved Leadership roles

I asked HL3 how his digital had evolved his leadership roles. HL3 identified as a role model who therefore needed to learn fast and live exemplary before his colleagues

> *I have to learn, because I must be an example, a role model to others.*

SUBTHEME 2: evolved leadership practices

I asked HL3 how his digital experience had evolved his leadership practices. HL3 said that was then cognisant of the spirt of collaboration and therefore was jointly training with other staff

> *I have to go through training with a few colleagues*

More still, HL3 further asserted that he had discovered that more learning was required to enable DTL transition hence the need for continuous professional development.

whole lot of learning, learning. And it continues because you will never be perfect by just, you know, going to one training session or coming up like that

SUBTHEME 3: leadership skills

I asked HL3 how his digital experience had evolved his leadership skills. HL3 said that he had acquired new skills including designing and teaching online courses and, LMS navigation.

I have to learn a number of this things and you know, how to develop study materials of the online
HL3 hinted that he was considering learning new online things such as e-campus and its functionality as well as how to upload and present students results on e-Campus

We have to get to know the e-campus, how it is functioning how students are registered, enrolled and so forth, Learn how to upload students and present on e-campus
More still , HL3 said that he had gained collaborative skills as he worked and consulted others about certain online skills .

THEME 4: DTL Institutional adaptability

More still, as part research question 3, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL3 was asked to share experience his institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change he evidenced above. I analysed theme 4 – 'DTL Institutional adaptability' across three subthemes including; Mobilisation of workforce Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL3, what it was like to mobilise the workforce for DTL institutional adaptability. HL3 said that while there exited faculty resistance towards the institutional digitisation, mobilising at his department was easier as faculty viewed his side as an additional token to their institutional responsibilities

to mobilize people to come on this external program, many people are interested, because they are paid very fast, before you go, the money's already in your account, and many people want to join us because it's another additional source of income. call these people as part timers, recruit them, even when it comes to writing that book, study material, pay them when produce the material.
On the other hand, though, HL3 asserted that for massive mobilisation and continuous capacity development, Senate usually made all the announcements for capacity development but the responsible departments included ODEL and directorate of ICT.

First of all, we had a general training that was announced by the management of the university, Senate After that, if a faculty or school wishes to have their staff trained again, they conduct us with the directorate of ICT ,we go and help them we go and support them.
More still, HL3 indicated that his institution through the directorate of ICT had established an online support framework including designated persons to assist staff on different online functionality such as designing and upload content and students results on the e-campus platform.

We have continued, but we are assisted by the, what we call a Directorate of ICT in the university. There are people who help us on specific aspects. When it comes to results, there are people who will come and help us and design the format for distance learning, and so forth

HL3 further said that his institution was pronouncing itself and advocating for the newly found direction of DTL to counteract the stakeholders' poor mind sets and attitudes. However, there exited none mandatory pressures from his institution

resistance with time will decrease, keep talking to people keep on telling people that, you know, we're moving. And then also training people, on how to go about it is crucial. advocating for it, speaking about it. And then the policy of course aspect has come in. the policy on online.

SUBTHEME 2: Financial Resource mobilisation

I asked HL3, what it was like to mobilise the financial resources for DTL institutional adaptability. HL3 asserted that his institution majorly mobilised funding through sstudents' tuition payments as well as government funding

we are purely dependent on the students' payments. our budget is funded by students currently
I think there's a little contribution from government as well.

SUBTHEME 3: Institutionalisation of DTL

I asked HL3, what it was like to institutionalise DTL. HL3 asserted that, as part of institutionalising DTL, his institution had acquired the National Council of Higher Education (NCHE)Open, Distance and eLearning (ODEL) accreditation to guide and streamline the roll out of digitalisation of teaching and learning. As part of the operationalisation of the NCHE ODEL accreditation, HL3 said his institution reviewed and was gradually enforcing the ODEL Policy. More still, HL3 indicated that while DTL was being considered second priority globally before COVID19 pandemic, his institution had declared DTL a survival tactic and was calling for a paradigm shift amongst its stakeholders

all over the world distance learning was considered as a second priority. But now, it is no longer about that. It is just a paradigm shift, COVID has taught us, you know, we could even change

HL3 further hinted that his institution's DTL adoption was inclusive of special needs students through usage of transcribing software such as biliary to aid the special needs.

we have biliary production in the University. the study materials must be taken there for brain/ transcribing for the blind or someone can hire a live reader. we used to give some   equipment like the hand frames

THEME 5: DTL gaps and mitigations

DTL gaps and mitigations was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? This section was aimed at identifying the existing leadership gaps as HL3's institution transitioned online so as that I could improve the situation with better procedures and methods through the d I followed the design science. As part of research question 3, I ask HL3 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL3 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. Therefore, along his narration of the challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps and Mitigations

Subtheme1 - 'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL 3 said that government ODEL status was paramount. HL3 said that previous none recognition and appreciation of DTL by National Council of Higher Education(NCHE) the national regulator of higher education had negatively affected his institutional adoption and implementation of DTL pre COVID19 pandemic. More still, HL3 noted that the government was also not supportive as its pronouncements towards the streamlining DTL were misleading and misaligned which frustrated and created a lot of anxiety hampering digital transition in the education sector

Initially as a nation we did not have any guidelines on DTL , but when covid19 came , government and NCHE gave none coordinated inform to HEIs , sometime even discouraging early responders

Furthermore, HL3 urged that there existed inadequate NCHE DTL support and monitoring as numerous institutions were seen to present reports on none existing DTL implementations and frameworks as there was nothing on ground

No work on ground / It's all talk, no results. Let me tell you this " public universities are Just talking about online, it's not there. But when, they write reports, very good reports.

HL3 further noted that governmental revenue collections on behalf of HEIs through the National revenue authority was hurting institutional resources and budgets and therefore limiting ICT investments

> *I don't know if institutions of higher learning are left to collect their revenue, I don't know whether they do it easily other than now, when government takes all their money and they are set according to the budget they have submitted*

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL3's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. In acknowledgment of the gaps experienced, HL3 said that none enforcement of policy and attitude created decentralised autonomy for DTL

> *issue of policy and attitude? policy is strong enough, policy saying it must be like this, it will be done , the people will have to do it , but policy plus attitude out there and it is nobody's interest.*

Furthermore, HL3 asserted that there existed superficial online learning in public universities but falsified institutional DTL reports and no work on ground just too much talk.

> *let me tell you this " public universities are Just talking about online, it's not there*
> *But when, they write reports, very good reports.*

HL3 also said that there exited inadequate infrastructure characterised by unstable internet connectivity both at the institution and in the community. He further asserted that while there was free institutional it was sometimes very poor.

> *then the other bit is, you know, we talk about online learning, but internet coverage, I don't know how it is in your institution. But for us here, in some places its scanty and difficult to access it. You find people come to this veranda because it is easier. You'll find them in both places, some places you can't. So that connectivity aspect discourages many people*

More still, HL3 attributed the poor ICT infrastructure to none prioritising of DTL through budget allocations and said that his institution had not invested enough.

> *Let me tell you, management looks at some of these things as a cost. There's a cost implication Where do we get that money to have internet connectivity throughout? Where is that money to purchase these computers? These lecturers want? the cost issues nobody can now say am putting my money and teach. Yeah,*

HL3 was able to identify that his institutional management styles were still situated in the traditional face to face setting of the university.

