THE IDENTIFICATION AND COMPOSITION OF SOCIAL MEDIA POST CHARACTERISTICS FOR OPTIMAL STAKEHOLDER ENGAGEMENT OF PARTICIPATION SPORTS EVENTS

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The Lord is my strength and my song; he has given me victory.

– Psalm 118:14 (Bible, 2015)

I praise the Lord my Father and give all honour to God! The verse, "*I can do all things through Christ, who strengthens me" – Philippians 4:13* (Bible, 2015), carried me through the hard times when self-doubt settled in. I thank the Lord for giving me all the necessary tools, knowledge, and abilities to excel in all my endeavours, be it His will.

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ABSTRACT

Having a presence on social media is an integral part of how sports event organisations engage their stakeholders. While engagement from stakeholders is the desired outcome, there is little research about the characteristics of social media posts that motivate stakeholder engagement. The primary objective of the study was to determine the composition of social media posting characteristics that lead to higher stakeholder engagement. The focus was to identify social media post characteristics using the social media platform Facebook, that lead to higher stakeholder engagement in the recurring participation sports event industry. A cross-sectional quantitative content analysis was conducted on 3 841 social media Facebook posts of 13 international marathon and ultramarathon sports events between 12 August 2019 and 30 November 2020. Chi-Squared Automatic Interaction Detection (CHAID) was used to categorise social media posts according to their engagement levels. The results demonstrate that social media posts of sports events have varying effects on the level of engagement. A total of 17 variables were found to be statistically significant: The time of day, the month of the year, day of the week, level of interactivity, vividness level, tagging people or organisations, the number of hashtags, post length, links, photos, videos, content type (social, promotional, informational and entertainment), call-to-action phrases, and virtual race references all significantly influenced the sports events' stakeholder engagement rate. The findings indicate that the best social media post composition for engagement is for sporting event organisers to post in the evenings, using external links, the month before and during the actual or virtual event; however, results and compositions vary depending on the Facebook audience size. This research builds on previous research assessing Facebook in the recurring participative sports event industry and is among the first to focus on social media posting compositions, based on the interaction between post characteristics and audience engagement rates, using a CHAID decision tree methodology. By clarifying the characteristics of social media posts that engage their stakeholders, sports event organisers can more effectively manage their Facebook platform as a stakeholder engagement channel, and their stakeholder engagement policies.

KEYWORDS

Chi-Squared Automatic Interaction Detection (CHAID), decision tree, social media, Facebook, stakeholder engagement, post composition, Facebook engagement metrics; social media post characteristics, sports events; marathons, ultramarathons.

OPSOMMING

Om ’n teenwoordigheid op sosiale media te hê, is ’n ingrale deel van hoe sportbyeenkomste-organisasies hulle belanghebbers betrek. Hoewel die betrokkenheid van belanghebbers die verlangde uitkoms is, is min navorsing gedoen oor die eienskappe van sosialemediaplasings wat belanghebberbetrokkenheid sal motiveer. Die primêre doelwit van die studie was om die samestelling van sosialemediaplasings te bepaal wat tot groter belanghebberbetrokkenheid sal lei. Die fokus was om mediaplasingseienskappe te identifiseer deur die sosialemedialplatform, Facebook, te gebruik wat lei tot groter belanghebberbetrokkenheid by die herhalende-deelnemendesportsbyeenkomstebedryf. ’n Deursnee- kwantitatiewe inhoudsontleding is gedoen op 3 841 sosialemedia-Facebook-plasings van 13 internasionale marathon- en ultramarathonsportbyeenkomste tussen 12 Augustus 2019 en 30 November 2020. Chi-kwadraat-outomatiese-interaksie-opsporing (CHAID) is gebruik om sosialemediaplasings volgens hulle betrokkenheidsvlakke te kategoriseer. Die resultate dui daarop dat sosialemediaplasings van sportsbyeenkomste uiteenlopende uitwerkings op die betrokkenheidsvlak het. ’n Totaal van 17 veranderlikes is gevind wat statisties betekenisvol is: die tyd van die dag, die maand van die jaar, die dag van die week, die vlak van interaktiwiteit, die duidelikheidsvlak, om mense of organisasies te merk, die aantal hutswoorde, die lengte van die plasing, skakels, foto’s, videos, die soort inhoud (sosiaal, promosie, inligting en vermaak), die oproep-tot-aksiefrases en virtuele wedloopverwysings – hierdie veranderlikes het almal ’n beduidende invloed op die sportsbyeenkomste se belanghebberbetrokkenheidskoers. Die bevindings dui daarop dat die beste samestellings van sosialemediaplasings om betrokkenheid te bevorder is as die organiseerders van sportbyeenkomste die plasings in die aande doen, eksterne skakels gebruik, dit plaas die maand voor en gedurende die werklike of viruele byeenkoms – die resultate en samestellings wissel egter afhangende van die grootte van die Facebook-gehoor. Hierdie navorsing bou voort op vorige navorsing wat Facebook geassesseer het met betrekking tot die herhalende- deelnemendesportbyeenkomsbedryf en is van die eerstes om op sosialemediaplasingsamestelling te fokus, gebaseer op die interaksie tussen plasingseienskappe en gehoorbetrokkenheidskoerse, deur die CHAID-

beslissingsboommetodologie te gebruik. Deur die eienskappe van sosialemediaplasings wat hulle belanghebbers betrek uit te klaar, kan sportbyeenkomsorganiseerders hulle Facebook-platform as ’n belanghebber-betrokkenheidskanaal, asook hulle belanghebber-betrokkenheidsbeleide, doeltreffender bestuur.

SLEUTELWOORDE

Chi-kwadraat-outomatiese-interaksie-opsporing (CHAID), beslissingsboom, sosiale media, Facebook, belanghebberbetrokkenheid, plasingsamestelling, Facebook-betrokkenheidsmetrieke, sosialemediaplasingseienskappe, sportbyeenkomste, marathons, ultramarathons

ISIFINYEZO ESIQUKETHE UMONGO WOCWANINGO

Ukubakhona kwi-social media kuyingxenye yokuthi izinhlangano zemisebenzi yemidlalo ixhumana kanjani nababambiqhaza. Ngisho noma ukuxhumana nababambiqhaza kuwumphumela ofiswayo, kunocwaningo oluncane olwenziwe ngezinhlobo zama-post e-social media ezigqugquzela ukuhlangana nokuxhumana nababambiqhaza. Injongo enkulu yocwaningo bekuwukobona ukuhleleka kwama-post e-social media abangela ukuzibandakanya kakhulu kwababambiqhaza. Bekugxila kakhulu kwizinhlobo zama-post e-social media, ngokusebenzisa amaplatfomu e-social meda iFacebook, okuholela ekuzibandakanyeni kwababambiqhaza ekubambeni iqhaza kwimboni yezemidlalo. Kwenziwe uhlaziyo lwe-cross-sectional content analysis kuma-post e-social media Facebook angu 3 841 e-international marathon angu 13 kanye ne-ultramarathon sports event, phakathi komhla ka 12 August 2019 no 30 Novemba 2020. Kusetshenziswe i-Chi-Squared Automatic Interaction Detection (CHAID) ukuhlela ama-post e-social media ngononina ngokulandela amaleveli okuxhumana kwawo. Imiphumela ibonise ukuthi ama-post e-social media events anemiphumela enomehluko kwileveli yokuxhumana. Kutholakala ama-variable angu 17 ephelele ukuba nokubaluleka ngokwamastatistiki: Isikhathi sosuku, inyanga yonyaka, usuku lweviki, ileveli yokuxhumana, i-vividness level, kanye ne-tagging yabantu noma izinhlangano, inani lama-hashtag, ubude bama-post, ama-link, izithombe, amavidiyo, inhlobo yengqikithi (ezokuhlalisana kwabantu, ezokukhangisa, ezolwazi nezokuzijabulisa), i-call-to-action phrases, kanye nama-virtual reference konke kubonise ngokubalulekile umthelela wakho kwizehlakalo zemidlalo, kanye nezinga lokuxhumana kwababambiqhaza. Okutholakele kukhombise ama-post e-social media angcono ngokubumbeka ukuxhumana kubagqugquzeli bezehlakalo zemidlalo kuma-post akusihlwa, ngokusebenzisa ama-link angaphandle, inyanga ngaphambi nangesikhathi sesehlakalo sangempela noma se-virtual; kodwa, imiphumela kanye nama-composition kuyehluka kuncike ngosayizi we-audience ye-Facebook. Lolu cwaningo lwakhela phezu kocwaningo lwesikhathi esedlule olwaluhlola i-Facebook ekuzibandakanyeni kwizehlakako zemidlalo kwimboni kanti lungolunye lokuqala ukugxila kwi-social media posting composition, ngokukulandela ukuxhumana phakathi kwe-post characterisation kanye nezinga lokuxhumana kwe-audience, ngokusebenzisa i-CHAID decision tree methodology. Ngokucacisa ama-characteristic e-social media post

axhumana nababambiqhaza, abagqugquzeli bezehlakalo zemihlalo bangakwazi ukulawula kahle amaplatfomu eFacebook njengeshaneli yokuxhumana kwababambiqhaza kanye nemigomo yokuxhumana.

AMAGAMA ASEMQOKA

i-Chi-Squared Automatic Interaction Detection (CHAID), decision tree, social media, Facebook, ukuxhumana kwababambiqhaza, post composition, Facebook engagement metrics; social media post characteristics, sports events; marathons, ultramarathons.

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KEYWORDS, ABBREVIATIONS AND ACRONYMS

WMM	Abbott World Marathon Majors
IAAF	International Amateur Athletic Federation / International Association of Athletics Federation
IAU	International Association of Ultrarunners
Keyhole	An organisation specialising in Automated Social Media Analytics, officially partnering with all major social networks, including Twitter, Instagram, Facebook and YouTube.
SPSS	Statistical Packages for the Social Sciences
CHAID Decision tree	Chi-Squared Automatic Interaction Detection is a decision tree technique based on adjusted significance testing (Bonferroni testing). A tree diagram is used for making decisions in organisations and in which the branches represent choices with associated risks, costs, results, or probabilities.
Social media	An interactive online platform that enables organisations and stakeholders to connect and interact in various ways easily. In this study, the term social media refers to the social media platform Facebook.
Facebook	A specific Computer-mediated Social Networking System driven by user participation and user-generated content.
Stakeholder	Stakeholders are the people or groups who support marathons and ultramarathons, with justifiable and legitimate interests in the organisation's activities and management, and for whom the organisation's goal is to create value, specifically, the online brand community on the social media site Facebook. In this study, it reflects interested parties, who visit the sport's event Facebook page and engage with the postings placed there by sports event organisers.
Stakeholder engagement	An organisation's numerous communication practices, processes, and actions include stakeholders, secure their involvement and commitment, or reduce their indifference or hostility.
Engagement strategies	An organisational plan of strategies that would lead to greater engagement of stakeholders.

Facebook engagement metrics	Engagement on Facebook is a statistic based on the number of likes, comments and shares received for a specific post. Popularity is measured by the number of 'likes', commitment by the number of 'comments', and virality by the number of 'shares'.
Post	A term used for sharing content on Facebook
Like	A way to show positive feedback without commenting directly.
Share	Let the user share the content with personal Facebook friends.
Comment	A response to another user's post.
Fans/Audience	A group of users who have 'liked' a particular page. After a fan has liked a page, the posts will be visible in their news feed. In this study, audience refers to the fans and stakeholders who visit the Facebook page and respond to sports event posts with likes, shares, and comments.
Facebook analytics	A robust tool to explore users' interactions with postings, giving information that is needed to improve organisations' presence on Facebook such as insights on engagement, post effectiveness, reach and follower demographics.
Social media post characteristics	Post characteristics that could increase levels of engagement, such as content, format, design, fluency, and moment of participation.
Social media post composition	How a social media post is composed. How post characteristics are structured and presented in a social media post to increase levels of engagement.
Moment of participation	Post characteristics which are made up of three independent sub-variables, namely, the month of the year, day of the week and time of day a post is posted by the sports event.
Recurring participation sports events	A sports event can be described as an athletic activity requiring skill or physical ability, usually competitive and governed by a set of rules provided by a nationally recognised sanctioning body or by a local organisation engaged in developing and actively promoting the athletic activity. Recurring participation sports events occur on a regular basis, usually annually and are hosted in the exact same location as previous events; and represent a sports event in which the general public participates, and not limited to professional athletes

	only. In this study, it indicates the marathon and ultramarathon sports events included in the research.
Marathons	A long-distance foot race of 42.195 kilometres, run on the road, completed in under 24 hours.
Ultramarathons	A footrace longer than the traditional marathon length of 42.195 kilometres.

CHAPTER 1

INTRODUCTION TO THE STUDY

"Good, sound research projects begin with straightforward, uncomplicated thoughts that are easy to read and understand."

- John W. Creswell (Creswell, 2013)

1.1 INTRODUCTION

The Internet is a powerful tool for organisations' stakeholder engagement efforts. Online tools such as social media offer new opportunities for stakeholders to be informed, identify common interests, express and share opinions and demands, organise and coordinate interventions (Lutz and Hoffmann, 2013). Social media is a relatively low-cost channel for building stakeholder relationships, as interactive two-way communication with large and geographically dispersed audiences are possible (Carboni and Maxwell, 2015; Campbell, Lambright and Wells, 2014; Waters, 2009). Communication professionals emphasise how important it is to engage with stakeholders to build long-lasting relationships (Cornelissen, 2011). A stakeholder can be defined as "any group or person who can affect or who are affected by an organisation's actions" (Freeman (1984) in Rudansky-Kloppers and Strydom, 2015). The focus has changed from managing stakeholders to interacting with stakeholders on a continual and interpersonal basis (Cornelissen, 2011). Stakeholder engagement refers to management not only being willing to listen to and discuss concerns and areas of interest with stakeholders but more importantly, willing to change their goals and take how they operate into consideration, because of stakeholder engagement (Jeffery, 2009). Therefore, the process of engaging stakeholders can be described as involving them in communications and decision-making (Erasmus, Rudansky-Kloppers and Strydom, 2019:164).

When social networking sites, such as Facebook, allow organisations to create profiles and become active members of the online community, organisations develop strategies for online activities (Waters *et al.*, 2009:102), and stakeholder engagement is no different.

There are various techniques and instruments for engaging stakeholders and online interaction plays a crucial role, as organisations use social media, social networks, blogs, websites and other technologies, linked to the Internet, to engage with stakeholders (Manetti and Bellucci, 2016:986). Social media provides stakeholder groups the opportunity to be informed, identify common interests, express opinions and demands, and organise and coordinate events. The Internet is a powerful tool for organisations' stakeholder engagement (Lutz and Hoffmann, 2013:1).

Engaging with stakeholders presents benefits and concerns from a sport organising committee perspective. The possibility of new opportunities and a competitive advantage arising from established relationships with stakeholders could be of benefit (Cornelissen, 2011:53). Some concerns of major sports events organising committees relate to stakeholder recognition and involvement; building and maintaining relationships, negotiations, communication, and their participation in decisions (Parent and Smith-Swan, 2013:185). There are substantial benefits to engaging stakeholders on a digital platform, which include a more cost-effective engagement process, increased transparency and accountability, and more opportunities for engagement (Engagementhub, 2018).

The focus of this study is to explore stakeholder engagement on the social media networking site Facebook by recurring participative sports events, specifically looking at marathons and ultramarathons to determine their use of social media for engagement and determine optimal post compositions to engage stakeholders. The remainder of this chapter provides a contextual background to the study, clarifying the research problem and the research objectives, followed by a brief description of the research methodology. This chapter concludes with an outline of the chapters present in this study.

1.2 BACKGROUND INFORMATION ON THE RESEARCH ISSUE

The background to the study's research problem consists of two components, namely, the management of recurring participation marathon and ultramarathon sports events, (hereafter referred to as sports events), and social media stakeholder engagement. Each of these will be briefly discussed below.

1.2.1 SPORTS EVENT MANAGEMENT

DeSensi, Kelley, Blanton, and Beitel (1990) define sports management as a group of management skills such as planning, organising, directing, controlling, budget, leading, and evaluating within an organisation whose main product or service is associated with the sport. Professor Brenda G. Pitts, a sport management professor, describe sports management as practices that involve organisers to produce, facilitate, promote, or organise any sport-related business or product (Pedersen and Thibault, 2022). A sporting event can range from a local fun run to a large international event such as the Olympic Games. Sports events are special events that can be further divided into minor, major, mega and hallmark events (Parent and Smith-Swan, 2013; Masterman, 2014). This study focuses on hallmark recurring participation sports events, which occur annually, hosted in the same location, and include the participation of both the general public and professional athletes (Section 2.3.1) (Parent and Ruetsch, 2021; Kennelly, 2017; Rudansky-Kloppers and Strydom, 2015). The most well-known area of mass participation sports is marathon running (Robb, 2015).

Sports events are not solely about competition between participants; sports events are social and media occasions that attract a significant number of spectators. In addition to the entertaining and celebratory features, sports events enable various business opportunities to local communities and the regions. Marathons generate significant economic impacts. The economic impact generated by the Virgin Money London Marathon amounted to £128 million in 2015 (Stevens, 2020; Davies, 2021) and R672 million for the Two Oceans Marathon in Cape Town, South Africa (Two Oceans Marathon, 2022; Swart and Maralack, 2020). These aspects and the stakeholders must be considered by sports event organisers in the efficient and effective management of events (Parent and Chappelet, 2015:1).

Over the years, sports events have gained more popularity and increased in size and complexity. Ultrarunning has become very popular, with a 345% increase in global participation over the past 10 years and annual events taking place by the thousands (Murray, 2021; Ronto, 2021). Marathon races have also increased in popularity globally. Studies on the New York City Marathon, Boston Marathon and the Berlin Marathon have shown an increase in participation (Knechtle *et al.*, 2018; Vitti *et al.*, 2020; Reusser *et al.*, 2021). With modern sporting events come more participants, intensified security, new technology and social media, with more pressure on the planning and hosting of sports events, and the necessity for sport event organisers to adapt (Parent and Chappelet, 2015:10). Typical challenges confronting sport event organisers include financial, politics, human resources, leadership, planning and organisation of events, infrastructure, facility management, media concerns, public support, legacy issues, tourism, weather, and stakeholder relationships and negotiations (Parent and Smith-Swan, 2013; Parent and Séguin, 2007).

Sport event organisers cannot plan and present an event independently; they require the assistance from their stakeholders (Parent and Séguin, 2007). Stakeholders in a hallmark recurring participation sports event can include the organising committee themselves, host communities, participants and spectators, sponsors, media, governments, sports organisations and international delegations (O'Toole, 2011:171; Parent and Smith-Swan, 2013:17). The difficulty of managing sports events, is not only because of their varying sizes, but because of the large number of stakeholders who want their various expectations to be met (Parent and Chappelet, 2015:12).

Engaging with stakeholders is critical as they can influence the event's success (Parent and Séguin, 2007:190; O'Toole, 2011:172). A world championship organising committee, for example, who struggled to transfer knowledge and develop solid, positive relationships with key stakeholders, led to them losing the contract with the Fe'de'ration Internationale de Natation (FINA). Stakeholders can affect communication, exchange information, acquire resources, and engage in other activities (Parent and Séguin, 2007:190). According to Dr Gursoy (2016), trust and support from all stakeholders are key, as a lack thereof can turn the planning process into a politically and socially charged task. In the 2016 Rio Olympics, half of all Brazilians opposed hosting the Olympics, and their resistance led to protests, riots, interruptions and legal action (ABC News, 2016).

Therefore, sports event organisers must ascertain and manage diverse interests. It is vital to have an effective stakeholder engagement process, as it promotes the prolonged existence of the event (O'Toole, 2011:172).

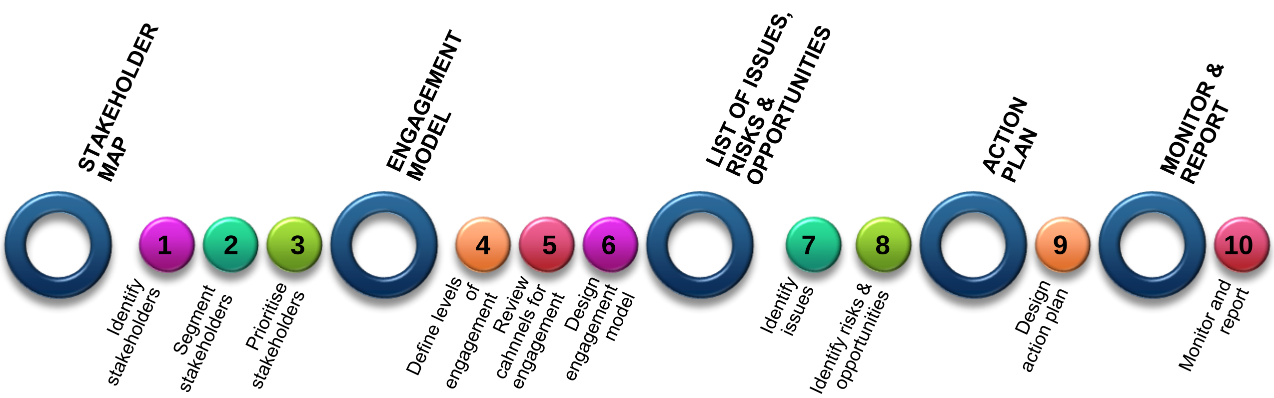
Managing a sports organisation in the 21st Century, such as the non-profit marathons and ultramarathons, involves applying techniques and strategies apparent in most modern businesses (Hoye *et al.*, 2015). Waters (2009) found that non-profit organisations primarily use social media to streamline management functions, educate the community about their activities, and communicate with stakeholders.

1.2.2 STAKEHOLDER ENGAGEMENT ON SOCIAL MEDIA

Engagement represents an ongoing and multidimensional process between the sports organisation and its stakeholders. The typical stakeholder engagement process encompasses ten steps, which begin with the (1) identification of stakeholders, (2) segmentation of stakeholders, (3) prioritisation of stakeholders, (4) definition of levels of engagement, (5) review of the channels of engagements, (6) designing an engagement model, (7) identification of relevant issues, (8) identification of risks and opportunities, (9) designing an action plan, and (10) the monitoring and reporting process. These steps are categorised into four stages: stakeholder map, engagement model, stakeholder concerns, and action plan (Iberdrola, 2022).

The stakeholder map stage involves the first three steps: identifying, segmenting, and prioritising stakeholders according to their impact and influence on the organisation. The engagement model stage involves steps four to six, which requires that the organisation defines the levels of engagement with stakeholders, review the available channels for engagement and design the engagement model that best suits each stakeholder category. The stakeholder concerns stage involving steps seven and eight necessitates the identification of relevant issues faced by the organisation and the various stakeholder categories and identifying the risks and opportunities that arise from these issues. Lastly, the action plan stage comprises steps nine and ten, designing an action plan, requiring the organisation to develop strategies that address the identified issues concerning the engagement model and monitor and report on the outcomes and performance of the strategies to engage with stakeholders (Iberdrola, 2022). These various steps and stages demonstrate that the stakeholder engagement process requires specific management. The focus of this study is placed on step 10) monitor and report, as the outcomes of Facebook posts are analysed in order to make recommendations for improvements in stakeholder engagement rates. Figure 1.1 illustrates various steps and stages in the stakeholder engagement model.

Figure 1.1: Stakeholder engagement model



Source: (Iberdrola, 2022)

Stakeholders come and go over the years, but engagement is a continuous process independent of specific stakeholders. Therefore, engagement is an iterative process where the organisation constantly learns and improves its abilities with stakeholders and develops mutually respectful relationships instead of having one-off consultations. Lessons from previous engagements determine planning and engagement for the future (Jeffery, 2009). However, traditional stakeholder engagement has a digital future (Cision Gorkana, 2016). The world has changed rapidly to a digital and connected place, but unfortunately, many organisations have not kept up with the rapidly changing digital times and the various implications for their business activities, such as, staying informed on how their stakeholders interact on available digital platforms. The traditional stakeholder management approach depended on mass media techniques of providing information to stakeholders through printed newsletters, mass mailings, print advertising and data gathering through written surveys. These mass media techniques were aimed at stakeholders as a whole, or large groups, whether they were stakeholders or not. While some of these techniques worked at the time, they were expensive, and time intensive to implement. By using these techniques, organisations communicated indirectly with their stakeholders, and this type of communication did nothing to develop the necessary relationships, crucial for cohesive stakeholder management (Rutter, 2018).

The introduction of digital channels such as websites and emails, addressed the issue of timeliness in the dissemination of information. However, stakeholders were still not engaged on a personal level. Stakeholders continued to receive insufficient and unrelated information, and organisers still faced stakeholders who were ill-informed. The advancements in digital business communications over the last decade laid the groundwork for stakeholder management to be redefined and broadened (Business2One, 2017; Rutter, 2018).

There is no denying that the digital age has had a major impact on organisations in every way, from how they market and recruit, to how they strategise and communicate. All organisations operate in a new environment full of opportunities and challenges. This is clear when it comes to the area of stakeholder engagement. Stakeholder engagement was a business activity where community meetings and written surveys once dominated. The digital environment now presents unique opportunities for better outcomes that can be more timely and effectively delivered (Business2One, 2017). Digital technology advancements, such as social media, has changed the way stakeholders can communicate, and the effects can be seen on a global scale. Organisations seek ways to take advantage of the new digital opportunities, more specifically, to investigate how new technologies can aid in the management of the increasingly complex process of stakeholder engagement (Sanderson *et al.*, 2015).

Digital engagement has been described as any use of technologies such as social media by organisations to interact with their stakeholders (Cutten and Venneman, 2022; Hueffner, 2022). Therefore, digital engagement can include using anything from blogging, Facebook, Twitter, Flicker or YouTube to communicate with stakeholders and contact third parties running forums and sites and establishing two-way partnerships, and get feedback from people by using digital tools (Business2One, 2017; Rutter, 2018). This study focuses on the digital engagement taking place on Facebook between the sports event organisation and the audience on Facebook. Facebook is the most used social networking platform globally (Kemp, 2021a), and is extensively used by sports clubs, sports events and sports organisations, as well as consumers and customers within the sports industry (Abeza, O'Reilly, Séguin and Nzindukiyimana, 2015; Moustakas, 2015; Blaszka, 2011; Wallace, Wilson and Miloch, 2011; Broughton, 2010).

The merging of digital channels and the growth of social media means that stakeholder management can occur on a much larger scale and more efficiently. Some of the benefits of digitally engaging stakeholders include cost reduction, improved timeliness, transparency and targeting the modern stakeholder. By using digital tools and channels, production costs are reduced. Managing primary stakeholder groups is done at a more individual level, meaning expectations can be met with greater understanding, which strengthens the relationship. As stakeholders are being engaged in a virtual environment more personally, the cost of face-to-face meetings is reduced. The personal preferences of stakeholders can be met, and information is consumed more eagerly by them (Business2One, 2017; Rutter, 2018).

Beneficial relationships develop if messages are read, responded to, and acted upon quickly. Engagement occurs more transparently on a digital platform and doing so invites stakeholders to become more engaged (Business2One, 2017; Rutter, 2018). The modern stakeholder uses digital tools and channels to receive the information they desire. This suggests that stakeholders receive personalised information at a time and place convenient to them. The progress of any type of project can be affected if organisers do not realise the importance of building positive and trusting relationships with stakeholders. The stakeholder management process can be made easier and smoother by using a sophisticated approach in the use of digital tools and channels (Business2One, 2017; Rutter, 2018).

Social media has made a huge impact on sport, impacting teams, athletes, fans and other sport stakeholders. The most influential impact is due to everybody involved in sport having their own social media account (Abeza *et al.*, 2021). Facebook (Section 4.2.5) is the social networking site used most by all types and size organisations, due to its exceptionally large number of active users (Section 4.2.5.3) covering both businesses and consumers. According to Pronschinske, Groza and Walker (2012), sport event organisations use social networking sites such as Facebook, to reach new and foster existing fan relationships. A key objective organisations are pursuing, is reaching a higher engagement level with stakeholders (Leal-Morantes (2012) in Alonso-Cañadas *et al.*, 2018) (Section 5.2.4). Engagement in social media terms refers to an analytics metric measuring of user activity on posts. Increasing Facebook engagement has numerous advantages such as increased brand awareness, brand loyalty and social media marketing reach, as the Facebook algorithm provides more exposure to posts that gain significantly more attention (Hernandes, 2019; Business Australia, 2020; Polner, 2020). High engagement is considered a sign of trust, loyalty, and closeness (Polner, 2020), which reinforces the relationship between the customer and brand (Business Australia, 2020). Therefore, measuring and analysing engagement metrics is important for an efficient social media strategy (Hernandes, 2019).

Facebook offers a natural measurement matrix on how users interact with organisations through indicators such as likes, shares, and comments. These indicators signify popularity, commitment and virality and are offered quantitatively by Facebook and therefore can be measured. Popularity can be measured by the number of 'likes' on Facebook, commitment by the number of 'comments', and virality by the number of 'shares' on Facebook. These metrics are useful and publicly available, which is advantageous to researchers and professionals (Bonsón and Ratkai, 2013). Many researchers have adopted these metrics to measure engagement on Facebook (Ruas and Barbosa, 2022; Surucu-Balci, Balci and Yuen, 2020; Kucukusta, Perelygina and Lam, 2019; Molinillo, Anaya-Sánchez, Morrison and Coca-Stefaniak, 2019; Rakhmawati and Hanindito, 2018; Mar Gálvez-Rodríguez, Saraite, Alonso-Cañadas and Caba-Pérez, 2017; Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015; Ernest and Ronald, 2015). These metrics of popularity, commitment and virality are also used in this study to measure the stakeholder engagement achieved by sports event organisations (Section 5.2.5).

1.3 RESEARCH PROBLEM

With the above theoretical discussion in mind, having a presence on social media is an integral part of many sports event organisations due to the various inherent benefits (Meratian Esfahani and Johnson, 2018). Today, sports organisations realise social media's benefits and seek ways to take advantage of new digital opportunities, more specifically, investigating how new technologies can aid in the complex process of stakeholder engagement (Coyle, 2010; Sanderson, Burman, Foxwell and Wood, 2015). Even though engagement is the ultimate outcome of content posted on social media platforms, little is known about what in social media posts motivate stakeholders to engage (Overmann, 2018). Not all social media posts are equally effective, which adds to the already difficult situation of managing social media engagement. Engagement rates vary widely between social media posts. Some posts generate a higher engagement rate than others, depending on several factors, such as content and media type (Denktaş-Şakar and Sürücü, 2020; Pletikosa Cvijikj and Michahelles, 2014). Increasing social media engagement can be challenging due to a lack of understanding of the types of posts stakeholders engage with and why they engage with certain post types, more than others (Overmann, 2018). Sports event organisations do not have consistent strategies to manage social media, and therefore find it difficult to manage social media strategically and engage with numerous stakeholders effectively (Meratian Esfahani and Johnson, 2018).

The organisational benefits of being active on social media platforms are well documented in the literature and known in practice (Roshdi, 2011; Rutter, 2018). However, social media engagement is a complicated issue that needs specific investigation. Sports events must identify the factors that influence engagement and lead to higher stakeholder engagement rates. The knowledge could assist sports event organisers to strategise and apply effective social media management policies for engaging stakeholders.

The engagement of stakeholders on social media networking sites has only become an area of research interest in recent years and still needs much exploration. Regardless of social media studies in sports (Abeza *et al.*, 2015), no studies were found investigating social media engagement rates in recurring participative sports events (Section 4.2.6.1). There is a paucity of empirical research on digital stakeholder engagement and the engagement model of major recurring participative sports events. **There is minimal knowledge of how a social media post should be structured and presented to engage stakeholders optimally at the tactical or operational level, specifically on recurring participative sports events**. Consequently, there is a need to investigate the issue in-depth. The study focuses on this research gap and extends research on social media stakeholder engagement in sport. Addressing this gap will be achieved by understanding how social media can be used as a digital tool to engage stakeholders optimally, through a quantitative research design to determine social media post compositions that lead to higher stakeholder engagement, utilising CHAID decision trees.

While most textbooks on Business Management and Sport Management contain information on stakeholders and stakeholder management (Erasmus *et al.*, 2019; Rudansky-Kloppers and Strydom, 2015; Parent and Smith-Swan, 2013; Cornelissen, 2011; O'Toole, 2011; Ehlers and Lazenby, 2007; Bowdin, Allen, O'Toole, Harris and McDonnell, 2006), no empirical research of digital stakeholder engagement specifically for recurring participation sporting events that include marathons and ultramarathons was identified, indicating that this is an under-researched area. The dominant focus of sport event research has been on mega events and professional sports such as the Olympic Games or football World Cup, however, the same level of attention has not been given to smaller participatory sport events (Kennelly, 2017; Djaballah, Hautbois and Desbordes, 2015). The engagement of stakeholders on social media networking sites has only become an area of research interest in recent years and still needs much exploration.

Table 1.1 provides a list of previous research conducted in relation to social media and stakeholder engagement. Only a few of these studies are sports related, focusing on mega events or professional sports (Naraine and Bakhsh, 2022; Piché and Naraine, 2022; Gassewitz, 2020; Uzma, 2019; Winand, Belot, Merten and Kolyperas, 2019; Burch, Giannoulakis and Brgoch, 2016; Meng, Stavros and Westberg, 2015; Argan, Argan, Kose and Gokalp, 2013; Hopkins, 2013; Rogan, 2013).

