

# Prerequisites to the on-boarding of effective virtual teams

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## Abstract

*Purpose* - This article reports on a qualitative, interpretivist case study to gain a deeper understanding on purpose establishment during the implementation of effective virtual teams within the software section of the technology industry of South Africa. Virtual teams are common in the technology industry, a strategic contributor to wealth creation, sustainable organisations and competitiveness.

*Design/Methodology* - A purposive sample was selected, and data were collected through an electronic questionnaire and analysed by means of content analysis.

*Findings* - Empirical evidence suggested that, because of flexibility, traditional management practices may not be effective in virtual teams any longer. A formal pre-existing electronic management system, networking and an alternative orientation towards technology, enhance team performance, effectiveness and competitiveness were found to be prerequisites for successful implementation of virtual teams in an organisation.

*Limitations* - The study is limited to the software section of the technology industry of South Africa only. The themes however may be replicated in other organisations.

*Contribution* - This study contributes to the emerging body of knowledge on the effective functioning of virtual teams and labour relations orientation.

## Key phrases

*electronic management system; knowledge worker; labour relations; technology industry; virtual team*

## 1. INTRODUCTION

The appearance of the electronically skilled knowledge worker has irrevocably altered the conventional methodology by which teams are founded and function (Kleinman & Vallas 2001:451-492). People are regarded as a competitive advantage factor in many organisations to gain and sustain competitive advantage for success (Oosthuizen & Kara 2008:39). Conventional managers would argue that information computer technology (ICT) merely replaced paper communication, and the traditional founding and functioning practices

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of the face-to-face team (FTFT) remain valid in teams that work exclusively electronically, such as virtual teams (VTs) (Bergiel, Bergiel & Balsmeier 2008:99-110). In their argument, Bergiel *et al.* (2008:100-103) refer to a number of coinciding areas such as strategy setting, role clarification, talent sourcing and contracting, innovation and value systems, which coincide with other's opinion (Caniëls, De Stobbeleir & De Clippeleer 2014:96; Gaudes, Hamilton-Bogart, Marsh & Robinson 2007:83-97).

### **1.1 Differentiating between VT's and FTFT's**

Though some of the principles for founding a VT may be similar to the principles of an FTFT, it is argued that founding and functioning practices within the exclusive electronic space as opposed to physical space, require a novel approach to endure in an environment with different and distinctive traits (Williams 2010:451-470). Characteristics of an environment of this kind are, for example, that team members do not have the benefit of reading face-to-face (FTF) behaviour, workspace (ICT) downtime and the specialised knowledge and expertise of the knowledge worker (Bowers & Cannon-Bowers 2014:301-323).

### **1.2 The emergence of the knowledge worker in VT's**

The knowledge worker evolved to enable sustainable business and growth within a competitive global economy (Grobler & De Bruyn 2011:63). These highly qualified, skilled and mature workers with IT skills, are highly sought after by companies who wish to gain a competitive advantage and promote sustainable development in their business within a competitive global economy (Bennett, Pitt & Price 2012:277-288; Timonen & Paloheimo 2011:1-18).

The challenge for organisations is to design a functioning organisation in order to make optimal use of the services of these knowledge workers, even if it means breaching the physical distance and sometimes time barriers between organisational team members, using computer-mediated communication systems (Archibald & Brood 2012:41-54). One such organisational design for bridging time and space barriers is the virtual team. Virtual teams allow for rapid global response rates, flexible team membership, and the ability to function in the absence of physical-presence team structures to deliver a sustainable and competitive advantage over the organisations' competitors (Lipnack & Stamps 1993:81; Ratcliffe 2010:47-61).

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Virtual teams consist of geographically dispersed team members who use computer-mediated communication systems. Other than typical face-to-face teams (FTFTs) or conventional teams (CTs), virtual team membership is not always definable or it is limited at a particular point in time. Although the members share in the particular team function independently, the team has a shared purpose and strategy, which is known from the time a team member joins the team (Berry 2011:186-206). Members could be individually as well as jointly responsible for the outcome reached during their membership in the team (Brown, Huettner & James-Tanny 2007: 125-129).

In a conventional or FTF team, a particular manager is responsible for managing the relationship between team members, whereas in virtual teams, members are jointly accountable for managing relationships within the team. Although the role of the team leader might bear similarities to that of the FTF team manager, the dynamics of the position are different (Berry 2011:186-206). From the definition on virtual teams, it could be deduced that joining such a team requires a unique orientation towards work, teamwork and processes.