> *the management style. See, if management is geared toward certain things, takes time for them takes to go digital. it will be there talked about, report written you go and talk on radio, whatever. But if that's not their management priority.*

HL3 further said that the tradition leadership styles were characterised by bureaucratic tendencies that were not best fit for digitalisation that allows for flexibility.

> *As who? I must First of all have to share with the Dean , and its my dean say write it through the dean , if I sent it directly , it would automatically be returned with a verification if my dean is in the know. - bureaucracy is very high*

More still, HL3 noted that there was none strategic representation and consideration for DTL staff and as such his institutional leadership was inadequately informed on the DTL needs

> *at a very low level , like you are a consumer , And, yeah, it was done at a certain level*
> *So accreditation issues may have been done there*

Subtheme 3: DTL Mitigations

Subtheme 3- 'DTL Mitigations' comprised of the proposed leadership mitigations HL3's institution leveraged to reduce on the impact of the DTL challenges experienced during the COVID19 pandemic for business continuity. HL3 proposed that the government decentralises tuition revenue collections back to the HEIs to enable automatous ICT investments.

I have said priority, I don't know if institutions of higher learning are left to collect their revenue, I don't know whether they do it easily other than now, when government takes all their money and they are set according to the budget they have submitted

More still, HL3 recommended that need for NCHE to support and monitor DTL integration in HEIs so as to curb DTL none compliance

I think National Council needs really to come down and follow most of the things, although they are overwhelmed. You know, because of many universities that are coming up now. You know, they really need to come and check on certain things to say, are you really doing it or you're just talking? The monitoring aspect of it is the crucial part

HL3 also proposed that there was need for institutions to empower faculty in determining the percentage of how much their curriculums would be conducted both online and face to face.

empower faculties to really determine how much percentage of academic programmes can be run online. Okay, empower them. Give them that authority

Furthermore, HL3 recommended the institutional constitution of monitoring and evaluation system at different institutional levels including top management, deans and heads of department as well as students' guild levels

then monitor, use trackers, can the academic registrar debate and deputy VC be able to monitor. and say yes, this faculty is doing this and the other is doing that

HL3 also recommended a phased approach in adopting DTL so as to reduce on stakeholders' pressure including the institution, faculty and students

also maybe instead of having covered the whole university at once, may we could begin with a few faculties and then we learn from them, may be it would have been better I don't know?

Finally, HL3 proposed that University leadership should not be based on professorship but business management skills and therefore called for revisit of the recruitment requirements for university leadership to enable DTL adoption.

Firstly, we need to look at who should be a leader in a university. the university, change our thinking, you want to get an old professor of chemistry or whatever say this is the VC . may be we need to get managers for these institutions or having a training for managers for institutions of higher learning or something like that. I don't know. I think we need to revisit that. Maybe I don't know. everybody knows much about these things but adamant. They remain same , let it be done by the faculties . I don't know how many times our mangers here have addressed us on some of these things , there are up there

HL2: Individual findings

HL2 was aged 67 years. Currently a Vice Chancellor of the University and the position puts him at the helm of the institution as the overall finance, academic, and chief administrator of the university. HL2 was in charge of all aspects of the university. His daily roles involved activities related largely at a monitoring and support levels. He was the chief executive and reported directly to the University Council. So ordinarily every day, he spent his time in meetings of management, monitoring the various activities in the units, or in meetings of council, reporting about the various activities in the university. HL2 further said that at times he took time to interact with members of the university, various stakeholders of the university, both within and outside the university for purposes of resource mobilization and advocacy and the enhancing the visibility of the university

The conversation with HL2, generally resulted in to five Themes; 1) digital experiences, 2) evolved institutional culture, 3) leadership capacity, 4) Institutional adaptability and 5) DTL gaps and mitigations and; a total of (15) sub themes as illustrated below

THEME 1: Digital experiences

HL2, had a wealth of digital experiences managing an institution that leveraged ICT for improved service delivery including management information systems and blended learning. He conceptualised the meaning of digitalisation of

teaching and learning(DTL) as the usage of technology to enable the faculty teach the students either in the classroom or outside and it required three areas for it to be successful including:

a) designing of content for teaching and learning which involved the reconstruction of interactive and self-study instructional materials online.
b) The designed teaching learning content should be accessible by both the faculty and the student
c) Requires a support framework in place aid the teaching and learning process of both faculty and students

I analysed his digital experiences along four sub themes including; Sense of Visioning, leveraging of existing Institutional strategies, Institutional Rethink and, Neutral state of transition.

SUBTHEME 1: Sense of Visioning/ pre covid19 strategies

He alluded to the fact that his institution had since 2000 hosted a video conference facility connected to over 128 countries across world.

We have a video conference facility that is connected to over 128 countries world wide

Which he said set a base for the current distance learning department that offers blended learning programmes and therefore his institution had included online learning as a major pillar in the strategic plan 2020- 2025.

Inclusion of DTL in our strategic plan and actually its one of the pillars of our strategic plan 2020/ 2025

More still HL2 asserted that digitalisation of teaching and learning at his institution was not catalysed by the invasion of COVID19 pandemic rather enhanced as DTL depended on demand and supply. HL2 further asserted that rather than the ICT policy, his institution had enacted a regulatory policy framework including two policies to support and guide the integration of digital technologies in its teaching and learning. The polices included the Open, Distance and eLearning (ODEL) policy 2015 and Technology Enable Learning(TEL) policy 2020

DTL was not new in the covid19 period , the institute had already embarked on DTL , through polices , and an ODEL coordinating unit , however the extent of integration depended on demand and supply, and besides HEI s depend on government guidance,

More so, HL2 said that while ODEL policy was aimed at guiding the integration and adoption of the blended learning mode delivery at his institution, the TEL policy guided the integration of digital technologies in both the traditional face to face teaching and ODEL classes.

The institute has adapted a blended approach to DTL- which has involved the integration Of TEL in both the traditional and ODEL classes

Furthermore, HL2 asserted that his institution had invested heavily in its ICT infrastructure including ICT support, well equipped and interconnected labs and , a stable on campus internet connection to support online teaching and learning

have very strong support of the ICT function- The institute has been put in a situation where it has massively Digitalised our teaching and learning

HL2 further indicated that his institution was using the AIMs for students' online admissions, registration and record keeping.

using of AIMs – admissions fully online , with a tradition id but digital Bio data
Some components of the AIMS are centralised nationally and difficult to follow up , the suppliers of the systems don't offer after sale services

More still, HL3 said that his institution had periodically conducted massive stakeholder DTL orientation and capacity development workshops to inculcate designing and teaching online course skills.

Orientation of whole stakeholders on how to prepare and use the content, you need to change the mind-sets of stakeholders

HL3 further said that his institution had in place an ODEL and ICT support frameworks

We have very strong support of the ICT function.

On the other hand, though, HL2 reported that while DTL implementation and integrations were driven by stakeholders needs, availability of institution funds as well as priority, his institution was challenged with low enrolments as HEIs found it difficult to attract students for online learning

> *All these DTL integrations are informed by needs, funds / priority students enrolments are still low , HEIs have found it difficult to attract students for DTL*

SUBTHEME 2: leveraging of existing Institutional strategies

HL2 was asked the about the outcomes of his existing DTL strategies in face of the COVID19 pandemic where all education institutions under the presidential directive including his institution were required to close due to a lockdown to curb the spread of the covid19 pandemic. He hinted that his institution experienced; First, HL2 asserted that COVID19 was a new phenomenon and everyone was scared. HL2 further said that the whole education system in the country was paralysed given the fact that the government communications and direction amidst COVID19 were contradicting and misleading. Therefore, his institution experienced difficulty in leveraging the existing DTL strategies for business continuity.