Table 1.1: Summary of previous research related to social media stakeholder engagement

AUTHOR	**STAKEHOLDER ENGAGEMENT AND SOCIAL MEDIA RESEARCH AREAS**
(Waters *et al.*, 2009)	Engaging stakeholders through social networking: How non-profit organisations are using Facebook
(Briones, Kuch, Liu and Jin, 2011)	Keeping up with the digital age: How the American Red Cross uses social media to build relationships
(Weaver, 2011)	Connecting fans and sports more intensively through social media
(Lovejoy and Saxton, 2012)	Information, community and action: How non-profit organisations use social media
(Lutz and Hoffmann, 2013)	The impact of social media on stakeholder engagement
(Argan *et al.*, 2013)	Using Facebook as a sports marketing tool: A content analysis of Turkish Soccer Clubs
(Bonsón and Ratkai, 2013)	A set of metrics to assess stakeholder engagement and social legitimacy on corporate Facebook
(Hopkins, 2013)	Engaging Australian Rules Football fans with social media: a case study
(Rogan, 2013)	The Boston Bruins' use of social media to engage fans in promotions
(Saxton and Guo, 2014)	Online stakeholder targeting and the acquisition of social media capital
(Kruisdijk, 2014)	Stakeholder relationship management on Facebook – the communication strategies of fifteen global Fortune 500 companies
(Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015)	Corporate Facebook and stakeholder engagement
(Bonsón, Royo and Ratkai, 2015)	Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe
(Bosetti, 2015)	Engaging stakeholders through Facebook: The case of global compact lead participants

(Carboni and Maxwell, 2015)	Effective social media engagement for not profits
(Dijkmans, Kerkhof and Beukeboom, 2015)	A stage to engage: Social media use and corporate reputation
(Ernest and Ronald, 2015)	Investigating Public Universities Facebook Pages: Extent of Users Engagement
(Hoffmann and Lutz, 2015)	The impact of online media on stakeholder engagement and the governance of corporations
(Ihm, 2015)	Network measures to evaluate stakeholder engagement with non-profit organisations on social networking sites
(Khodyakov, Savitsky and Dalal, 2016)	Collaborative learning framework for online stakeholder engagement
(Moreno, Navarro, Tench and Zerfass, 2015)	Does social media usage matter: An analysis of online practices and digital media perceptions of communication practitioners in Europe
(Sanderson, Burman and Foxwell, 2015)	Stakeholder engagement in the digital age
(Meng, Stavros and Westberg, 2015)	Engaging fans through social media: implications for team identification
(Burch, Giannoulakis and Brgoch, 2016)	Stakeholder engagement with national Governing Bodies Through social media: An Insight into USA Wrestling
(Manetti and Bellucci, 2016)	The use of social media for engaging stakeholders in sustainability reporting
(Enright, McElrath and Taylor, 2016)	The future of stakeholder engagement
(Rahman, Suberamanian and Zanuddin, 2016)	Social Media Content Analysis – A Study on Fan pages of Electronics Companies
(Chen, Ji and Men, 2017)	Strategic use of social media for stakeholder engagement in start-up companies in China
(Mar Gálvez-Rodríguez *et al.*, 2017)	Stakeholder Engagement via Social Media in the Hospitality Sector: The Evidence from BRIC Countries
(Rogers, 2018)	Otherwise engaged: Social media from vanity metrics to critical analysis

(Shi, 2017)	Social media and stakeholders relationship in non-profit organisations
(Viglia, Pera and Bigné, 2018)	The determinants of stakeholder engagement in digital platforms
(Camilleri, 2018)	The SME's technology acceptance of digital media for stakeholder engagement
(Alonso-Cañadas, Galán-Valdivieso, Saraite-Sariene, del Mar Gálvez-Rodríguez, 2018)	Using social media to enhance stakeholder engagement in the fashion industry
(Xu and Saxton, 2019)	Does stakeholder engagement pay off on social media? A social capital perspective
(Kucukusta, Perelygina and Lam, 2019)	CSR communication strategies and stakeholder engagement of upscale hotels in social media
(Molinillo, Anaya-Sánchez, Morrison, and Coca-Stefaniak, 2019)	Smart city communication via social media: Analysing residents' and visitors' engagement
(Winand *et al.*, 2019)	International Sports Federations' social media communication: A content analysis of FIFA's Twitter account
(Uzma, 2019)	Developing effective social media strategies for fan and sponsor engagement in the Sports Organisation of Pakistan
(Denktaş-Şakar and Sürücü, 2020)	Stakeholder engagement via social media: an analysis of third-party logistics companies
(Surucu-Balci, Balci and Yuen, 2020)	Social media engagement of stakeholders: A decision tree approach in container shipping
(Gassewitz, 2020)	Twitter and stakeholder engagement in the Rio 2016 Paralympics
(Naraine and Bakhsh, 2022)	Optimising social media engagement in Professional Sport: A 3-year examination of Facebook, Instagram and Twitter posts
(Piché and Naraine, 2022)	Off the court: Examining social media activity and engagement in Women's Professional Sport
(Ruas and Barbosa, 2022)	Tourist Social Media Engagement: Conceptualization and Indicators

Source: Author's own summary of sources consulted

This study analyses the current composition of social media posts to engage with stakeholders and determine the various social media stakeholder engagement characteristics that lead to higher stakeholder engagement rates. Therefore, in response to the research problem, this study used a quantitative content analysis of international recurring participative sports events' (marathons and ultramarathons) social media posts on Facebook, examining the features that influence the rate of the stakeholder engagement achieved using a Chi-Squared Automatic Interaction Detection (CHAID) decision tree analysis (Section 6.6.3). CHAID is a decision tree technique based on adjusted significance testing (Bonferroni testing) (Lahiri, Dubey, Ardila, Sanyal and Ray, 2021). A tree diagram is used for making decisions in organisations and in which the branches represent choices with associated risks, costs, results, or probabilities (Merriam-Webster, 2022). The research could suggest a framework for engaging with stakeholders through the social media platform Facebook in the sports event industry to engage stakeholders optimally.

Against this background and research problem, the research objectives were developed to answer the research question and are discussed in the following section.

1.4 RESEARCH QUESTION AND OBJECTIVES

The following research question was posed:

How should sports event organisations compose social media posts on the platform Facebook to optimally engage their stakeholders?

Objectives were formulated to answer the research question and are divided into primary, secondary, and tertiary, as listed in 1.4.1.

1.4.1 PRIMARY OBJECTIVE

The primary objective of this study was to determine the composition of social media posting characteristics that would lead to higher stakeholder engagement.

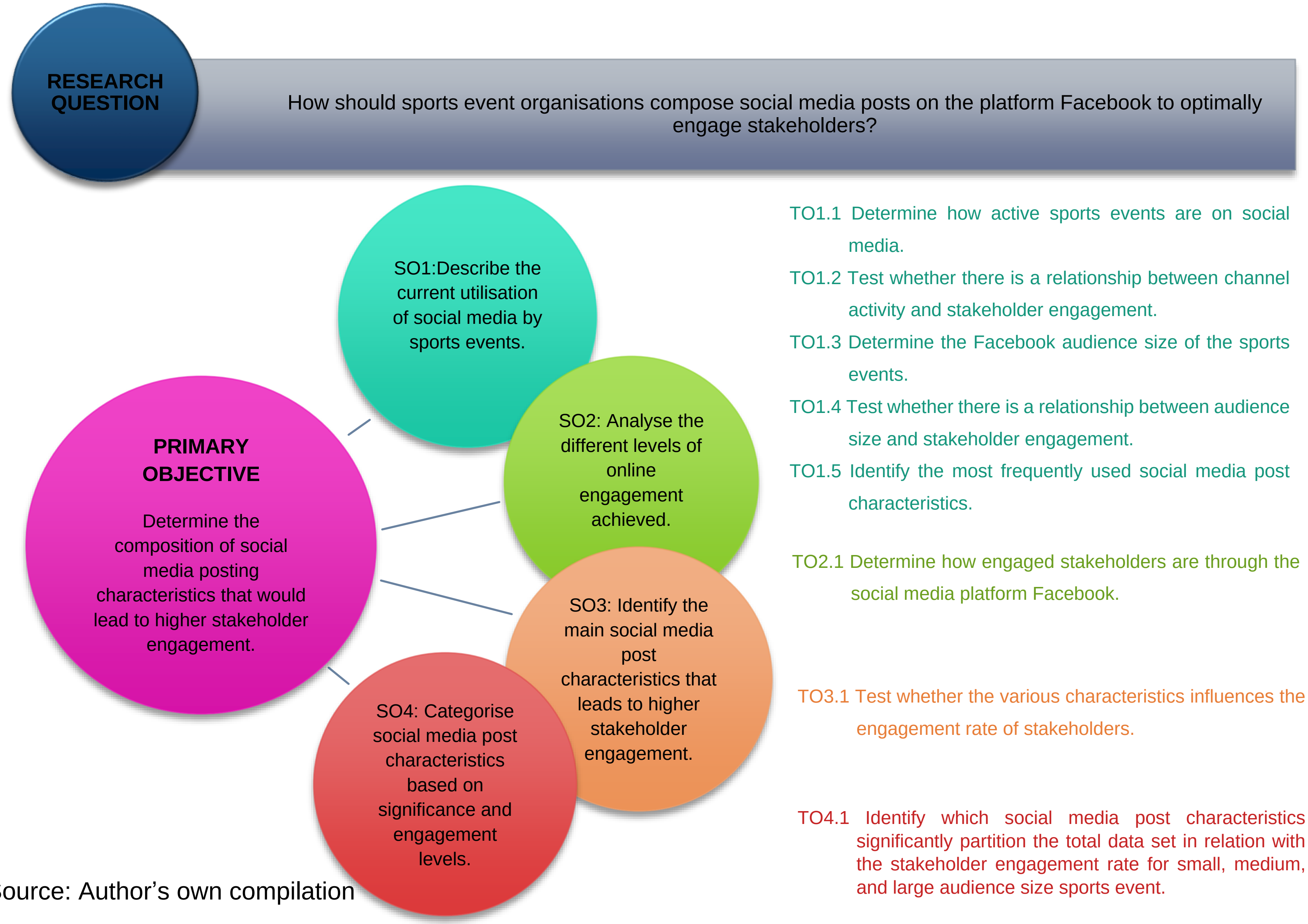
1.4.2 SECONDARY AND TERTIARY OBJECTIVES

Several secondary and tertiary objectives were identified, namely:

1. Secondary Objective 1 (SO1): Describe the current utilisation of social media by sports events and to:
    - Tertiary Objective 1.1 (TO1.1): Determine how active sports events are on social media.
    - Tertiary Objective 1.2 (TO1.2): Test whether there is a relationship between channel activity and stakeholder engagement.
    - Tertiary Objective 1.3 (TO1.3): Determine the Facebook audience size of the sports events.
    - Tertiary Objective 1.4 (TO1.4): Test whether there is a relationship between audience size and stakeholder engagement.
    - Tertiary Objective 1.5 (TO1.5): Identify the most frequently used social media post characteristics.
2. Secondary Objective 2 (SO2): Analyse the different levels of online engagement achieved and to:
    - Tertiary Objective 2.1 (TO2.1): Determine how engaged stakeholders are through the social media platform Facebook.
3. Secondary Objective 3 (SO3): Identify the main social media post characteristics that lead to higher stakeholder engagement and to:
    - Tertiary Objective 3.1 (TO3.1): Test whether the various characteristics influence the engagement rate of stakeholders.
4. Secondary Objective 4 (SO4): Categorise social media post characteristics based on significance and engagement levels and to:
    - Tertiary Objective 4.1 (TO4.1): Identify which social media post characteristics significantly partition the total data set related to the stakeholder engagement rate for small, medium and large Facebook audience sports events.

Figure 1.2 presents the overarching research problem and the study’s objectives.

Figure 1.2: Research problem and objectives of the study



Source: Author’s own compilation

In following the scientific methodology to achieve the primary objective of the research, Facebook will be used as the preferred method of social media (Section 1.6), and CHAID analysis to structure social media postings to optimally engage recurring participative sport event stakeholders (Section 1.5 and Chapter 6).

1.5 RESEARCH METHODOLOGY

This study empirically investigated the current composition of posts on the social media platform Facebook for recurring participative sports events. The study assessed the stakeholder engagement rates of social media posts on Facebook pages of recurring participative sports events, particularly marathons and ultramarathons, making use of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) formula to calculate the stakeholder engagement rate.

The secondary research of this study comprised of an in-depth literature review of the concepts directly related to the primary research. The extensive literature discussion in Chapters 2, 3, 4 and 5, of this thesis, presents a review of previous research on sports event management and the history of marathons and ultramarathons, sports events stakeholders, social media and Facebook and digital stakeholder engagement.

The primary research of this study followed a quantitative approach and was conducted cross-sectionally as the data represents a point in time. The worldview is postpositivist, focussing on practical solutions and outcomes to the research problem. An archival documentary research strategy was selected as the data was available on the social media platform Facebook, and a quantitative content analysis method was used. The data was analysed using descriptive statistics and CHAID analysis to develop the decision tree models. To ensure compliance with the Policy on Research Ethics of the University of South Africa, the study was submitted to the Ethics Review Committee of the Department of Business Management of the University of South Africa. Ethical clearance (2019_CRERC_022(SD)) for this research study was obtained before data collection took place (Appendix A).

Non-probability, purposive judgemental sampling was done to select the sample of sports events. The analysis was conducted on the Facebook posts of 13 international marathon and ultramarathon sports events, posted between 12 August 2019 and 30 November 2020, a total of 3841 posts. Data from the quantitative content analysis was captured electronically and analysed using a statistical package, namely Statistical Packages for the Social Sciences (SPSS). The descriptive statistics included tables of frequency distributions, proportions, measures of central tendency, and measures of dispersion used to determine the current utilisation of the social media platform Facebook of the given recurring participative sports events. CHAID analysis was used to develop stakeholder engagement decision trees for the given sports events that lead to higher stakeholder engagement.

The outcome of this study provides a moment-in-time indication of the use of the social media platform Facebook, by recurring participative sports events, and their stakeholder engagement rates. This study attempted to provide a starting point for the discussion and allow further research to find an acceptable stakeholder engagement decision tree models that may be used for recurring participative sports events.

1.6 SCOPE AND DEMARCATION OF THE STUDY

In line with the broad aim of the study to analyse the current structure of social media posts to engage with stakeholders and determine the various social media stakeholder engagement characteristics that lead to higher stakeholder engagement rates, specifically in the recurring participation sport event context, it is necessary to set and justify the scope and boundaries of the study.

- This study is limited to recurring participative marathon and ultramarathon sports events of the Abbott World Marathon Majors and World Athletics and the International Association of Ultrarunners with platinum and gold label status. Limiting the target population ensures events belong to and are governed by a governing body and the status ensures events are comparable. The background on these sport organisations is discussed in section 2.3.2 and how the sport events were sampled are discussed in section 6.4.

- This study focuses solely on Facebook as the social media platform since organisations predominantly use Facebook as their preferred social media platform. Other social media platforms such as Twitter, Instagram etc. were excluded from this study as the engagement measures are incomparable to one another. Section 4.2.4 provides the global social media statistics and section 4.2.5 discusses Facebook in-depth.

1.7 LIMITATIONS OF THE STUDY

The main limitation of the current study is the scope of the study, which is demarcated to a single social media platform, namely, Facebook and the recurring participation sports event sector, specifically marathons and ultramarathons. Therefore, the study's findings cannot be generalised to other social media platforms or to the entire sports event sector. Further limitations experienced by the researcher in this study are outlined in more detail in section 9.5.

1.8 CHAPTER OUTLINE

The thesis is divided into a total of nine chapters. Each chapters' content is briefly described in Table 1.2.

Table 1.2: Chapter outline

Chapter 1	**Introduction to the study** The research orientation is established with the background to the research problem, the problem statement, the purpose of the study, the primary and secondary objectives, and the research methodology.
Chapter 2	**Sport events – Marathons and Ultramarathons**

A literature review giving context to sports history, specifically the marathon and ultramarathon and how it became a business. Followed by the type of sports events, the background on the sports event organisations in this study, the current state of marathon and ultramarathon events, and concludes with the lifecycle stages of a sports event.

Chapter 3 **Sport event stakeholders**

Provides a literature review on the origin and development of the concept stakeholder. Followed by the classifications of stakeholders and concluding with the specific identification of the numerous possible stakeholders a sporting event can have.

Chapter 4 **Social media and Facebook in a sports context**

Contains a literature review that provides context to social media and how it developed throughout history, the various social media channels and social networking sites, specifically Facebook, and its usage in sports.

Chapter 5 **Digital stakeholder engagement on social media – Facebook**

Focuses on the concept of digital stakeholder engagement and how it is measured on the social media platform Facebook, which informed the methodology of this study.

Chapter 6 **The research process and research methodology**

Provides the framework of the methodology used in this study. The research design and methodological considerations adopted in this study were described and justified as being suitable to gain insight into the research question.

Chapter 7	**Data analysis: Discussions and interpretations of the descriptive statistics** Presents a description of the data's basic characteristics with descriptive analyses. The results and findings of the descriptive analysis are discussed through frequency tables and column charts. This chapter concludes with a summary of the main findings of the descriptive statistical analysis against the relevant research objectives.
Chapter 8	**Data analysis: Discussions and interpretations of the inferential statistics** Presents the results and findings of the inferential analyses conducted, the Spearman's Rho analysis, the multiple linear regression analysis and CHAID analyses for the whole data set, and the three Facebook audience sizes, small, medium, and large. The CHAID analyses are presented visually with tree diagrams, which ensured easier interpretation of the results. This chapter concludes the main findings of the inferential statistical analysis against the relevant research objectives.
Chapter 9	**Conclusions and recommendations** Provides an overview of the thesis and a summary of the key findings concerning each objective, based on the study's results. Furthermore, the contributions of the study are discussed. The chapter concludes by indicating the study's limitations, making recommendations regarding future research, and presenting the concluding remarks.

Source: Author's own compilation

1.9 CHAPTER SUMMARY

The engagement of stakeholders on social media networking sites has only become an area of research interest in recent years and requires further exploration, especially in a sports event context. The study will provide much-needed insight into the current utilisation of the social media platform Facebook and stakeholder engagement rates, in recurring participative sports events, specifically marathons and ultramarathons. This is achieved by looking at the social media posting composition characteristics and measuring the stakeholder engagement rate.

This chapter provided an introduction and background to this study. The research problem was identified, and the research question and primary, secondary and tertiary objectives were stipulated. A brief overview of the research methodology employed in this study was discussed. The chapter layout for the thesis was also provided. The next chapter provides a comprehensive discussion on sport event management and an account of marathons and ultramarathons.

CHAPTER 2

SPORTS EVENTS –
MARATHONS AND ULTRAMARATHONS

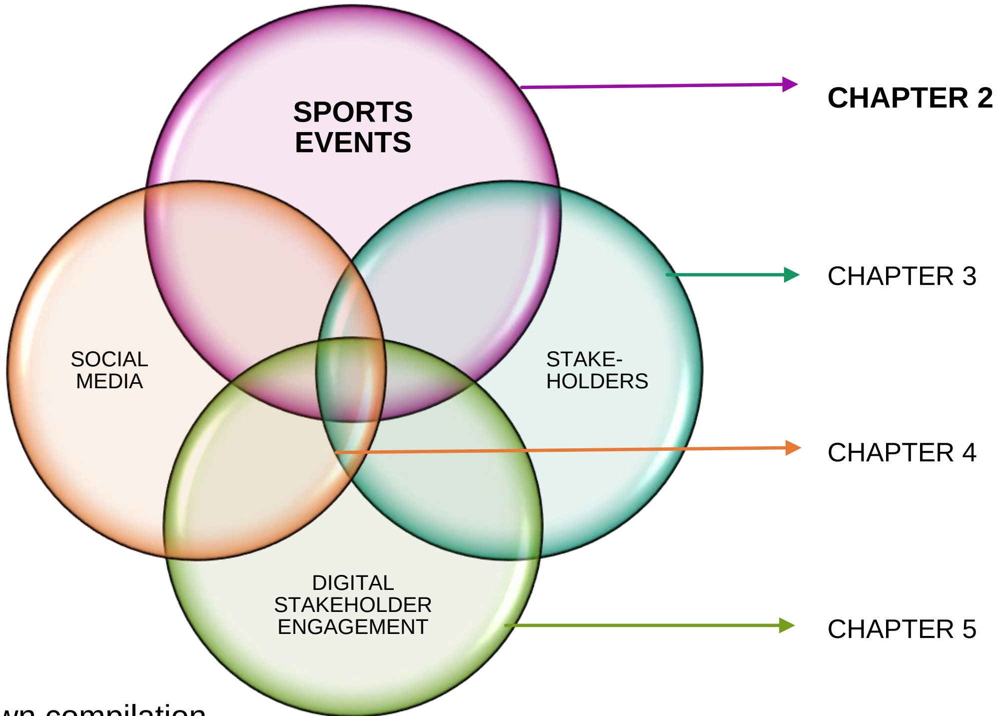
"Everything you ever wanted to know about yourself, you can learn in 26.2 miles."

- *Lori Culnane (Culnane, 2022)*

2.1 INTRODUCTION

This chapter serves as the first theoretical chapter to provide context to the research, which is derived from the research question, *"How should sports event organisations compose social media posts on the platform Facebook to optimally engage their stakeholders?"*. The key concepts identified are 'sports events', 'stakeholders', 'social media', and 'stakeholders' engagement', and are defined and discussed, in chapters two to five, as the theoretical framework of the study. Sports events, marathons and ultramarathons are addressed in this chapter. Figure 2.1 is a visual representation of the study's theoretical framework.

Figure 2.1: Theoretical framework with a focus on sports events

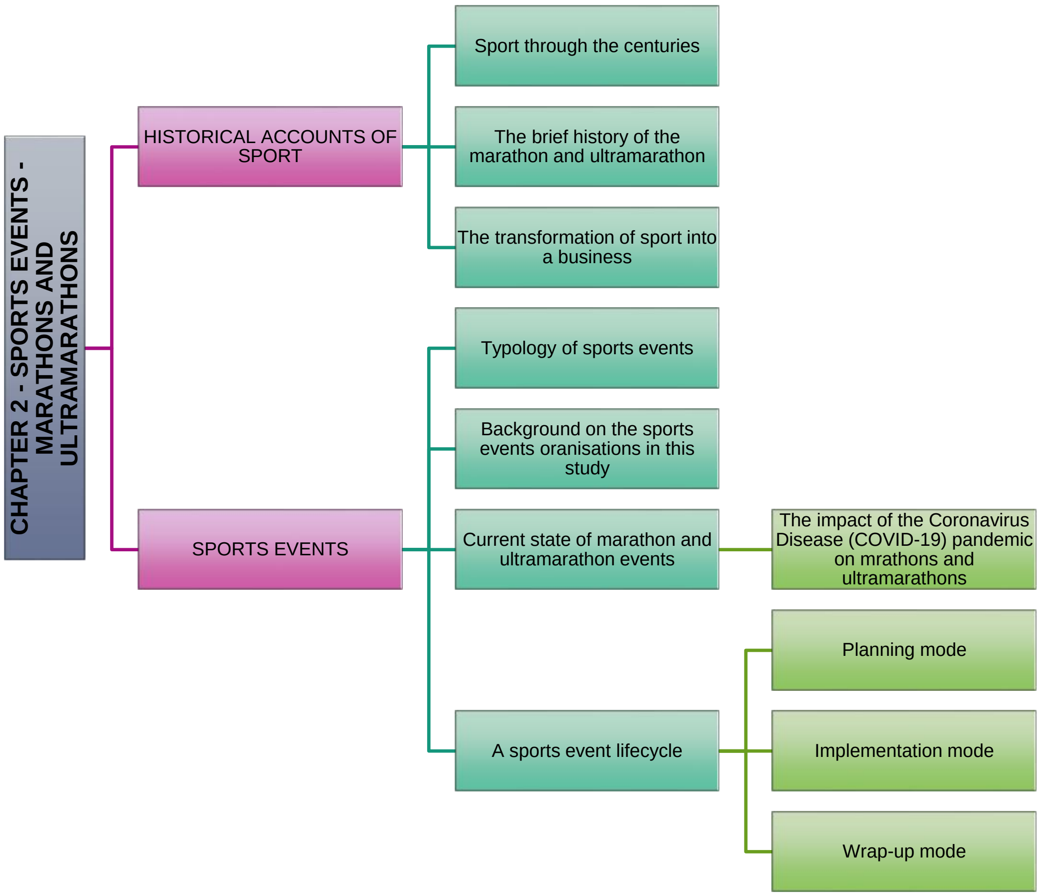


Source: Author's own compilation

Before conducting primary research, a strong theoretical foundation must be built to ensure that the necessary background is set as the point of departure for the research and to identify the gaps present in the literature (Cooper, Schindler and Sharma, 2019).

A broad background is given, starting with the history of sports, specifically marathons and ultramarathons, and how sport became a business is explained. Sports events are introduced, focussing on the types of sports events, the background of sports event organisations, the current state of marathon events, impact of the coronavirus pandemic, and the lifecycle stages of a sports event. Figure 2.2 graphically depicts the layout of topics discussed in this chapter.

Figure 2.2: Layout of Chapter 2



Source: Author's own compilation

2.2 HISTORICAL ACCOUNT OF SPORT

The following historical account briefly focuses on how sport developed through the ages, the rise of the marathon and ultra-marathon and how sport became a business.

2.2.1 SPORT THROUGH THE CENTURIES

The link between sport and people is well established through the ages. In ancient times, the great dynasties of the ancient world, such as the Egyptians, enjoyed sports such as swimming, boxing, wrestling, and archery. In Greek and Roman antiquity, sport's purpose was to prepare men for war (Demirel and Yildiran, 2013; Cornell, 2002). Greeks held athletic competitions and instituted the Olympic Games 776 BC in Olympia (International

Olympic Committee, 2021a), where athletes could compete in boxing, wrestling, running, horse racing, chariot racing and the pentathlon (Lambert, 2022; Wood, 2022a), and winners were presented with a crown of leaves, instead of the modern-day medal. The great Roman Empire provided entertainment with gladiator fights, where gladiators fought to the death, and the survivor was given a large sum of money. Chariot racing was also popular, and teams of four competed in this dangerous and sometimes fatal sport, and charioteers were treated as heroes. Cockfighting was considered a form of sports entertainment, and were held in amphitheaters in larger Roman towns (Lambert, 2022).

During the Middle Ages, between the 5^{th} and 15^{th} centuries, poor people enjoyed wrestling, running races, and playing dice, while the upper-class passed their time deer hunting with packs of dogs, and boar hunting with spears. Knights took part in jousting tournaments, using wooden lances, swords, or maces, competing one-on-one or in teams. Archery competitions were also part of these tournaments, usually occurring on the last day (Lambert, 2022). Besides archery, other sports included bowls, colf, game ball, hammer throwing, shinty, skittles, horseshoes, and stoolball (Newman, 2012). During the 13th century, the first recorded bowling green was laid in Southampton. In the 15^{th} century, golf developed in Scotland from a Dutch game played with clubs, namely, colf. On the days allowed for rest, Mediaeval peasants enjoyed wrestling and playing a rough form of football, ice skating using skates made from cow’s shoulder blades, and cruel sports such as cock fighting and bear-baiting (Lambert, 2016).

During the 16^{th} century, tournaments remained popular, the rich went deer hunting, and the poor continued to play football. Blood-sports originated around this time, with bullfighting being the most popular (Wood, 2022b). At the time, the British ruling Tudors, enjoyed wrestling, billiards, ‘casting the bar’, and swimming using bulrushes as floats. Traditional games such as bowls, tennis, and shuttlecock continued in the 17^{th} century, and the affluent played pale-maille. Yachting was made a popular sport by Charles II (Lambert, 2022).

Tennis, football, bare-knuckle boxing, cockfighting and bullbaiting remained popular during the 18^{th} century. The wealthy now also enjoyed fox-hunting. In 1727, the Jockey

Club was formed, and in 1780 the Derby began (Drager, 2021; Investec, 2022), as horse racing became a professional sport in the 18th century. A more modern form of cricket made its debut, and the first cricket club was formed in 1750 at Hambledon in Hampshire (Hambledon Cricket Club, 2017; Lambert, 2022).

Cruel sports such as cockfighting and bullbaiting were criticised in the early 19th century and banned in 1835. Many sports became organised during the 19th century. The London Football Association developed football rules in 1863, although, Australia had already developed their football rules in 1858 (Wood, 2022c). The first international match between England and Scotland was held in 1872 (The Guardian, 2016). A list of boxing rules were passed in 1867, called the Queensberry Rules, named after the Marquis of Queensberry. The rules for the modern game of tug of war were created in 1879, and the Amateur Athletics Association was founded in 1880 (World Athletics, 2020; Lambert, 2022).

Several new sports developed throughout the 19th century, such as lawn tennis in 1873, softball in 1887, basketball in 1891, volleyball and netball in 1895. Baseball became an organised sport in 1845, and in 1876, the National League was established. American football developed during the late 19th century, and the American Professional Football Association was founded in 1920 (Rothschild, 2007). The first ice rink opened in 1876 (Craig, 2020), ice hockey became an organised sport in the 1870s, and the International Ice Hockey Federation was established in 1908 (IIHF, 2022). Modern croquet and modern badminton were also developed in the late 19th century. Bicycling also became a popular sport, with the first safety bicycle on sale in 1885, pneumatic tyres were invented in 1892, and various bicycling clubs formed. The first Tour de France was organised in 1903 (Klein, 2018; ALA Connect, 2021; Le Tour de France, 2022). Even though Polo is an ancient game, the British brought it back from India and formed the first polo club in 1872 (Hurlingham Polo, 2022). The Ancient Greek Olympic Games were revived in 1896, and the first Olympic Winter Games occurred in 1924 (Encyclopedia Britannica, 2022; International Olympic Committee, 2022; Lambert, 2022).

2.2.2 THE BRIEF HISTORY OF THE MARATHON AND ULTRAMARATHON

Running originated from necessity, to save lives from predators and for hunting. Running as a sport is traced back to in 776 B.C.E, in ancient Greece in the town Olympia. The first event held in the Ancient Olympics was a stadium foot race of approximately 192 metres (Rockay, 2019; IDSWATER, 2021). However, the marathon was only born in 490 B.C.E. Its history began when a Greek soldier named Philippides ran 25 miles from the town of Marathon to Athens with news of the victory of the Battle of Marathon over Persia, delivering his message and dying on the spot. In memory of the soldiers' sacrifice, the first marathon event occurred at the modern Olympics at Athens in 1896 (Rockay, 2019; Macovei, Marcu and Dinţicå, 2018). The first marathons' distance was 40 km. However, the length of the race changed many times, and in 1921 was formally set at 42.195 km (26.2 miles). Due to the positive impact of long-distance races, running events have been organised since the 19th century. The first marathon, after the Athens Olympics, occurred in Boston in 1897. Sports events, including marathons, were originally for male participants only. Only in 1972 were females permitted to partake in the sport, and in 1984 the first Olympic marathon for women was organised (Macovei, Marcu and Dinţicå, 2018).

Ultramarathons are any foot race longer than the traditional marathon length of 42.195 km (Thalmann, 2017). The most popular distances for ultramarathons are 50 km and 100 km and can occur on roads, trails and tracks (World Athletics, 2021a; Clarke, 2022). In the 1700s, ultra-walking, as opposed to ultrarunning, events occurred, where wagers were made on how far men could walk in 24 hours (Clarke, 2022). In 1921 the first Comrades Marathon (89 km), was held in South Africa and is considered the oldest largest ultramarathon in the world (Crockett, 2022). The 1920s to the 1950s signifies running's popularity apex and attracted significant media attention. Even though media attention has somewhat dwindled (Thalmann, 2017), ultrarunning is gaining immense popularity, with a 345% participation increase globally in 2021 (Murray, 2021).

The following section outlines the historical timeline, and the process of how sport evolved into a business.

2.2.3 THE TRANSFORMATION OF SPORT INTO A BUSINESS

The management of sport was originally a sector led by volunteer managed non-profit (NFP) organisations albeit in cooperation with paid staff (O'Boyle and Bradbury, 2017; Wilson and Piekarz, 2016; Auld and Cuskelly, 2013; Sulayem, O'Connor and Hassan, 2013) and has evolved into a recognised professional and commercial industry that has grown in size and scope and has become progressively more organised and regulated (New World Encyclopedia, 2015). The sport industry comprises three organisational sectors, public (government), non-profit, and commercial (for-profit) (Pederson and Thibault, 2022). Numerous sport organisations operate as public or commercial organisations, however, the majority of sport organisations in the world are non-profit. Non-profit sport organisations' main purpose is not to make a profit but rather to address a social cause, a special interest, the needs of members, developing the sport, and improving on-field performances (Pederson and Thibault, 2022; Auld and Cuskelly, 2013).

Sports attracted evermore people and have eventually became a lucrative business (Cave, 2015; Open Media, 2018; Fundrr, 2021). During the latter half of the 20th century, businesses increasingly aligned themselves and their brand with various sports, using platforms such as television, sponsorships, and stadium rights (Smith, 2022). The first modern Olympic Games in 1928 already had a business sponsor, namely, Coca-Cola (The Coca-Cola Company, 2016; Hepburn, 2017; International Olympic Committee, 2021b). With the emergence of mass media and global communication, professional athleticism developed bringing larger audiences (Swayne and Dodds, 2011) and sports organisations and teams demanded larger incomes. Now athletes are paid for their performance (Reed and O'Connor, 2017; Figueroa, 2014) and some can afford to make sport their primary career (Luttrell and Collar, 2016).