This article reports on best practices in effective virtual teams regarding one such unique trait, namely how these team members orientate themselves towards the purpose of the team. The purpose theme extends the framework of Ebrahim, Ahmed and Taha (2009:2653-2669). The extension consists of abstracting the elements pertaining to purpose establishment from their original categorisation under the process, people and technology themes, and forwarding the purpose theme as a unique theme in virtual teams with the purpose theme's re-assigned elements as supported by other team theorists (Child 2005:3-9; Clemons & Kroth 2010:5-10; Gaudes *et al.* 2007:83-97).

This article forms part of a greater study, the purpose of which was to explore best practices relating to purpose, process, people and technology themes in effective virtual teams within the software section of the technology industry of South Africa.

This article is structured as follows: firstly, the literature corpus on the purpose-related element of formulation of strategy and setting of team direction in virtual teams is presented. Next, the formulation of strategy and setting of team direction are empirically explored based on a qualitative, interpretative case study. Data were collected through an electronic questionnaire and analysed by means of content analysis. Finally, the findings and

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discussion of the information shared by the participants follow and some recommending and concluding thoughts are presented for implementation and further research.

## 2. THEORETICAL FRAMEWORK

An organisation consists of teams that are formed to realise the goal of that organisation (Bergiel *et al.* 2008:99–110). For those teams to be effective, they should reach the intended purpose and contribute towards the greater organisational goal (Maynard, Mathieu, Rapp & Gilson 2012:342-365; Rahschulte 2011:31). One of the key reasons for having effective teams of people in organisations is to sustain and grow an organisation's competitiveness (Darcy, Hill, McCabe & McGovern 2014:3). The macro environment, forces an organisation to adapt its internal functioning to fulfil the needs of customers and remain sustainable and profitable (Porter 1996:61–78).

Porter (1996:61-78) suggests that business strategy consists of a unique set of choices made by leaders to direct the team members into a particular direction. Peng (2014:1-5), however, adopts a different approach and considers strategy as the organisational premise of successful competition. In both these approaches, two elements come to the fore: what the purpose is that an organisation wants to achieve, and how the organisation will position itself to achieve that purpose (Child 2005:3). Subsequently, Lorange (2010:75) combined all these approaches as vital for optimising the functioning of the organisation.

### 2.1 Team creation

There are many ways to create a team, such as changing the organisational design, providing autonomy and formalisation to the team and cultivating a corporate collaborative innovation environment (Brown *et al.* 2007:130-134; Driedonks, Gevers & Van Weeler 2014:288-304). The practices on the establishment of virtual teams are however complicated as computer-mediated communication heightens pressure to conform when a virtual team is first formed, influencing teamwork practices for the duration of membership (Haines 2014:213-222; Majchrzak, Rice, Malhotra, King & Ba 2000:569-600).

Further, the theoretical themes and elements in virtual teams are intertwined, making them difficult to deconstruct (Lipnack & Stamps 2008:3-7). This intertwined tendency makes theming in virtual teams very complex. In the study by Ebrahim *et al.* (2009:2653-2655),

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purpose was integrated in the DNA of the themes of virtual teams through specific objects under the people theme.

However, predecessors and successors to Ebrahim *et al.* (2009), in virtual team purpose orientation such as Gaudes *et al.* (2007:83-97), Maynard *et al.* (2012:342-365) and Rahschulte (2011:31) agree that all types of effective teams (including virtual teams) should have a purpose, known and supported by all members. Therefore, the main study on which this article is based considered the purpose orientation as an independent theme, which requires that the elements supporting it, be abstracted from the other themes (process, people and technology) and be re-assigned to the purpose theme. In deciding which elements should be reassigned to the purpose theme, two aspects, namely task alignment and flexibility, assisted with the re-alignment of the purpose.

Task alignment was considered to highlight the differentiation between a virtual team and a FTFT. It was found that the factors influencing the way tasks are assigned in the team to achieve its purpose do not differ between these two team types (Lorange 2010:75-101):

- The size of the organisation – bigger organisations tend to have greater administration requirements, whilst the simplicity of smaller organisations might need more personal involvement from the leader. The size of the organisation and team may thus have an influence on the role of the leader.
- Degree of complexity of the task and group – in smaller groups, multitasking might be essential, whilst in very complex tasks, either multitasking or sharing responsibility on the same task will be viable.
- Type of people employed for the team - this includes the right mix of people in terms of personalities, knowledge and experience.