> *The continuity of Teaching and Learning during covid19 using DTL, was difficult, Covid19 was a new phenomenon/ we were all scared and government pronouncements were very misleading on engaging in online learning.very little information on TL was being provided , Govt / MOE seemed disorganised and up to now its negatively affecting   the uptake of ODEL,*

HL2 further said that his institution experienced a sense of frustration and anxiety as there were no National DTL regulatory framework direct the HEIs on the next course of action.

> *There was a partial continuity after one-month period, however a very frustrating situation currently, there existed a capacity gap from the National to institutional level*

However, HL2 said that his institution was able to partially continue tteaching and learning. HL2 said that while the traditional face to face section was unable to continue business, the administrative arm of the institute including the distance learning programmes, research proposal & ViaVoc defences were uninterrupted

> *prior to covid19, the institute had already embarked on using DL , the students on DL were not affected*

More still, HL2 said that his institution experienced major setback including inadequate funding and reallocation of resources

> *We also experienced major setbacks in many activities due to resources reallocation*

HL2 further asserted that while, institution had periodically developed its stakeholders' DTL capacity, it had been on optional basis not covering the whole institution. Therefore, his institution was faced inadequate faculty and students DTL capacity development

> *Academic departments to be empowered to develop instructional materials*

Despite all the setback, HL2 asserted that there was increased enthusiasm among the stakeholders in embracing DTL

> *Our overall outcomes of the above interventions, it has increased enthusiasm of the stakeholders in embracing ODEL*

SUBTHEME 3: Institutional Rethink

After the failed attempt to leverage the existing institutional DTL strategies, HL2's institution was able to rethink and forge a way forward. The rethinking process involved; Acquisition of the National Council of higher education (NCHE) Open, distance and eLearning (ODEL) accreditation. HL2 said his institution constituted an online deliver committee which enabled institutional acquisition and operationalisation of the NCHE –ODEL accreditation.

> *We have put in place an institutional committee, acquired NCHE ODEL accreditation, strengthened our ICT infrastructure, designed instruction materials*

With the aid of the governing council pronouncements, HL2 also said that his institution was undergoing a paradigm shift from previous institutional thematic areas to supporting DTL and ICT infrastructure

Through council pronouncements, decisions have to be taken to acquire and embrace the council direction, every institutional policy must reflect the decisions of council , you see if want something to be done , redefine.There has been a shift of emphasis from previously identified institution thematic areas to supporting DTL and ICT infrastructure

HL2 said that the operationalise NCHE –ODEL accreditation involved the strengthening, upgrading and optimising of existing ICT infrastructure.

The institute has been put in a situation where it has massively Digitalised our teaching and learning

And soliciting for stakeholders buy-ins allowing for stakeholders' convictions without coercion. HL2 was however quick to note that there existed a sense of collective responsibility at his institution

Stakeholders have to acquired enough convictions , you cannot coerce them , you need to persuade and counsel to create commitment .however my institution has an institutional sprit and culture , where people believe that through participating in the institutional activities , they are making a contribution - hence a positive attitude leads to commitment and responsibilities

As well as intensive massive faculty and students ODEL capacity development and sensitisation.

Intensive training, sensitisation and innovation, people have to buy-in , you cannot force anything in academics. Massive sensitisation, get everybody on board and leave no body behind.

SUBTHEME 4: Neutral stage of transition

HL2 hinted that his institution was able to rethink, strategize and redeploy and a number of achievements were recorded including; an increased uptake for digitalization, especially in teaching and learning

However, after COVID-19, we are seeing an increased uptake for digitalization, especially in teaching and learning.

HL2, further said that his institution was able to create DTL awareness and capacity capability to 100% of faculty as compared to 75% and All faculty and students are able to use synchronous (Zoom) classes and asynchronous Virtual Learning environment (VLE)

We've been able to have an awareness of the entire university, over 3000students are now aware about the concept of order, open distance and elearning. And I could say also 100% of all the stuff at the university now have awareness about the concept of order.

More still, as result for the institutional rethink, HL 2 urged that his institution was able to get back to its feet for business continuity using DTL using both synchronous (Zoom) classes and asynchronous Virtual Learning environment (VLE)

Because of COVID-19 pandemic, initially all education institutions had been closed. And with the support from ODEL techniques and approaches, we were able to lift our institution, get back to the feet again. For the second lockdown institute has continued to deliver online

however, HL2 said along the redeployment a fewer conflicts started arising as compared to the pervious time;

HL2 said that he was worried and uncertain of the type of future learning outcomes given the high speed of transitioning from traditional to DTL as well as reduced human contact in the teaching and learning cycle

am worried about the future outcomes of teaching and learning because the transition is very fast and challenging. There has been a decline of human contact for the students and faculty, yet it's very important for teaching and learning

Mores still, HL2 asserted that his institution experienced stakeholders' resistance towards DTL including difficulty influencing poor mindsets and the older persons that feared technology.

A lot of challenges, resistance to change by most stakeholders
Convincing stakeholders on the online direction is difficult. Old people fear technology

HL2 further noted that his institutional stakeholder including faculty and students were face with a challenge of poor infrastructure and unstable Internet connectivity in their communities.

> *Boosting of the Institute infrastructure and provision of data bundles for facilitators. However, there seems to be underlying challenges of high data costs, unstable internet and power connections on the students' side which may need to be addressed by the government*

HL2 also said that his institutional stakeholders possessed inadequate skills and therefore were slowly adapting to the newer technologies such as Zoom, Ms Teams and the virtual learning environment. However, were in preference of alternative technologies such as WhatsApp and YouTube

> *Some stakeholders possessed inadequate skills, fear of technology tools such as VLE, zoom but like WhatsApp*

THEME 2: Evolved Institutional Culture

HL2 was asked how the process of DTL integration has evolved his institution. He said that his institution had experienced the following changes;

SUBTHEME 1: Evolved channels of institutional communication

HL2 said that his institution was experiencing new trends of online communication including the emails, WhatsApp however a hardcopy was still being filed for authenticity

> *Communication is being done online , however I still down load the emails and solicit for signatures on a hardcopy to make it authentic . Keeping both online and hardcopy for verification.*

More still, his institution had adopted online meetings using Zoom and other videoconference facilities

> *In means working from home / pple are able to hold meetings/ students can be taught from everywhere any time , especially during the time of convid19 , Using zoom meetings to hold institute meetings*

SUBTHEME 2: Evolved mechanisms of institutional operations

HL2 asserted that digitalisation had created flexibility and ease of work which enabled his institution to conduct virtual activities including teaching and learning as well as graduation however he hinted that he was missing out on personal conduct.

> *Technology has made work faster , graduation was held online , admitted students online , saved resources , reducing on risks of travelling long distances; however I miss networking face to face , person touch , graduation should remain on zoom*

More still, HL2 noted improved monitoring and evaluations systems for the online teaching and learning across his institution

> *Work has become easy - it is now very easy to monitor the process of T/L for whole institute*

SUBTHEME 4: Emergence of virtual teams

HL2 said that with the emerging of remote working, his institution was HRM online guidelines including the government circulars that guided on remote working

> *The HRM has very clear guidelines on remote working which has become the new normal. also the government circulars have provided remote guidelines of 30% office attendance*

More still, HL2 asserted that his institution was providing data bundles to support the faculty to teach online away from the institutional premise

> *Boosting of the Institute infrastructure and provision of data bundles for facilitators*

THEME 3: Evolved leadership capacity

As part of research question 2, RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? HL2 was further asked how digitalisation had changed him at a personal level in terms of his leadership roles, practices and skills. HL2 asserted that digitalisation had evolved him personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills.