Commercialisation, sponsorship, media, and technology are the four main factors influencing modern sports (Johan Cruyff Institute, 2016). Commercialisation has changed many sports structures (Vamplew, 2021), with media companies making the decisions (BBC Bitesize, 2022). In the late 1980s, entrepreneurs recognised only the profit potential of sport (Dennis, 2014; Cave, 2015) with a focus on media rights, sponsorship deals and merchandising. The large amounts of money paid to obtain TV and other media rights transformed sport into a global business (Evens, Losifidis and Smith, 2013; World Intellectual Property Organisation, 2018). Across the world, sport is advertised and marketed as a global product (Dennis, 2014; Nixon II, 2016:106).

An important aspect of the global sports industry is sports clothing and equipment, such as provided by Adidas and Nike (Au, 2017). Even the Olympics relies heavily on income derived from exclusive right deals negotiate with top sponsors. Creating brand awareness using sport, has grown into a popular method of marketing (Zimmer Radio & Marketing Group, 2016; Bouvier and Lesaule, 2017). Commercial sport has close ties to: professional sport, sponsorship, business, entertainment, ticket sales, contracts, athletes as commodities, endorsements, organisational assets, and the media and its association with winning and success. (Dennis, 2014). Modern sport and the significant influence businesses have had on sport cannot be separated; it has become forever linked (Smith, 2022).

The focus is directed towards sports events in the following section.

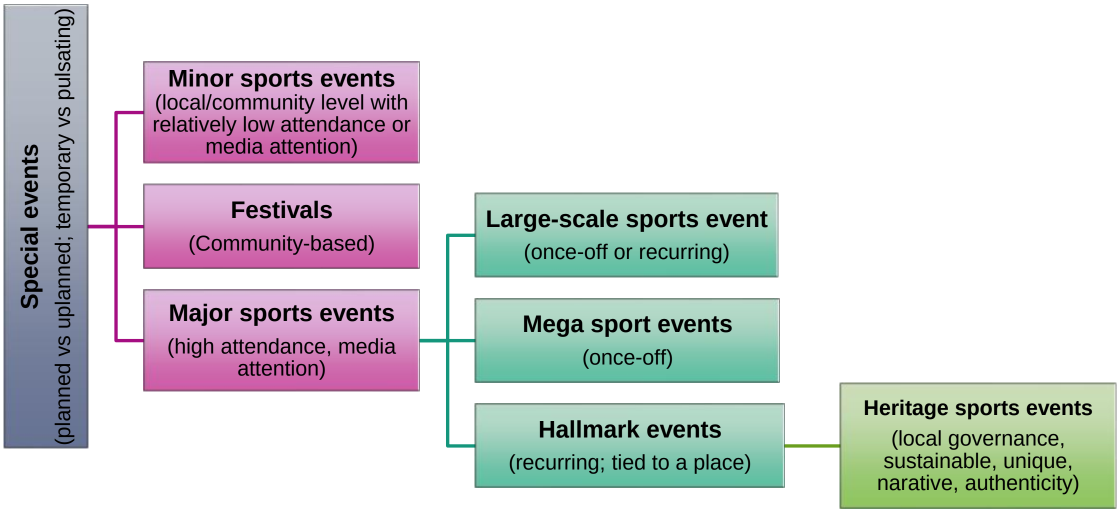
2.3 SPORTS EVENTS

There are various sports events, with key differences from one event to the next. In the next sections, the types of sports events, a background on the sports event organisations used in this study, the current state of the marathon and ultramarathon during the pandemic, and sports event lifecycles, are discussed.

2.3.1 TYPOLOGY OF SPORTS EVENTS

The classification of sports events is a well-researched area. Researchers have attempted to classify sports event types according to size, financial objectives, and characteristics of sports (elite vs recreational), space (indoor vs outdoor or single vs multi-venue), time (duration and periodicity) and renown (local vs international) (Parent and Chappelet, 2017; Parent and Ruetsch, 2021). The most used sports event typology is illustrated in Figure 2.3.

Figure 2.3: A typology of sports events



Source: (Parent and Ruetsch, 2021; Masterman, 2014)

This research will focus firstly on planned events as opposed to unplanned. Planned events combine a sports programme, people, and a place. There are temporary and pulsating planned events. Temporary planned events have a pre-set lifecycle, knowing when they will commence and conclude, the event itself and its organising committee are temporary. Pulsating sports event organisations are permanent and organise weekly, monthly, bi-annual or yearly events (Parent and Ruetsch, 2021; Parent and Chappelet, 2017; Parent and Smith-Swan, 2013). In this study, the focus is on events categorised as pulsating organisations.

This research also focuses on special events (Figure 2.3). A special event arises from non-routine occurrences, has leisure, cultural, personal or organisational goals, and is singled out from the usual activities of everyday life to enlighten, celebrate, entertain or challenge the experience of people (Parent and Ruetsch, 2021; Rudansky-Kloppers and Strydom, 2015). These events are called special because they might be a once-off event outside an organisation’s standard routines or singled out from the participant’s usual way of life. Characteristics of a special event are remembered as singular, special, unique, etc. To consider an event as special, it must meet certain criteria such as authenticity, uniqueness, festive spirit, quality, tradition, hospitality, theme, symbolism, multiple goals, international attention, substantial attendance, image/pride, and improvement to the host region (Parent and Ruetsch, 2021; Parent and Smith-Swan, 2013).

In Figure 2.3, special events are sub-divided into minor events, festivals, and major events. Minor events attract fewer spectators, and interest in the event is more local and personal. Minor events are usually traditional, such as the tug-of-war Africa Development Championships or the Jukskei SA Championships (Rudansky-Kloppers and Strydom, 2015). Festivals can be cultural or public celebrations, sometimes with a theme (Parent and Ruetsch, 2021). Conversely, major events attract significantly larger numbers of spectators, with greater public and media interest. Major events have high status, are prestigious with expensive staging, may include smaller events, and have a social, physical and economic after-effect (Rudansky-Kloppers and Strydom, 2015).

Major events (Figure 2.3), can be one-off large-scale sporting or mega events, or recurring; tied to a place hallmark event (Parent and Ruetsch, 2021; Masterman, 2014; Parent and Smith-Swan, 2013). Mega events are events that, by their size and significance, are associated with substantial media attention, financial and economic impact, attendance, tourism and prestige for the host region. The Olympic Games and the FIFA World Cup are examples of true mega events; a one-off for a specific hosting country but recur every four years as an event (Parent and Ruetsch, 2021; Rudansky-Kloppers and Strydom, 2015; Parent and Smith-Swan, 2013). Large-scale sporting events such as the Commonwealth Games or Asian Games catch the attention of numerous delegations and international media and offer benefits and legacies for the region hosting the event (Parent and Ruetsch, 2021). Host regions increasingly prefer these events as they are smaller than mega-events, simpler to host, and offer several of the same types of legacies and benefits (Parent and Smith-Swan, 2013).

Hallmark sports events (Figure 2.3), specifically, hallmark participation sports events, that include amateur and professional athletes, are the subject of this study. Hallmark events are bound to a specific location, such as the Comrades Marathon and the Boston Marathon (Parent and Ruetsch, 2021; Rudansky-Kloppers and Strydom, 2015). They are typically set within a community and offers a competitive advantage by being hosted annually (Parent and Ruetsch, 2021), and are infused with tradition and quality (Lu, 2021; Parent and Smith-Swan, 2013). Due to the sports event being fixed to a specific location, many have gained hallmark status (Page and Connell, 2012:106). Hallmark sports events are usually repeated events, with international and local characteristics, that enhance the host's visibility, attractiveness, and business opportunities (Lu, 2021). Heritage sports events are a subdivision of hallmark events, and include for example, the Calgary Stampede. Heritage events are distinguished by their longevity, sustainability, unique narrative and authenticity (Parent and Ruetsch, 2021; Pinson, 2017).

The next section provides a brief background on the sports event organisations from which the marathons and ultramarathons in this study were sampled.

2.3.2 BACKGROUND ON THE SPORTS EVENT ORGANISATIONS IN THIS STUDY

The marathons and ultramarathons that form part of this study's sample were from Abbott World Marathon Majors, World Athletics, and the International Association of Ultrarunners (IAU).

According to Tim Hadzima, executive director at Abbott World Marathon Majors (AbbottWMM), WMM began in 2006 as a way of gathering the worlds' elite athletes and renowned race directors, to enable them to share best practices and learn from each other (Carter, 2021). AbbottWMM comprises a series of six of the biggest and most high-profile marathons globally in Tokyo, Boston, London, Berlin, Chicago and New York City. A new online results hub, AbbottWMM Six Star System, commends runners for completing one to six of the races in the series. AbbottWMM takes the lead in the marathon industry, offering the largest platform and global programme to the world's best athletes. Each of the mass participation races delivers unique benefits to runners that include an operational excellence, competing with top athletes for points and a share of the million-dollar prize for the winners each year. AbbottWMM promotes marathon running and advocates anti-doping protocols to ensure the advancement of the sport (Abbott World Marathon Majors, 2022). The WMM must comply with strict and specific criteria covering all aspects of the race, ensuring a high level of organisation and professionalism (Carter, 2021).

World Athletics is the global governing body for athletics on track and field. World Athletics, formerly known as the International Amateur Athletic Federation (IAAF), was founded on 17 July 1912 after the closing ceremony of the Olympic games in Sweden. In 2001 the name of the IAAF changed to the International Association of Athletics Federations, reflecting the growth of the professional world of sport, and in 2019 the name changed to World Athletics. Their responsibilities are to provide standards, rules and regulations for the sport, certify athletic facilities, recognise and manage world records, and organise and sanction athletic competitions (World Athletics, 2022). In 2008, World Athletics introduced a labelling system to designate races that lead in road races worldwide. Labels are considered by race organisers as prestigious and being awarded a label means the event complies with the highest standards of organisation, safety and runner experience (World Athletics, 2021b, 2021c). The World Athletics Rules and Regulations and the Competition and Technical Rules must be strictly adhered to, receive support from public authorities, and make a financial commitment to anti-doping (World Athletics, 2021c). Only Gold and Silver labels were awarded in the first years, and in 2010, the Bronze label was introduced. In 2020 a Platinum label was added, and in 2021, it was announced that from 2022 the name would change to Elite Platinum Label. The Gold Label changed to Elite Label, and the Silver and Bronze Labels merged into Label Races (World Athletics, 2021b,a). Table 2.1 displays the label changes of World Athletics throughout the years.

Table 2.1: World Athletics recognised labels for marathon and half-marathon races

2008	2010	2020	2022
Gold label	Gold label	Gold label	World Athletics Label
Silver label	Silver label	Silver label	World Athletics Elite Label
	Bronze label	Bronze label	World Athletics Elite Platinum Label
		Platinum label	

Source: Author's own compilation

The International Association of Ultrarunners (IAU) is the international governing body for ultradistance running. The IAU operates under the patronage of World Athletics and is dedicated to developing ultradistance running internationally, within the rules and regulations of World Athletics (International Association of Ultrarunners, 2021a). The IAU introduced Labelling in 2008 to ensure racecourses are measured and in line with the World Athletics regulations, which is important when a World or Continental Best Performance is run, as it is the only way performances can be compared. The introduction of labelling means that only performances in IAU labelled races are recognised officially by the IAU (International Association of Ultrarunners, 2021b). Table 2.2 indicates the labels and ultradistance race types the IAU officially recognises.

Table 2.2: IAU recognised labels for ultradistance races

LABEL	TYPE OF RACE
IAU Gold Label	OD* Road and Track Races
IAU Silver Label	NOD** Road and Track Races
IAU Bronze Label	
IAU Trail Label	Trail Races

* OD = Official Distance (distances at which the IAU hold competitions – 100K, 24H, 50K)

** NOD = Non-Official Distance (6H, 12H, 48H, 50 miles etc)

Source: (International Association of Ultrarunners, 2020a)

In the next section the current state of marathon and ultramarathon sports events are discussed.

2.3.3 CURRENT STATE OF MARATHON AND ULTRAMARATHON EVENTS

There is more than 1381 full marathons and 796 ultramarathon events globally, listed on World's Marathons' (2022) website. Although both elite (professional) and non-elite participants can partake in marathons and ultramarathon races, the vast majority of participants are non-elite or recreational runners (Helsen, Derom, Corthouts, De Bosscher, Willem and Scheerder, 2021). Running event participation peaked in 2016 with 9.1 million runners crossing finish lines. It declined by 13% to 7.9 million in 2018 mainly because of less participation in Europe and the United States. However, participation in running events is not declining in every country and has increased in Asia. Over time, participation in the sport has increased by 57.8%, from 5 million in 2009 to 7.9 million participants in 2018. These participation numbers represent all running distances, such as 5 K, 10 K, half-marathon, and marathon distances. Marathons had a modest following of 1.1 million participants in 2018, and participation fluctuated less than 2%. Motivation to participate in running events is potentially changing from achievement orientation to a phycological, health and social focus, which can be determined by more people travelling to races, slower finishing times and how milestone-ages such as 30, 40 and 50 are much less dominant than in the past (Anderson, 2021).

2.3.3.1 The impact of the Coronavirus (COVID-19) pandemic on marathons and ultramarathons

On 31 December 2019, several cases of a 'viral pneumonia of unknown cause' were detected in Wuhan, People's Republic of China. By 9 January 2020, it was determined that a novel coronavirus, COVID-19, caused the outbreak. On 30 January 2020, the World Health Organisation (WHO) declared the outbreak of the novel coronavirus a Public Health Emergency of International Concern (PHEIC). Troubled by COVID-19's rapid spread to other countries and its severity, WHO escalated it to pandemic status by 11 March 2020 (World Health Organization, 2021).

Governments worldwide implemented various interventions, differing in intensity, to prevent the spread of COVID-19 and reduce the pressure on health systems. Without a vaccine at the time, nonpharmaceutical interventions included restrictions on international travel and internal mobility across cities and regions; closure of public transport, schools and businesses; cancellations of public events (such as conferences, concerts and festivals, elections, sports events, seasons and the summer Olympics), restrictions on private gatherings and stay-at-home requirements (Askitas, Tatsiramos and Verheyden, 2021; Gössling, Scott and Hall, 2021).

These interventions led to a global shutdown of sport at all levels, including mega-events such as the Olympic Games and the European Football Championship (Parnell, Widdop, Bond and Wilson, 2022; Evans *et al.*, 2020). The first marathon impacted by COVID-19 was the Tokyo marathon, scheduled for 1 March 2020. On 17 February 2020, it was announced that the event, which expected 38 000 participants, would be limited to the 176 elite and 30 wheelchair athletes (Ingle, 2020; Kelly, 2020; Runner's World, 2020). Other marathons and race organisers worldwide proactively responded by cancelling or postponing events due to the uncertainty of the virus's spread (Runner's World, 2020). The Boston, Berlin, Chicago and New York City marathons, that form part of the six 2020 Abbott World Marathon Majors, were cancelled. The London marathon was an elite-only race (Roethenbaugh, 2020; Runner's World, 2020; Strout, 2020).

All sectors of the world were extraordinarily impacted by COVID-19 with the multi-billion-dollar sports tourism industry severely impacted. According to Gössling, Scott and Hall (2021), the sports tourism events sector were the worst affected because of the ripple effect on the other areas of the supply chain. Several sport's governing bodies were either bankrupted or placed in financial distress. Professional athletes' salaries were reduced or cut completely, leaving them without an income. Huge losses were incurred by sports value chain members such as sponsors, betting firms and broadcasters (Kemp, 2020; Nhamo, Dube and Chikodzi, 2020).

The economic impacts generated when marathon events are held, is significant. The Virgin Money London Marathon had a positive economic impact of £128 million in 2015 (Stevens, 2020; Davies, 2021). The Boston Marathon contributed more than $200 million to the local economy in 2019 (Stevens, 2020; Boston Athletic Association, 2021). The Bank of America Chicago Marathon generated $378 million in 2018 (Lazare, 2019;

Stevens, 2020), while the New York City Marathon injected $415 million in a single year due to the significant boost in tourism, tax revenue and local economy (Stevens, 2020; New York Road Runners, 2022). The economic impact of the Two Oceans Marathon in Cape Town, South Africa, is evaluated to be R672 million (Two Oceans Marathon, 2022; Swart and Maralack, 2020).

According to Giampiccoli, Lee and Nauright (2015), recurring sports events are more sustainable, less expensive and not as vulnerable to global economic crises due to attracting a niche market of local and internationally returning participants and spectators. Regardless of the positive potential of recurring sports events, such as marathon races, the impact of the coronavirus on all sporting events is unprecedented (Swart and Maralack, 2020). Bart Yasso, former chief running officer for Runner's World, agrees the impact of COVID-19 is devastating, and believes that many sports event organisations will be severely compromised, but that smaller events might not survive the pandemic's effect (Ettinger, 2020; Stevens, 2020). Rich Harshbarger, CEO of Running USA, stated that many race organisers across the USA are small businesses employing an average of eight people, with as much as 95% of annual revenue coming from race fees (Stevens, 2020). With race cancellations, and no league or players association, Ironman, Running USA, and 500 other endurance event operators united to form the Endurance Sports Coalition, with the goal of seeking long-term funding for event operators (Stevens, 2020; USA Triatlhon, 2020).

Swart and Maralack (2020) studied the impact of the cancellation of the Two Oceans Marathon due to COVID-19 and found that the decision came at a huge cost. The event was cancelled three weeks before the planned opening. The Two Oceans marathon decided not to refund runners, as most of the planning, logistics and preparation were done, and substantial resources had already been spent or committed. The major impacts on the organisation were event positioning, brand reputation, runner centrism and comprehensive risk assessment. The lessons learnt highlight areas for improvement, namely, stakeholder management, risk management, communication and process management (Swart and Maralack, 2020).

However, new opportunities arose, despite the various challenges (Swart and Maralack, 2020), and the closure of sport and exercise facilities led to a running boom (Minsberg, 2020; Stevens, 2020; Durand, 2021; Moreton, 2021; Sherman, 2021; Verry, 2021). Helsen *et al.* (2021) determined that participation in running did not decrease, only the intensity of training was reduced as events were cancelled. Studies confirm that the increase in participation, is mainly for health benefits and due to the lack of equipment needed (Durand, 2021; Nielsen Sports, 2021; Sherman, 2021). New technologies have enabled event organisers to produce new virtual race formats and create new sponsorship opportunities (Swart and Maralack, 2020). Virtual races quickly became popular, not just among runners, but race organisers as well, as a method to keep runners engaged and motivated during lockdown periods. A virtual race allowed participants to complete a race according to their own schedule, at a location of their choice, then log in and record their results afterwards (Miller, 2020; Wahba, 2020; Vennare, 2021; Casanova, 2022). The Boston Marathon's virtual race in 2020 attracted 18 000 runners and 96 000 for the New York City virtual marathon (Wahba, 2020; Vennare, 2021). London Marathon's 45 000 available virtual slots sold out in a few days (Snider-McGrath, 2021). Woyo and Nyamandi (2022) found mixed perceptions regarding virtual reality technologies for outdoor sporting events but still encouraged sporting event managers to invest in the strategic development of virtual sports.

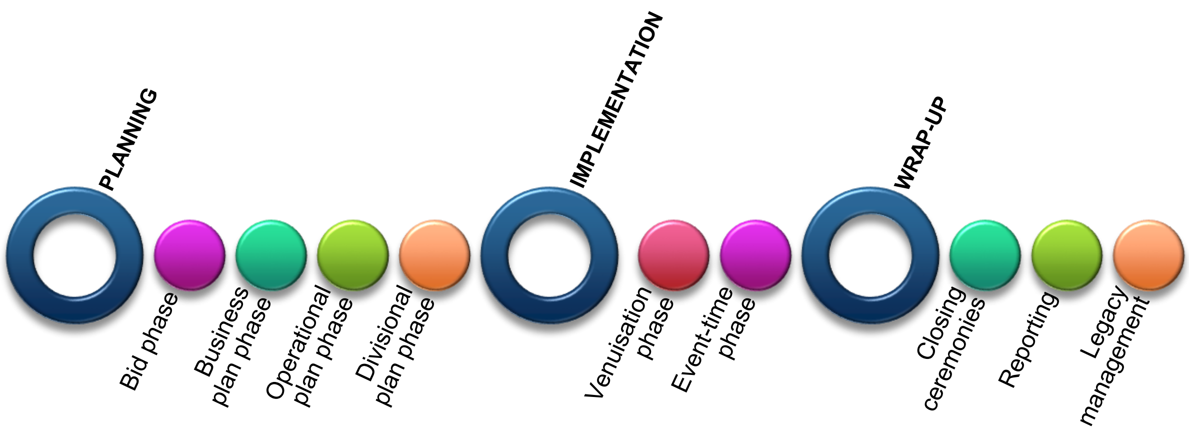
With the vaccine available and research showing that COVID-19 is less transmissible outdoors, mass participation races will slowly return in 2022. Many countries welcome the return of mass participation events, however, it will not return as previously (RunABC, 2021; Sanlam Cape Town Marathon, 2021; Sports Travel International, 2021). The Boston Marathon, one of the biggest mass-participation events, will take place on its traditional date, 18 April 2022, but with a vaccine mandate and a participation cap of 30 000 (Traub, 2022). Sports event organisers will focus on five broad preventive measures in future physical events: density reduction, touch-point minimisation, best practice education and training, self-reliance promotion, and increased pre-race screening (Stevens, 2020).

In the next section, the lifecycle stages of a sports event will be briefly described.

2.3.4 A SPORTS EVENT LIFECYCLE

The lifecycle of a major international sports event consists of three generic modes, planning, implementation and wrap-up, through which an organising committee must transition, from beginning to end (Parent and Smith-Swan, 2013; Schwarz, Westerbeek, Liu, Emery and Turner, 2017; Hassan, 2018; Parent and Ruetsch, 2021). Figure 2.4 provides an illustration of a sports event lifecycle, displaying the three modes, and their corresponding phases.

Figure 2.4: A sports event lifecycle



Source: Author's own compilation

The following sections will briefly address each of these modes.

2.3.4.1 <u>Planning mode</u>

The lifecycle of an event starts with the planning mode (Parent and Ruetsch, 2021; Hassan, 2018; Parent and Smith-Swan, 2013), also known as the pre-event stage (Schwarz *et al.*, 2017). The planning mode usually begins with a bidding phase, which can last between one and three years, depending on the type of event. The bidding process is typically transparent. Once a bid committee successfully obtains the right to host the event, the bid committee transitions into the organising committee, which takes six to eight months. A designated team leader is chosen during this period, and the overall strategic plan and organising committee charts are developed, which forms part of the business plan phase (Chatziefstathiou, García and Séguin, 2021; Parent and Ruetsch, 2021; MacIntosh, Bravo and Li, 2020; Kwon, 2019; Hassan, 2018; Mega-Sporting Events Platform for Human Rights, 2018; Hoye and Parent, 2017; Parent and Chappelet, 2017; Parent and Smith-Swan, 2013). The business plan also includes the event's mission, vision, goals, and principles, agreements and contract information, terms of reference, budget and financial management and employment of key senior executives (Parent and Chappelet, 2017).

Following the business plan phase is the operational plan phase, emphasising the responsibilities to be fulfilled in each functional area. The operational plan extends the terms of reference from the business plan and provides more detail while closely observing the budget. The divisional plans phase commences with the organising committee splitting the operational plan into smaller, more manageable divisional plans for each functional area (Chatziefstathiou *et al.*, 2021; Parent and Ruetsch, 2021; García-Vallejo, Albahari, Añó-Sanz and Garrido-Moreno, 2020; MacIntosh *et al.*, 2020; Hassan, 2018; Hoye and Parent, 2017; Parent and Chappelet, 2017; Parent and Smith-Swan, 2013). Stakeholders must be continuously engaged throughout all life cycle phases of the event (Mega-Sporting Events Platform for Human Rights, 2018).

However, recurring sports event organisations, such as the Boston Marathon, spend less time in the planning mode, than mega events do such as the Olympic games. These events usually do not need to bid for the event each year. Instead, a contract with the host city is signed for a fixed number of years, which allow the event to be hosted each year as specified in the contract. With such short time spans, it is not surprising that the organisers start planning the following year's event the day after their event concludes (Bester, 2019; Parent and Chappelet, 2017).

2.3.4.2 <u>Implementation mode</u>

The event's lifecycle moves from the planning mode to the implementation mode. Once the organising committee is in the implementation mode, they transfer or venuise the divisional plans' activities, materials and staff to the various locations for the event-time phase (Chatziefstathiou *et al.*, 2021; Parent and Ruetsch, 2021; MacIntosh *et al.*, 2020;

Hassan, 2018; Hoye and Parent, 2017; Parent and Chappelet, 2017; Parent and Smith-Swan, 2013).

According to Schwarz *et al.* (2017) and Hassan (2018), implementation forms part of the planning mode, and the event-time phase is the second mode called the event management stage. The implementation mode involves applying plans, coordinating, contracting, verifying, monitoring, and controlling the implementation. Decisions are made in terms of differences found between the plans and the reality on the ground. Risks must be actively managed, and work-in-progress must be reported to stakeholders. The implementation mode is known for its high activity and constant communication between the involved parties (Schwarz *et al.*, 2017; Hassan, 2018).

The event-time phase is sometimes referred to as the operation phase (Kwon, 2019; MacIntosh, Bravo and Li, 2020). It is considered the operational delivery of the event, which means it is being staged and executed (Schwarz *et al.*, 2017). According to Schwarz *et al.* (2017), sports events are intangible, which warrants a different terminology. Management use different management techniques in the lead-up implementation of the event, to that of the operation phase of the actual event, with the attendance of the major stakeholders, participants, and spectators. The event schedule is overseen to ensure staff members are informed of their tasks and the event runs smoothly. Therefore, monitoring becomes essential to ensure adherence to the event timetable, and if any changes to the event are required, it is documented for later post-event evaluation (Hassan, 2018).

2.3.4.3 Wrap-up mode

The event's lifecycle moves to the wrap-up mode immediately after the closing ceremonies (Parent and Smith-Swan, 2013; Hoye and Parent, 2017; Parent and Ruetsch, 2021). The wrap-up mode is also referred to as the post-event stage (Schwarz *et al.*, 2017; Hassan, 2018) or legacy stage (MacIntosh, Bravo and Li, 2020). The wrap-up mode can last up to six months or a year. Most organising committee members and volunteers have fulfilled all their duties by this time. Those that remain decommission event-specific aspects, turn the venues over to their owners, debrief and evaluate, write final reports and manage the legacies of the event (Parent and Smith-Swan, 2013; Hoye and Parent, 2017; Parent and Chappelet, 2017; Hassan, 2018; MacIntosh, Bravo and Li, 2020; Chatziefstathiou, García and Séguin, 2021; Parent and Ruetsch, 2021). For some events, such as world marathons, this final stage can overlap with the event-time phase, as the process of clearing away starts minutes after the last runner begins the race (Schwarz *et al.*, 2017).

Decommissioning the venues and functional areas involved, turning the venue into its post-event function by taking down all event-related temporary buildings, logistics, and signage as the final activities of each functional area is wrapped up. These activities include, but are not limited to, thanking staff and volunteers for their efforts, reimbursement of final receipts, final accounts, report preparation, final stakeholder presentations, and handling any lawsuits or contract problems (Schwarz *et al.*, 2017; Parent and Ruetsch, 2021). The organising committee attends debriefing sessions, and undergo evaluation procedures, to benefit future event hosts. Stakeholders offer their perspectives and evaluations within debriefing sessions based on participant observations, which allow for knowledge transfer. However, the lessons learnt must be incorporated into the culture of organising committees for them to truly benefit from these activities (Schwarz *et al.*, 2017; Kwon, 2019; Parent and Ruetsch, 2021).

Final report writing includes closing the books for once-off events. These documents are usually done at the end of the event-time. However, some of this work is completed during the event, as functional area and venue managers prepare daily reports for their respective superiors that are used to track the event and manage issues as needed. These reports are aggregated into the final functional areas report and incorporated into the organising committee’s final report to event rights holders and primary funders (Parent and Ruetsch, 2021). All the remaining tangible legacies, such as revenues, sport and non-sport equipment and venues, are transferred to the respective legacy management bodies, either the formal legacy management organisation or the venue owners. When all these tasks are completed, the organising committee of a one-off event will cease to exist. Conversely, a recurring organising committee will continue, starting the lifecycle phases from the beginning. The wrap-up mode is important as it includes key areas of event evaluation and knowledge transfer; it also helps professionalise the sports event industry (Schwarz *et al.*, 2017; Parent and Ruetsch, 2021).

A theoretical event lifecycle, as presented, serves as a general guide, but will vary according to the sport event type. The rationale of the sport lifecycle is that it assists management focus on the demands of each phase, clarifying the logical order and relationship between the interrelated elements (Schwarz *et al.*, 2017). The hosts must continually engage various stakeholders throughout the sporting event lifecycle and embrace social dialogue to host a successful sports event (Waśkowski, 2015; Mega-Sporting Events Platform for Human Rights, 2018). According to García-Vallejo *et al.* (2020) and Parent and Ruetsch (2021), managing tools such as social media will not only help disseminate information to runners, sponsors and the public but can engage a much larger audience than can be reached by means of a formal report. However, social media must be built into the event plan and lifecycle, right from the start to reap benefits, such as, increased awareness of the event and host, the number of participants and fans attending, return on investment for sponsors, engagement among the sports community, awareness of the sport, and media attention (viaSPORT, n.d.).

2.4 CHAPTER SUMMARY

The purpose of this chapter was to serve as a point of departure for the study to provide the reader with the sports event context in which this study is conducted. A broad background was given on topics focussing on the history of sport, specifically the marathon and ultramarathon and how sport became a business. The focus was then placed on the types of sports events. Background on the sports event organisations used in this study and the current state of marathon and ultramarathon events in the midst of the COVID-19 pandemic. This chapter concludes with a brief overview of the lifecycle stages of a sports event.

This chapter prepares the groundwork for Chapter 3, where stakeholders in general and sports event stakeholders in particular, are discussed.

CHAPTER 3

SPORTS EVENT STAKEHOLDERS

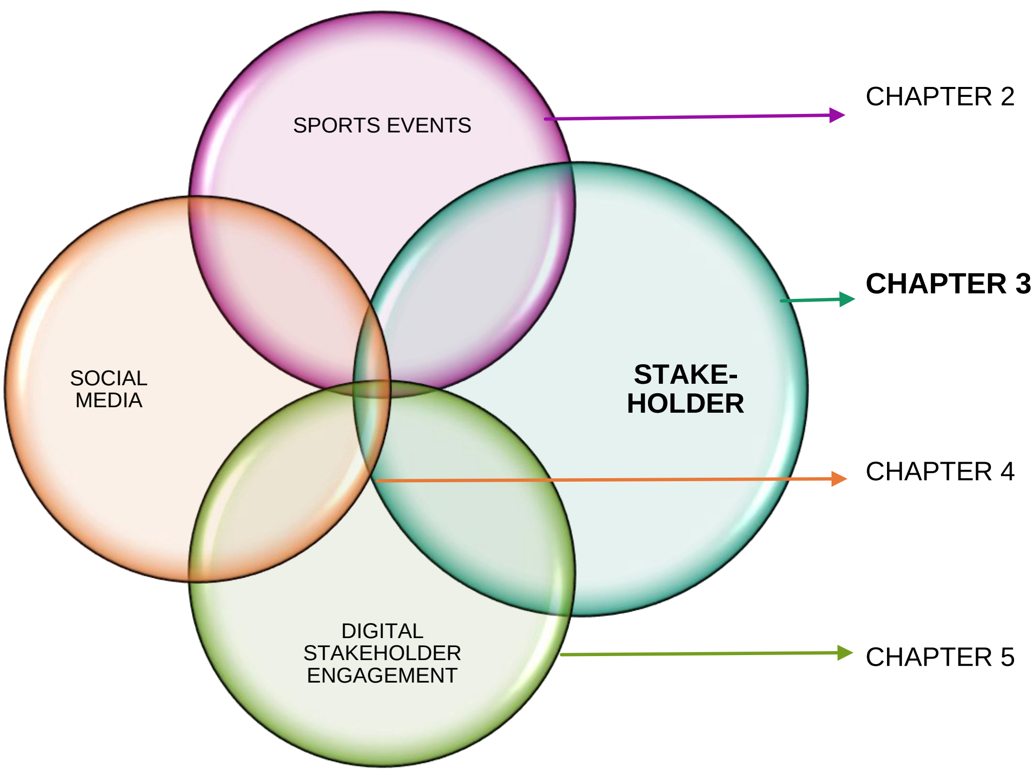
"A stakeholder in an organisation is any group or individual who can affect or is affected by the achievement of the organisation's objectives."

- R. Edward Freeman (Freeman, 1984)

3.1 INTRODUCTION

This chapter serves as the second theoretical chapter to provide context to the research. The concept 'stakeholders' forms part of framing this study and will be discussed in this chapter. Figure 3.1 illustrates the theoretical framework focusing on stakeholders discussed in this chapter.