Flexibility, which is an inherently distinctive feature of virtual teams, was found to influence (slightly to significantly) how a virtual team formulates purpose, strategy and implementation of the strategy and creates space to work together effectively as opposed to working in a face-to-face team (Brown *et al.* 2007:5-10). The influence of flexibility is also visible in a number of purpose elements such as strategy orientation, role clarification, talent sourcing and contracting, innovation and value systems of the virtual team (Lorange 2010:75-101). Ideally, these influences related to flexibility should be explored in the broader context, which

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was done in the main research (De Bruyn 2014). However, this article and the subsequent findings will only focus on virtual team literature related to strategy orientation and role clarification deemed to be the starting processes of teams in general.

The role of organisational leadership is to determine the most effective direction of the organisation, and to focus on structuring and translating the organisational or corporate strategy to achieve its purpose (Nienaber 2010:661-675). Therefore, team purpose theory remains true, irrespective of team type. Clemons and Kroth (2010:5-10), Child (2005:3) and Gaudes *et al.* (2007:83-97) note that, due to virtual team flexibility and technologically aligned characteristics, direction setting will reflect in new and different procedural aspects such as performance measurement and rewards, causing purpose orientation to be different in VT than FTFT.

## **2.2 Barriers to virtual team establishment**

A number of challenges face the virtual team regarding team establishment. Unlike FTFT, the infrastructure (technology use towards shared knowledge and collaboration use) and trust relationship among the team members should first be at a functional level, as it will enable and facilitate shared knowledge and restructure work (Nemiro, Beyerlein, Bradley & Beyerlein 2008:1-50), without changing core needs before leadership addresses the actual team goal (Gaudes *et al.* 2007:83-97; Malhotra & Majchrzak 2004:75-88, Ortiz de Guinea, Webster & Staples 2012:301-308). Furthermore, Kirkman, Rosen, Tesluk and Gibson (2004:186) note that the functions and focus areas of virtual team members might not be entirely clear, predictable or accurately definable. Lastly, in virtual teams, emphasis is placed on an integrative and dynamic approach towards the reorganising of communications between colleagues to ensure focus on goals (Harrison-Broninski 2012:59). Because communication is the only lifeline between members, greater attention needs to be given to standardisation of the abbreviations used in communication as well as housekeeping (document formatting, storage and retrieval protocol). Housekeeping is therefore an important element in virtual team purpose orientation (McWhorter 2010:623-631).

In summary, in FTFTs, the majority of strategic planning happens when the members meet for the first time. In virtual teams, crucial preparation steps need to be taken by leadership before the team is brought together. When a virtual team meets for the first time, though the

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focus of the team is on goal setting and building trust, relationships between team members should be at a functional level rather than building and evaluating the communication infrastructure (Edwards & Wilson 2004:18). Hence, the availability of appropriate infrastructure (in particular technological infrastructure such as the leveraging of synchronous tools) should support the strategy and the organisational design of the virtual team as an integrative part of the organisation to ensure focus on goals and member interaction. It has also been noted from the literature that VT goal setting is not a once-off process, but may be adapted during the duration of the team (Edwards & Wilson 2004:17).

### **3. RESEARCH METHODOLOGY**

This article reports on a larger research project, of which the purpose was to understand best practices in the industry in question, including purpose focus. The inquiry and the report on it were situated in an interpretivist research philosophy, with the emphasis on experience and interpretation (Richards & Morse 2013:51-52; Seymore 2012:108). The problem was studied by means of a qualitative case study design, which was deemed appropriate to this inquiry as it explores a contemporary phenomenon in its real-life context (Denzin & Lincoln 2013:26-29; Marshall & Rossman 2011:19; Saunders, Lewis & Thornhill, 2012:137; Seymore 2012:30). Thus, a qualitative research methodology, which is in line with the predominant research approach within the interpretivist philosophy, was used for data collection (Denzin & Lincoln 2013:26-29; Richards & Morse 2013:71).

#### **3.1 Sampling procedures and data collection**

The researcher started exploratory work with a small group of participants in the industry.