SUBTHEME 1: evolved Leadership roles

I asked HL2, how digitalisation had changed his roles, which he said that was expecting his practices and skills to change but not his roles. Given the fact that leadership roles of a head of university are the same world wide

SUBTHEME 3: leadership skills

More still, I asked, HL2, how his leadership practices had evolved over time as he engaged with digital technologies. HL2 indicated that he was learning new things including online management of his institution '''*Massive acquisition of knowledge and technical skills of DTL*

THEME 4: DTL Institutional adaptability

More still, as part research question 3, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL2 was asked to share experience his institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change he evidenced above. I analysed theme 4 – 'DTL Institutional adaptability' across three subthemes including; Mobilisation of workforce Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL2 What it was like to mobilise the workforce for DTL institutional adaptability. HL2 said that his institution was soliciting for stakeholders buy-ins allowing for stakeholders' convictions without coercion. HL2 was however quick to note that there existed a sense of collective responsibility at his institution

> *Stakeholders have to acquired enough convictions , you cannot coerce them , you need to persuade and counsel to create commitment .however my institution has an institutional sprit and culture , where people believe that through participating in the institutional activities , they are making a contribution - hence a positive attitude leads to commitment and responsibilities*

As well as intensive massive faculty and students ODEL capacity development and sensitisation.

> *Intensive training, sensitisation and innovation, people have to buy-in , you cannot force anything in academics. Massive sensitisation, get everybody on board and leave no body behind.*

SUBTHEME 2: Financial Resource mobilisation

I asked HL2 What it was like to mobilise financial resources for DTL institutional adaptability. HL2 said that his institution was reallocating of existing resources towards DTL. However noted that it was a tedious and long process, moving of resources from one vote to another

> *A lot budgetary reallocations, heavy investments in DTL. There has been a shift of emphasis from previously identified   institution thematic areas to supporting DTL and ICT infrastructure*
> *Budgetary   reallocation in a public institution is very tedious, moving of resources from one vote to another take a long process , basically structural   issues are very huge .*

Also, HL2 asserted that his institutional budget sources included tuition fees, consultancies, short courses, Research as well as government and donor funding
> *our main budget sources include tuition fees, consultancies, short courses, Research   and Government funding/ donors*

SUBTHEME 3: Institutionalisation of DTL

Furthermore, 1 asked HL2 What it was like to institutionalise DTL. HL2 said that institutionalisation of DTL had involved the acquisition of the National Council of higher education (NCHE) Open, distance and eLearning (ODEL) accreditation. HL2 said his institution constituted an online deliver committee which enabled institutional acquisition and operationalisation of the NCHE –ODEL accreditation.

> *We have put in place an institutional committee, acquired NCHE ODEL accreditation, strengthened our ICT infrastructure, designed instruction materials*

With the aid of the governing council pronouncements, HL2 also said that his institution was undergoing a paradigm shift from previous institutional thematic areas to supporting DTL and ICT infrastructure

> *Through council pronouncements, decisions have to be taken to acquire and embrace the council direction, every institutional policy must reflect the decisions of council , you see if want something to be done , redefine.There has been a shift of emphasis from previously identified institution thematic areas to supporting DTL and ICT infrastructure*

HL2 said that the operationalise NCHE –ODEL accreditation involved the strengthening, upgrading and optimising of existing ICT infrastructure.
> *The institute has been put in a situation where it has massively Digitalised our teaching and learning*

THEME 5: DTL gaps and mitigations

'DTL gaps and mitigations' was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? This section was aimed at identifying the existing leadership gaps as HL2's institution transitioned online so as that I could improve the situation with better procedures and methods through the design science. As part of research question 3, I ask HL2 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL2 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at national and institutional levels. Therefore, along his narration of the challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps

Subtheme1 -'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL2 said that government ODEL status was paramount. HL2 asserted that governments' misconception and disjoint communication on DTL blurred his institution foresight to roll out massive digitalisation for business continuity. He continued to state that government misaligned guidance was still affecting DTL implementation across the country

> *Yes, HEI s depend on* government *guidance, however the* government *did not understand and had a lot of misconception on DTL ,* government *DTL communication was disjointed , there was no one language and didn't demonstrate a good understanding of DTL , which is still affecting many HEIs*

HL2 further said that there was inadequate government financial support to HE ongoing digital projects. Mores still, HL2 asserted that government had no monitoring and evaluation systems in place.

> *Ministry of ICT/ Education do not give enough guidance and support to enable implementation / monitoring and evaluation for the digital systems the grant HEI.HEIs frustrated with ongoing* government *digital projects , no follow up or after sale services are being provided*

More still, HL2 urged that education sector still lacked clear DTL skilling strategies

> *A clear strategy of the sector in skilling is still lacking*

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL2's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. HL2 acknowledged that his institution experienced leadership gap in enabling business continuity during the COVID19 pandemic. However, he said that the gap was not very wide given the fact that his institution years back embarked on DTL

> *Yes, but the gap may not be a wide one , DTL was not new in the covid19 period , the institute had already embarked on DTL , through polices , and an ODEL coordinating unit , however the extent of integration depended on demand and supply, and besides HEI s depend on government guidance*

Mores still, HL3 also urged that DTL integration was driven by demand and supply which was low before covid19 and therefore the institutional DTL infrastructure was not enough to host the sudden increase in demand across the whole institution.

> *however the extent of integration depended on demand and supply,*
> *Students enrolments are still low, HEIs have found it difficult to attract students for DTL*

SUBTHEME 3: Mitigations

Subtheme 3- 'DTL Mitigations' comprised of the proposed leadership mitigations HL2's institution leveraged to reduce on the impact of the DTL challenges experienced for business continuity during the COVID19 pandemic. HL2 proposed the need for intensive initial investments towards DTL requirements including a robust infrastructure and internet connectivity, capacity development and instructional material development

> *DTL is capital intensive at initial stages, it requires a lot of extra institutional resources*

Furthermore, HL2 urged the need for holistic strengthening of institute DTL cycle through inclusion of all the required processes including admissions, registration, teaching and learning and assessments against ISO guidelines and benchmarks

> *It embraces all the aspects of using technology tool to register, admit, teach , learn, assessments and graduation , its should be holistic not a piece meal- Strengthening and extending DTL to all institutional functions*

More still, HL2 recommended the need for regular reporting on DTL targets and deliverables across the institute as well as sharing of successes stories and lessons learnt

> *Training/ set deadlines for activities / publishing and communicating milestones regularly as well as share successes stories and lessons learnt.*

And of course, HL2 recommended massive capacity building and sensitisation drives to cohabit the digital skills gaps, attitudes and mind-sets

> *DTL Attitude and resistance can change with massive sensitisation*

HL1: Individual findings

HL1 was 65years, female by gender, charged with the support function for the blended learning programmes at her institution. She identified self as being passionate about DTL and has vast experience of over 30 years in increasing access to education through blended learning systems. Her general duties included planning and scheduling face to face or virtual orientation sessions, setting up and monitoring students support frame works, ensuring that all online programmes are uploaded and accessible by both the facilitators and students and, online assessments are modulated, attempted and graded. I interviewed her just after the Covid119 pandemic had led to the closure of all education institutions worldwide. She was very positive about   the possibilities of digitalisation of T/L , however frustrated due to the fact that despite all the existing ICT infrastructure in her institution, no continuity   of T/L had been observed. The interview with HL1, generally resulted in to five Themes; 1) digital experiences, 2) evolved institutional culture, 3) leadership capacity, 4) Institutional adaptability and 5) DTL gaps and mitigations and; a total of 15 sub themes including;