Figure 3.1: Theoretical framework with a focus on stakeholders

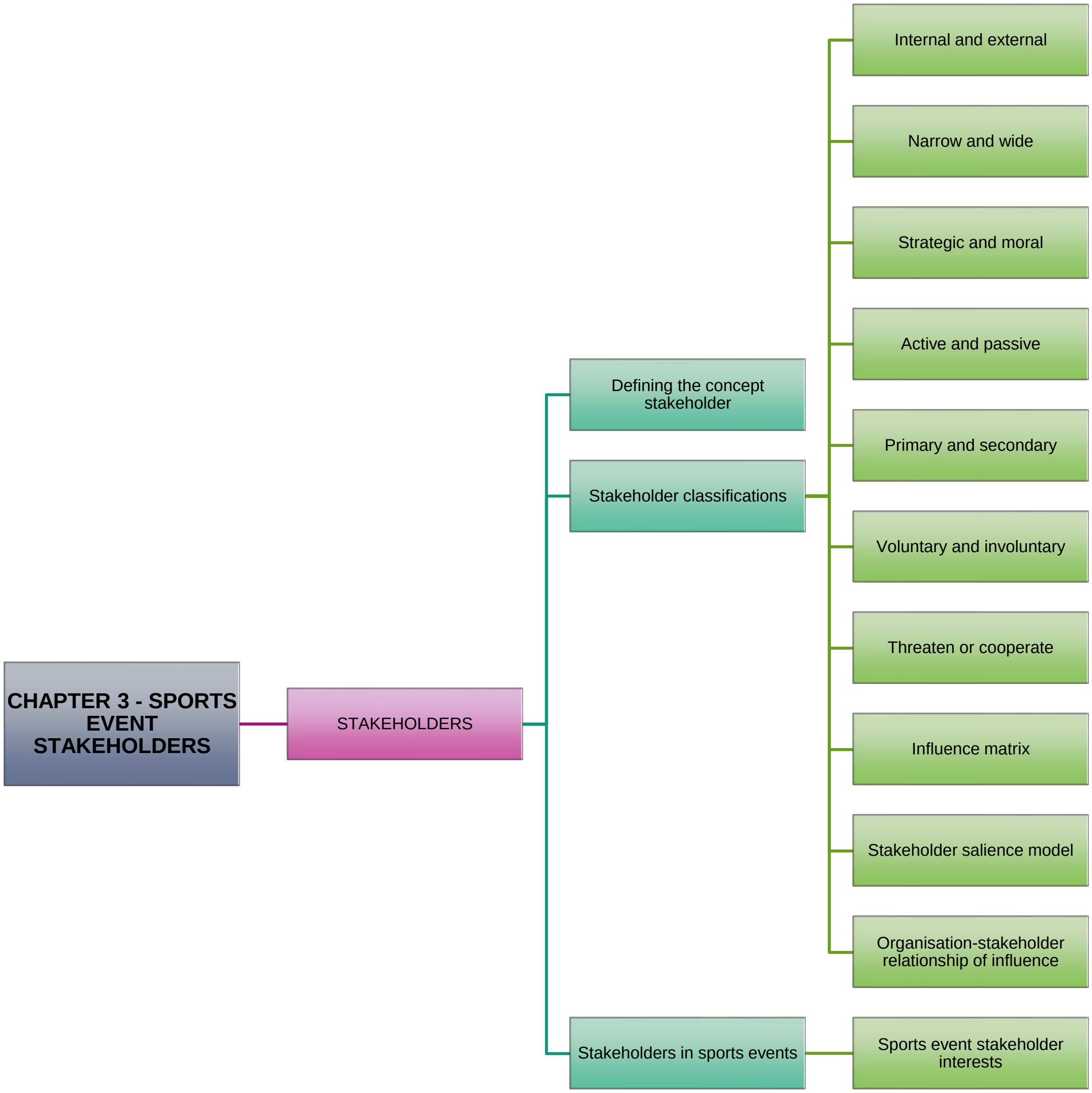


Source: Author's own compilation

In line with the aim of this study to determine the composition of social media post characteristics that lead to higher stakeholder engagement, which are practical and implementable for marathons and ultramarathons, it is necessary to first contextualise the origin and history of the concept ‘stakeholder’ and identify who constitute sports event stakeholders. This, therefore, is the focus area of the chapter.

The discussion in this chapter is structured as follows: Firstly, it starts with Freeman’s (1984) stakeholder definition, followed by the various classifications of stakeholders suggested by scholars from 1984 to 2012 and ends with the identification of sports event stakeholders. Figure 3.2 displays the layout of topics discussed in Chapter 3.

Figure 3.2: Layout of Chapter 3



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3.2 STAKEHOLDERS

3.2.1 DEFINING THE CONCEPT OF STAKEHOLDER

Freeman (1984), broadened the concept of stakeholder management to include shareholders and all stakeholders. Since then, the concept of stakeholders has seen an increase in usage, and Fassin (2009) affirms the term's popularity. The definition and meaning of the term stakeholder has been frequently disputed (Wagner Mainardes, Alves and Raposo, 2011; Miles, 2012; Eskerod and Huemann, 2013), as highlighted in Friedman and Miles (2006) discussion of 55 definitions, covering 75 texts, from 1963 to 2003. The debate of the stakeholder definition remains unresolved (McGrath and Whitty, 2017) with no single, conclusive or largely acknowledged definition (Mainardes, Alves and Raposo, 2011:228).

One of the earliest definitions of stakeholders is credited to an internal memo of the Stanford Research Institute in 1963, which defined a stakeholder as "those groups without whose support the organisation would cease to exist' (Freeman, 1984:31). Freeman (1984) described stakeholders as any group or people who can impact or are affected by organisations' actions. In later work, Freeman (2004) modified the Stanford Research Institute's definition of a stakeholder to any individuals or groups whose support is deemed necessary by an organisation for its success and survival.

However, various researchers argued that these definitions were too broad because it includes all potential constituents (Parent and Smith-Swan, 2013:183). Evan and Freeman (1988), Clarkson (1995), and Donaldson and Preston (1995:85) narrowed the definition, arguing that stakeholders are people or groups with justifiable interests or legitimate moral claims in the organisation's activities. Freeman and Evan's (1990) definition mentioned the importance of contractual relationships. Mitchell, Agle and Wood, (1997) further proposed that these people or groups exhibit certain characteristics to be regarded as stakeholders, including power, legitimacy, and urgency. Contrary to opinion, Phillips (2003:135) suggested that stakeholders are people or groups that organisations voluntarily accepts benefits from, and from which, a moral obligation arises; adding further, that stakeholder status is gained from the power they possess to affect the organisation.

Freeman, Harrison, Wicks, Parmar, and de Colle (2010:26) have a narrow and broad description of the term stakeholder. The narrow definition involves the idea that in any organisation, no matter its size, the goal is value creation for certain people or groups who support the organisation, and who cannot be viable in this capacity, without the organisation. Whereas the broader definition includes people or groups who can affect or be affected by the organisation's activities. Executives must therefore consider their stakeholders and how to create value for them. More recently, in a sports event context, Rudansky-Kloppers *et al.* (2015:297) define a stakeholder as a person, group, or organisation interested in an organisation. This interest is specified to include those with a financial stake in the event outcome and those with a legitimate interest in managing the event. McGrath and Whitty (2017:724; 741) concluded that the essence of the term stake and stakeholder in all fields of study contains the key definitional elements of interest and activity, refining their definition as an interest concerning an activity. However, the definition of stakeholders and their influence should be established for each specific circumstance and is a requirement in research (Bendtsen, Clausen and Hansen, 2021).

Drawing from the definitions of Donaldson and Preston (1995), Freeman *et al.* (2010), Rudansky-Kloppers *et al.* (2015) and McGrath and Whitty's (2017), which bear elements that apply to the specific stakeholders in this study, the following combined definition is adopted in this thesis:

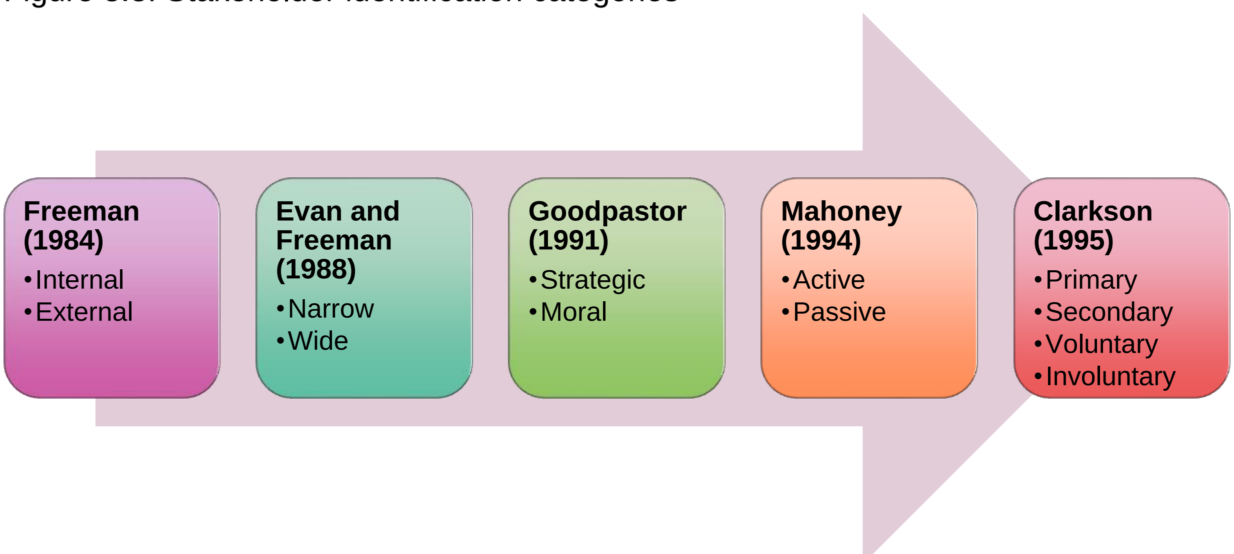
> *"Stakeholders are the people or groups who support marathons and ultramarathons, with justifiable and legitimate interests in the organisation's activities and management, and for whom the organisation's goal is to create value, specifically, the online brand community on the social media site Facebook."*

This research looks at building long-term organisation-stakeholder relationships of ultramarathons on digital platforms such as social media, specifically looking into the current use of social media to engage stakeholders and provide best practice guidelines. Given this study's objective, the combined definition was considered most appropriate in guiding the conceptualisation of sports event stakeholders. In addition, this study looks at only stakeholders who form part of the marathon and ultramarathon's online brand community on the social media site Facebook. The discussion now turns to the various types of stakeholder classifications developed.

3.2.2 STAKEHOLDER CLASSIFICATIONS

Various academics and business professionals have endeavoured to classify stakeholders to identify and prioritise stakeholder groups and aid in the decision-making of which stakeholders to engage, and the most suitable engagement strategies to follow. There are numerous categories stakeholders can be divided into and the most frequently used categories include: internal and external (Freeman, 1984); narrow and wide (Evan and Freeman, 1988); strategic and moral (Goodpaster, 1991); active and passive (Mahoney, 1994); primary and secondary, and voluntary and involuntary (Clarkson, 1995) (O'Toole, 2011:173; Parent and Smith-Swan, 2013:184; Morphy, 2018). Figure 3.3 displays the stakeholder identification categories.

Figure 3.3: Stakeholder identification categories



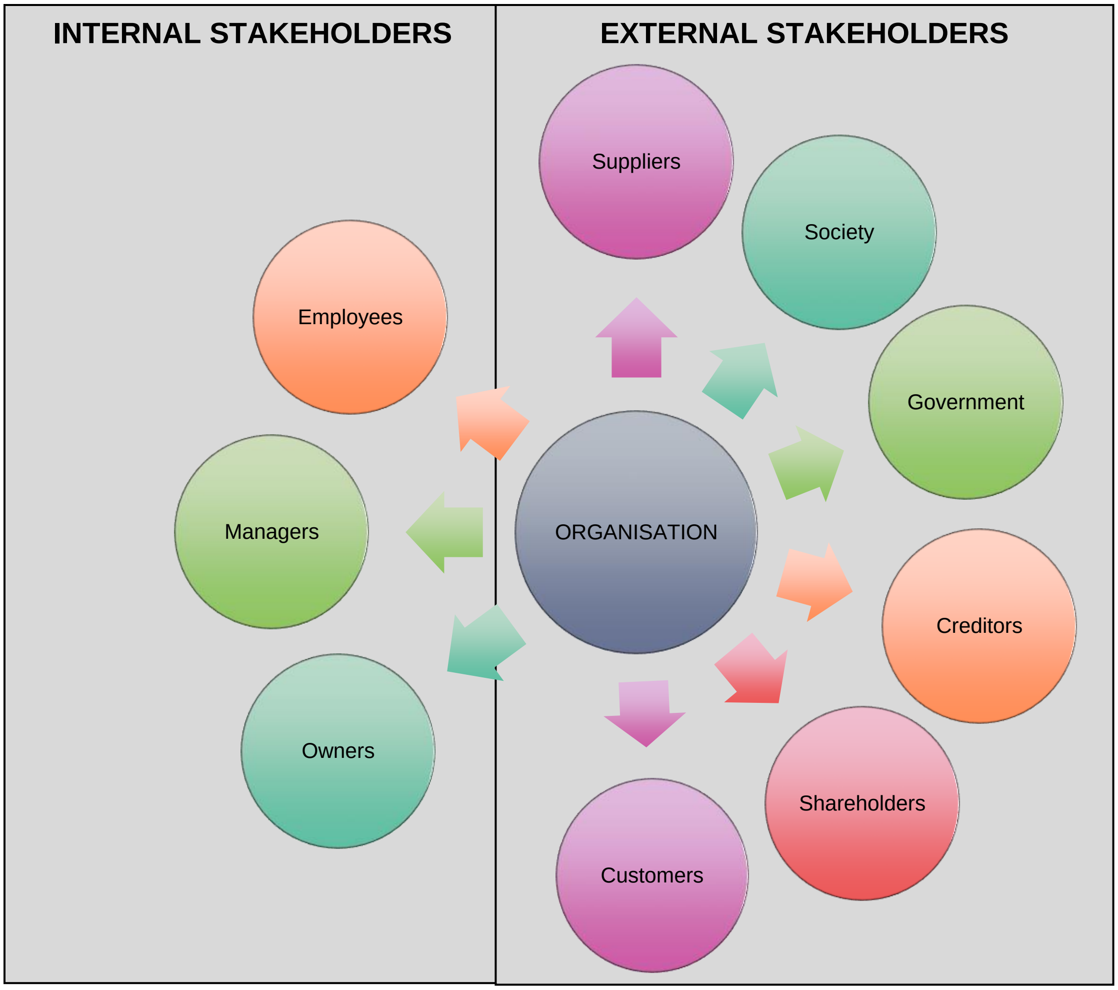
Source: Author's own compilation

3.2.2.1 <u>Internal and external stakeholders</u>

The first categorisation of stakeholders is based on certain characteristics of the stakeholder's perceived proximity to the organisation; either internal or external stakeholders (Morphy, 2018b). Internal stakeholders are people or groups who work inside an organisation or project, and according to Freeman (1984), Olander (2007) and Miragaia, Ferreira and Carreira (2014), are responsible for the execution of the organisational project or sporting event. In effect, internal stakeholders are very important since, more often than not, the perceived success of the organisation as a whole and the event itself, is determined by the internal stakeholders (Heerkens, 2014). Therefore, identifying and engaging the internal stakeholders is crucial for successfully executing the task at hand. As the first step, stakeholder managers need to identify all internal stakeholders; this is achieved by looking at the project, or the sports event's various phases (Morphy, 2018c). According to Qi (2018:5), internal stakeholders include event directors, event organisers, site managers, health and safety managers, project managers etc.

External stakeholders are people or groups outside the organisation who can affect or be affected by the organisation's activities. It can be argued that external stakeholders influence the success of the organisation or event in the long run, because frequently external stakeholders include the end consumer (Morphy, 2018d). Harrison and St. John (1996) define external stakeholders as being outside of the core boundaries of the organisation and cannot be controlled by the organisation. They further add that external stakeholders have ulterior objectives to those of the organisation. Definitions of an external stakeholder vary but however agree that external stakeholders are outside the organisation or event. Parent and Smith-Swan (2013:7;134) includes athletes, spectators, broadcast media, special interest groups, sponsors and the general public in the definition of external stakeholders. Karim, Rahman, Berawi and Jaapar (2007:8) add suppliers, distributors and governments to the list of external stakeholders. Figure 3.4 displays internal and external stakeholder categories.

Figure 3.4: Internal and external stakeholders diagram



Source: Adapted from Morphy (2018a, 2018b)

3.2.2.2 <u>Narrow and wide stakeholders</u>

Evan and Freeman (1988) differentiated between narrow and wide stakeholders. Narrow stakeholders are those people or groups that are affected the most by the policies and activities of the organisation. Narrow stakeholders include shareholders, management, employees, suppliers, and consumers. Whereas those the organisation's policies and activities affect less are considered wider stakeholders, such as government and consumers who are less dependent and form part of the wider community. Evan and Freeman (1988) resolve that an organisation's degree of responsibility and accountability towards its narrow stakeholders is higher.

3.2.2.3 Strategic and moral stakeholders

Goodpaster (1991:57-62) distinguishes between strategic and multi-fiduciary (moral) stakeholders. Strategic stakeholders are those identified for instrumental reasons, such as having an economic benefit to the organisation. These stakeholders are perceived to potentially affect the organisation's overarching goal of optimising stockholder interests and can be included in decision-making. While multi-fiduciary stakeholders are those, the organisation has a moral, non-fiduciary responsibility towards, other than stockholders. These stakeholders are separate from the organisation's instrumental, economic, or legal clout.

3.2.2.4 Active and passive stakeholders

Mahoney (1994) makes a distinction between active and passive stakeholders. Active stakeholders wish to actively participate in an organisation's activities. Active stakeholders can either be part of the organisation, such as managers and employees (internal) or people or groups outside the organisation (external), such as regulators or environmental pressure groups. Alternatively, passive stakeholders do not wish to actively engage with the organisation and its activities, however, it does not make them less interested or powerful. Passive stakeholders can include government, shareholders, local communities and sport spectators. Parent and Smith-Swan (2013:184) agree with Mahoney (1994) and place stakeholders on a continuum from actively engaged to passive on issues. Ponsford and Williams (2010) found that the more actively engaged the stakeholders are, the more collaboration is needed between the organising committee and the stakeholders. In contrast, passive stakeholders only wish to receive information regarding the event's venue planning, construction, and operation.

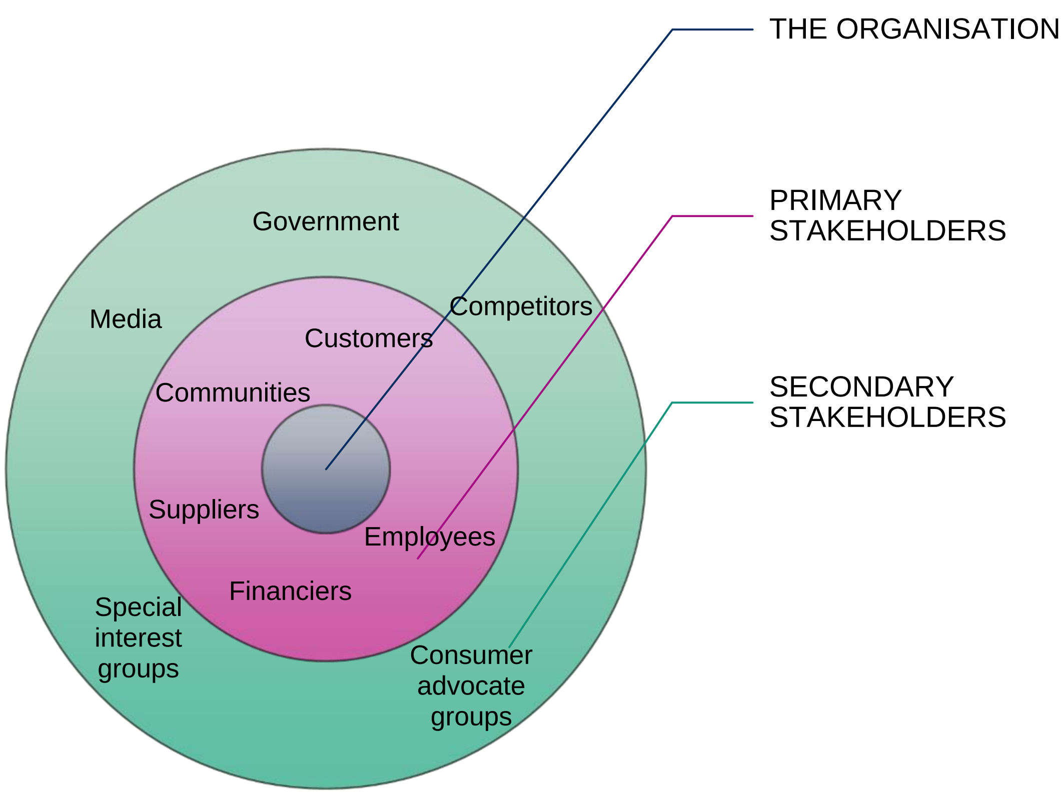
3.2.2.5 Primary and secondary stakeholders

Stakeholders are divided into primary and secondary. According to the Stakeholder Research Associates Canada Inc., primary stakeholders have a direct stake in the organisation and its success and therefore are the most influential (Partridge *et al.*, 2005:11-12; Carroll, Brown and Buchholtz, 2018:76). Clarkson (1995) specifies that the organisation depends on primary stakeholders for its continued existence. Clarkson further indicates that primary stakeholders can be grouped into five categories, namely, shareholders and investors; employees; customers; and suppliers; together with the public stakeholder group defined as governments and communities that provide infrastructure and markets, whose laws must be obeyed and to whom tax might be due. Buchholtz and Carroll (2012) identify primary stakeholders as employees, stockholders, vendors, and partners who have a stake in the organisation's success and they differ with Clarkson (1995), regarding government and the community, specifying that government and the community are secondary stakeholders since as they are focused more on the impact of the organisation on the community and do not have a direct stake in the success of the organisation.

The different viewpoints on stakeholders as either actor, that impact the activities of the organisation, or stakeholders who are impacted upon, led to the assorted categorisation of stakeholders (Morphy, 2018a). Wheeler and Sillanpää (1997:167) and Carroll, Brown and Buchholtz, (2018) further categorise primary stakeholders into social and non-social stakeholders. Primary social stakeholders include shareholders and investors, employees and managers, customers, the local community, suppliers, and other business partners. Primary non-social stakeholders include the natural environment, future generations and nonhuman species. This categorisation serves as a reminder that stakeholders might not be alive at the time or even human. Furthermore, this sub-categorisation of primary stakeholders is only applicable when Clarkson's (1995) definition of primary stakeholders is accepted.

According to Stakeholder Research Associates Canada Inc., secondary stakeholders are reputationally credible people or groups with a more symbolic rather than a direct stake in the organisation. The interests of, for example, the natural environment and future generations can be represented by substitute secondary stakeholders as they do not have a voice and cannot represent themselves (Partridge *et al.*, 2005: 11-12). An indirect relationship exists between secondary stakeholders and the organisation, with no direct engagement, but is still influential (Partridge *et al.*, 2005; Carroll, Brown and Buchholtz, 2018; Morphy, 2018b). Some examples of secondary stakeholders can include unions representing staff, charities, communities, the general public, regulators, associations, media and activist groups, to name a few (Partridge *et al.*, 2005; Morphy, 2018d). Carroll, Brown and Buchholtz (2018) also categorised secondary stakeholders into social and non-social stakeholders. Secondary social stakeholders include government and regulators, civic institutions, social pressure groups, media, trade bodies and competitors. Secondary non-social stakeholders include environmental interest groups and animal welfare organisations. Figure 3.5 displays the primary and secondary stakeholder classification.

Figure 3.5: Primary and secondary stakeholder classification



Source: Adapted from (Partridge *et al.*, 2005)

3.2.2.6 <u>Voluntary and involuntary stakeholders</u>

Clarkson (1995) also distinguished between voluntary and involuntary stakeholders. The main distinction between them is that involuntary stakeholders do not choose to enter into a relationship with the organisation and cannot withdraw their stake in the organisation or event. Clarkson (1995) indicates voluntary stakeholders as shareholders, investors, employees, managers, customers and suppliers. These voluntary stakeholders expect some added value or withdraw their stake in the organisation or event and decide not to invest in the organisation again. In comparison, involuntary stakeholders include individuals, communities, ecological environments, and future generations. These involuntary stakeholders do not have a choice in the matter and therefore might require protection, possibly through legislation or regulations by the government (Clarkson, 1995).

3.2.2.7 <u>Classification of Stakeholders' potential to threaten or cooperate with the organisation</u>

Savage, Nix, Whitehead and Blair (1991:65) classify stakeholders into four categories: supportive, marginal, non-supportive and mixed blessing. This categorisation is based on the stakeholders' potential to threaten or cooperate with the organisation. Supportive stakeholders have a low potential to threaten the organisation and a high potential for cooperating with the organisation; marginal stakeholders have low potential to threaten the organisation and are not very cooperative; non-supportive stakeholders have high potential to threaten the organisation and their potential for cooperation is low, and mixed-blessing stakeholders have high potential to both cooperate and threaten the organisation. Figure 3.6 displays the stakeholder classification of Savage *et al.* (1991).

Figure 3.6: Savage *et al.* (1991) stakeholder classification

Classification of Stakeholders' potential to threaten or cooperate with the organisation

		Stakeholders potential for threat to the organisation	
		High	Low
Stakeholders potential for cooperation with the organisation	High	Stakeholder Type **4** *Mixed blessing*	Stakeholder Type **1** *Supportive*
	Low	Stakeholder Type **3** *Non-supportive*	Stakeholder Type **2** *Marginal*

Source: Savage *et al.* (1991)

3.2.2.8 Stakeholder influence matrix

Rowley (1997:901) developed a stakeholder influence matrix to classify stakeholders according to their influence, using the centrality of the organisation and the density of the stakeholder network to place stakeholders on the matrix. Theorising how stakeholders affect the organisation and how the organisation responds to these influences depends on the relationship's stakeholder network. Density and centrality were used to analyse stakeholders. The density of the stakeholder network indicates the nature of coalitions and common behaviour, which increases the power stakeholders have to exert pressure and steer the organisation's expectations. The organisation's centrality confers power and its ability to resist the pressures exerted by the stakeholders. Based on these criteria, four stakeholder categories were created: compromiser, solitarian, subordinate, and commander. Figure 3.7 depicts Rowley's stakeholder classification matrix according to their influence.

Figure 3.7: Rowley's (1997:901) stakeholder classification matrix

A Structural Classification of Stakeholder Influences:
Organizational Responses to Stakeholder Pressures

		Centrality of the focal organisation	
		High	Low
Density of the stakeholder network	High	Compromiser	Subordinate
	Low	Commander	Solitarian

Source: Rowley (1997:901)

The compromiser classification comes into play when the density of the stakeholder network and the organisation's centrality is high. High density facilitates communication and coordination, and high centrality influence expectations. The organisation's strategy with this stakeholder type is to balance expectations and create win-win situations. The commander approach to stakeholders occurs when density is low, and centrality is high. When density is low, there are few stakeholders and they do not communicate or work with other stakeholders, and together with high centrality, the organisation can command certain expectations. The subordinate approach is the opposite of the commander, as centrality is low, but density is high, therefore, stakeholders have the advantage of power and information, causing the organisation to comply with their expectations. The solitarian classification involves both low density and centrality. The flow of information between the organisation and stakeholders is impeded as there is no connection between them, and therefore differences in power is negligible (Chung and Crawford, 2016).

3.2.2.9 Stakeholder salience model

Regardless of the various definitions and classifications of stakeholders, the issue remained of how to manage the organisation and simultaneously engage all stakeholders. Fassin (2008) asserts that stakeholders need to be classified according to certain criteria to prioritise them, with various proposals in the literature for stakeholder classifications according to their importance. The frequently cited Mitchell *et al*. (1997) model, as evidenced by 17205 citations, is favoured by numerous researchers.

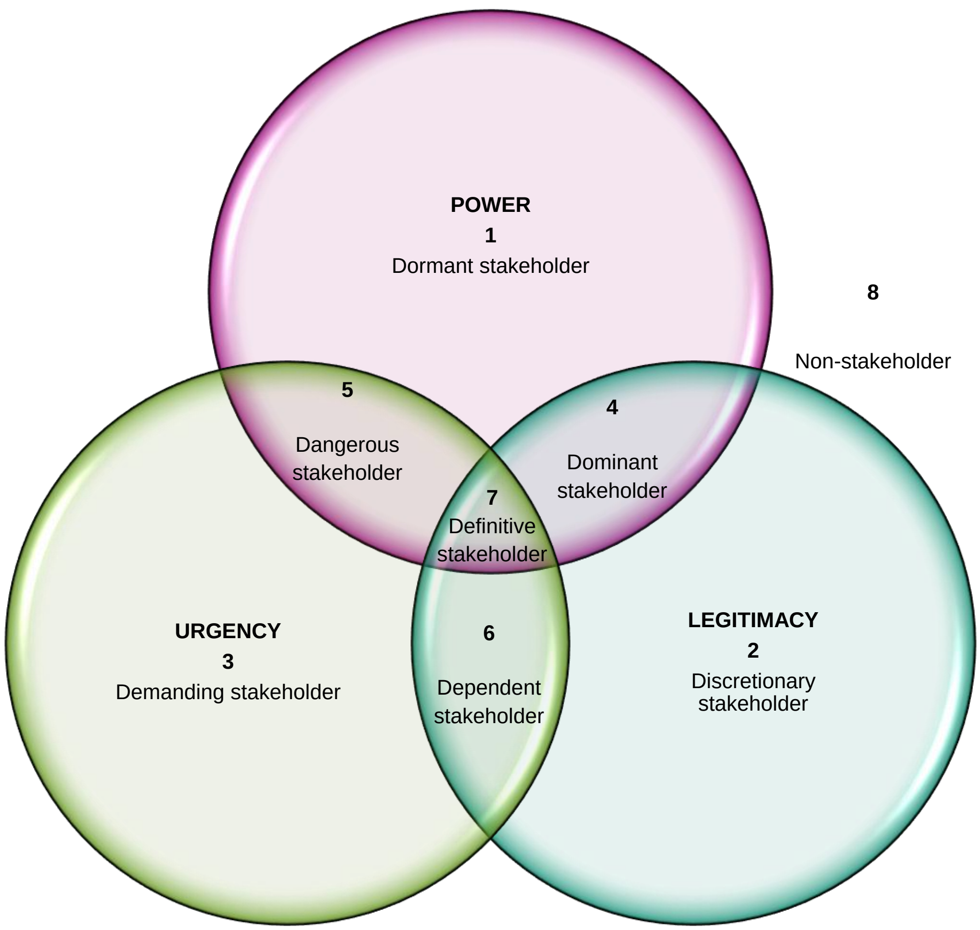
Mitchell *et al*. (1997) stipulate in the theory of stakeholder salience, that classifications of stakeholders are according to certain identifiable attributes, which enable managers to prioritise competing stakeholder claims. The first attribute is power, specifically the power stakeholders have to influence the organisation to do something it normally would not do, for example fire employees; the second is legitimacy, whether the stakeholder's relationship with the organisation is legitimate, and are most likely the recipient of corporate social responsibility. The third attribute is urgency, how urgent the stakeholder's claim on the organisation is, calling for immediate attention. If a stakeholder possesses between one and three of these attributes, Mitchell *et al*. (1997) indicates that managers should pay attention to them. Aaltonen, Jaakko and Tuomas (2008:509) also find that management devotes greater attention to stakeholders whose claims are perceived as more credible in power, legitimacy and urgency. Mitchell *et al*. (1997) identifies seven stakeholder types, namely, dormant, discretionary, demanding, dominant, dependent, dangerous and definitive. Mitchell *et al*. (1997) divided these stakeholder types into three groups: latent, expectant, and definitive. Latent stakeholders possess only one of the three attributes and are likely to receive little attention from the organisation. Expectant stakeholders possess two of the three attributes, which results in both the stakeholders and the organisation being more active. Definitive stakeholders possess all three attributes, power, legitimacy and urgency, and therefore instantaneous attention is given to these stakeholders by managers as their top priority. The remainder are non-stakeholders, who possess no attributes and neither influence, nor are influenced by the organisation's activities.

Mitchell *et al*. (1997) classified three types of latent stakeholders namely, dormant, discretionary, and demanding. Dormant stakeholders possess power and will attributes and can attempt to enforce their will on the organisation. However, these stakeholders lack legitimacy and urgency, and with little, if any, interaction with the organisation, their power is muted. Awareness and monitoring of dormant stakeholders are still needed to evaluate the stakeholder's potential to gain a second attribute. Discretionary stakeholders possess the attribute legitimacy. These stakeholders do not have the power to influence the organisation, and their claims are not urgent. The organisation pays attention to them within the corporate social responsibility framework, and these stakeholders are inclined to be more approachable. Demanding stakeholders possess the attribute of urgency, however, without power or legitimacy, their demands of the organisation are not necessarily concerning. These stakeholders also require monitoring regarding their potential of gaining a second attribute.