The population, as defined by Salkind (2012:96-103), in this article comprised all companies in the software sector of the technology industry of South Africa as listed on the Johannesburg Stock Exchange (JSE). To be practical and with due regard for time and budget constraints, a non-probability (purposive/judgment) sample was chosen based on the problem at hand (Salkind 2012:96-103; Saunders *et al.* 2012:262-281). This population and sample were considered the most appropriate for the purpose. Firstly, this industry and sector design the software programmes which enable virtual working, and secondly, the teams working in the software departments themselves use the programmes they design to enable their virtual way of working.

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In total, 16 companies, comprising of 13 JSE-listed companies and the three most significant software role-players in the international software industry (according to Forbes 2009:1-20) were approached. No ideal sample size for studies using a qualitative, phenomenological, FTF approach has been established and only guidelines are available for case studies, exclusive of the virtual realm. Rigor in qualitative technology research seems to be the guiding principle. Myers (2013:241-242) suggests that one case suffices.

Creswell (2009:190-191) suggests no more than four to five cases and Eisenhardt (1989:532-550) proposes between four and 10 cases. Both Denzin and Lincoln (2005:1-32) and Yin (2009:245-285) suggest six cases, whilst Leech and Onwuegbuzie (2007:105-121) and Guest, Bunce and Johnson (2006:59-82) prefer between three and five cases. Therefore, despite the population for this study comprising of only 16 technology companies, 10 participants participated representing four organisations, which was considered to meet the trustworthiness criteria for a qualitative case study (Marshall & Rossman 2011:221) considering the phenomenological and virtual orientation as well as the extensiveness and rigor of the questionnaire on these cases.

### **3.2 Data collection instrument**

Data were collected by means of an open-ended questionnaire according to a semi-structured data collection method and qualitative content analysis was used (Richards & Morse 2013:207). Questionnaires are not uncommon as a method of data collection in qualitative research (Isenberg, Fisher & Paul 2012:689-702). To gain depth and insight into the experiences and views of virtual team members, guiding and probing questions were included to ensure the usefulness of the data collected (Isenberg *et al.* 2012:689-702). Access to participating organisations was secured through consultation with gatekeepers, namely the human resource (HR) practitioners in the selected organisations (Kreitner & Kinicki 2008:64).

The questionnaire was self-administered and in electronic format, using the Lime Survey 2.0+ tool (Limesurvey 2013:Internet). Thus, the data collection method simulated the virtual teams' operating method, namely virtuality. Participants expressed their preference for this kind of data collection method.

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The questionnaire was available via a web-link to the HR gatekeeper in the participating organisations. Participants completed the questionnaire in their own time (allowing for time zone barriers) using electronic devices such computers or smartphones. Lime Survey 2.0+ allowed the researcher to design the questionnaire, captures the data electronically and has basic data analysis capabilities (Salkind 2012: 96-103; Saunders *et al.* 2012:262-281).

The questionnaire consisted of different question types with varying response formats, including multiple choice, text input, drop-down lists, numerical input, slider input, and simple yes/no input. Certain questions were arranged in a two-dimensional array, with options along one axis based on the questions on the other axis.

### **3.3 Strategies to ensure trustworthiness**

To ensure the scientific value of the empirical qualitative study, the researcher endeavoured to follow the guidelines proposed by Lincoln and Guba (1985:95-117), Marshall and Rossman (2011:221) and Richards and Morse (2013:103).

To achieve credibility, the researcher obtained prolonged engagement with the identified organisations by way of the assigned HR gatekeepers through weekly contact reminders, either telephonically or electronically. Credibility in the questioning technique and researcher authority in the utilisation of the data generation technique were achieved through the assistance from the qualified assigned university support staff to create the electronic questionnaire.

Further, a pilot study of the questionnaire was conducted before the empirical study was conducted. The information of both the pilot and empirical research was verified by the researcher and the qualified assigned university support staff. A field journal was kept, and experiences during the research process were captured to increase reflexivity. The researcher obtained structural coherence of the data by utilising the themes and aligning the categories of the questions with the research method. Member checking (respondent validation) of this research occurred through presentations of the main study at two international conferences, to establish whether any important aspect in either theory or application had been missed and whether the study was “fit for purpose”. No misfit was found.