THEME 1: Digital experiences

HL1, had a wealth of blended learning experiences spanning his whole professional life and career. She had both the traditional distance learning and DTL. She said that digitalisation of teaching and learning meant the usage of technology to teach and support leaners to achieve improved learning outcomes in or outside the classroom setting. She further asserted that DTL was a total package that needed to be acceptable by all the stakeholders including leadership, faculty and students. More still HL1, urged the need to integrated the DTL with other functional areas such as library, registrars, accounts and the marketing department. While she had a good experience she was also aware that integration of DTL is an uphill and draining task as various stakeholders were reluctant to embrace DTL through none participation in DTL activities. I analysed his digital experiences along four (04) sub themes including; Sense of Visioning, leveraging of existing Institutional strategies, Institutional Rethink and, Neutral state of transition.

SUBTHEME 1: Sense of Visioning pre covid19 strategies

HL1 said when she joined her current institution, she was already a distance learning expert however, recognized that here current institution was already advanced in terms of digitalization as compared to other HEIs in the country. He current institution had integrated the virtual learning environment(VLE), with well-trained facilitators and the Open, distance and eLearning(ODEL) policy in place

> *Has approved education technology policies such as TEL, ODEL.*

HL1 further indicated that her institution had included DTL in its institutional strategic plan and therefore with an allocated annual budget however with a phased operationalisation plan

> *DTL was included as one of the pillars of the institute strategic plan 2020/2025, Institute allocates an annual budget to the Distance learning department to manage the DTL function such as running basically Distance Learning programmes, DTL stakeholder capacity development improvement of the infrastructure however phased operationalisation approach.*

More still, HL1 hinted that her institution had put in place a students' support framework including the DTL coordinating unit, social media support channels such as WhatsApp, email and a 24-hour response time to students' quires

> *An established DTL coordinating unit is in place to manage the ODEL / DTL teaching and learning function of the institute. student support framework including an ODEL unit and help desk using WhatsApp, emails and a 24-hour feedback to students' quires*

HL1 further said that her institution was conducting continuous faculty and students' digital capacity development.

> *Institute had continuously been developing both Faculty/ students DTL capacity on semester basis on how to design and teach online courses and studying at a distance respectively but attendance was voluntary*

And above all, her institution had a robust ICT infrastructure including broadband connectivity and wireless network connections for the entire main campus and its four satellite campuses. Internet access is provided in classrooms, libraries, faculty rooms, conference rooms and laboratories including desktops, tablets, laptops, servers and a video conference facility however utilisation is still none optimal

> *broadband connectivity and wireless network connections for the entire main campus and its four satellite campuses. Internet access is provided in classrooms, libraries, faculty rooms, conference rooms and laboratories including desktops, tablets, laptops, servers and a video conference facility however utilisation is still none optimal*

While her institution had been running two blended learning programmes and had accumulated experience since 2011, stakeholder participation was none mandatory hence challenging to diffuse across the institute

> *The institute has been running pure two online learning programmes since 2011 and as such accumulated a lot of DTL experience. DTL has been tagged to the institute coordinating unit which has left participation of faculty as optional hence challenging to diffuse across the institute*

Furthermore, HL1 hinted that, due to limited stakeholders' conceptualisation of DTL, her institution experienced inadequate stakeholders' support, poor mind-sets attitudes as well as mistrust towards DTL integration.

Inadequate conceptualization of the digitalization process leading to DTL mistrust in the institution-
Institution is not very convinced that digitalization can enhance T/L – some stakeholders think it's a hoax

SUBTHEME 2: leveraging of existing Institutional strategies

HL1 was asked the about the outcomes of the prior DTL institutional strategies in the face of the COVID19 pandemic were all education institutions under the presidential directive including hers were required to close due to a lockdown to curb the spread of the COVID19 pandemic. HL1 said that her institution experienced discontinuity of teaching and learning. She said that not very substantive outcomes were realized during COVID19 pandemic from the above interventions. Her institution closed for 11/2 months after the presidential directive to control the spread of COVID19. While there exited all the above intervention, HL1 said that there was generally inadequate confidence in ODEL to enable continuity of teaching and learning majorly at the national level considering the government misguided direction that discouraged quick responders from leveraging digitalisation for business continuity. More still, HL1 asserted that there was also no national gazette and regulatory framework for DTL.

> *My institution closed for a while after the presidential directive to control the spread of covd19, despite all the above intervention, there was generally existed inadequate confidence in ODEL to enable continuity of T/L at the national level; given that the government had also discouraged other early responders- HEIs that had hoped to offer online examinations , there existed no single NCHE guideline on how to use the ODEL to continue T/L .*

Mores still, HL1 also said that despite all the above existing investments in my institution, ODEL / TEL polices, structures the same none confidence lingered. Fear prevailed, how exactly to move to online was burled, scalability for the existing ODEL processes was not possible, we experienced a misalignment TOP management processes with the now existing landscape

> *Despite existing ODEL / TEL polices, structures, management felt inadequate to apply for ODEL NCHE accreditation and unable to optimise the existing robust digital infrastructure for continuity of TL during the period of Covid 19*

HL1 further said that while the institution had in place a ODEL policy there exited none mandatory stakeholders' participation as DTL interventions were being tagged to the institute coordinating unit not as an institutional strategy which left participation of faculty as optional hence challenging to diffuse across the institute.

> *No sense of collective responsibility as stakeholders were leaving all the ODEL tasks to Distance Learning Department. ODEL was treated as an alternative delivery mode but not mainstream*
> *Association of ODEL as a responsibility of the coordinating Department only*

More still, HL1 asserted that her institutional leadership was majorly composited of digital migrants who were not ICT oriented and therefore had relayed on ICT experts.

> *Top management is comprised of mostly the "born before technology" and its quite challenging for them to led and trust the digital strategy- as they are not sure of how much DTL can achieve in terms of learning outcomes*

However, HL1 said that there was partial continuity of research and ODEL students. She asserted that later on, the institute started mobilising and, therefore Master thesis and proposal defence and ODEL students were able to function using Zoom and VLE

> *However, a few programs such as dissertation writing and examination and the Distance learning programmes, small scale use of zoom later pulled through.*

Above all, HL1 said that she felt really frustrated, over whelmed, mistrusted and supported by her institution failure to leverage the existing digital strategy for continuity of teaching and learning during the COVID19 pandemic

> *I had been on the ODEL implementing front before covid19, and was very sure that with the existing minimum standards we were good to go , but here we are nobody is even taking note of your accomplishment but instead making you feel inadequate despite all your efforts*

SUBTHEME 3: Institutional Rethink

After the failed attempt to leverage the existing projected institutional DTL strategies, her institution was able rethink and forge a way forward. The rethinking process involved going back to the drawing board and brainstorming ways of engaging the emerging tension. HL1 asserted exhibited collective responsibility including the governing council, Top Management Team and Senate were seen to massively mobilise stakeholders through pronouncements, circulars calling for mandatory participation

> *The governing council pronouncements on the DTL direction in the institute, calling for mandatory participation, approvals of the emergency ODEL budgets, NCEH ODEL accreditation application and Technology Enabled Learning policy , upscaling the Distance learning and ICT department.*

HL1, said that her institution established an Online delivery task force for ODEL to benchmark, survey oversee and advise on matters of online delivery to management team.