The three types of expectant stakeholders in Mitchell *et al*. (1997) classifications are dominant, dangerous, and dependent. Dominant stakeholders are those with the attributes of power and legitimacy, and therefore their influence over the organisation is guaranteed. A lot of attention is expected from these stakeholders and is given by the organisation. Dangerous stakeholders have power and urgency but lack legitimacy. These stakeholders are coercive and can pose a threat to the organisation. Lastly, dependent stakeholders hold the attributes of legitimacy and urgency, however, these stakeholders depend on other stakeholders for their claims to be considered by the organisation.

Mitchell *et al*.'s (1997) stakeholder salience model is dynamic and founded on the identification of seven typologies. It recognises each situation and the perceptions of management as unique and describes how managers should prioritise relationships with stakeholders and how the different typologies make it possible to forecast management behaviour towards each stakeholder class. It predicts how stakeholders can change class, from one to the other and the resultant consequences for management (Wagner Mainardes, Alves and Raposo, 2012). Figure 3.8 displays the stakeholder salience model.

Figure 3.8: Mitchell *et al*.'s (1997) stakeholder salience model



Source: Mitchell *et al*. (1997)

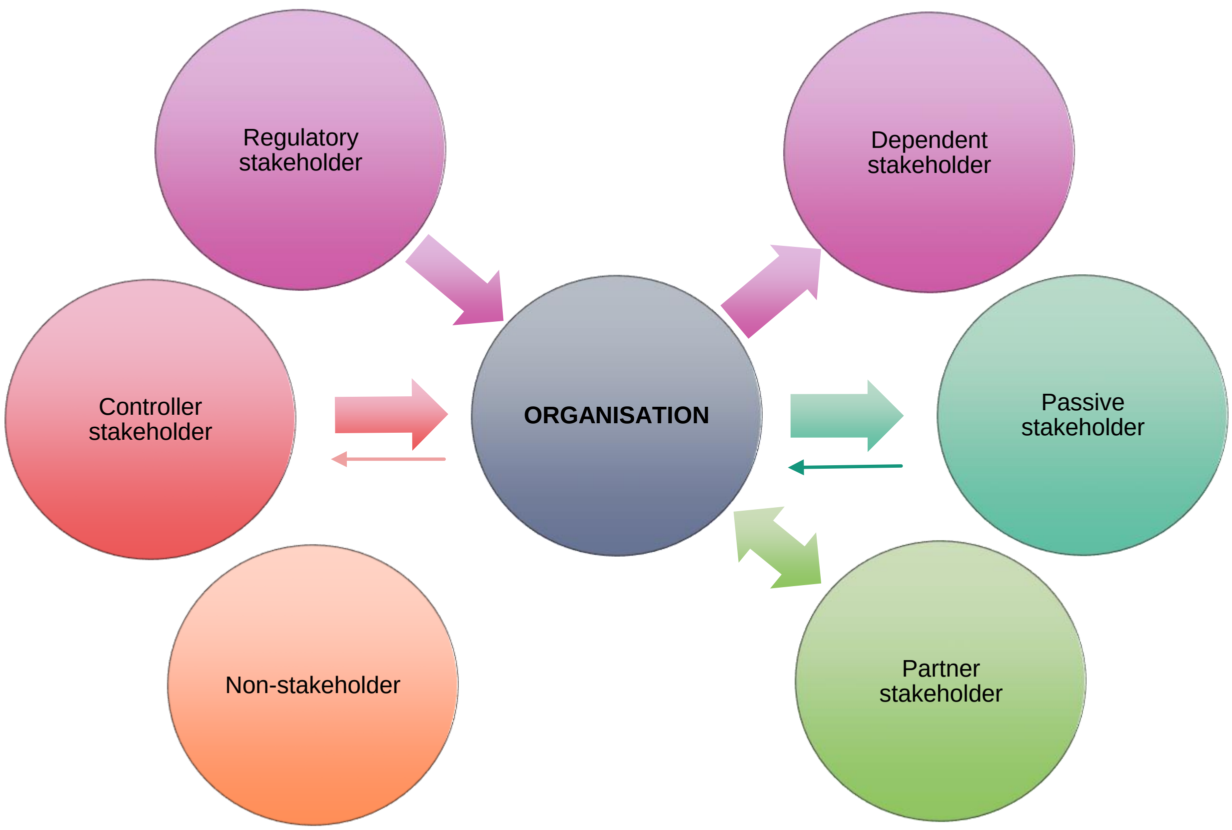
According to Mainardes, Alves and Raposo (2012:1865), Mitchell *et al*. (1997) model exhibits three advantages, namely, it is political due to conflicting and unequal interests; it is operationally practical and qualifies the stakeholders, and is dynamic as it takes changes in interest over social space and time into consideration. The salience model is dynamic for three reasons, namely, the three attributes are variables that are not static or stationary; they are constructed socially and are therefore not objective, and stakeholders do not necessarily know they have one or more of these attributes. Therefore, the salience model is dynamic and changes frequently, for example, a stakeholder could possess one attribute today but acquire one or two more at some point in the future (Mainardes, Alves and Raposo, 2012:1865).

According to Friedman and Miles (2006), Mitchell *et al*.'s (1997) typology grew popular among stakeholder theorists and practitioners, however, despite its popularity, few studies have tested the model empirically (Agle, Mitchell and Sonnenfeld, 1999; O'Higgins and Morgan, 2006; Magness, 2008). Limitations of the model were found in some empirical studies controversial results. Mitchell *et al*. (1997) report that the three attributes are binary, therefore, either the stakeholder possess the attributes of power, legitimacy and/or urgency, or they do not. However, O'Higgins and Morgan (2006) established that a stakeholder can possess all three attributes but still be found to be not salient if their attributes are measured in binary terms and not by degree. For example, a stakeholder who holds a lot of power, and one with little power cannot be considered as equal in salience even though both stakeholders possess the attribute power. A further limitation of the model is how to prioritise stakeholders who fall within the same category. These limitations are largely due to a lack of scale to determine the degree to which a stakeholder effectively possesses power, legitimacy, and urgency attributes. A lack of a scale is the greatest disadvantage and weakness of the stakeholder salience model. Therefore, even though the stakeholder salience model is theoretically simple and technical clear, it has yet to be practised operationally. There are very few ways to differentiate and prioritise between stakeholders classified within the same category (Wagner Mainardes, Alves and Raposo, 2012).

3.2.2.10 <u>Classification according to the organisation-stakeholder relationship of influence</u>

Mainardes, Alves and Raposo's (2012:1871-1874) developed a new model for classifying stakeholders and explaining the organisation-stakeholder relationship and identify six types of stakeholders: regulator, controller, partner, passive, dependent, and non-stakeholder. Figure 3.9 displays the six stakeholder types according to their influence.

Figure 3.9: Organisation and stakeholder relationships of influence



Source: Mainardes, Alves and Raposo (2012:1874)

As indicated in Figure 3.9, the influence relationship between the stakeholder type and the organisation are represent by the arrows. The width of the arrows symbolises the strength of influence between the stakeholder and the organisation. There is a greater unidirectional influence where the wide arrow points only in one direction. Where there are two arrows; the wider arrow represents the greater influence over the other. The same width arrow pointing to both directions symbolise a mutual and equal relationship of influence (Mainardes, Alves and Raposo, 2012:1871). Table 3.1 describes the six stakeholder types according to their influence.

Table 3.1: Type of stakeholder according to their influence

TYPE OF STAKEHOLDER	DESCRIPTION
Regulatory stakeholder	A stakeholder who influences the organisation but the organisation holds either no or little influence over the stakeholder. This influence can determine the organisations actions.
Controller stakeholder	The stakeholder and the organisation can mutually influence each other; however, the stakeholder has more influence over the organisation. This greater influence establishes stakeholder control over the organisation.
Partner stakeholder	The stakeholder and the organisation influence each other on a mutual level. However, neither party's influence dominates the other and there is a balance of influence. This balance can ensure that the organisation and stakeholders work together.
Passive stakeholder	The stakeholder and the organisation influence each other on a mutual level. However, the organisation has greater influence over the stakeholder. The organisation controls the relationship, and the stakeholder accepts the decisions made.
Dependant stakeholder	The organisation holds influence over the stakeholder, and the stakeholder holds little or no influence over the organisation. The stakeholder depends on the organisation to meet their wants and needs.
Non-stakeholder	Neither group influence each other.

Source: Mainardes, Alves and Raposo (2012:1874)

This provides a foundational framework for the classification of stakeholders and the interplay between organisations and their shareholders with researchers such as Goodpaster, (1991); Savage *et al.*, (1991); Clarkson, (1995); Mitchell *et al.*, (1997); Rowley, (1997) also contributing to stakeholder classification and understanding. In the next section the focus is on the types of stakeholders within sports events.

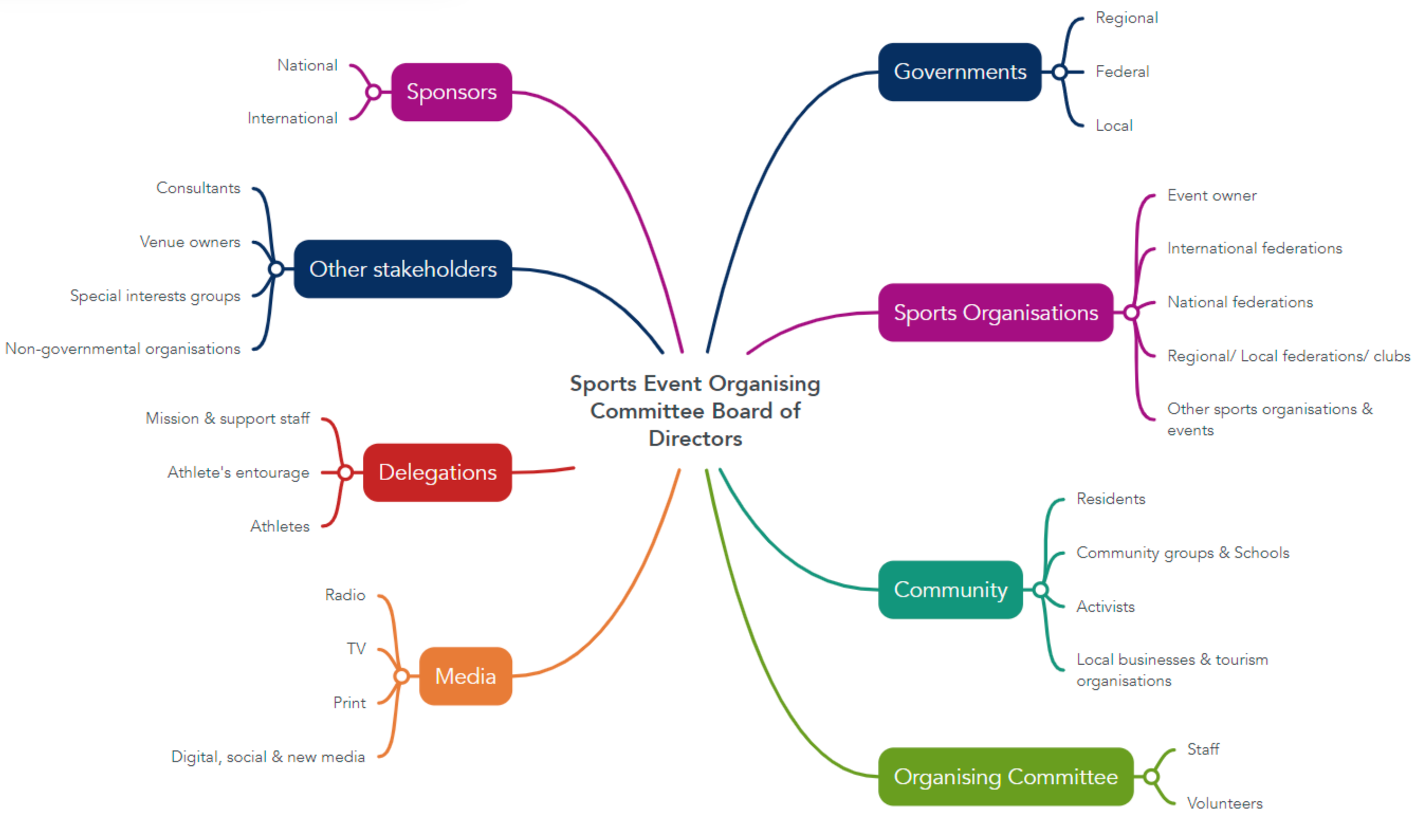
3.2.3 STAKEHOLDERS IN SPORTS EVENTS

In the previous section, stakeholders were defined, and the various classifications of stakeholders discussed. For this study, stakeholders must also be identified in the sports event context. As briefly mentioned in Chapter 1, stakeholders in a major sports event can include the organising committee themselves, host communities, participants and spectators, sponsors, media, governments, sports organisations and international delegations (O'Toole, 2011:171; Parent and Ruetsch, 2021:27).

Numerous stakeholders for major sports event organisations and committees are identified in the literature (Leopkey and Parent, 2009:12). Ritchie's (1984) previous research on mega-events identifies the general population, local government and local businesses as major stakeholders in events. Emery (2001) suggests additional potential stakeholders such as international and national governing bodies, organising committees, media, and sponsors. Further stakeholders identified by Masterman (2004) are based on the influence they have over the execution of the event, namely, customers, suppliers, partners, investors, staff, and external influencers.

Parent and Deephouse (2007) and Parent (2008) divide sports event stakeholders into stakeholder groups and use internal and external classification. The first stakeholder group, the sports event organising committee, deal with internal stakeholders, such as the staff and volunteers. The second stakeholder group deal with external stakeholders, which include the various levels of government, media, and community. The community include residents, community groups, schools, activists, local business, tourism, and sponsors (national and international), other sports organisations such as federations, other event organising committees, and professional leagues and their delegations. Other external stakeholders can include consultants and international non-governmental agencies, and importantly, the participants and spectators within the context of the sports event, as examined in this study. Figure 3.10 illustrates a stakeholder map of a sports event organisation (Parent and Ruetsch, 2021:27).

Figure 3.10: A major sports event's stakeholder map



Source: Adapted from (Parent and Deephouse, 2007; Parent, 2008; O'Toole, 2011; Parent and Ruetsch, 2021)

3.2.3.1 <u>Sport event stakeholders' interests</u>

To fully understand the concept of stakeholders, the idea of a stake needs to be understood. According to Carroll, Brown and Buchholtz (2018:72), a stake is an interest in or a share in an undertaking but could be a claim as well. A claim is a demand for something due or believed to be due.

Each stakeholder group has diverse demands, needs, wants, and interests. Table 3.2 gives some examples of sports event stakeholders' different interests.

Table 3.2: Examples of sports event stakeholder interests

STAKEHOLDER	INTEREST
Government	• Return on investment • Visibility • National pride
Community	• Have a say • Accessibility • Quality
Sponsors	• Return on investment
Media	• Tools to be available and work effectively
Sport organisations	• Sport's technical aspects • Playing field • Legacy
Delegations	• Want their own to participate • Quality services

Source: (Parent and Ruetsch, 2021)

According to Parent and Ruetsch (2021), examples of sports event stakeholders' interests are that governments want a return on their investment, increase in the nation's visibility internationally, and to build national pride. The community wants to express their opinion and have their say count, the event to be accessible and quality of the event to be adequate as it can reflect on them. Sponsors also want a return on their investment in the event, and the media require that the tools be made available to them and work effectively so that they can perform their job. Sports organisations worry about the technical aspects of the sport or playing field and local sports organisations want to be part of the legacy. Lastly, delegations want as many of their own to participate in the event as possible and for the services offered to be of quality.

The prominent forms that stakeholder interests might take can be understood according to five categories, according to Reichart (2003:64). Table 3.3 names these five categories and defines the stakeholder interest.

Table 3.3: The five categories of stakeholder interests

STAKEHOLDER INTEREST	DEFINITION
Affiliative	The need to belong to a group, forming relationships within and between stakeholder groups
Informational	To obtain knowledge, information, and other data helping stakeholders meet their needs
Material	The gain or loss of tangible benefits and access to resources
Political	The internal and external distribution of power and influence
Symbolic	The image, reputation and other symbols that develop over time for an organising committee or stakeholder

Source: (Reichart, 2003; Parent, 2008; Parent and Ruetsch, 2021)

3.3 CHAPTER SUMMARY

Since most major sports event organising committees operate as non-profit organisations, it is appropriate to use a stakeholder approach to understand how sports events manage stakeholder engagement on online social media platforms, such as Facebook. Such organisations have multiple stakeholders to satisfy. This chapter contextualised the origin and development of the stakeholder concept, with their numerous classifications, purposes and prioritisation and identifies the various potential stakeholders associated with sporting event, that would include marathon and ultramarathon events.

The next chapter explores social media as part of the focus of this study. The concept of social media needs investigation to determine how sports events should engage stakeholders through social media, specifically, Facebook – hence the need to conceptualise social media and its related elements from a stakeholder engagement perspective within a sports context.

CHAPTER 4

SOCIAL MEDIA AND FACEBOOK IN A SPORTS CONTEXT

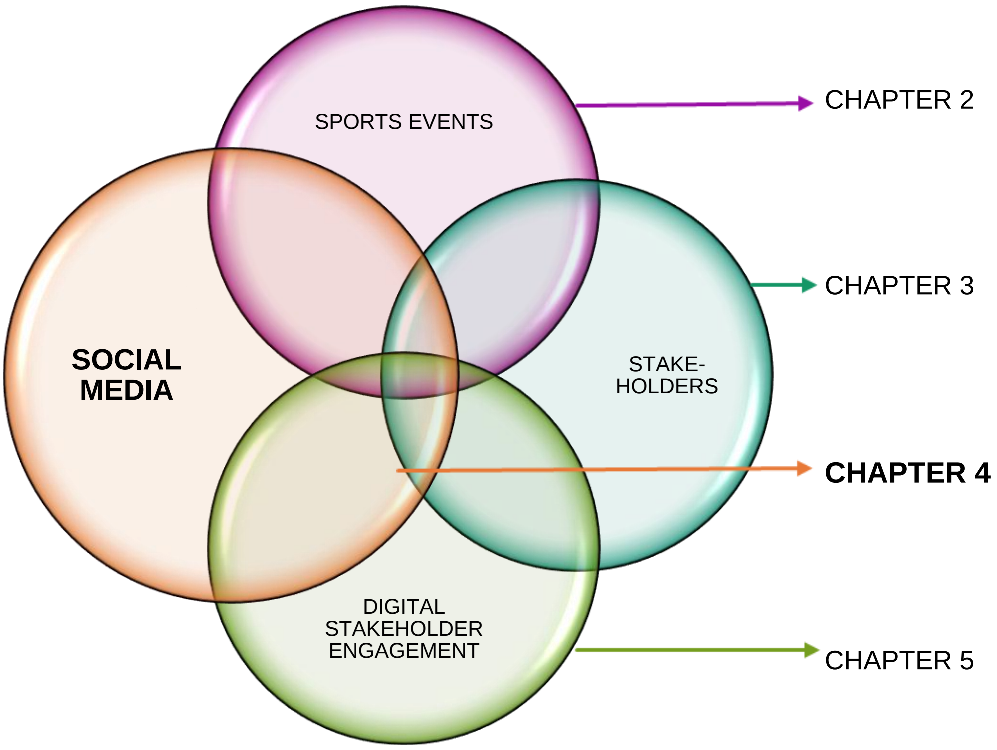
"Social media is a contact sport."

- *Margaret Molloy (Molloy, 2015)*

4.1 INTRODUCTION

This chapter serves as the third theoretical chapter, which provides context to the research, and frames the key concept 'social media'. Figure 4.1 illustrates the theoretical framework focusing on social media, which is discussed in this chapter.

Figure 4.1: Theoretical framework with a focus on social media

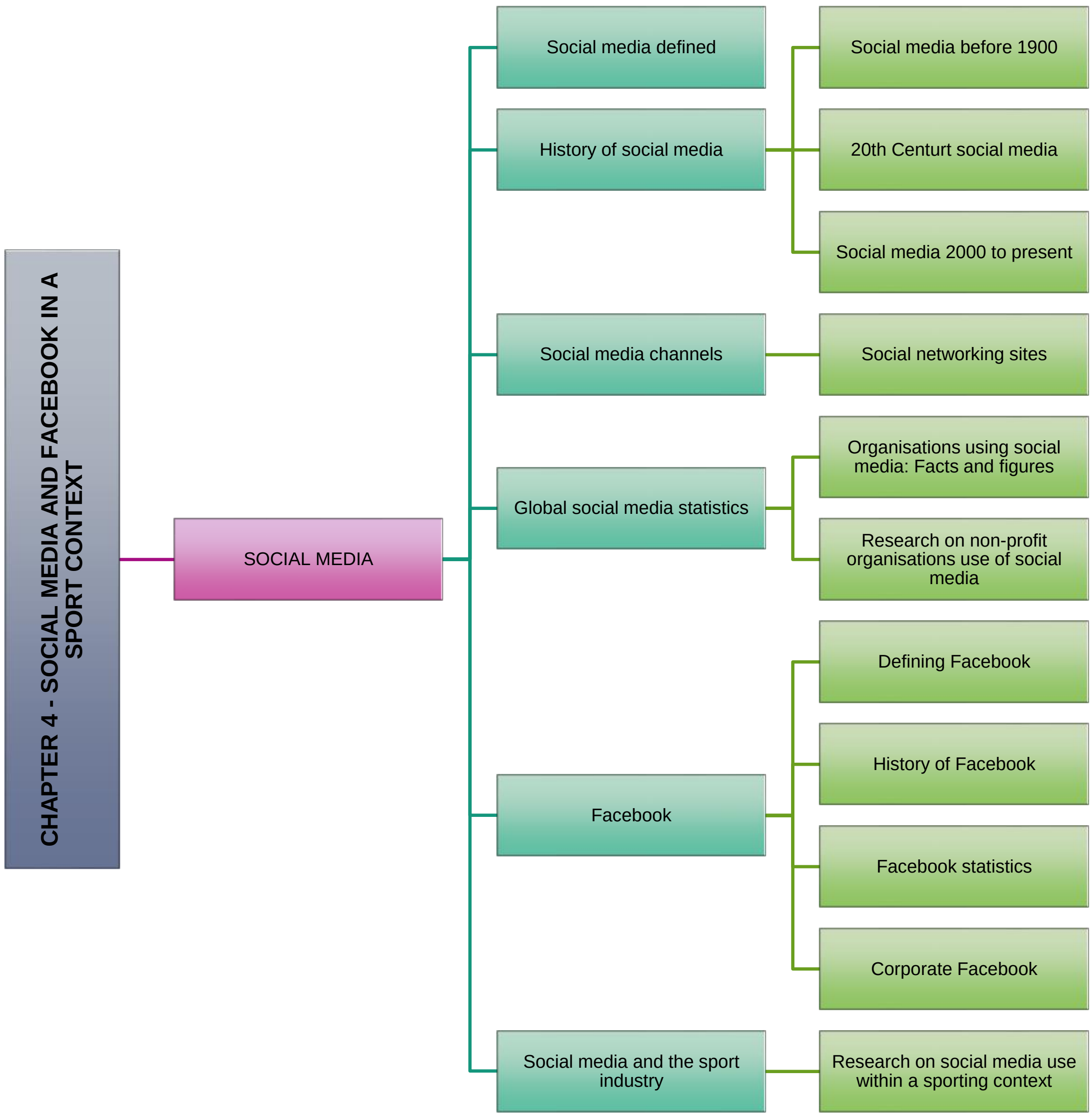


Source: Author's own compilation

In line with the objective of this study to determine social media post composition characteristics that lead to higher stakeholder engagement that are practical and implementable for recurring participation sports events, specifically, marathons and ultramarathons. It is necessary to deliberate on the concept of social media, its origins and history, the various social media channels, and its role in the context of sport.

This chapter is structured as follows: Firstly, social media is defined and its history from before the 1900s to the present day is elucidated. Secondly, the various social media channels, including social networking sites are provided and culminates with background to the specific social networking site, Facebook. Lastly, social media in the context of the sports industry is examined. Figure 4.2 displays the layout of topics discussed in Chapter 4.

Figure 4.2: Layout of Chapter 4



Source: Author's own compilation

4.2 SOCIAL MEDIA

It is essential for non-profit organisations, such as sports event organisations, to discover effective ways to build and maintain stakeholder relationships and ensure a reliable flow of resources. Social media enables organisations to interact with their stakeholders. In contrast to traditional channels, social media offers simultaneous communication opportunities, ensuring that the organisation's stakeholders interact more frequently and accurately (Shi, 2017; Camilleri, 2021; Troise and Camilleri, 2021).

The concept of social media is frequently mentioned in literature, yet no single, comprehensive definition exists. The following sections explore available definitions of social media, its history and use in non-profit organisations and in a sports context, social networking sites and Facebook.

4.2.1 SOCIAL MEDIA DEFINED

The term social media was first recorded in 1997 by AOL executive Ted Leonis who stated that consumers need "social media, as a place where they can be entertained, communicate, and participate in a social environment" (Bercovici, 2010). The first social networking site, 6Degrees, was launched in the same year (Boyd and Ellison, 2007). The term social media became more mainstream, originally as a recreational hobby on an individual level and ultimately as a major concern for organisations (Leonardi and Treem, 2012). An estimated 73% of small organisations use social media (Ghanem Rasheed and Abdul Hamid, 2020; (Wagner, 2014), and with experience, organisations are becoming more sophisticated in their use of social media (Kane, Alavi, Labianca and Borgatti, 2014).

Even with social media being used almost universally by organisations and society alike, defining the term is difficult due to its continuous and rapid development (Majchrzak, Faraj, Kane and Azad, 2013). Popular sites such as Facebook (social networking site), Twitter (microblogging platform), YouTube (video-sharing platform), Wikipedia (wikiencyclopaedia) and Second Life (virtual reality) differ but are all labelled as social media (Kaplan and Haenlein, 2010). Table 4.1 lists various definitions of social media. These definitions have some aspects in common, such as networking (Boyd and Ellison, 2007; Kane *et al.*, 2014), user-generated content (Kim, Jeong and Lee, 2010; Martini, Massa and Testa, 2013; Scott and Orlikowski, 2014) and the role of the Internet (Kaplan and Haenlein, 2010; Scott and

Orlikowski, 2014). The focus of research on social media in organisations has shifted from describing social media as a tool in an organisational context to developing theory and practical implications of social media use for the organisation (Treem and Leonardi, 2013). This has led to an evolved approach to defining the term social media.

Table 4.1: Social media definitions

AUTHOR	DEFINITION/DESCRIPTION OF SOCIAL MEDIA
Boyd and Ellison (2007)	Web-based services that allow individuals to (1) construct a public or semi-public profile within a restricted system, (2) formulate a list of other users with whom they share a connection, and (3) view their list of connections and those made by others within the system.
Hogan and Quan-Haase (2010); Kaplan and Haenlein (2010); Kim, Suh and Eves (2010)	A group of Internet-based applications builds on the ideological and technological foundations of Web 2.0, facilitating the creation and exchange of User Generated Content.
Howard and Parks (2012)	(a) The information infrastructure and tools used to produce and distribute content; (b) the content that takes the digital form of personal messages, news, ideas, and cultural products; and (c) the people, organisations, and industries that produce and consume digital content.
Martini, Massa and Testa (2013)	Referred to as Web 2.0, these tools rely on active content creation by users or members as a central distinguishing feature.
(Majchrzak *et al.*, 2013)	A group of Internet-based technologies allows users to create easily, edit, evaluate, and link to content or other content creators.
(Kane *et al.*, 2014)	Definitions of social media networks have four essential features, such that users (1) have a unique *user profile* that is constructed by the user, by members of their network, and by the platform; (2) *access digital content* through and *protect* it from, various *search* mechanisms provided by the platform; (3) can *formulate* a list of other users with whom they share a *relational connection*; and (4) *view* their connections and those made by others on the platform.

AUTHOR	DEFINITION/DESCRIPTION OF SOCIAL MEDIA
(Scott and Orlikowski, 2014)	Social media websites are characterised by the active engagement of many people's and online contributions across time and space. Such websites depend predominantly on user-generated content provided through ongoing and informal contributions.
(Carr and Hayes, 2015)	Social media are Internet-based channels that allow users to interact opportunistically and selectively self-present either in real-time or asynchronously, with broad and narrow audiences who derive value from user-generated content and the perception of interaction with others.
(Swart, 2018)	Social media is an interactive online platform that enables organisations and stakeholders to connect and interact in various ways readily.
(Bishop, 2019)	Social media is any online resource designed to facilitate engagement between individuals.

Source: Adapted from (Richey, 2016)

One of the earliest definitions was Boyd and Ellison (2007) (Table 4.1), which concentrated specifically on social networking websites. Many authors adopted the definition in their respective studies on social networks (Beer, 2008; DiMicco *et al.*, 2008; Lewis *et al.*, 2008; Debatin *et al.*, 2009). However, as new platforms formed and new groups of users, such as organisations, took to social media and used it in different ways, the Boyd and Ellison's (2007) definition, and the studies adopting this definition, became outdated (Treem and Leonardi, 2013; Kane *et al.*, 2014). Another popular earlier definition among researchers of various disciplines was that of Kaplan and Haenlein (2010) (Table 4.1), which focuses specifically on social media applications building on the foundations of Web 2.0 and user-generated content (Tsimonis and Dimitriadis, 2014; Valos *et al.*, 2016).

In a recent study, Swart (2018) developed a social media definition specifically from a corporate branding perspective. After analysing 20 social media definitions, Swart (2018), determined that they primarily encompass five dimensions, namely, technology, social interaction, participation, community, and content. Keywords such as Web 2.0, web technologies, Internet, web-based applications, sources of online information, online platforms or applications and collective software tools, are grouped under the technological dimension. The social dimension comprises words such as interaction, communicate, share, cooperate, collective action, relationship, exchange, and engage. The community dimension consists of phrases such as communities of people, virtual/online communities, a network of customers, individuals, and communities. The content dimension includes text and user-generated content. The dimension of participation consists of collaborations, creating, modifying, and publishing. Swart (2018) formulated the following definition:

> *"Social media is an interactive online platform that enables organisations and stakeholders to connect and interact in various ways readily".*

While some social media scholars may contest the dimensions of the definition, it is deemed appropriate and relevant to the current study. According to Bourne (2016), stakeholder engagement can be described as an organisation's numerous communication practices, processes, and actions to include stakeholders, secure their involvement and commitment, or reduce their indifference or hostility. In this study, Swart's (2018) definition is adopted, although Bishop's (2019) definition is similar in content.

Knowledge of how social media developed over the years can foster a better understanding of the concept and the next section gives a brief overview of social media history and evolution.

4.2.2 OVERVIEW OF SOCIAL MEDIA'S HISTORICAL DEVELOPMENT

Social media is perceived by some as a recent, complex phenomenon (Boyd, 2009), however, Kaplan and Haenlein (2010:60) disagree, arguing that social media is not an innovation, but an extension of the World Wide Web's (WWW) initial purpose in the late 1990s, which was to encourage an exchange of information between users (Greenberg and MacAulay, 2009; Campbell, Pitt, Parent and Berthon, 2011; Bechmann and Lomborg, 2012). For this reason, social media is considered evolutionary and not just a revolutionary technological innovation, as it signifies the rise of a phenomenon that impacts individuals, organisations and communities, and evolves continuously influencing people in the way they live, work and progress in both their local and the global community (Rauniar, Rawski, Johnson, and Yang, 2013).

Adopting this viewpoint of social media as a development of the Internet and WWW warrants a brief overview of the historical developments that led to the rise of social media and provides further insight into the evolution of social media.

4.2.2.1 Social media before 1900

Letters were the earliest form of communication across great distances, delivered by hand from one person to the next. Postal service dates back to 550 B.C., and in later centuries its primitive delivery system became more common and streamlined. The telegraph was invented in 1792, which allowed short messages to be delivered much faster, and was considered a revolutionary method to deliver news and information. The pneumatic post developed in 1865 utilised underground pressurised air tubes to carry capsules from one area to another. In the last decade of the 1800s, the telephone in 1890 and the radio in 1891 were invented. Modern, more sophisticated versions of these technologies are still used today. Telephone lines and radio signals enabled people to communicate instantaneously across great distances, something never before experienced by humanity (Edosomwan, Prakasan, Kouame, Watson, and Seymour, 2011; Hendricks, 2013; Terrell, 2018).

4.2.2.2 20th Century Social Media

In the 20th Century, technology changed rapidly. In 1940, the first supercomputers were created, after which scientists and engineers began to form networks that led to the development of the Internet. In the 1960s, CompuServe was considered the earliest form of the Internet, and primitive email forms were developed. Networking technology improved in the 1970s, and UseNet allowed users to communicate through a virtual newsletter in 1979. Home computers and social media became more common and sophisticated in the 1980s. In 1988, Internet Relay Chats (IRCs) were first used and remained popular during the 1990s (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015).

The Internet's earliest social networking website appeared in November 1994, named GeoCities, followed by Classmates in December 1995 and Six Degrees in 1997 (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015; Clavio, 2021), Open Diary in October 1998 and LiveJournal in April 1999 (Ngak, 2011; Ortutay, 2012; Squires, 2016). However, Six Degrees is widely considered the first social networking site. It enabled registered users to upload a profile, make friends with other users, and include school affiliations (Edosomwan *et al.*, 2011; Ngak, 2011; Hendricks, 2013; Jones, 2015). The first blogging websites became popular in 1999, a social media sensation that is still popular today (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015).