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A three-tier triangulation process was utilised to obtain credibility of the study: theoretical, investigator and researcher–participant triangulation. Multiple theories were utilised to phrase the research question. Data were cross-examined by three parties and deemed an accurate reflection of the information presented by the participants. Triangulation of information was obtained by utilising both the principle of following more than one theory and source of data, and referential adequacy was achieved by citing the authors in the adapted conceptual framework (Lincoln, Lynham & Guba 2011:95-117). Referential adequacy was achieved in that all research utilised to draft questions is cited in the study and noted in the bibliography of the study.

Dependability of this research was ensured as an audit trail of the process, coding procedures and responses of each participant are available for audit purposes on Lime Survey 2.0+, but due to ethicality purposes, cannot be published in this article. Further, an Excel spreadsheet was used to download the information through an institutional software technician, and confirmation is available on request. Coding of question groups and questions was created automatically and electronically via the Lime Survey 2.0+ electronic questionnaire data collection instrument. Reasonable precautions were taken to ensure authenticity of the voices of all respondents and companies who participated in this empirical study, and the original response document was verified by the researcher. The coding system of the researcher to link unique participants to a specific organisation as well as the industry's risk alert to secure usernames and passwords for participants' email accounts may be considered to have contributed towards to the non-occurrence of duplicate participants.

Ethical consideration as suggested by Saunders *et al.* (2012:236) was utilised. Knowledge sharing was considered a great risk to the companies in the industry; therefore, the coding of the particular companies and the participants was kept anonymous to protect and respect their privacy. The researcher did not at any stage coerce or incentivise the assigned company's human resource practitioners (gatekeeper) or participants into allowing access or obtaining information.

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### 3.4 Analysis of data

The interpretive philosophy seeks to produce descriptive analysis that emphasises understanding of the phenomenon studied, rather than searching for broadly applicable laws (Denzin & Lincoln 2013:26-29; Richards & Morse 2013:1-54; Saunders *et al.* 2012:4).

An interpretivistic research philosophy holds that knowledge is created (Seymore 2012:30). This means that the understanding of reality is not a simple account of what is, but rather that deeper insight needs to be obtained of how people in societies and groups interpret reality (Seymore 2012:108) from a subjective perspective.

Thus, a qualitative content analysis protocol was utilised in the formulation of the questions rooted in theory, as well as to code, categorise and thematically analyse and interpret the data obtained from the participants (Richards & Morse 2013:103-105). In phrasing the questionnaire questions, the four categories, namely purpose; process; people and technology were utilised to phrase the questions in order to explore the experiences of the participants. Each category and theme received an identification code, developed by the researcher based on the literature review and piloted on an equivalent audience before the empirical study was conducted.

Following the completion of the questionnaire, the data presented by the participants were downloaded to an Excel spreadsheet. An overall impression of the data was done before each analysis. The descriptions of the participants' perceptions and experiences of best practices in virtual teams provided data, which formed the basis of themes and categories regarding variables affecting best practices in the effective functioning of virtual teams in the software sector of the technology industry in South Africa.

The themes could be generalised to an international audience and diverse industries, rather than generalising laws from sample to population.

## 4. FINDINGS, ANALYSIS AND DISCUSSION

The findings and analysis of the empirical study indicated that there existed some significant factors contributing towards the focus of the purpose theme and specifically strategy setting in virtual teams.

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On the question “List the top three practices which are needed to establish the purpose of a virtual team most effectively”, the most critically important factor contributing towards the purpose of a virtual team was the availability of a proper electronic management system. This management system was proposed to store important management information and conversations, which were considered ‘most important’ by participants 12, 13, 25, 27 32 and 35, and ‘critically important’ by participants 28, 40 and 43.

The second best practise was formalised team structure, communication, language and terminology, which were regarded as very important (participants 13, 28, 32 and 35) to critically important (participants 12, 40 and 43).

The third best practice group was noted to be a clarification on the duties of parties regarding various task and technology matters, suppliers of hardware, quality of internet connection, task specifications, security of information and documentation (regarded as very important by participants 12, 13, 28 and 32), to critically important (participants 25, 27 and 43). Further, regular and honest feedback on negative as well as positive performance was evaluated by the participants as ranging from very important (participants 32, 35 and 43) to critically important (participants 13, 27 and 28).