> *An online delivery Taskforce committee comprising of nine(9) senior staff distributed across different schools and academic entities has been constituted in an advisory role to the institute Top Management Team and to oversee the operations of the Distance Learning Department (DLD) during the emergency ODeL*

Furthermore, HL1 asserted her institution, under the guidance of the online delivery committee acquired and operationalised National Council of Higher Education (NCHE) ODEL accreditation through a road map stipulating online structure, and actual of online learning for across the institute, support structures, massive stakeholders' capacity development and ICT infrastructure boost

> *ODEL NCHE has been operationalised through an institutional roadmap which has included the structure and actual of online learning for across the institute, support structures, massive stakeholders' capacity development and ICT infrastructure boost etc.*

More still, HL1 noted that her institution further operationalised digitalisation of teaching and learning in strategic plan 2020/2025 by creating a budgetary provision of 300 million USD billion as well as recruitment of an eLearning administrator.

> *An emergency budget has been raised at 1.2billions, provision of data bundles to the facilitators engaged in online teaching, research and support and
> recruited an eLearning administrator*

HL1 further operationalised the student support framework including the existing academic structure such as deans, heads of departments, course managers, module readers including the class presidents. However still HL1 noted that her institution strengthened the institute support unit, Distance learning Department and help desk , all using phone calls, Class emailing lists, VLE, Class WhatsApp groups, SMS etc.

> *Use of existing teaching/ learning coordinating structures to organize online learning resources, facilitation and assessments. The coordinating structures include;*
> *Course managers –management of the whole programme, Module leaders – management of the module- and institute support unit, Distance learning Department and help desk , all using phone calls, Class emailing lists, VLE, Class WhatsApp groups, SMS, help desk.*

Mores still, HL1 urged that while her institution possessed a relatively robust infrastructure, most it reminded none optimised. Her institute was therefore strengthening and optimising the existing ICT infrastructure running all its programmes online as well as ensuring that every faculty possessed the required gadgets and bandwidth.

> *Institute is running all its progrommes online including video conferences course and the postgraduate, masters and PHD using the broadband and wireless connectivity and all her available devices such as desktops, tablets, laptops, servers and a video conference facility for the entire main campus and its four satellite campuses.*

More still, HL1 said that her institution had scheduled and conducted massive stakeholders' capacity development drives including designing and teaching online course, ICT skills and online support.

> *Both facilitators and students have been trained on the use of the VLE for teaching and learning so as to ensure; Development of sufficient ICT skills and appropriate methods for teaching/learning with ICT and a VLE manual has been provided.*

Furthermore, HL1said that her institution was periodically commissioning students' surveys to find out the level of DTL acceptancy and participation and challenges for informed decision making

> *The institute has run surveys to ascertain Students' willingness and inability to study online of the surveyed, 67%indicated their willingness to continue with their studies online while 23% were not and cited numerous challenges such as work needs , which the institute has addressed through Adjustment of institutional Master timetable.*

More still, HL1 indicated that her institution had operationalised more ICT functional areas and application soft wares including AIMs for students' online registration, admissions, accounts and record keeping. Software such as zoom, VLE, turn it-in ant plagiarism software, digital libraries in teaching and learning

> *Data subscriptions, Online research examination, Mgt online meetings, Online applications and admissions have been adopted by the institute. My institution has a number of software packages and platforms that are used across the institute for teaching and learning, including a virtual learning environment, anti-plagiarism software (Turnitin) and a digital library, zoom , AIMS, TEL , WhatsApp*

As well as commissioned online conversion of the all institutional programmes to the online mode of delivery.

> *The institute has commenced mandatory and Massive online teaching and learning using the VLE and Zoom platforms*

SUBTHEME 4: Neutral state of transition

HL1hinted that his institution was able to rethink, strategize and redeploy and achieved some successes however of course without a few challenges. An increased uptake for digitalization, especially in teaching and learning, however HL1 noted that her institution was engaging both the traditional and DTL

> *However, after COVID-19, we are seeing an increased uptake for digitalization, especially in teaching and learning. The institute is oscillating between the traditional and DTL , running of both online and Face to Face classes and allowing for flexibility of the students to study with their preferred mode*

HL1, further said that his institution was able to create DTL awareness and capacity capability to 100% of faculty as compared to 75% and All faculty and students are able to use synchronous (Zoom) classes and asynchronous Virtual Learning environment (VLE)

> *We've been able to have an awareness of the entire university, over 3000students are now aware about the concept of order, open distance and elearning. And I could say also 100% of all the stuff at the university now have awareness about the concept of order.*

More still, as result for the institutional rethink, HL1 urged that his institution was able to get back to its feet for business continuity using DTL using both synchronous (Zoom) classes and asynchronous Virtual Learning environment (VLE)

> *Because of COVID-19 pandemic, initially all education institutions had been closed. And with the support from ODEL techniques and approaches, we were able to lift our institution, get back to the feet again. For the second lockdown institute has continued to deliver online*

However, while there was 100% online teaching and learning during the second lockdown, HL1 said that only the synchronous mode such as Zoom had been adopted leaving out the asynchronous mode such as the Virtual learning environment. Hence catering for students who were being challenged by internet connectivity as well as collaborative was difficult.

> *There is a partial adoption of the VLE as faculty focus on the use of real time learning platform such as zoom , which is none inclusive for learners with unstable internet connectivity . this also leaves the developed instructional materials unused by the intended stakeholders*

More still, HL1 asserted that holistic adoption of DTL was still a major challenge as her institution was unable to adopt online assessments to complete the online cycle

> *The institution is still at cross roads of which way to follow, there has been postponement of semester examinations with the hope of the situation returning to normal*

HL1 further noted that institutional change was slow because rather the 30% government circulars on physical office attendance there exited no major additions in the HRM manuals.

There are no major changes in the HRM polices to guide the new development such as   management and faculty working from anywhere and anytime   especially at home. Measurement of online performance still none streamlined

HL1 also noted that his institutional stakeholder including faculty and students were face with a challenge of poor infrastructure and unstable Internet connectivity in their communities.

Boosting of the Institute infrastructure and provision of data bundles for facilitators. However, there seems to be underlying challenges of high data costs, unstable internet and power connections on the students' side which may need to be addressed by the government

THEME 2: Evolved institutional culture

'Evolved institutional culture' was a broader theme that emerged from research question 2 (RQ 2). RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? In order to understand how leadership was adapting to the changing HE landscape as a results of DTL, it was important first, to establish the impact of digitalisation at both personal and institutional levels for the participants. HL1 was asked how the process of DTL integration had evolved his institution. I analysed theme 2- Evolved institutional culture digital along four emergent sub themes including; Evolved channels of institutional communication, Evolved mechanisms of institutional operations, Institutional DTL advocacy and, Emergence of virtual teams.

SUBTHEME 1: Evolved channels of institutional communication

HL1 said that there were emerging channels of communication as a result of DTL including the official usage of social media, online meetings and online record keeping.

Numerous communications to stakeholders are now being shared through WhatsApp, website, twitter handle, face book etc. Officially the institute maintains webmail for internal communications

SUBTHEME 2: Evolved mechanisms of institutional operations

Another impact of digitalisation at an institutional level was the 'Evolved mechanisms of institutional operations'. HL1 said that her institutional daily operations had changed in terms of delivery. HL1 said that her institution was conducting online management meetings across the institute including governing council, senate, directorate, school and department boards as well as students orientation sessions.