4.2.2.3 Social Media 2000 to present

After blogging was instituted, social media's popularity increased significantly (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015). In the early 2000s, sites like MySpace and LinkedIn became prominent, and Photobucket and Flickr made online photo sharing possible. Various social media sites were created in the early 2000s, such as Ryze in 2001; Friendster in 2002; LinkedIn, hi5, and MySpace in 2003; Orkut in 2004; Facebook in 2004; Yahoo! 360° and Bebo in 2005 (Edosomwan *et al.*, 2011; Ngak, 2011; Ortutay, 2012; Squires, 2016; Clavio, 2021). YouTube also made its debut in 2005, creating yet another unique way to communicate across great distances. Facebook and Twitter went global in 2006. Twitter remains among some of the most popular social networking sites, however, Facebook is the most used social networking platform globally. Other sites such as Tumblr, Spotify, Foursquare and Pinterest originated to cater to specific social media niche areas (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015; Clavio, 2021; Kemp, 2021a).

There is a vast variety of social media networking sites today, and a number of them are linked, allowing cross-posting. Therefore, an environment is created, enabling users to reach the maximum number of people without giving up the intimacy of person-to-person communication (Edosomwan *et al.*, 2011; Hendricks, 2013; Jones, 2015).

To gain a broader understanding of social media, the focus is narrowed to provide an overview of the various social media types.

4.2.3 SOCIAL MEDIA TYPES

Social media are multifunctional networking tools offering an increasingly wider variety of services, which makes determining its core purpose, mission, and type difficult (Hanna, Rohm and Crittenden, 2011a; Kietzmann *et al.*, 2011; Koukaras, Tjortjis and Rousidis, 2020). Establishing a systematic categorisation for the various social media applications is still in its initial phases, regardless of the growing interest in social media usage. New sites and applications appear every day, some replacing existing platforms, and this continuous growth must be considered in any future taxonomy classification. Various authors have conceptualised online social media as an 'ecosystem' of connected elements which involves both digital and traditional media working together towards a common goal, whether the goal is a launch and promotion of a new product or service, communicating a new company's initiative or engaging customers in interactive dialogue (Bernoff and Li, 2008; Kaplan and Haenlein, 2010; Hanna, Rohm and Crittenden, 2011).

In the earlier work of Constantinides and Fountain (2008), five categories of application types were identified: (1) Blogs such as Apartment Therapy, (2) social networks such as Facebook, (3) content communities such as YouTube, (4) forums/bulletin boards such as Epinions, and (5) content aggregators such as Yahoo!. Kaplan and Haenlein (2010) later identified six different types of social media, namely, (1) collaborative projects such as Wikipedia, (2) blogs and microblogs such as Twitter, (3) content communities such as YouTube, (4) social-networking sites such as Facebook, (5) virtual game worlds such as World of Warcraft, and (6) virtual social such as Second Life. Gundecha and Liu (2014) expanded social media types even further, identifying nine types of social media: (1) Online Social Networking such as Facebook, (2) Blogging such as Business Insider, (3) Micro-blogging such as Twitter, (4) Wikis such as Wikipedia, (5) Social news such as Reddit, (6) Social book-marking such as Delicious, (7) Media sharing such as YouTube, (8) Opinions, reviews and rating such as TripAdvisor, and (9) Answers such as Yahoo!

However, Koukaras, Tjortjis and Rousidis (2020) proposed that social media types can be narrowed down to a smaller number of categories. Their results suggest three social media types, namely, Social, Entertainment and Profiling networks which captures emerging social media platform services. Abeza, O'Reilly, Sanderson and Frederick (2021) also condense the social media types into fewer categories: social networks, content communities, blogs, and discussion sites. Table 4.2 summarises these various authors' social media categories (SMC).

Table 4.2: Categories of social media platforms

SOURCE	DESCRIPTION	NUMBER OF SMCs
(Constantinides and Fountain, 2008)	Blogs, social networks, content communities, forums/bulletin boards, and content aggregators	5
(Kaplan and Haenlein, 2010)	Collaborative projects, Blogs and microblogs, Content communities, Social networking sites, Virtual game worlds, Virtual social worlds	6
(Gundecha and Liu, 2012)	Online social networking, Blogging, Microblogging, Wikis, Social news, Social bookmarking, Media sharing, Opinion, reviews, and ratings, Answers	9
(Koukaras, Tjortjis and Rousidis, 2020)	Entertainment networks, Profiling networks, Social networks	3
(Abeza, O'Reilly, *et al.*, 2021)	Social networks, content communities, blogs, and discussion sites.	4

Source: Author's own compilation

Abeza *et al.'s* (2021) classification is used for this study. Table 4.3 provides a description and example of the four major social media platform categories.

Table 4.3: Description of social media platform categories

CATEGORY	DESCRIPTION	EXAMPLE
Social networks	Platforms allow users to communicate with other users who share their interests by posting information, comments, messages, and images and creating a community for participation.	Facebook and Twitter
Content communities	Platforms predominately depend on videos, photos, and audio files from the users themselves.	YouTube, Instagram, and SnapChat
Blogs	Blogs are online journals or personal websites usually managed by an individual.	Seattle Mariners and Toronto Maple Leafs
Discussion sites	Platforms on which users with similar interests share ideas on different topics, activities, and concerns.	Reddit and Quora

Source: (Abeza *et al.*, 2021)

For this study, the analysis is restricted to Abeza *et al.'s* (2021) social networking category, which is used extensively by sports clubs, sports events, sports organisations, and the consumers and customers of the sports industry (Broughton, 2010; Blaszka, 2011; Wallace, Wilson and Miloch, 2011; Abeza *et al.*, 2015; Moustakas, 2015). Within the category of social networking sites, Facebook is the largest platform (Kemp, 2021a).

4.2.3.1 Social networking sites

Social networking sites can be described as a social structure consisting of online communities that socialise and interact (Dennis *et al.*, 2010; Koukaras, Tjortjis and Rousidis, 2020). These online communities enable users to connect by creating profiles containing personal information, inviting friends and colleagues to gain access to their profiles, and sending comments and instant messages between one another (Kaplan and Haenlein, 2010). The personal profiles that users create can contain information about the user and include photos, video, audio files and blogs. Social-networking sites have become popular and significantly impact social communication methods (Hollenbeck and Kaikati, 2012).

Social networks therefore developed from users representing themselves and their interests, and engaging with other users.

Social communication's popularity is evident, in that by October 2021, more than half of the global population (57.6%) were using social networking sites. These figures are expected to increase and current growth trends suggest that social media users will pass the 60% mark in the first half of 2022 (Kemp, 2021a). Numerous research also suggests that social network sites have changed the social lives of many people, specifically younger generations using the Internet (Dennis *et al.*, 2009; Dennis *et al.*, 2010; Kaplan and Haenlein, 2010; Harris and Dennis, 2011; Kietzmann *et al.*, 2011; Hollenbeck and Kaikati, 2012). Organisations acknowledge this potential and use social networking sites to create brand communities (Zhen, *et al.*, 2015). Deutsche Telekom is an example of branded communities in sports that have achieved great success. This telecommunication company operates www.fussball.de., an online community focused on football. This example indicates both organisations' expectations of using sport-related social media to establish and maintain long-term relationships with consumers and substantiate the relevance of this phenomenon in a sports context (Grant, Heere and Dickson, 2011; Popp and Woratschek, 2016).

The introduction of the social networking site Facebook is one of the most significant social trends in the last two decades (Caer, *et al.*, 2013). Facebook opened to the public in 2006, and as of October 2021 had 2,91 billion monthly active users (Kemp, 2022). Facebook is a free social networking site, and registered users can create a profile, upload photos and videos, send messages and communicate with friends, family and colleagues (Gummerus, 2010; Kaplan and Haenlein, 2010; Caers *et al.*, 2013). Facebook includes public features such as profiles, pages, groups, events and the marketplace (Harris and Dennis, 2011). Facebook is considered the dominant player in the social-networking space, with the highest user rates, compared to other social media sites (Kemp, 2021a). See Section 4.2.5 for more on Facebook.

Google+, owned and operated by Google, is a more recent example of a social networking site launched in 2011. Google+ was estimated to have 2 billion registered users. However, only approximately 395 million were monthly active users (Stout, 2022). Google announced in 2018 its decision to shut down Google+ for consumers in April 2019. The shutdown was due to the low usage and the challenges in maintaining a successful product that meets consumers' expectations (Google+, 2019). There are various other examples of transient social networking sites such as Google Buzz launched in 2010, which replaced Google Wave, launched in 2009. These were attempts by Google to develop a global social media site that could rival Facebook. Buzz had enormous privacy issues, and Wave was too complicated. FriendFeed, a social-aggregating website launched in 2007, was bought by Facebook and closed in 2015. Friendster, one of the original social networks before Facebook, launched in 2002 and dominated the Asian market. Friendster evolved into a social gaming site in 2011 but closed in 2018 after a three-year break (Hollingsworth, 2019).

Another social-networking platform actively used is LinkedIn, launched in 2003. LinkedIn is an employment and professional networking site, which allows its users to build their business and professional contacts into an online network. LinkedIn is the world's largest professional network, with more than 610 million users in more than 200 countries and territories worldwide (LinkedIn, 2022). LinkedIn is used for purposes different from other social networks (Wagner, 2014). It is a platform where job seekers can post their CVs, and employers or recruiters can post job advertisements and search for potential candidates (Statista Research Department, 2022a). These different forms of social networking sites, are changing and growing rapidly (Dennis *et al.*, 2010; Kaplan and Haenlein, 2010; Harris and Dennis, 2011; Kietzmann *et al.*, 2011) and new sites appear daily, some replace existing platforms (Kontu, 2015).

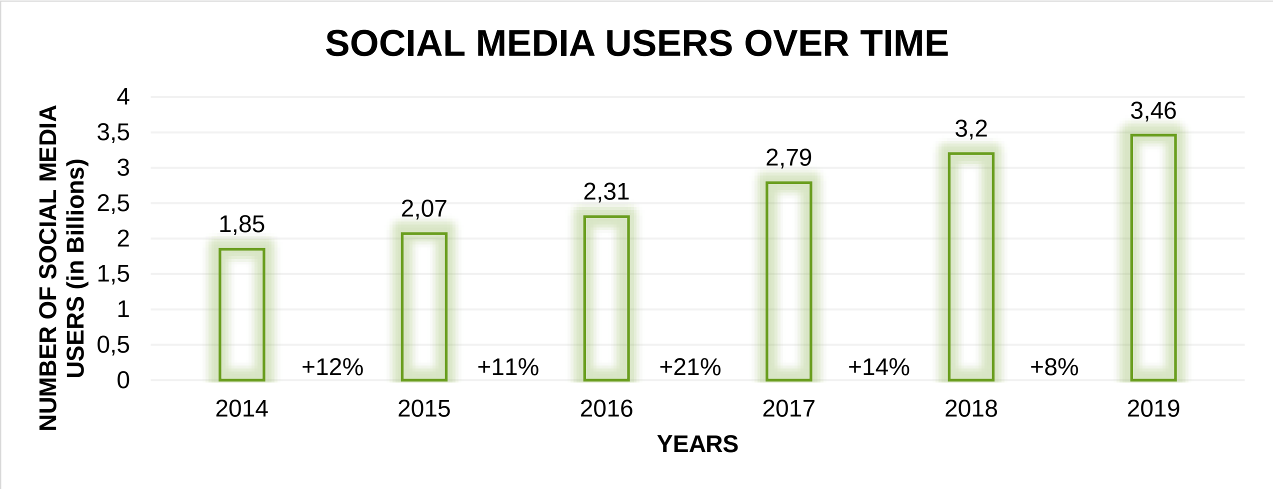
The following section offers some global statistics on the growth and usage of social media in general with a sub-section on organisations' use of social media.

4.2.4 GLOBAL SOCIAL MEDIA STATISTICS

The number of Internet users is experiencing accelerated growth. In 2021, more than 220 million people came online for the first time. Of the world's total population of 7,89 billion, 4.88 billion or 61,8% is now connected to the Internet. However, with the continuation of COVID-19 and its hampering effect on research, the figure could be considerably higher (Kemp, 2021:8). People spend significant amounts of time online. An average of 6 hours and 54 minutes is spent online by Internet users each day (Kemp, 2021:59).

Since October 2021, there have been 4.55 billion active social media users worldwide, a global population of 7.89 billion, indicating a 57.6% penetration (Kemp, 2021:59) as depicted in Figure 4.4. Active social media users have shown growth of 9.9% from October 2020 to October 2021, which is a growth of more than 409 million people within a year (Kemp, 2021:60). People use an average of 6.7 social media platforms each month and spend about 2 hours and 27 minutes per day on social media alone. Figure 4.3 presents the growth of social media users from the year 2014 to January 2019.

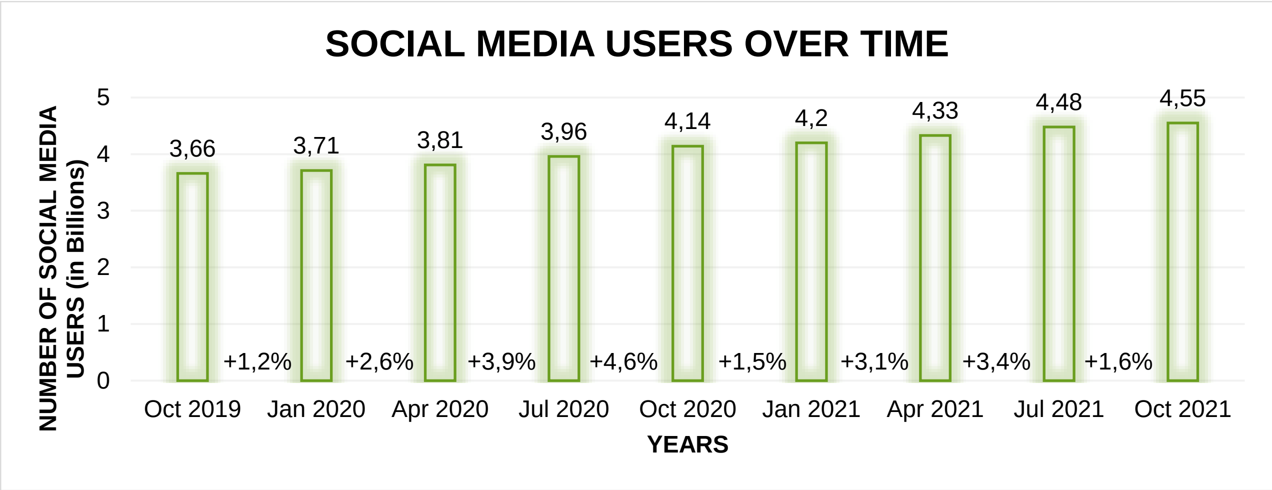
Figure 4.3: The growth of social media users (2014-2019)



Source: Adapted from (Kemp, 2019:73)

Figure 4.4 presents the growth of social media users from October 2019 through to October 2021.

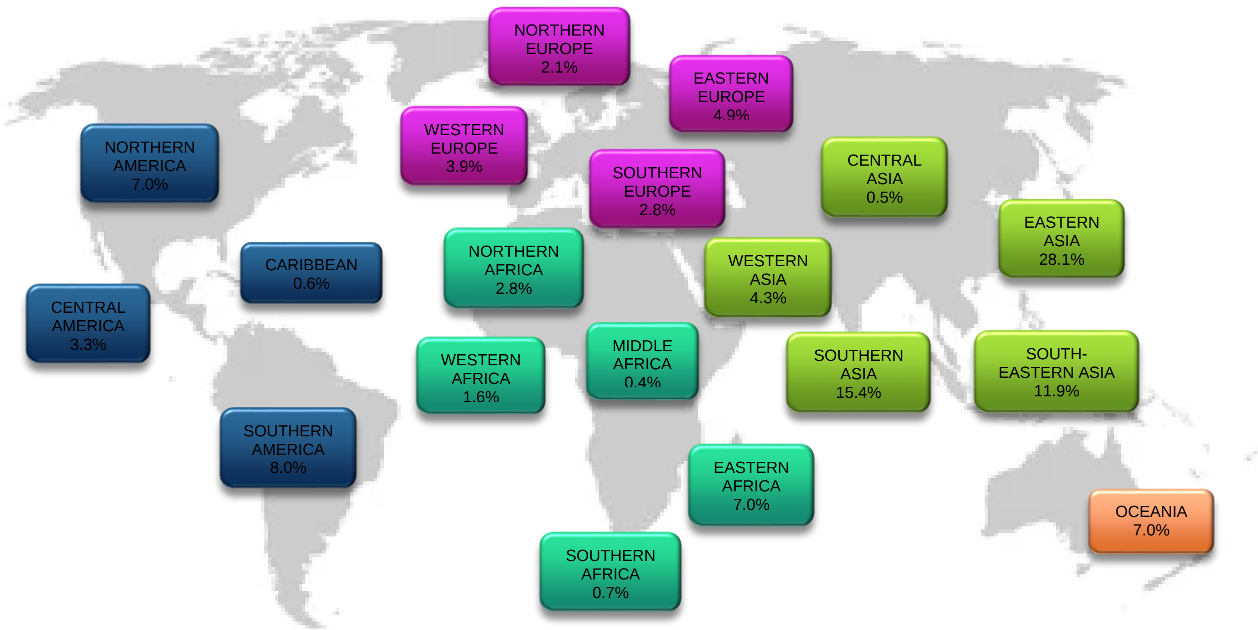
Figure 4.4: The growth of social media users (2019-2021)



Source: Adapted from (Kemp, 2021b:60)

Figure 4.5 shows social media users in each region as a percentage of the worldwide total of social media users.

Figure 4.5: Share of the world's social media users



Source: Adapted from (Kemp, 2021b)

A broad overview of social media and general global statistics on social media has been given. The next sub-section will focus specifically on answering the questions of why and how organisations make use of social media.

4.2.4.1 Organisations using social media: Facts and figures

Technology and communication have developed rapidly during the last decade. This development was encouraged by the rise of social media, allowing interconnectivity between individuals, the content being created online and better information distribution (Boyd and Ellison, 2007). Modern society makes constant use of social media, instant messaging apps, blogs and websites, sharing information throughout most of the day. This is one of the main reasons for organisations to use social media, to make themselves known to the public and allow consumers to participate in their activities and analyse their content being generated (Alonso-Cañadas, Galán-Valdivieso, Saraite-Sariene and del Mar Gálvez-Rodríguez, 2018). To businesses across the globe, social media is becoming increasingly important. In a global survey conducted by Hootsuite (2018), of 9278 organisations in North America, Europe, the Middle East, and Africa; Asia Pacific; and Latin America on how and why they use social media, 87% indicated that social media is important to stay competitive. Many organisations' top management allocate budgets for social media and most prefer to keep the management of social media in-house with a dedicated team of one or two individuals, or in larger organisations, up to 10 people (Wiltshire, 2019).

The world is growing more social with an ever-increasing number of active users and social networking sites to choose from. In response to this, organisations must think strategically about which networks to use and how best to use them (Herold, 2018; Hootsuite, 2018). Organisations have increased their presence on social media, with almost half of the organisations worldwide having between four and 10 active social media profiles on varying social networks (Hootsuite, 2018). Organisations' social media teams must know when new social networking sites are released, monitor their popularity and assess the pros and cons of incorporating them in the organisation's social media strategy. Smaller organisations with limited resources are careful not to spread resources too thinly. The social networking site Facebook (Section 4.2.5) is used predominantly in all types and size organisations, including Business to Business (B2B) and Business to Consumers (B2C) organisations. This is due to the network being free to join and having an exceptionally large number of active users

(Section 4.2.5.3) that cover both business and consumers. Facebook's Messenger service have also added a customer service functionality to their network (Hootsuite, 2018; McCorkindale, DiStaso and Sisco, 2018).

Many organisations use social media to achieve their top-of-funnel marketing goals and increase their reach and engagement. According to the Hootsuite's (2018) survey, building brand awareness, managing brand reputation and engaging with audiences online are the top three goals organisations strive to achieve through social media. However, not all organisations experience they are achieving these goals even though they perceive social media as the best tool to achieve these goals. When prioritising these goals, B2C organisations build an engaged community and deliver customer service via social media. Organisations still face many challenges in achieving social media success. The challenges organisations face can be divided into four major challenges: 1) measuring return on investment, 2) social media integration through the organisation, 3) training and governance, 4) time and resources (Hootsuite, 2018).

Evaluating social media investments' effectiveness is considered the number one challenge. Many organisations do not know whether their social media campaigns are working and struggle to understand and interpret their social media data (Tørning, Jaffari and Vatrapu, 2015; Herold, 2018; Hootsuite, 2018; Wiltshire, 2019). Therefore, organisations must implement an effective measurement framework that can measure and improve the effectiveness of their social media initiatives. The second challenge organisations are faced with is that of integrating and coordinating the social media strategy to social media administrator teams that are growing larger in numbers and more distributed across the various departments of the organisation, as well as managing more social media profiles such as Facebook, Instagram and Twitter (Tørning, Jaffari and Vatrapu, 2015; Hootsuite, 2018). This is due to social media's new role, implementing initiatives beyond the main marketing goals. Therefore, it is essential for organisations to have a collaborative approach and to implement a coordinated social media strategy that will ensure the organisation's approaches to social media governance, the creation of content, executing campaigns, measuring social media data and other priorities associated with social media, are consistent throughout (Hootsuite, 2018).

Training and governance are the third challenge with social media skills lacking in many organisations who do not provide their employees with the necessary social media training. In addition to the lack of skills and training, organisations do not have policies to govern the use of social media by employees (Macnamara and Zerfass, 2012; Hootsuite, 2018). Therefore, to unlock the true value of social media, organisations must commit to training initiatives that addresses social media analytics and measurement. The fourth challenge that organisations struggle with is finding time to effectively manage their social media profiles and allocate an adequate budget to the management thereof. Budget constraints could be due to the difficulty in measuring social media return on investment. However, organisations realise that maintaining a presence on social media is crucial in staying competitive (Tørning, Jaffari and Vatrapu, 2015; Herold, 2018; Hootsuite, 2018; Wiltshire, 2019).

The following sub-section provides a discussion on non-profit organisations' use of social media. This is pertinent to the current research and most sports events are classified as non-profit organisations.

4.2.4.2 <u>Research on non-profit organisations use of social media</u>

Research on non-profit organisations indicates that non-profits have a history of engaging on social media platforms. Most organisational research depicts social media in a positive light (Valentini, 2015) as it can enhance a non-profit's communication, marketing, fundraising, stakeholder engagement, knowledge acquisition, awareness building, volunteer management, accountability, advocacy, and relationship-building activities (Waters, 2009; Farrow and Yuan, 2011; Campbell, Lambright and Wells, 2014; Svensson, Mahoney and Hambrick, 2015; Guo and Saxton, 2018; Xu and Saxton, 2019).

Research by Curtis *et al*. (2010) on 409 non-profit public relations practitioners indicate that all except five used social media to engage their stakeholders. The results of Waters *et al.*'s (2009) content analysis of 275 non-profit organisations Facebook pages, show that social media was primarily used to disclose information, but concluded that non-profit organisations do not take full advantage of the various social media benefits. Studies by Bortree and Seltzer (2009) and Greenberg and MacAulay (2009) on the Facebook pages of environmental non-profit organisations found that these organisations merely created a Facebook profile with no indication of any significant relationships. According to Carboni and

Maxwell (2015), just having a presence on social media is not sufficient to engage stakeholders.

Later studies by Campbell, Lambright and Wells (2014); Hou and Lampe (2015) and Shi (2017) also concluded that non-profit organisations are not using social media to its full potential, but Hou and Lampe (2015) add that some of the characteristics of non-profit organisations make it difficult for them to use social media sites effectively. Similar to the challenges already discussed (4.2.4.1), Hou and Lampe (2015) confirm that non-profit organisations struggle to measure their social media performance and lack resources. According to Campbell, Lambright and Wells (2014), they also lack organisational policies and governance regarding social media. Research on the social media platform Twitter indicates that non-profit organisations actively communicate with their audience, however, one-way communication is primarily used (Waters and Jamal, 2011; Lovejoy and Saxton, 2012; Lovejoy, Waters and Saxton, 2012; Saxton and Guo, 2014; Anagnostopoulos *et al.*, 2017; Shi, 2017). Saxton and Waters' (2014) content analysis of 1000 non-profit organisations Facebook updates suggests that stakeholders prefer messages that encourage open dialogue between them and the organisation. Anagnostopoulos, Gillooly, Cook, Parganas, and Chadwick's (2017) results indicated that non-profit organisations with a higher capacity make an effort to engage with stakeholder groups rather than merely providing information, which emphasises just how important a trained and dedicated social media team is in optimising the use of social media for communication.

In Greenleaf's (2016) interviews with social media strategists employed by non-profit organisations, all shared a desire to connect with stakeholders personally. Participants indicated that social media has the power to build relationships, inspire action and they emphasised the importance of the two-way connection between the organisation and stakeholders. Shin's (2019) findings suggest that using websites and social media would improve non-profit organisations' interactive or two-way communications with their stakeholders. Carboni and Maxwell (2015) investigated how non-profit organisations can effectively engage with their stakeholders on social media in two-way communication. The type of Facebook post and the length of the post were found to be noteworthy predictors of increased stakeholder engagement. Non-profit organisations delivering more frequent posts are a significant negative predictor of stakeholder engagement, indicating that stakeholders feel bombarded and are less likely to engage. Naraine and Parent (2017) examined social media adoption within not-for-profit sports organisations. They found that, even though social media is adopted as a radical, transformational medium, sports organisations have only made small adjustments to stakeholder communication due to capacity constraints and resistance from staff and stakeholders. Naraine and Parent (2017) conclude that not-for-profit sports organisations are likely to incorporate social media changes as innovations and advancements, but will not maximise its functionality. This implies that non-profit organisations do not use social media platforms such as Facebook and Twitter effectively or to their full potential; possibly, due to a lack of understanding of social media and a lack of training.

Research affirm that challenges experienced by non-profit organisations mirror those of organisations in general. The tendency for non-profits is to use platforms one directionally to disclose information but this conflicts with stakeholders' desire for two-way communication (Waters and Jamal, 2011; Lovejoy and Saxton, 2012; Lovejoy, Waters and Saxton, 2012; Saxton and Guo, 2014; Anagnostopoulos *et al.*, 2017; Shi, 2017). However, there is a paucity of research on two-way communication, and how to improve it on social media platforms.

In the next section the social media platform Facebook is discussed. Since organisations predominantly use Facebook, it follows that Facebook was selected as the social media platform for the study.

4.2.5 FACEBOOK

The following subsections cover the definition, terminology, history, development, and general statistics of Facebook. A general overview of corporate Facebook, which is how organisations use Facebook professionally, is also discussed.

4.2.5.1 Defining Facebook

Doğruer, Meneviş and Eyyam (2011:2642) define Facebook as a computer-mediated Social Networking System due to it being driven by user participation (Swart, 2018) and user-generated content (Kim, Jeong and Lee, 2010; Martini, Massa and Testa, 2013; Scott and Orlikowski, 2014). Both a personal and business account can be created on Facebook. To create a personal account, any individual older than 13 years can go to the website www.facebook.com, provide some personal information such as name, date of birth, gender, email address or mobile phone number and a password. The new user clicks ‘Sign Up’ and confirms their email or mobile phone number to finish creating an account and gain access (Caers *et al.*, 2013; Facebook Help Centre, 2022a). Creating a business account requires visiting the website, www.facebook.com/business, and selecting ‘Create a Page’. A choice between two-page categories, namely, ‘Business or Brand’ and ‘Community or Public Figure’, is given. The information required to create a business page is the business’s name and choice of business category that best describes what the business offers, for example ‘sports event’. Thereafter, a profile picture and cover photo can be uploaded. Most businesses use their logo as a profile picture. Additional business details can be included in the ‘About’ section, such as website address, hours, contact information, company overview and story. Once complete, friends are invited to like a page and follow status updates (Caers *et al.*, 2013; Main, 2021).

Facebook is proving to be a stable marketing tool for businesses, therefore, marketers and business owners must understand the terminology used in Facebook to optimise a social media strategy (MayeCreate Design, 2015). Table 4.4 describes the most popular terminologies used in Facebook.

Table 4.4: Terminology used in Facebook

TERM	DEFINITION	TERM	DEFINITION
GENERAL DEFINITIONS		**CONTENT CREATION DEFINITIONS**	
Personal Profile	A page intended to represent a single individual.	Post	A term used for sharing content on Facebook
Friends	Followers of a personal profile or organisation's page.	Text-Only Posts	A post without an image, video, or link.
Apps	Applications within Facebook, such as photos, enhance the user experience.	Multimedia	A post that includes an image or video.
Timeline	The area of a profile or page where friends and fans can post their thoughts, views, or criticisms for everyone to see.	Facebook Reactions	An extension of Facebook's Like button. There are six reactions: Like, Love, Haha, Wow, Sad, and Angry.
Follow	Follow is a way to hear from people or businesses the user is interested in, even if they are not friends. The Follow button is a way to fine-tune the News Feed to get the types of updates the user wants to see.	Comment	A response to another user's post.
Liking	A way to show positive feedback without commenting directly.	Reply	A response to a comment, allowing for comment threads and conversations.

Group	A page created for an organisation or business to promote activities.	Share	Let the user share the content with personal Facebook friends.
News Feed	A constantly updated list of friends' activities integrated with Timelines.	Link	A post that includes a URL.
Notifications	Notifications are updates about activity on Facebook.	Status	Updates appear on the user's wall, and friends' news feeds.
Messenger	A private message.	**INSIGHTS DEFINITIONS**	
Events	Facebook Events can be created by a page or profile and are used to organise events, gather RSVPs, respond to invites, and keep up with what your friends are doing.	Insights	Statistics tracked by Facebook, such as likes, reach and engagement.
Tagging	A tag links a person, Page, or place to something a user posts, like a status update or photo.	Fans	A group of users who have 'liked' a particular page. After a fan has liked a page, the posts will be visible in their news feed.

PAGES DEFINITIONS		Friends of Fans	Those exposed to a brand through a friend who is a fan of that brand.
Page	A public profile specifically created for businesses, brands, celebrities, etc.	Reach	The number of people who saw a post. Reach is divided into two categories: organic reach and paid reach.
Page Admin	When a Page is created, the creator automatically becomes the Page's admin, which means only that they can change how the Page looks and post as the Page. Other people can be assigned roles to help manage the Page.	Organic Reach	The number of unique people who found and saw a post on their own.
Page Roles	There are five different roles for people who help manage Facebook Pages. These roles include admin, editor, moderator, advertiser, and analyst. Any person assigned to these roles will log into their accounts and work on the Page from there.	Paid Reach	The number of people who saw a post resulted from a paid advertisement.
About Section	This section contains basic information that helps visitors quickly learn about the Facebook Page.	Engagement	A statistic based on the number of likes, comments and shares received for a specific post.

Activity Log	The Activity Log helps manage a Page's Timeline. It shows a complete list of posts and comments by the Page. Only people who help manage the Page can see the Activity Log.	Story	A term used to reference the ways people can interact with a page.
Check-ins	This action announces a person's location to their Facebook friends. If a Page includes an address, it will appear in a list of possible locations to check into when people are nearby. Once someone has checked in, a story will be created in their friends' News Feeds.	Daily Page Activity:	This breaks down the different ways people engage with a Facebook Page on a specific day other than commenting on or Liking posts. For example, when fans post to a Page, upload photos or videos to a Page (if enabled), write reviews or mention a Page in updates of their own or friends.
Profile Picture	An image that is meant to represent the individual or organisation, such as their logo. The smaller identifying logo/photo accompanies each post, comment, or reply made.	Page Views	Pageviews are the total number of times a Facebook Page was viewed during the period selected.
Cover Photo	The larger image is located at the top of a page displaying 851×315 pixels.	Net Likes	This is the difference between the number of people who Liked a Page and the number who unliked it, over a specific period.
Boost Post	A paid advertising tool allows users to bump posts higher in News Feeds than they normally appear, to reach audience members better.	New Likes	This total is the number of individuals who Liked a Facebook Page during the specific date range selected.

Milestone	Important dates in company history.	Monthly Active Users	This is the number of people who have viewed a Facebook Page or interacted with it during the previous 30 days. Tracking this metric can determine the degree to which the Facebook influence fluctuates monthly or seasonally.

Source: (Beese, 2015; MayeCreate Design, 2015; Curtiss, 2019)

4.2.5.2 History of Facebook

Facebook was founded in 2004 by Harvard sophomore Mark Zuckerberg, aged 19 (History.com, 2021). Facebook grew quickly to become one of the world's most popular websites. According to Kemp (2021c), the most popular network worldwide as of October 2021, ranked according to the number of active accounts, Facebook is considered the market leader, because it was the first social networking site to exceed 1 billion registered accounts (Statista Research Department, 2021a) and currently stands at 2.91 billion monthly active users (Kemp, 2022).