The participants’ responses show that a collegial spirit of collaboration lays the foundation for the evolution of novel ideas and original processes (participants 27, 28 and 32). The collegial spirit is supported in the virtual team by consistent exposure and connection to technology and new creations (participants 25 and 32).

Proper qualifications, skills and personality fit with other team members were valued (participants 12, 27 and 28) and honest feedback (positive and negative) were appreciated (participants 13, 27 and 28). To reinforce a sustained purpose, the celebration of milestones reached (participants 12 and 28) was noted as important. In the absence of a physical office space, specific contractual attention should be given to the virtual space where the work of team members is expected to be executed (participants 27 and 43).

## **5. INTERPRETATION AND PRACTICAL IMPLICATIONS**

The literature suggests that functional, collaborative infrastructure and trust are the key pillars that need to exist before a virtual team leader can address the establishment of the virtual team effectively (Edwards & Wilson 2004:70; Gaudes *et al.* 2007:83-97; Majchrzak *et*

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*al.* 2000; Ortiz de Guinea *et al.* 2012:301-308; SynNovation 2012:Internet). The main study elucidated the necessity that the functional, collaborative infrastructure should be part of a greater appropriate management system, which stores, supports and develops important management information (participants 12, 13, 27 and 40). The importance of a management information system for better functioning superseded the typical team-forming exercises such as mission, vision and objective, which is in line with the theoretically expected focus of knowledge workers, namely extensive use of communication technologies, collaboration and foundations, which aid knowledge working (Nonaka & Takeuchi 1995:14-37; Timonen & Paloheimo 2011:1-18).

Smaller team size is conducive to a variety of dynamics in the team and contributes towards virtual team effectiveness (participants 12, 13, 27 and 40). The participants emphasised that the quality of the network of virtual team members is more important than the number of virtual team colleagues.

Honest feedback (positive and negative) is valued by members as sustaining the trust pillar of virtual teams. The value of feedback supports longstanding theoretical knowledge, which holds that the triggers to conflict are inhibited and a more accurate personal assessment of individual work is attained if parties know what is expected of them (Mittal & Dhar 2015: 894-910; Staples & Cameron 2005:52).

The appropriate assessment of individual performance is further energised by an expected celebration of team milestones to retain focus on team activities (Ebrahim *et al.* 2009:2653-2669). In the absence of face-to-face contact, specific contractual attention needs to be given to the individual workspace (Hoch & Kozlowski 2012: 390-403). The establishment of purpose bridges the virtual distance between the workspace of virtual team members by setting and achieving milestones (Rahschulte 2011:16). Team members who are able to work independently and in a group were noted as a very important but not a critically important best practice in the establishment of purpose in a virtual team.

Networking with professional companies was noted as a very important but not critically important best practice in the establishment of purpose in a virtual team. Networking suggests an important enabling best practice in virtual teams. The ideal member of a virtual team is a permanent employee of the company for commitment reasons, and this was noted

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as a very important but not critically important best practice in the establishment of purpose in a virtual team.

Specific team dynamics, which are positively influenced by a smaller virtual team size include the facilitation of trust, team performance and engagement. This supports Pratt's (2010:91) theoretical notion that "The greater the number of people who need to work together, the more influences need to be accommodated within the team which impacts on team performance." Thus, team size influences the dynamics of a team such as members' engagement with each other and, therefore, also the relationship culture and trust between team members (Pratt 2010:91).

Proper qualifications, skills and personality fit with other team members were valued by virtual team members (participants 12, 27 and 28). Although the responses of participants supported international practice and literature in this regard (Drucker 1958:63), South African labour legislation (such as the Labour Relations Act, No 66 of 1995 (LRA) and the Employment Equity Act, No 55 of 1998 (EEA) may cause concerns for implementers of such teams in this industry (Republic of South Africa).

Recruitment practices resulting from stringent labour legislation in South Africa are noted by the World Competitiveness Index (Schwab 2014:39) as a significant constraint in achieving competitiveness for the country. This is because areas that are different from proper qualifications, skills and personality fit are accommodated in the recruitment of members to address social change initiatives such as the EEA. The issue around security with clear roles in ICT practices reflects the growing concern in South African companies around the protection of information. This resonates with the replacement of regulatory compliance with an information security strategy (Deloitte 2013:1-5).