All meetings across the institute including council , sensate , directorate boards , school and departmental meetings are being held online using zoom

Of course, HL1's institution was mandatorily engaged in online teaching and learning and handling all other support services including online admissions, registration etc

Online teaching and learning, research supervision and examination for students is now mandatory across all institute programmes. Online applications and registrations are now being accepted compared to the past when only hard copies were being accepted

More still, HL1 said that all institutional ODEL capacity development schedules were running on the institutional calendar including master time tables for online teaching.

A designed period of the semester has been allocated for both faculty and students DTL capacity development. online courses, Zoom , VLE guides have been shared .All online classes are being centrally scheduled and monitored in terms of both faculty and students' participation. Both Faculty and students are now expected to participant in both the VLE and zoom activities

Furthermore, HL1 hinted that her institution had adopted students consent to engage in online learning.

Initially these were face to face students, but with the effects of Covid19, its legally important to avoid legal battles in the future as per the National council of higher education regulation

SUBTHEME 3: Institutional consistent DTL advocacy

One more other impact HL1's institution experienced was an emerging trend of DTL advocacy. HL1 said that her institution had constituted an advisory DTL committee to oversee and advise on DTL issues.

> *Continuous briefs, advisor services and ODEL progress reports are offered to mgt on regular basis*

More so benchmarking and sharing of DTL experiences with the other HEIs was becoming common at HL1's institution

> *It is now common practice for the institute to benchmark and share ODEL experiences with other institutions in the country*

SUBTHEME 4: Emergence of virtual teams

HL1 further hinted that digitalisation had led to the emergence of virtual teams creating flexible working schedules and conditions such as working from anywhere and anytime. While flexibility of virtual workspaces has much been appreciated, HL1 urged that management of dispersed virtual teams was still unplanned and therefore performance outputs were still measured using existing traditional parameters

> *There are no major changes in the HRM polices to guide the new development such as management and faculty working from anywhere and anytime especially at home , however relying on the government circulars or workforce engagement at the work premises*

However, HL1 noted that there was an emerging trend of data subscriptions to support faculty to teach online.

> *New trends have emerged eg Data subscriptions for management and Faculty for meetings and conducting online teaching zoom sessions respectively*

THEME 3: Evolved leadership capacity

As part of research question 2, RQ2- How is the HE landscape evolving amidst digitalisation of teaching and learning? HL1 was further asked how digitalisation had changed him at a personal level in terms of his leadership roles, practices and skills. HL1 asserted that digitalisation had evolved him personally in various ways as outline in the next section across three subthemes including evolved leadership roles, evolved leadership practices and leadership skills.

SUBTHEME 1: Evolved Leadership roles

HL1 indicated that the fact that she was an expert in DTL principles, she had been added additional responsibilities including advisory to deputy VC, chair to the ODEL committee etc.

> *I have been added the DTL advisory role to deputy academic DVC which has got me multi-tasking in between the departmental roles, student support function at no extra pay*

SUBTHEME 2: Evolved leadership practices

HL1 said that DTL was breaking down bureaucratic communication as it was becoming common practice for decisions to be collectively discussed on social media and document later in the board rooms

> *It is now common practice for decisions to be collectively discussed on social media and document later in the board rooms - information is now freely available to the public unlike in pervious where information was hoarded in a management circles alone*

Hl1 further asserted that official information and communication was being shared freely online as such quick information flow and fast decision making at her institution

> *Sharing of official documents through online platforms such as WhatsApp, emails*

SUBTHEME 3: leadership skills

HL1 also noted that she had acquired numerous skills as a result of DTL and these included; HL1 asserted that she had acquired more networking, mobilisation and people skills as engages with stakeholders with different mind-sets and attitudes towards DTL

> *To convince stakeholders to change their negative attitudes towards DTL , you have be a good negotiator, communicator and lobbyist.*

More still , HL1 said that she had improved her online designing and teaching skills including conducting online meetings as well as social media skills

> *I have improved my online course designs, students support strategies (WhatsApp, vle) and adopted interactive ways of teaching and learning. I can now chair and hold an online meeting through various video conference tools such as Zoom, Ms Teams, Google meet etc .I can now ably communicate, engage and share documents with stakeholders using social media platforms such WhatsApp, emails*

THEME 4: DTL Institutional adaptability

More still, as part research question 3, RQ3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? HL1 was asked to share experience his institution or at personal level, how they were mobilising the workforce and financial resources as well as DTL institutionalisation for adaptability in the emerged HE landscape in relation to institution change he evidenced above. I analysed theme 4 – 'DTL Institutional adaptability' across three subthemes including; Mobilisation of workforce Financial resource mobilisation and DTL institutionalisation

SUBTHEME 1: Mobilisation of the workforce

I asked HL1, what it was like to mobilise the workforce for DTL institutional adaptability. HL1 said that her institution was conducting massive ODEL sensitization and capacity building for stakeholders in which are inaugurated by the VC, where he communicates council DTL direction

> *We are running massive stakeholders' DTL capacity building workshops that are usually inaugurated by the VC, where he communicates council DTL direction   such as institutional downsizing of none ICT adaptive areas*

Furthermore, HL1 hinted that her institution was rewarding DTL participation with incentives such as workload payments, data bundles as well as tagging a promotion weight.
> *An incentive has been put in place such as workload payments for developing instructional materials as well as a promotion tag on the number of modules converted to online for faculty and provisional of data bundles for off campus online teaching and support*

More still, HL1 asserted that her institution was demanding regular reporting on DTL targets and deliverables across the institute as well as sharing of successes stories and lessons learnt

> *Increased communication with responsibility areas such as Deans , HODs , Course mangers. Training/ set deadlines for activities / publishing and communicating milestones regularly as well as share successes stories and lessons learnt.*

HLL, further asserted that her institution was calling for stakeholder mandatory DTL participation
> *Mandatory faculty participation in online activities such as designing, teaching, and feed backing online courses*

SUBTHEME 2: Financial resource mobilisation

I further asked HL1 What it was like to mobilise the financial resources for DTL institutional adaptability HL1 said that her institution was majorly dependent on students' tuition collections
> *Students fees are our major recourse sources*

As well as government quarterly remittances
> *The Government allocates annual budgets to all public institutions including mine*

*Furthermore, HL1 urged that her institution was allocating a*nnual budgets as well as shifting existing budget towards DTL
> *One of the ways the institute has operationalized the strategic plan 2020/2025 is to allocate and reallocate   resources to the promotion of the DTL function*

More still, HL1 asserted that institution had four mandates including teaching and learning, research, community engagements as well as consultancies. Therefore, her institution was also writing and biding for consultancies to generate revenues
> *My institute has an arm of consultancies and research, we usually jointly write proposals and bids to compete for resources*

HL1 also hinted that her institution was networking and collaborating with development partners such as Research and Education Network Uganda(RENU), Commonwealth of Learning(COL), African Development bank(ADB) and DIGIFACE to support the integration of DTL
> *We have a number of collaborations and partnership with REN, ADB, DIGIFACE   and COL that have supported the development of DTL polices , infrastructure , stakeholder capacity through grants and personnel*

SUBTHEME 3: Institutionalisation of DTL

Furthermore, 1 asked HL1, what it was like to institutionalise DTL. HL1 said that her institutional governing council made pronouncements on the institutional DTL direction by signing of NCHE ODEL accreditation, called for institutional continuity through online teaching and learning especially in the period of covid19 pandemic and approved funding

> *The governing council has pronounced itself on the DTL direction of the institute by signing of NCHE ODEL accreditation, called for institutional continuity through online teaching and learning especially in the period of covid19 pandemic and approved funding*

HL1 further said that her institution had operationalised the National Council of Higher Education (NCHE) ODEL accreditation through the ODEL and TEL policy, strategic plan inclusion, funding, recruitment of the eLearning administrator, adjusting of the Master time table, infrastructure boots

> *The institute has operationalised her NCHE ODEL accreditation, through her, ODEL and TEL polices, strategic plan, funding, recruitment of the eLearning administrator, adjusting of the Master time table, infrastructure boots etc.*

More still, HL1said that her institution had constituted an instructional online delivery committee to drive and monitor the DTL mandate across the institute

> *In additional to existing M&E framework in place, the institute has established a committee for DTL advisory and monitoring functions to management*

THEME 5: DTL gaps and mitigations.