Originally Facebook was only available for students at Harvard (Abeza, *et al.*, 2021). It was then made available to Stanford and Yale and later to all students in the United States (Smith, 2019; Clavio, 2021). Facebook continued to be successful and was made available to high school students and eventually to anyone over 13. Organisations registered a page in April 2006, and approximately 4000 organisations joined within two weeks (Waters *et al.*, 2009). The average Facebook user spends approximately 20 minutes per day on the site (Smith, 2019), is connected to 80 community pages, groups and events (Bullas, 2018), and in a month, likes 11 posts, makes 5 comments and clicks on 12 advertisements (Kemp, 2022). The average Facebook user also has about 338 (mean, median or midpoint number 200) 'friends' or connections (Smith, 2019), which could include people, organisations, groups or objects. Friends can include those users they may or may not interacted with offline (Shear, 2010). Facebook pages are created for free, and users can create, join groups and 'like' pages (McCorkindale, DiStaso and Sisco, 2013:68).

The rapid growth of Facebook, since its foundation, has shaped the competitive landscape of social media, with its great acquisitions such as Instagram, a photo-sharing application in March 2012, and WhatsApp, a messaging application in February 2014 (Deutsch, 2022). In 2012, Facebook made an Initial Public Offering (IPO) on the New York Stock Exchange and valued at $104 billion, the largest valuation of an American company in history at its IPO (Raice, Das and Letzing, 2012). During the fourth quarter of 2021, 1.93 billion active users visit Facebook daily (Statista Research Department, 2022b), even though the social-networking site is not available to those under the age of thirteen (Facebook, 2022a), and is also unavailable in China, the world's most populous country (Pham and Riley, 2017; Zucchi, 2021). Facebook also has the highest levels of engagement among its users and statistics show that the social network's audience reach is projected to be 76.84% by 2026 (Statista Research Department, 2021b).

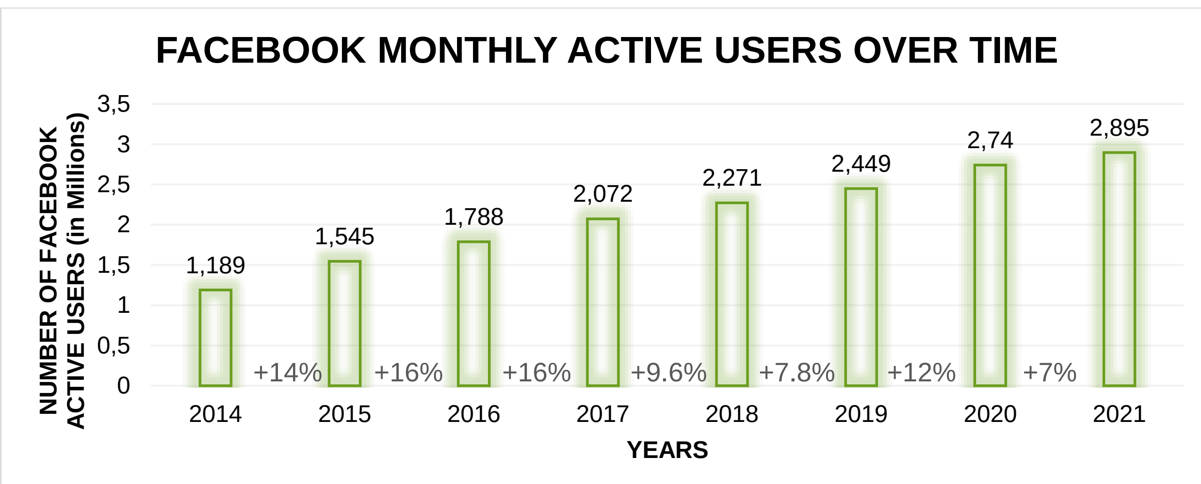
Facebook's strong mobile integration and its mobile messaging capabilities aid in Facebook's overall appeal. Facebook Messenger, an instant messaging feature on Facebook, was released in 2011, and its success gave rise to a standalone application in 2014 and is considered the world's most popular mobile messenger application (Kroh and House, 2021). Facebook's annual revenue reached approximately $85.9 billion in 2020, of which most was generated through advertising (Iqbal, 2022). The leading online activity worldwide is attributed to social networking. The greater part of this growth is anticipated to come from emerging markets' using mobile devices as online connectivity increases. Facebook capitalises on this, and a data-efficient mobile application has already been released, called Facebook Lite, which is said to be a lightweight version of its mobile application that works better on slow Internet connections. Facebook Lite has already been released in growing markets such as India and the Philippines, to ensure Facebook an advantageous position in the local online culture (Statista Research Department, 2022b).

During 2018 three themes emerged concerning user's Internet use: passive content consumption and retreating to private spaces. While consumers were spending more time online, concern grew about their online activities' impact on their well-being. Facebook started updating its algorithm in early 2018 due to the concern of passive media consumption and its harmful affect to users' mental health. The updates involved limiting viral videos and other public content. Consumers also started moving to private digital spaces like Stories, Facebook Groups, and messaging apps to escape noisy news feeds due to brands and advertisements following them. Brands were urged to deliver personalised content that connects to people, or they risk being ignored. The shift made by Facebook's algorithm from passive consumption to content that creates meaningful connections, serves as a warning to brands. Creating important, interesting, and timely content should be organisations and brands' main focus in building deeper customer relationships (Wong, 2018; Kemp, 2019).

4.2.5.3 Facebook statistics

Facebook is considered the social media platform with the most active user accounts, 2,28 billion to be exact, as of October 2021. Figure 4.6 illustrates the yearly growth of Facebook active users from 2014 to 2021 (Kemp, 2021a:106) and demonstrate a year on year positive growth, which is likely to continue for the next few years. Facebook's quarter-on-quarter change in active users advertising reach indicates a growth of 1.1%, or more than 25 million users (Kemp, 2021a). Based on the world's most-used social platforms, Facebook is ranked 1st, with YouTube (categorised as a content, video, community) second, and WhatsApp third; making Facebook the most used social networking platform globally (Kemp, 2021b:62).

Figure 4.6: Facebook monthly active users over time (2014-2021)



Source: (Kemp, 2021b:78, 2021a:106)

Table 4.5 indicates the percentage of Facebook users accessing the platform via each type of device. According to the statistics, people prefer having and accessing their Facebook account through mobile phones. Consequently, Facebook users can access their accounts virtually anywhere provided they are connected to the Internet.

Table 4.5: Facebook access by device

DEVICE	PERCENTAGE %
Any mobile phone	98.3%
Laptops or Desktops	1.7%
Phones and computers	17.3%
Only mobile phone	81.0%

Source: (Kemp, 2021a:112)

Table 4.6 indicates the number of times a typical Facebook user, aged 18 years or older, performs each activity on Facebook. According to the statistics, the like response is mostly used, with an average of 11 posts likes in 30 days. According to the statistics, the average Facebook user is also just as likely to click on an advert as to like a post, with an average of 11 adverts clicked on in 30 days. These statistics show that the average Facebook user is more likely to like a post than comment on it, and more likely to comment than share a post.

Table 4.6: Facebook activity frequency

FACEBOOK ACTIVITY FREQUENCY	FEMALE	MALE	AVERAGE
Number of Facebook pages liked	1	1	1
Posts liked in the past 30 days	12	10	11
Comments made in the past 30 days	7	4	5
Posts shared in the past 30 days	1	1	1
Facebook adverts clicked in the past 30 days	14	9	11

Source: (Kemp, 2021a:116)

Table 4.7 presents the types and their share of total posts on Facebook pages. The statistics in the first column indicates an average of 1.6 page posts per day. Link posts' share of the total page posts is the highest with 49.9%, indicating that the average

Facebook page is most likely to be shared if a post contains a link. Table 4.7 also presents the average percentage of the posts engagement rates, i.e., reactions, comments, and shares in relation to the total number of page fans. These figures are averages for various countries worldwide for a broad range of different pages and audience sizes. The average engagement rate for Facebook page status posts is the highest (.14%), followed by photo posts (.12%). This indicates that the average Facebook user is most likely to engage with Facebook page posts containing status updates and photos.

Table 4.7: Share of Facebook page posts by post type versus engagement

TYPE OF PAGE POST	SHARE OF TOTAL PAGE POSTS	AVERAGE ENGAGEMENT RATE
Page Posts (All)	1.60	0.07%
Page Video Posts	16.7%	0.09%
Page Photo Posts	32.6%	0.12%
Page Link Posts	49.9%	0.04%
Page Status Posts	0.8%	0.14%

Source: (Kemp, 2021b:82-83)

Table 4.8 compares the average Facebook page post engagement rate across pages with different audience sizes. The statistics indicate that the average Facebook page post engagement rate for pages with fewer than 10 000 audience members are the highest, with 0.45%. The statistics also indicate that the average Facebook page post engagement rate lowers as the audience size increases.

Table 4.8: Facebook post engagement rate by page size

PAGE AUDIENCE SIZE	AVERAGE ENGAGEMENT RATE
Fewer than 10 000	0.45%
10 000 – 100 000	0.25%
More than 100 000	0.08%

Source: (Kemp, 2021a:126)

The next section focuses on Facebook's corporate use.

4.2.5.4 Corporate Facebook

Although Facebook began by connecting individuals, organisations can now create fan pages for the organisation itself or its products and the social networking site has since become an additional instrument for stakeholder communication or engagement (Caers *et al.*, 2013). An increasing number of organisations create business Facebook pages as it is perceived that having brands and organisations on Facebook, can increase or maintain sales (Caers *et al.*, 2013; McLachlan and Newberry, 2021). If users post information regarding a brand in their status updates, the brand can be seen by thousands of potential customers through the news feed on Facebook. This action is also made easier by widgets; small icons that are clicked on and enable the user to share on their Facebook profile page. When content related to a brand or a product (positive or negative) is posted, it can be broadcast quickly through the social networking site (Caers *et al.*, 2013).

These facts and figures appeal to organisations, and demand is generated to establish their organisation or brand within Facebook to create, maintain and improve a competitive advantage (Harris and Dennis, 2011; Caers *et al.*, 2013). According to Sheryl Sandberg, Facebook's COO, there were over 80 million Small and Medium Business (SMB) Facebook Pages in 2018 (Facebook, 2018). In a 2021 conference, CEO Mark Zuckerberg noted that more than 200 million small businesses use Facebook to reach customers

(Facebook, 2021). Facebook allows for brand messages to be integrated into users' News Feeds, and detailed data of the users' demographics and geographic location can be provided (Kontu, 2015). Organisations can reach over 2.276 billion people through Facebook advertisements (Kemp, 2021a), and 49% of users 'like' a Facebook Page to support a brand they like. However, 40% of users do not 'like' any brand pages. Therefore, the only way to reach them is through paid advertisements. Organisations are advised to make use of more videos as it earns the highest rate of engagement, yet videos make up only three per cent of the content on Facebook (Smith, 2019). Therefore, organisations that optimally utilise Facebook can target specific consumer segments and generate high-impact engagement with their branded messages (Kontu, 2015).

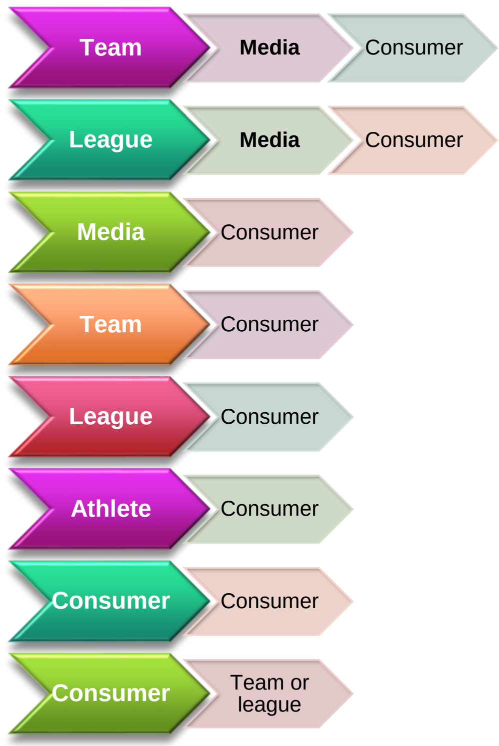
In the next section, social media as an engagement tool in the context of the sports industry, and past, related research is examined.

4.2.6 SOCIAL MEDIA AND THE SPORTS INDUSTRY

Sports and media have a time-honoured, mutually beneficial relationship. Sports relied on the media to broadcast games, publish stories, and promote athletes during the mass media era, which included television, radio, and newspapers. The advent of social media introduced new elements to the sports and media mix, which changed the traditional system by which sports and media operate (Clavio, 2021). Figure 4.7 illustrates the information flow of sports media and how it changed from the mass media era to the social media era.

The top two processes of Figure 4.7 show how sports media worked during the mass media era. Teams and leagues relied on media to distribute news and information, and consumers used the media to learn about their favourite sports. Due to limited space and available information, media organisations had the power to decide which teams, leagues and sports they would feature and which they would exclude. Figure 4.7 indicates how the sports' media landscape changed and expanded as many more sports are now accessible to consumers during the social media era. Even though a traditional process still exists, the new social media process allows teams and leagues to communicate directly with consumers and vice versa, making the communication process more interactive (Clavio, 2021).

Figure 4.7: Information flow in sports media



Source: (Clavio, 2021)

Social media has become an integral part of the overall media cycle in sports (Clavio, 2021). As mentioned in Section 4.2.5.4, social media, including Facebook, has changed from a place for connecting with family and friends to including organisations and brands (Watkins, 2019). As stated in Section 4.2.4.1, one of the main reasons organisations use social media is because society is constantly sharing information through instant messaging apps, blogs and websites, and organisations, which include sports event organisations, can therefore also avail themselves of the same media to make themselves known to the public and allow consumers to participate in their activities (Alonso-Cañadas, Galán-Valdivieso, Saraite-Sariene and del Mar Gálvez-Rodríguez, 2018).

Social media is popular and utilised by the sports industry's various stakeholders, including athletes, coaches, managers, executives, teams, leagues, fans, events, and sport's governing bodies. Social media has had a tremendous impact and become an important part of the sports industry. Teams and leagues, athletes, fans and journalists all have social media accounts with a specific focus on a sport; however, each will have different goals (Abeza, O'Reilly, Sanderson and Frederick, 2021). Among the top 20 most popular Facebook pages with the greatest number of followers as of January 2021, four are sports related. Table 4.9 displays the four Facebook pages with the number of audience members and page likes.

Table 4.9: Sports-related Facebook pages with the greatest audience numbers

FACEBOOK PAGE	**AUDIENCE**	**PAGE LIKES**
Cristiano Ronaldo	146 290 000	124 410 000
Real Madrid C. F	110 320 000	110 960 000
FC Barcelona	102 740 000	103 250 000
Lionel Messi	101 810 000	90 930 000

Source: (Kemp, 2021a:127)

The adoption of social media platforms among sports organisations has increased and been integrated into various functions such as customer service, public relations, and marketing (Blaszka, 2011; Wallace, 2011; Abeza *et al.*, 2021) and has revolutionised all communications. Within the sports world, audiences can follow many athletes through their social media platforms and possibly interact and communicate with them directly (Blaszka, 2011; Wallace, 2011; Moustakas, 2015; Abeza *et al.*, 2021). Sports organisations can reach their audience to provide them with news information about the organisation and create better brand awareness (Wallace, Wilson and Miloch, 2011; Lukach, 2012; Popp and Woratschek, 2016; Clavio, 2021).

Today, sports organisations realise social media's benefits and seek the best practices to use as part of their marketing and communication strategies (Coyle, 2010; Naylor, Lamberton and West, 2012; Schultz and Peltier, 2013; Torres de Oliveira, Indulska, Steen and Verreynne, 2020). Social media provides sports organisations with a strategic method to build and maintain a strong brand presence when building relationships with Facebook users (Wallace, Wilson and Miloch, 2011). Sports organisations can communicate unfiltered messages directly to their audience with the help of Facebook and gain the attention of large groups of people by sending event information on Facebook or by creating events through Facebook, which provides another way for audience members to interact with the organisation (Lukach, 2012). Sports organisations must actively use social media to improve brand management, inspire social interactions among fans, promote ticket sales, and present a better online experience (Coyle, 2010; Argan *et al.*, 2013).

As social media has grown and become a key communications channel in the sports world, so has research of social media and its connection with sport (Abeza *et al.*, 2021). Academics and researchers are exploring social media in numerous sports settings and extending the knowledge base of the various aspects of social media. However, research in this field is relatively recent (Abeza, O'Reilly, Séguin, and Nzindukiyimana, 2015). The next sub-section discusses previous research on the use of social media within a sporting context. The gaps in research, that motivated and informed the current study, are identified.

4.2.6.1 Related research and social media use within a sporting context

The sports management research field includes a range of sub-disciplines, and research can be conducted in wide-ranging contexts (Doherty, 2013; Abeza *et al.*, 2021). The sub-disciplines include sports marketing, finance, economics, legal aspects, governance, ethics, sponsorship, sales, communication, organisational behaviour and theory, sport for development, tourism, facility management, and event management (Doherty, 2013; Andrew, Pedersen and McEvoy, 2020). Researchers have used various approaches within sports event management, including anthropology, economics, geography, history, law, political science, psychology, sociology, management, marketing and media studies (Parent and Ruetsch, 2021).

Since 2008, considerable attention has been given to social media in sport management research, which is consistent with the growth and popularity of social media platforms (Kemp, 2021a) (Section 4.2.4) in the sports industry (Abeza *et al.*, 2015; López-Carril, Escamilla-Fajardo, González-Serrano, Ratten and González-García, 2020). Since social media is deemed a communication platform, most studies were conducted on sports communication (Pegoraro, 2010; Wallace, Wilson and Miloch, 2011; Waters *et al.*, 2011; Eagleman, 2013; Svensson, Mahoney and Hambrick, 2015; Elving and May Postma, 2017; Siguencia *et al.*, 2017; Abdourazakou and Deng, 2019), and sports marketing (Williams and Chinn, 2010; Mahan, 2011; Argan *et al.*, 2013; Eagleman, 2013; Belfiore, Rosa and Tafuri, 2019). Other popular areas for sports and social media research include athlete experiences with social media (Achen, Kaczorowski, Horsmann and Ketzler, 2018; Abeza, O'Reilly and Seguin, 2019), organisational management of social media, organisational use of social media (Nisar, Prabhakar and Patil, 2018; López-Carril, Anagnostopoulos and Parganas, 2020), social media as sports media (Lanagan and Smeaton, 2011; Thomas, 2011; Schultz and Arke, 2015; Brown and Prado, 2022), social media and societal issues that can be understood through sport (Rodriguez, 2017; Litchfield, Kavanagh, Osborne and Jones, 2018; Kilvington and Price, 2019; Litchfield and Kavanagh, 2019; Sharpe, Mountifield and Filo, 2020), fan behaviour on social media (Weimar, Holthoff and Biscaia, 2020), legal and ethical issues associated with social media (Abeza *et al.*, 2021).

Sports and social media research also focus on various sporting contexts, including provisional sports (Trivedi, Soni and Kishore, 2021), intercollegiate athletics (David, Powless, Hyman, Purnell, Steinfeldt and Fisher, 2018), international sports (Hölzen and Meier, 2019; Winand, Belot, Merten and Kolyperas, 2019), Olympic sports (Abeza, Braunstein-Minkove, Séguin, O'Reilly, Kim, Abdourazakou, 2021; Geurin and McNary, 2021) and youth sports (Frederick and Clavio, 2015; Dalen and Seippel, 2021). Researchers focus on different social media platforms, such as Facebook (Yousuf and Ganjera, 2020; Moreau, Roy, Wilson and Atlani Duault, 2021), Instagram (Doyle, Su and

Kunkel, 2020; Li, Scott, Naraine and Ruihley, 2021), Twitter (Adá Lameiras and Rodríguez-Castro, 2021), Snapchat (Spinda and Puckette, 2018; Sheffer, 2020) and TikTok (Su, Baker, Doyle and Yan, 2020).

Abeza, O'Reilly, Séguin and Nzindukiyimana (2015) conducted a census on the body of literature and critically reviewed the state of social media research within the sport management field. Abeza *et al.* (2015) identified 123 articles on social media in sport management from various disciplines from 29 scholarly journals from January 2008 to June 2014. The article identified the various topics, platforms used, theories applied, and the methodologies most used. Table 4.10 provides a summary of their findings.

Table 4.10: Summary of Abeza, O'Reilly, Séguin and Nzindukiyimana's (2015) findings on social media research in sport management

Research streams	Nature of social media (37.5%) Defining constructs (13.5%) Social media sites as tools (24%) Legal and ethical considerations (8.3%) Industry applications (7.3%) Issues and impacts (9.4%)
Contextual settings	Sports organisations (30.2%) Sport consumers (29.1%) Athletes (19.8%) Journalism/media (18.8%)
Platforms	Twitter (41.7%), Facebook (12.5%), Blogs (10.4%). Combinations: Facebook and Twitter; other platforms; or social media in general (28.12%) Message boards (3 studies) YouTube (2 studies) Pinterest (1 study)

	Weib0 (1 study)
Theories	Gratifications (10 studies) Relationship marketing (7 studies) Para-social interaction and agenda-setting (4 studies) Media framing, social identity theories, and image/reputation repair typology (3 studies each) The theory of self-presentation, the technology acceptance model, and gatekeeping theory (2 studies each)
Methodologies	Quantitative methods (51.1%) Qualitative methods (43.2%) Multimethod (3.4%) Mixed method (2.3%)
Data collection methods	Content analyses (50.5%) Surveys (29.7%) Interviews (16.5%) Experimental methods (2.2%) Field notes (1 study)

Source: Adapted from (Abeza *et al.*, 2015)

Of the various research streams, social media as a tool, more specifically as a communication platform and marketing tool, accounted for 24%, making it the second-largest portion of social media research (Wallace, Wilson and Miloch, 2011; Waters *et al.*, 2011; Brown and Billings, 2013; Dittmore *et al.*, 2013; McGillivray, 2014; Brown, Brown and Billings, 2015; Hambrick and Kang, 2015). The theories originate from various disciplines and thus depend on the sub-discipline adopted. Research during 2008 - 2014 concentrated on Twitter (41.7%), Facebook (12.5%), and Blogs (10.4%). The contextual settings in social media articles generally concentrated on sports organisations (30.2%) and sports consumers (29.1%). The results indicate that quantitative methods were mainly used in social media research, (51.1%), and qualitative methods (43.2%). The most common data collection method was content analysis, as half (50.5%) of the studies used this data collection method.

In this study, the focus is on the social media platform, Facebook, as a stakeholder engagement tool for sports event organisations, specifically determining social media post compositions to increase stakeholder engagement. The review shows limited studies in this field from 2015, which therefore constitutes a research gap.

This review informed the current study, and Facebook is the social media platform used, concentrating on the sports event organisation's current use, Facebook post compositions and corresponding stakeholder engagement rates. A quantitative content analysis approach is used to gather and analyse data.

Filo, Lock and Karg (2015) also reviewed and analysed the existing body of knowledge of social media in sport management, however, from a service-dominant logic perspective, emphasising relationship marketing. A total of 70 journal articles published in sports management journals between 2008 and 2014 were reviewed. These articles investigate new media technologies that facilitate interactivity and co-creation, allowing for the development and sharing of user-generated content among and between brands and individuals.

Filo, Lock and Karg (2015) divide the research on social media into three categories: strategic, operational, and user focussed. The strategic category includes research that examined social media's role and function from a brand's perspective, including teams, organising bodies, athletes, and events. This category accounts for organisational objectives for social media usage, philosophies and attitudes towards social media use by managers, and the investigation of the integration of social media use with a brand's traditional communication approach (O'Shea and Alonso, 2011; Sanderson, 2011; Waters *et al.*, 2011; Pronschinske, Groza and Walker, 2012; Abeza, O'Reilly and Reid, 2013; Eagleman, 2013; Hopkins, 2013). Whereas the operational category incorporate research that reviews how a brand utilises social media. This includes brands' day-to-day social media actions and how strategy is implemented (Ioakimidis, 2010; Kassing and Sanderson, 2010; Pegoraro, 2010; Wallace, Wilson and Miloch, 2011). Finally, the user-focussed category includes research that examines sports fans' motivations, constraints, perceptions and preferences concerning social media usage as well as demographic or user profiling of social media users (Clavio, 2011; Mahan, 2011; Blaszka, Burch, Frederick, Clavio and Walsh, 2012; Gibbs, O'Reilly and Brunette, 2014; Jensen, Ervin and Dittmore, 2014; Stavros *et al.*, 2014).

Filo, Lock and Karg's (2015) findings indicate that research on social media, within the sport management field, aligns with service-dominant logic and they emphasise the role social media plays in fostering relationships between brands and individuals, of which, engagement plays a key part. The current study can be placed in the operational category and focuses on how sports event organisations, such as marathons and ultramarathons, use social media, specifically Facebook, and social media post compositions that lead to the greatest stakeholder engagement.

As can be inferred from the literature, social media in sports organisations is recognised as a valuable relationship marketing tool that facilitates organisations build meaningful relationships and add value through communication and interaction (Williams and Chinn, 2010). Loakimidis (2010) state that consumers and fans have virtual homes using online communities, connecting with other fans, voicing their opinions, and feeling a sense of belonging. Broughton (2010) notes that interaction among fans and the sports organisation itself increases identification with the sports organisation. No substantial financial investment is needed to use social media and the fairly low cost is considered a benefit of using social media platforms as a marketing communications tool (Michaelidou, Siamagka and Christodoulides, 2011). Greenhalgh, Simmons and Hambrick (2011) state that those non-profit sports organisations, operating on limited budgets, benefit from social media as non-profit sports organisations lack the budget to fully utilise traditional marketing tools such as paid television, radio, print, Internet and outdoor advertising. However, inexpensive social media can be used to increase awareness of the sports brand, reach more fans and stakeholders, and maintain public interest.

Sports such as marathons and ultramarathons can largely be considered niche sports and most do not receive daily or mainstream media coverage. To survive, niche sports must create and maintain their publicity, market share, and fan base (Engleman, Pederson and Wharton, 2009; Greenhalgh, Simmons and Hambrick, 2011). Therefore, these sports organisations must seek additional methods to achieve such goals.

According to O'Shea and Alonso (2011), while websites, blogs, Facebook, and Twitter are new tools that sports organisations can use to foster relationships with fans and stakeholders, due to the newness of social media, organisations tend to use it experimentally and have no clear objectives or evaluation criteria for it (Macnamara and Zerfass, 2012). The newness of social media as a tool, means that sports management research is still in its infancy. Few sports management researchers have explored social media and its role within sports organisations' digital stakeholder engagement efforts.

Of the existing sports management research examining social media, Wallace, Wilson and Miloch, (2011) analysed Facebook pages using content analysis in the context of brand management techniques of sports organisations. Their study concluded that organisations use Facebook to create long-term relationships with fans and stakeholders using content posted on Facebook that focuses on brand experience through real-time online interaction. Other studies highlight the importance of building relationships through social media, such as García (2011) who interviewed executives from Real Madrid Football Club and found that the organisation is heavily reliant on fans' feedback during the development of their online marketing communication strategies. García (2011) concluded that fostering positive relationships with fans aids in building a strong reputation. Kassing and Sanderson (2010) scrutinised social media's relationship-building aspect from an athlete-fan perspective, explaining that interactions can be constructive and destructive from a sports community's viewpoint. They therefore recommend social media training for sports organisations. Sponsorship has also been addressed in the area of social media marketing communications. Dees (2011) suggests that benefits can be drawn from social networking with sponsors, enhancing the marketing relationship.

In research on social media as a marketing communications tool, some studies have focused on small groups of sports managers (García, 2011; O'Shea and Alonso, 2011), and professional sports (Stavros, Meng, Westberg and Farrelly, 2014), some include only the consumer's viewpoint (Eagleman and Krohn, 2012), and analysed social media from a content analysis view (Ioakimidis, 2010; Wallace, Wilson and Miloch, 2011). Very little research addressed participatory sports event organisations or stakeholders as a group, suggesting a gap in the research. Therefore, this study focuses on the role of social media as a digital stakeholder engagement tool for participatory sports event organisations.

A truly global community is created with social media, as it defies geographical barriers and enables consumers to interact with one another (Scotts, Bradshaw and Larkin, 2013). Pronschinske, Groza and Walker (2012) who looked at how attributes of a Facebook page can influence the participation of fans, discovered that the number of Facebook page fans is determined by authenticity, or the perception that the site is official, and engagement, that includes strategies facilitating two-way dialogue. Pronschinske, Groza and Walker (2012) emphasise the importance of sports organisations engaging audiences on Facebook, as engagement can positively affect the interaction with a sports brand's content in terms of interaction, likes and audience. Social media platforms offer a unique way for sports organisations to communicate and foster interaction with the public (Williams and Chinn, 2010). Each social media platform offers sports organisations different ways to engage with the public. Hopkins (2013) suggests that Twitter is better for interaction and updates in real-time, whereas Facebook can enhance the customer experience. Waters *et al.* (2011) explored NFL teams' use of Facebook and websites to build relationships with audience members and found that greater emphasis on relationship management strategies is placed on the website than on Facebook. This could be due to the lack of flexibility in social media platforms, lack of control, or the lack of measurable return on investment. Eagleman (2013) studied the role of social media within National Sport Organisations (NSO) in the United States and found two main goals for the use of social media: firstly, to enhance the organisation-fan relationship and secondly, to promote the brand and sport. Eagleman (2013) also noted the benefits of social media as cost-effective with the capacity to develop a better connection between the organisation and its fans as social media reaches larger numbers of fans at a very low cost.

Social Media enables sports organisations to connect with fans directly and build relationships through a more one-on-one interactive approach (Abeza, O'Reilly and Reid, 2013). Social media is still a relatively young channel, however, the number of platforms and their usage rates have increased dramatically and there are calls for sports organisations to pay attention and develop specific strategies to use it to improve fan loyalty and build brand equity (Ioakimidis, 2010; Pegoraro, Scott and Burch, 2017). Sports organisations can directly communicate with all relevant stakeholders by including a general social media strategy in their communication practices. Furthermore, Facebook makes it possible for a single participant, spectator, or supporter to communicate with thousands of others about the event, organisations etc. Therefore, it is recommended that communication managers shape discussions in line with the organisations' mission and goals (Argan *et al.*, 2013).

Even though research has documented social media benefits and the usage from various viewpoints, a greater understanding of sports organisations' use of social media, specifically in a digital stakeholder engagement context, is essential, as the process is becoming ever more complex (Sanderson, Burman, Foxwell and Wood, 2015). Examining what makes social media posts effective and how different post compositions can influence stakeholder engagement rates, could contribute to current and future best social media practices.

The envisioned contribution of the study is to show how sports event organisations can use Facebook as an effective stakeholder engagement tool to engage stakeholders and optimally promote marathons and ultramarathons, using Facebook (Argan *et al.*, 2013). Social media is continuously evolving, and sports event organisations and social media practitioners, must stay abreast with technological advancement. For a sports organisation to operate a popular social media account, skills, creativity, dedication, and the ability to use the latest technology is essential (Abeza *et al.*, 2021). Research in sport and social media can help sports event organisations practically apply the empirical information, enabling them to manage their social media platforms better.

4.3 CHAPTER SUMMARY

This chapter contextualised social media and how it developed throughout history. The various social media platforms and social networking sites were briefly mentioned with more in-depth discussion on the global social media statistics. Specific focus was on organisations use of social media and previous research on non-profit organisations use of social media was discussed. The focus then shifted to the specific social networking site Facebook, discussing its definition, history, statistics, and Facebook for businesses. This chapter concluded with a discussion of previous related research, gaps identified in the research and how this study addresses the gaps. Social media in a sports context was also discussed and research indicates that Facebook creates long-term relationships with stakeholders.

The next chapter explores digital stakeholder engagement, which is the focus of this study.

CHAPTER 5

DIGITAL STAKEHOLDER ENGAGEMENT ON SOCIAL MEDIA - FACEBOOK

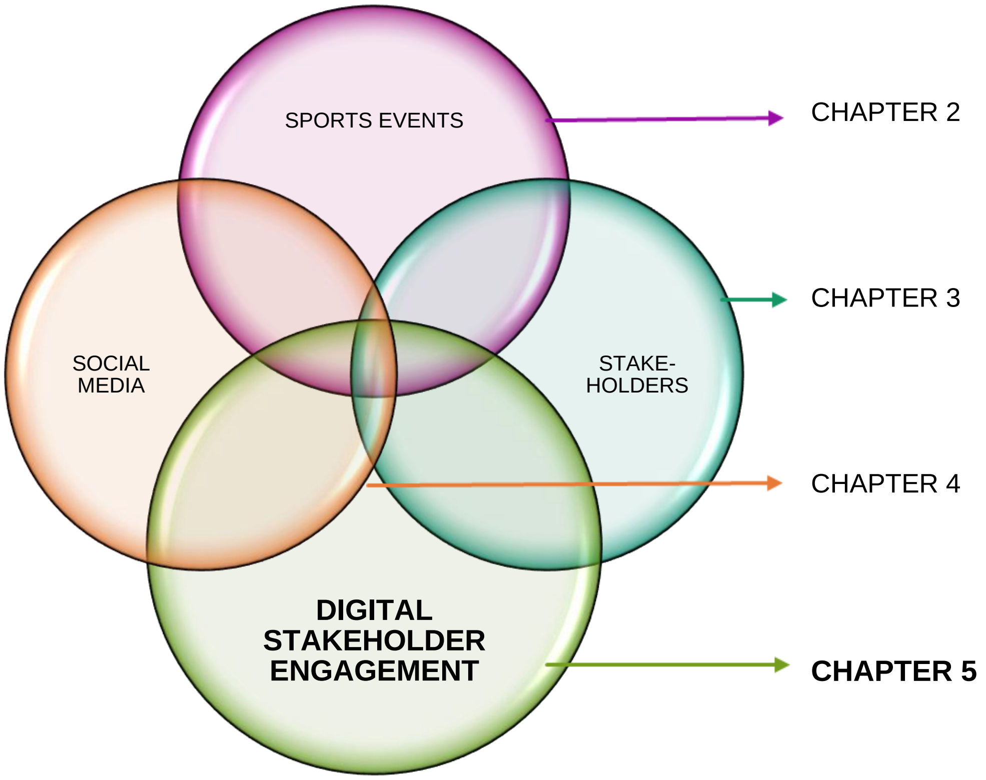
"The whole point of social media is continuity and continual engagement."