## **6. LIMITATIONS OF THE STUDY**

The limitations of the study were found in the sampling, as sampling was only done in virtual teams in the software section of the technology sector of South Africa. Whilst these teams have an international reach due to the nature of the design impact of the software sector, only the themes are suggested to be replicated in other sectors.

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## 7. FUTURE RESEARCH OPPORTUNITIES

The themes suggested in this research could be utilised as foundational information for a future roadmap in other sectors with similar virtual technology reach. Also, the adaption of virtual team talent management approaches to align with country specific labour legislation should be further investigated.

## 8. RECOMMENDATIONS

The recommendations derived from the research as prerequisites to the on-boarding of effective virtual teams, are as follows:

- Firstly, that organisational leaders should consider their motivation for selecting members for virtual teams as not all qualified people automatically function effectively within a virtual environment.
- Secondly, due regard should be given to the influence of networking, as this was noted as a critical survival mechanism for knowledge workers in their own development and also the way in which they orientate themselves towards the goal of the team and functioning within the team.
- Thirdly, the “tools of the trade” might look different in a virtual team set-up, but should be available and function optimally by means of a pre-existing and well-maintained electronic management system within a functional level of infrastructure.
- Further, attention should be given to housekeeping protocol standardisation from the onset of the team.
- Finally, traditional mission, vision and strategy approaches are slightly diverged with the implementation of purpose in virtual teams.

Where traditional teams are normally presented with a specific purpose to which the members work, virtual teams are presented with a problem or challenge which they need to resolve or elucidate. The outcome and parameters are not necessarily clear and the pathways may be novel. The one leader-one team concept seemed to be challenged in virtual teams, and needs to be accommodated in performance management reviews.

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## 9. CONCLUSION

The main aim of the chief study on which this article reported was to explore best practices in effective virtual teams. This paper considered one such unique trait, namely how these team members orientate themselves towards the purpose and in particular the strategy setting of the team suggesting the prerequisites to the on-boarding of effective virtual teams. Relevant literature, inclusive of scholarly articles and books, were studied to elucidate definitions and practices. Although all the above mentioned sources provided valuable information, the source that produced the best insight into purpose establishment, was the virtual team members in the empirical study. They were prepared to share their experiences in order to deepen our understanding. These virtual team members highlighted the peculiarities, which differentiate a virtual team from an FTFT.

Two main prerequisites which influenced the on-boarding of effective virtual teams within the purpose establishment in the virtual team were found.

Firstly, the “DNA” of being a knowledge worker permeates the working approach in the VT, and knowledge dependency is evident in the decisions made by virtual team members. The participants’ focus on knowledge growth infused the network construct of the team (as opposed to team size), their relationships with other team members and the manner in which they orientate themselves towards the goal of the team. Unlike in FTFT, where the manager has to ensure that all team members understand the purpose of the team, the individual in a virtual team is responsible for understanding the team purpose, the duties of the job, and for contributing to achieving specific team milestones.

Therefore, the focus of management lies in enabling members to share detailed information with the team to ensure its effective functioning of which the electronic management system would be the enabling communication sharing method. This finding also confirms, that the transition from traditional to contemporary management information entails far more than the identification and implementation of the technology systems concerned and necessitates a need to manage the human dimensions of change that essentially is instrumental in assigning the “complex” connotation to the change management process involved (Weeks 2013:135).

Secondly, it was also evident that the availability of the basic tools (technology) to do the assignments, influenced the critical decision whether to belong to the group. Given that these VTs almost exclusively work with computer-mediated technology, the pre-existence of an electronic management system surpasses any vision, mission and strategy phase at the establishment of a virtual team. Without an effective electronic management system and the ability of knowledge workers to overcome barriers and be innovative, VTs have little chance of working in harmony, effectively or in succeeding in the virtual teams' purpose.

The main research and this article contribute to the body of knowledge on virtual teaming in that it provides a rich source of information on how virtual teams are founded and how members orientate themselves in the team towards the goal.

Finally, the IT term may best describe that on-boarding in a virtual team, is defined by GIGO, implying that inefficient on-boarding practices will doom the efficiency of the virtual team.

#### Acknowledgements

The author acknowledges the financial support for the entire project from the Thuthuka bursary of the South African National Research Foundation. I would also like to thank the research supervisor, Prof. Hester Nienaber, for support and guidance.

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