'DTL gaps and mitigations' was the fifth broader theme that emerged from research question 3 (RQ3). RQ 3- How is leadership adapting to the digitalisation of teaching and learning in Higher Education Institutions? This section was aimed at identifying the existing leadership gaps as HL1's institution transitioned online so as that I could improve the situation with better procedures and methods through the design science

As part of research question 3, I ask HL1 whether his institution had experienced any leadership challenges in leveraging DTL for business continuity in the period of COVID19 pandemic. HL7 said that given the fact that his institution needed to move online rapidly from a traditional setting, they experienced numerous challenges both at

national and institutional levels. Therefore, along his narration of the challenges experienced, three subthemes emerged including; National leadership DTL gaps, Institutional Leadership DTL gaps and mitigations. The three subthemes are discussed in the following section.

SUBTHEME 1: National leadership DTL gaps

Subtheme1 -'National leadership DTL gaps' consisted of the challenges HEIs experienced as a result of the government policies. Given the fact that all institutions are implementers of the government policy, HL1 said that government ODEL status was paramount. HL1 asserted that governments' misconception and disjoint communication on DTL blurred her institution foresight to roll out massive digitalisation for business continuity. She continued to state that government misaligned guidance was still affecting DTL implementation across the country

> *Yes, HEI s depend on* government *guidance, however the* government *did not understand and had a lot of misconception on DTL ,* government *DTL communication was disjointed , there was no one language and didn't demonstrate a good understanding of DTL , which is still affecting many HEIs*

HL1 further said that there was inadequate government financial support to HE ongoing digital projects. Mores still, HL1 asserted that government had no monitoring and evaluation systems in place.

> *There is no more budget allocation to the digitalization of T/L at the same time the resources targeted for reallocation have not yet been realized by Govt. Ministry of ICT/ Education do not give enough guidance and support to enable implementation / monitoring and evaluation for the digital systems the grant HEI.HEIs frustrated with ongoing* government *digital projects, no follow up or after sale services are being provided*

HL1 further noted that the government had instead increased ICT infrastructure cost through increased taxes on internet connectivity than subsiding for increased access to DTL.

> *The government has introduced a 12% tax on internet instead of subsiding to increase access and diffusion of online learning in the country*

SUBTHEME 2: Institutional Leadership gap in embracing DTL

Subtheme 2- 'Institutional Leadership DTL gaps' comprised of the leadership gaps HL1's institution experienced during the leveraging of DTL for business continuity during the COVID19 pandemic. In acknowledgment of the gaps experienced, HL1 asserted that holistic adoption of DTL was still a major challenge as her institution was unable to adopt online assessments to complete the online cycle

> *The institution is still at cross roads of which way to follow, there has been postponement of semester examinations with the hope of the situation returning to normal*

HL1 further noted that institutional change was slow because rather the 30% government circulars on physical office attendance there exited no major additions in the HRM manuals.

> *There are no major changes in the HRM polices to guide the new development such as management and faculty working from anywhere and anytime especially at home. Measurement of online performance still none streamlined*

HL1 also noted that his institutional stakeholder including faculty and students were face with a challenge of poor infrastructure and unstable Internet connectivity in their communities.

> *Boosting of the Institute infrastructure and provision of data bundles for facilitators. However, there seems to be underlying challenges of high data costs, unstable internet and power connections on the students' side which may need to be addressed by the government*

HL1 also asserted that DTL continues be resisted by stakeholders including management, faculty and students. DTL resistance is characterised by poor attitudes, mistrust and fear of ICT

> *a lot Resistance from various stakeholders for example Faculty, students, management etc., who possess Little or no interest, lack commitment and fear using online learning*

HL1 urged that rapid pace of the DTL paradigm shift during the COVID19 pandemic has frustrated the stakeholders

> *the steep and fast paradigm shift of DTL is a major contributor of the inability of HE leadership to transit – while we are trying to transit to the digital worlds, the fast pace of ICT modernity calls for quick development levels*

More still, HL1 asserted that her institutional failure to engage DTL spaces through piloting and re-strategizing but hoping for perfect scenario was major challenge in enabling DTL integration.

> *Inadequate experimental, pilot processes and reinvention strategies – leadership thinks that a perfect solution will avail itself without trying out the different available options*

Subtheme 3: DTL Mitigations

Subtheme 3- 'DTL Mitigations' comprised of the proposed leadership mitigations HL1's institution leveraged to reduce on the impact of the DTL challenges experienced for business continuity during the COVID19 pandemic. HL1 recommended the need for policy enforcement. She said that there was need for leadership to put their foot down, enforce deadlines to ensure that mandatory stakeholders' participation in all ODEL activities

> *Leadership needs be little aggressive by putting their foot down , enforce deadlines to ensure that mandatory stakeholders' participation in all ODEL activities*

HL1 further proposed the need for leadership to acceptance and recognise the changing HE landscape. And therefore call for HE leadership to reinvent its self through adaptation and practicing of new leadership theories and roles

> *need for HE leadership to reinvent its self through adaptation and practicing of new leadership theories& roles that are compatible with new emerged HE landscape, also* Documentation *of the emerging leadership processes,*

More still, HL1 proposed the need for HEIs to benchmark and network as well as formulate a community of practice where DTL success stories and lessons learnt are discussed and promoted.

> *Visiting and sharing with other institutions and formulate a community of practices to tell success stories*

HL1 further proposed continuous professional capacity development for all stakeholder including management, faculty and students to enable unlearning and learning.

> *Need for management ODEL capacity development to enable Relearning and forced learning of the new things*

Conclusion

This chapter covered the findings of 07 individual participants. The summary of the finding individually was on average 05 themes and 15 subthemes. The 05 themes included; Digital experiences (Visioning Digital strategies pre-COVID 19, Leveraging of existing Institutional Digital, Revisiting Institutional Strategies post- COVID 19, Neutral state of transition), Institutional culture (Evolved channels of institutional social interaction, Evolved mechanisms of institutional operations, Institutional consistent DTL advocacy- values and beliefs , missions and attitudes, Emergence of technology virtual workspace), leadership capacity(evolved Leadership roles leadership roles and practices, leadership knowledge and skills), Institutional adaptability(Mobilisation of the workforce, Financial Resource mobilisation, Institutionalisation of DTL) and, DTL gaps and mitigations(Inadequate support from the Government, Inadequate Institutional Leadership direction , DTL Mitigations).