- Clara Shih (Franklyjane, 2018)

5.1 INTRODUCTION

This chapter serves as the fourth theoretical chapter and provides context to the research. The fundamental concepts of this research were identified as 'sports events', 'stakeholders', 'social media', and 'stakeholder engagement'. The key concept 'stakeholder engagement' forms part of framing this study and is discussed in this chapter. Figure 5.1 illustrates the theoretical framework focussing on digital stakeholder engagement.

Figure 5.1: Theoretical framework of this study focussing on digital stakeholder engagement

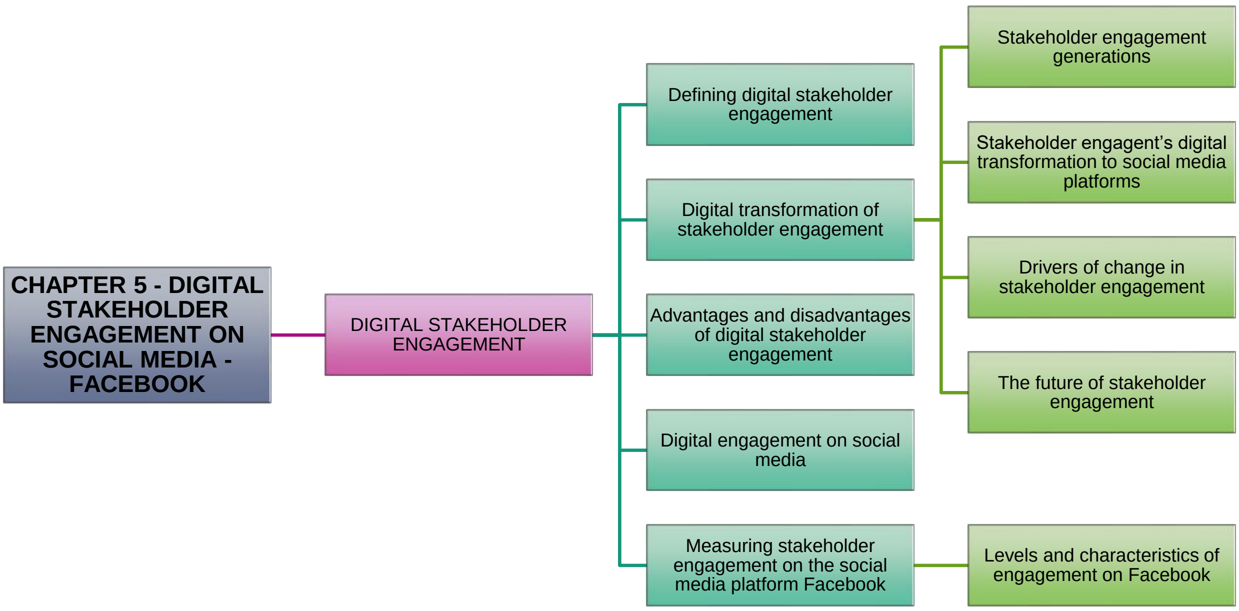


Source: Author's own compilation

The focus of this chapter is to deliberate on what constitutes digital stakeholder engagement and how to measure it on the social media platform Facebook. This conforms with the objective of the study to determine the composition of social media post characteristics, that are practical and easy to implement, for recurring participation sports events, namely, marathons and ultramarathons.

The discussion in this chapter is structured as follows: Firstly, it focuses on the concept of digital stakeholder engagement, delving deeper into the history of stakeholder engagements' transformation to digital platforms, the drivers of this change and the future of stakeholder engagement. Next, the advantages and disadvantages of digital stakeholder engagement are deliberated. How to engage stakeholders on social media platforms, particularly Facebook is discussed, and concludes with measures to evaluate engagement on this platform. Figure 5.2 displays the layout of topics discussed in Chapter 5.

Figure 5.2: Layout of Chapter 5



Source: Author's own composition

5.2 DIGITAL STAKEHOLDER ENGAGEMENT

Innovations in digital technologies have revolutionised organisations' communication methods with their stakeholders (Troise and Camilleri, 2021). However, many organisations are still not exploiting the many opportunities, that the Internet offers, to maximise the engagement process. The idea of engaging stakeholders is not new. Numerous organisations previously would identify their stakeholders and consult them on relevant issues through face-to-face meetings. Typically, this two-way dialogue occurred on an ad-hoc basis, before, during and after an event, as a strategy to reduce risk and maintain long-term success. However, the process and tools for engagement, are evolving rapidly. (Alonso-Cañadas *et al.*, 2018).

In the following sections the transformation of stakeholder engagement to digital platforms, drivers of change, predictions for the future, advantages and disadvantages, use on social media, and its measurements on Facebook, are explored.

5.2.1 DEFINING DIGITAL STAKEHOLDER ENGAGEMENT

Stakeholder engagement is based on the idea that "those groups who can affect or are affected by the achievements of an organisation's purpose" should be allowed to give comments and inputs into the decisions that potentially affect them. Engagement is considered a continuous process of information exchange, listening to and learning from stakeholders to build understanding and trust on matters of mutual interest (SustainAbility, 2007). According to Jeffery (2009), stakeholder engagement entails organisations being willing to listen, discuss matters, and if necessary, be prepared to change its objectives and operations because of stakeholder engagement. Engagement can be defined as an ongoing and multidimensional process between organisations and stakeholders (Erasmus, *et al.*, 2019). However, the future of traditional stakeholder engagement is digital as the world is rapidly changing to a digitally connected place (Cision Gorkana 2016).

The digital age influences how organisations conduct all aspects of their business and is filled with opportunities and challenges, which also applies to stakeholder engagement. The digital environment presents unique opportunities for stakeholder engagement with better associated outcomes that can be delivered more effectively (Business2One, 2017; Lock, 2019). Digital technological advancements in social media have transformed stakeholders' communication, and the effects can be seen worldwide. Organisations are now pursuing new digital opportunities and explore how to use these new technologies to assist in managing the increasingly complex process of stakeholder engagement (Sanderson, Burman, Foxwell and Wood, 2015).

The digital engagement of an organisation can be explained as engagement using social media but and includes any online conversation such as blogging, Facebook, and Twitter. Professionally, organisations establish social media accounts to communicate with stakeholders and consumers, contact third parties running forums and sites, establish two-way partnerships, and get feedback from people (Lloyd, 2012; Poole, 2019). This description of digital engagement suggests elements of customer service, website management, open data, marketing, public relations, internal communications, and stakeholder communications; however, these are not individual elements but rather a combination of the elements. Customer service includes answering questions and handling enquiries; internal and stakeholder communication is represented by aiding in adopting new technologies and knowledge sharing between colleagues and stakeholders. Marketing and public relations include advertising products and services and promoting the organisation's image. Managing websites and open data refers to the level of control over the channels used, the types of messages being shared on digital platforms, and data being open to the public (Lloyd, 2012; Melnichenko, 2020). Digital engagement comprises four elements: (1) use of digital tools and techniques (2) ability to find, listen to, and mobilise, (3) a community, (4) a specific issue (Lloyd, 2012; Chand, 2014).

Section 5.2.2 gives a brief history of stakeholder engagement and its transformation to digital platforms to foster a better understanding of the concept of digital stakeholder engagement.

5.2.2 THE DIGITAL TRANSFORMATION OF STAKEHOLDER ENGAGEMENT

Stakeholder engagement and analysis is considered standard practice in most organisations, and its origins go back to 1930's management theories, which debated the responsibilities of organisations (SustaiNet Software, 2017). However, as stated in Chapter 3, Section 3.2.1, the Stanford Research Institute (SRI) introduced the first definition of stakeholder in an internal memorandum in 1963. Only in 1984 was the concept of stakeholder linked to management strategy in the book titled Strategic Management: A

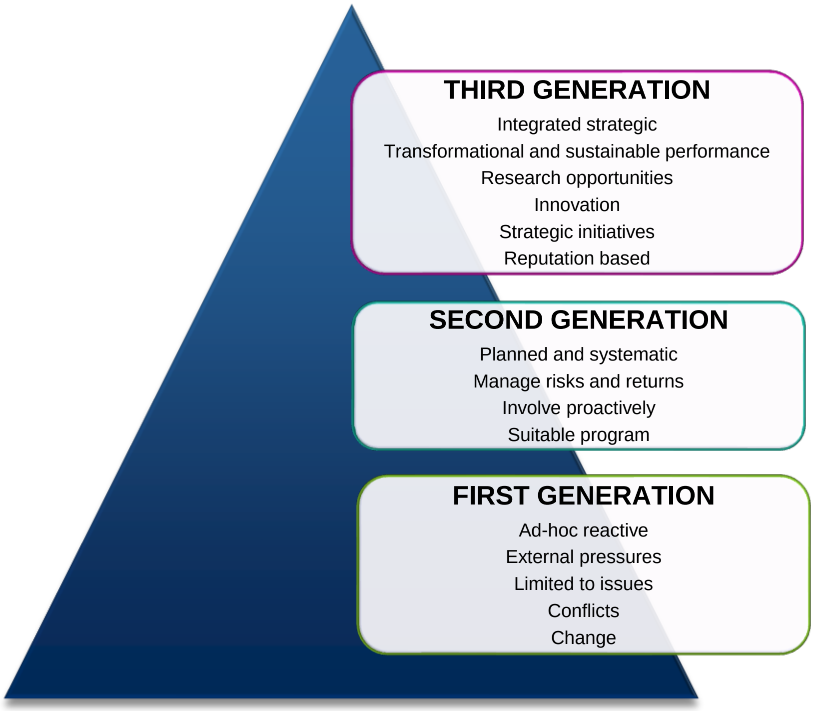
Stakeholder Approach, published by Edward Freeman, (Freeman, 1984; SustaiNet Software, 2017). The stakeholder engagement process has transitioned through various stages of change throughout the years. In the next section, three generations of stakeholder engagement are discussed before their move to digital platforms.

5.2.2.1 <u>Stakeholder engagement generations</u>

Engaging with stakeholders has evolved as the role of organisations in society has changed over time (SustainAbility, 2007). Krick, Forstater, Monaghan and Sillanpää (2005) distinguish three stakeholder engagement generations (Figure 5.3). During the first generation, organisations did not engage with their stakeholders but simply responded to the external stakeholders who put pressure on them. Organisations undertook this in an ad hoc manner and were limited to issues that provoked conflict with stakeholders. This reactive approach was intended to prevent bad publicity and protests from stakeholders (Krick *et al.*, 2005; Alladi and Vadari, 2011; Misser, Pritchett, Hart, Nanayakkara and Giannarou, 2015). During the second generation, organisations followed a more proactive approach by engaging in dialogue with stakeholders on a broader and ongoing basis for better understanding, to manage risks, and resolve conflicts more effectively. More sophisticated and systematic approaches to stakeholder engagement were developed, and the process became part of the risk and reputation management system (Krick *et al.*, 2005; Alladi and Vadari, 2011; Misser *et al.*, 2015).

In the current third generation of stakeholder engagement, organisations gather customer needs and requirements before manufacturing a new product or service. This approach also produces more research opportunities and innovations for the research community. In this way, it aids the involvement of stakeholders in the organisation's strategic initiatives. Organisations build up and maintain strategic competitiveness by aligning social, environmental and economic performance (Alladi and Vadari, 2011). Figure 5.3 illustrates the generations of stakeholder engagement.

Figure 5.3: Generations of stakeholder engagement



Source: Adapted from (Krick *et al.*, 2005; Alladi and Vadari, 2011; Misser *et al.*, 2015)

Organisations face many challenges and the stakeholder engagement process has evolved (Alladi and Vadari, 2011) and has been transformed by digital channels (Kahootz, 2013). If stakeholder engagement is performed successfully, organisations can take leadership positions in the business environment and market (Alladi and Vadari, 2011). Therefore, stakeholder engagement is seen as an emerging management function. Although there is some research on social media acceptance in corporate processes (Curtis *et al.*, 2010; Alikilic and Atabek, 2012), very little is known about the use of social media in stakeholder engagement functions (Lutz and Hoffmann, 2013).

A digital engagement system is a 21st Century business tool designed to turn data into an economic asset, creating a competitive advantage and increasing organisational value. Digital engagement systems are considered a driver of change in the communication function of organisations (Cision Gorkana, 2016).

5.2.2.2 Drivers of change in stakeholder engagement

Enright, McElrath and Taylor (2016:5) identify five global trends organisations must consider that impact traditional approaches to stakeholder engagement (Table 5.2). These global trends are unprecedented social, economic, environmental, and political developments over which individual organisations have limited control. These developments offer both risks and opportunities for organisations willing to reframe their relationships with stakeholders. In Table 5.1 the five global trends driving change and their implication for stakeholders, is given.

Table 5.1: Five drivers of change in stakeholder engagement

TREND	THE IMPLICATION FOR STAKEHOLDER ENGAGEMENT
1. Communication, connectivity and Hyper-transparency	• Transparency, timeliness, and accountability are crucial operating principles for organisations. • Global and local stakeholder relationships need to be managed in real-time. • Organisations' behaviour will change as everything they say and do can become public, and the same is expected of their employees.
2. Individual empowerment and the rise of the middle class	• Continuous growth in demand for the fulfilment of individual human rights forces organisations to consider impact and risk. • Unity among society around transparency, human rights, and environmental justice increases. • Growing expectations of organisations role in driving inclusive economies and reducing inequality.
3. The demographic shift and the automation of work	• Organisations are pressured as automation threatens jobs and wages, while social service needs grow. • As job creation opportunities decline, organisations must reconsider how they drive the equitable sharing of value. • The resilience of communities and support by organisations will be scrutinised, and their value will be measured.

4. The primacy of climate change and water resources	• Human rights and a climate of justice are emerging, and organisations' environmental performance and practices will need to meet this challenge rapidly. • Water management is a significant trend, and organisations need to partner with local communities. • Investing in natural resources and ecosystems is becoming a priority, which requires corporate commitments and deep local engagement.
5. Supply chain oversight ramps up	• Regulatory reach is expanding, and examples of poor governance are increasingly highlighted, therefore, self-regulation of supply chains will be pressurised. • Oversight and capacity-building present complex operational and compliance challenges, which organisations need to balance. • Collaborative solutions will solve worldwide challenges as proactive and transparent approaches dominate.

Source: (Enright, McElrath and Taylor, 2016:11)

Organisations' stakeholder engagement approach should be integrated and consider political risk, societal transformation, dramatic shifts in perception, and building social licence at all levels. Stakeholders need to be understood at a much deeper level, and organisations must respond proactively to their emerging needs. A primary tool that organisations use to ensure that their activities are inclusive and that society benefits, is through stakeholder engagement. Engaging external stakeholders on risks and reputation will remain relevant going forward, and organisations can use meaningful stakeholder engagement to achieve so much more (Enright, McElrath and Taylor, 2016:10).

The next section looks briefly into traditional stakeholder engagement's transformation to digital channels and social media platforms such as Facebook.

5.2.2.3 <u>The digital transformation of stakeholder engagement</u>

Traditionally, stakeholder management relied heavily on mass media techniques to providing information to stakeholders through printed newsletters, mass mailings, print advertising and data gathering utilising written surveys. The mass media techniques targeted stakeholders as large groups, and even though some methods worked, their implementation was expensive and time-intensive. Organisations using these techniques communicated indirectly with stakeholders, which did not help form the necessary relationships, crucial for cohesive stakeholder management (Rutter, 2018).

Stakeholder engagement has since significantly changed with organisations taking advantage of online tools as additions to face-to-face dialogue. For the organisation wanting more than mere intermittent communication, the development of online communication created new possibilities (Roshdi, 2010). The issue of timeliness in disseminating information was addressed by introducing digital channels such as websites and e-mails. However, engagement on a personal level still did not occur. A continuation of insufficient and unrelated information was still being shared with stakeholders and managers faced instances of ill-informed stakeholders. However, due to the advancements in digital business communications over the last decade, the integration of digital channels and the growth of social media, stakeholder engagement can occur more efficiently and on a much larger scale.

For organisations to stay relevant, it became necessary for them to adapt according to their consumers' preferences, wants, concerns, and interests. Digital systems and platforms revolutionise the organisations' pursuit of adaptation. Due to the changing business environment, the future role of the chief communication officer (CCO) will be to build digital engagement systems for better management of stakeholders, and gain insights from data to engage stakeholders as individuals rather than segments (Arthur W. Page Society, 2022). New technologies such as mobile phone applications, online discussion forums, big data analysis and crowdsourcing platforms conflate with advanced stakeholder engagement. These technologies continuously evolve and are powerful tools that form part of a broader stakeholder engagement strategy. When used appropriately, it supports engagement methods that are more collaborative, inclusive, and strategic. However, these tools do not necessarily help organisations respond to stakeholder feedback, make decisions based on the insights gathered or communicate decisions taken. Using any technology or process for successful engagement depends on whether respondents feel their input is valued.

Many online tools can be used to engage in a comprehensive two-way dialogue that considers changes and developments in stakeholders' opinions, which is considered important in establishing a long-term dialogue between organisations and their stakeholders. However, organisations still find it challenging to include two-way stakeholder dialogue as an essential element in their strategies. Moving away from one-off consultations to ongoing long-term dialogue, is considered the key to success. Social media platforms enable ongoing stakeholder engagement to be built into all organisations' activities. While the Internet remains central in both personal and business communication, according to Roshdi, (2010), organisations that take advantage of the opportunities presented by social media platforms to establish dynamic stakeholder relationships, will lead in the pursuit of building for the future.

5.2.2.4 The future of stakeholder engagement

It is possible to boost the value generated by stakeholder engagement. The future of stakeholder engagement involves real opportunities for organisations to achieve mutual benefits by becoming more collaborative, inclusive and building more significant relationships with their network of stakeholders. Table 5.2 summarises the transformation organisations can make across three dimensions: the purpose of stakeholder engagement, the type of stakeholder, and the depth of engagement.

Table 5.2: Three dimensions of innovation in stakeholder engagement

1	**THE PURPOSE OF STAKEHOLDER ENGAGEMENT** Organisations can move beyond consulting their stakeholders on corporate reputation and pursue opportunities to drive impact by engaging in challenges of mutual concern		
	Consultation Consult stakeholders to surface new and emerging risks of relevance to the business	→	**Innovation and collaboration** Include stakeholders in co-creation and partnership on challenges of mutual interest
2	**THE TYPE OF STAKEHOLDER** Organisations can broaden their frame of reference to include not only their direct stakeholders but also more diverse and divergent voices, such as people who are disproportionately affected by the adverse consequences of business operations		
	Engage with familiar stakeholders Engage stakeholders of highest strategic importance to the organisation	→	**Systems thinking approach** Engage stakeholders that impact the organisation’s system, and include marginalised people or those with less power
3	**THE LEVEL OF ENGAGEMENT** Organisations can move beyond high-level engagements by integrating stakeholder engagement more deeply into corporate strategy across all functions and geography		
	High-level engagement Focus engagement on issues relevant to overall corporate reputation or project-level risk	→	**Deep engagement** Focus on multilevel engagement – including with internal stakeholders – on material issues affecting corporate strategy

Source: (Enright, McElrath and Taylor, 2016:4)

In the first dimension, organisations interact with internal stakeholders; their interests and the initiatives are strategically prioritised to serve both reliably. The metrics for stakeholder engagement incorporates value; it goes further than short-term and financial metrics and is more structured and transparent. Approaches to collaborate and co-create are more sophisticated and innovative. In the second dimension, relationships are managed across corporate, regional, and site levels using dynamic and real-time approaches. Organisations must use a systems-thinking approach while thinking about their operations, plans and projects and considering influence, impacts, unintended consequences, and network power. In the third dimension, stakeholder trust and engagement are considered a critical component in future engagement, and not just an optional tool to manage reputational risk and avoid crises. In the future, it is envisioned that organisations will evolve so that their interactions with the external environment will be fundamentally different (Enright, McElrath and Taylor, 2016).

Table 5.3 outlines what organisations can do to achieve the outcomes of the three dimensions

Table 5.3: The future of stakeholder engagement: Transformation organisations can make across three dimensions

1
PURPOSE OF STAKEHOLDER ENGAGEMENT

Move towards greater collaboration with most important stakeholders

- Broaden focus beyond risk, and include concepts of impact on rights-holders.
- What assets can stakeholders contribute and what value can organisation bring to stakeholders.
- Involve stakeholders in process of designing solutions.
- Stakeholders should receive equal value in dialogues.
- Actively cultivate relationship with external change makers.
- Proactively consider questions of collaboration, consent and mutual benefit.

2
TYPE OF STAKEHOLDER

Move towards more inclusive engagement

- Take a systems perspective to understand power dynamics among stakeholder groups.
- Develop social media and technology strategies with communities' input, expanding stakeholders voices and reach.
- Explore new rights-based business models in which communities role is greater, include standards and incentives.
- Expand agreements to include community decision-making, prioritization and ownership. Comunities voice must reflect interest of all members.

3
LEVEL OF ENGAGEMENT

Move towards deeper, more strategic engagement

- Consider interactions with external stakeholders, identify pressure points and engage thoughtfully.
- Map internal stakeholders involved and make sure they are informed and prepared.
- Feedback mechanisms capturing grievances and ensuring remediation.
- Include executives in stakeholder engagements to encourage strategic decision-making based on their inputs.
- Integrate stakeholder input into business-critical decisions.
- Form advisory groups of stakeholders on different strategic issues.
- Proactively reach out with transparency and integrity to develop a positive relationship with critical stakeholders before a crisis arises.

Source: Adapted from Enright, McElrath and Taylor (2016)

According to Enright, McElrath and Taylor (2016), social media and technology strategies are beneficial and aid organisations to move towards more inclusive engagement. However, it is also essential to consider any disadvantages before engaging digitally with stakeholders. In the next section the advantages and disadvantages of using digital stakeholder engagement is considered.

5.2.3 ADVANTAGES AND DISADVANTAGES OF DIGITAL STAKEHOLDER ENGAGEMENT

Advances in digital business communications during the past two decades has redefined the approach of stakeholder engagement (Roshdi, 2010; Rutter, 2018). Traditionally, organisations were limited to the hours of a working day to arrange meetings (Roshdi, 2010). The time spent setting up stakeholder meetings and briefings, only for them to be cancelled or rescheduled to where the information is no longer useful, is no longer necessary (Rutter, 2018). Communicating when convenient for the parties involved, is one of the main benefits of online engagement tools for surveys, multi-stakeholder engagement hubs and case study engines among others. Therefore, the consultation process becomes simpler, cheaper and more accessible (Roshdi, 2010). Organisations experience several benefits when going digital to engage stakeholders, including saving costs, timeliness, having greater reach, increasing productivity, transparency, and meeting stakeholders' expectations in their own territory (Business2One, 2017; Rutter, 2018).

Social media is an effective medium for stakeholder engagement as it offers the possibility of continuous dialogue year-round and eliminates static snapshots of achievement and information in reports or newsletters and can keep stakeholders up to date with the latest developments. Due to organisational activities' rapidly changing nature, it is necessary to communicate news and developments in a fluid and timely manner. Online engagement and providing stakeholders with constant and up-to-date information regarding the organisation's activities, is essential in developing the organisations' awareness of stakeholder perspectives and views over time (Roshdi, 2010).

Unfortunately, not all organisations keep up with how stakeholders interact digitally (Rutter, 2018). In the past, understanding the advantages of using the web as part of organisations' communication strategy was limited and the lack of available resources for web-based communication, limited its potential (Adams and Frost, 2006). Digital channels such as websites and e-mail aided in the timely dissemination of information; however, they still did not engage stakeholders personally. Stakeholders still receive inadequate or irrelevant information, and therefore managers will continue to be confronted with ill-informed stakeholders. The merging of digital channels and stakeholder management makes it easier to manage stakeholders. It can be done on a much larger scale, more efficiently, and organisations can reap the benefits (Rutter, 2018).

Table 5.4 lists some of the advantage’s organisations can experience with a digital approach to stakeholder engagement, and these advantages are discussed thereafter

Table 5.4: Summary of advantages of a digital approach to stakeholder engagement

ADVANTAGES	**DESCRIPTION**
Cost (Roshdi, 2011; Rutter, 2018)	A more digital approach reduces production costs.
Personal touch (Rutter, 2018)	Using digital tools and channels allows managing primary stakeholder groups individually.
Timely (Rutter, 2018)	Predictive analysis allows delivering information to each stakeholder that is personalised, concise, and more likely to be read.
Transparency and accountability (Rutter, 2018)	A transparent engagement process entices stakeholders to become engaged.
More opportunities (Rutter, 2018)	Stakeholders can be brought together on a more frequent basis.
Modern stakeholder (Rutter, 2018)	Stakeholder uses digital tools and channels to receive the information they want.
Continuously accessible communication channels (Roshdi, 2011)	Available anytime from anywhere, overcoming the limitations of time and distance.
Anonymity (Roshdi, 2011)	Allows for greater stakeholder involvement.
Targeted communication (Roshdi, 2011)	Stakeholders can search for information most applicable to them.
Multi-stakeholder dialogue (Roshdi, 2011)	Communication networks support two-way dialogue with multiple stakeholders.

Source: (Roshdi, 2011; Rutter, 2018)

Traditional stakeholder engagement methods were expensive and labour-intensive. A digital approach reduces production and software costs and automate previously labour-intensive tasks, thus saving time. Another advantage of a digital approach is managing the primary stakeholder groups at an individual level, which increases the chance of meeting stakeholder expectations, benefiting and strengthening the relationship (Engagementhub, 2018; Rutter, 2018). The timely delivery of information to stakeholders is also an important advantage (Dupont, 2018). Analysis allows the stakeholders to be tracked, meaning that organisations can predict when stakeholders are online and more inclined to engage. Therefore, if organisations were to use this information to post at the optimal times, their messages containing the vital information would be read quicker, feedback would be returned, and action could be taken. The value gained is a more positive reputation with each stakeholder and the chance to mature a trusting relationship (Engagementhub, 2018; Rutter, 2018).

Transparency and accountability are additional benefits of using digital channels and tools to engage stakeholders. How information is provided, and the quality of information must remain consistent throughout the engagement process. Conversations are automatically audible, and the audit trail can easily be accessed if the need arises to present the information. More opportunities for stakeholder engagement is an added advantage, as stakeholders can come together more frequently to contribute to projects or events and be kept informed and updated. With greater transparently on digital social media platforms such as Facebook, stakeholders are invited to engage more. A beneficial relationship can develop if messages are read, responded to, and acted upon faster (Business2One, 2017; Rutter, 2018).

One more advantage of digital stakeholder engagement is that the organisation reaches modern stakeholders. Modern stakeholders use digital tools and channels to receive information, which means they want the information personalised and delivered at the time and place of their choosing (Engagementhub, 2018; Rutter, 2018). Utilising digital tools and channels is considered a sophisticated approach to stakeholder engagement, making the engagement process smoother and more manageable (Dupont, 2018). Digital tools and channels also promote the type of engagement necessary to build positive and trusting relationships with stakeholders (Engagementhub, 2018; Rutter, 2018).

Online engagement offers continuously accessible communication channels. The web is available anytime from almost anywhere, overcoming time and distance limitations that formally could have discouraged stakeholder from participation. The Internet also provides a communication channel perceived by stakeholders as a level platform, and its anonymity can encourage greater stakeholder involvement (Roshdi, 2011). Organisations benefit from targeted communications and are no longer restricted to mass communication. Online tools allow organisations to give a great deal of information in an easily searchable format, allowing stakeholders to search for information most applicable to them. Another benefit is multi-stakeholder dialogue. Organisations can create communication networks supporting two-way dialogue with many stakeholders. The web enables organisations to send messages to various targeted stakeholder groups with different interests, giving instant feedback. Digital information can be measured and evaluated quantitatively and qualitatively, enabling organisations to collect stakeholder opinions and engage with them effectively in decision-making and problem-solving (Roshdi, 2011).

However, with the many advantages of using a digital approach there are also drawbacks. Table 5.5 lists some of the disadvantages to a digital approach to stakeholder engagement, which are then discussed.

Table 5.5: Summary of the disadvantages of a digital approach to stakeholder engagement

DISADVANTAGES	DESCRIPTION
Lack of Face-to-face interaction (Dupont, 2018) can risk misinterpretation (Dupont, 2019)	People continue to value in-person interactions.
Network failure and equipment breakdown or time lag (Dupont, 2019)	Frustration of eager stakeholders who are ready to engage meaningfully.
Increase grievances (Dupont, 2019)	Online platforms have made it easier to ask questions or voice concerns (Dupont, 2019). Negative comments can affect how the organisations brand is perceived, possibly damaging its reputation and sales (Ruane, 2018; Monks, 2020).
Irrelevant comments (Dupont, 2019)	Irrelevant comments can accumulate and draw resources away from affected stakeholders.
Difficult to validate stakeholders (Dupont, 2018)	Confirming that genuine stakeholders are being engaged.
Risk of data loss and hackers (Gordon, 2019)	The risk of data loss or unauthorised access.

Source: (Dupont, 2018; Dupont, 2019; Gordon, 2019)

Many people still value face-to-face interactions to build a trusted relationship, even in a social media-driven era. In-person interaction allows people to better interpret the tone of voice, body language and emotions, and without these cues, the intended meaning can be misinterpreted and easily lead to verbal disagreements, especially in complex issues (Dupont, 2018, 2019). Time lag, network failure and equipment breakdown are also concerns when eager stakeholders are ready to engage meaningfully. Another disadvantage resulting from mass outreach is an increase in grievances. While an advantage of online platforms is that people can more readily ask questions and raise concerns, organisations are expected to respond to these quickly, regardless of how many comments there are. Irrelevant comments is another concern, which can soon accumulate and working through them can draw resources away from other stakeholders (Dupont, 2019). An important challenge is validating that the genuine stakeholders are being engaged. With online engagement webpages, anyone can gain access and share ideas. Therefore, organisations must verify whether the concerns raised are relevant to key stakeholders before adopting strategies (Dupont, 2018). Another major disadvantage is the risk of data loss or unauthorised access to confidential project information by hackers (Gordon, 2019).

Regardless of the undeniable benefits of digital stakeholder engagement, in a study by Elving and Postma (2017) they assert that organisations use few opportunities to engage with stakeholders via social media and found that stakeholder engagement on social media is still underdeveloped. They state that organisations are not just missing opportunities but are also taking a huge risk in not pursuing the opportunities social media offers.

5.2.4 DIGITAL STAKEHOLDER ENGAGEMENT ON SOCIAL MEDIA

From an organisational viewpoint, communication and stakeholder engagement can be improved through the significant opportunities offered by social media. Organisations can share content quickly and efficiently with numerous stakeholders across the globe, and Internet users can personalise their social media profiles to receive updates from the organisations they have selected. People can also comment on, like or share the messages, photos and videos that organisations publish. By doing this, information on the organisation is spread among online friends. Depending on the comments online, a network effect is started, either benefiting or damaging the organisation’s image. The widespread use of social media should encourage a virtual interaction between organisations and stakeholders, meaning organisations should use social media, and specifically social networks, to engage with stakeholders (Bosetti, 2015).

A key objective pursued by organisations is reaching a higher engagement level with interest groups and stakeholders (Leal-Morantes (2012) Alonso-Cañadas *et al.*, 2018). Engagement is considered an essential part of long-term relationships with key stakeholders, which is also necessary for any organisation to operate correctly (Sashi, 2012). The creation of relationships and the generation of human capital is facilitated by positive engagement (Taylor and Kent, 2014). Therefore, a higher stakeholder engagement level contributes to retaining customers, improving customer loyalty and the reputation of the organisation’s brand, aids in developing different business strategies, and strengthens critical stakeholder relationships (Sashi, 2012; Tsitsi Chikandiwa, Contogiannis and Jembere, 2013).

Organisations need strategic communication tools to foster stakeholder engagement. Social media have greatly impacted organisations and have become popular, mainly due to its possibilities for bidirectional communication in real-time. Due to social media technology, stakeholders no longer merely observe; they can interact, generate, create, and disseminate information (Cerrillo-i-Martínes (2012) in Alonso-Cañadas *et al.*, 2018). Hence, the interactions of stakeholders via social media are called 'online commitment' or 'online engagement' (Lehmann, Lalmas, Yom-Tov and Dupret, 2012). Linking with stakeholders in this new way has significant advantages for the organisation (Taylor and Kent, 2014), which has been discussed in Section 5.2.3.

The success of Facebook and other similar social media sites and high penetration among Internet users across the world (Sections 4.2.4 and 4.2.5.3), propelled the evolution of corporate communication. Cmeciu and Cmeciu (2014) assert that organisations have a choice of five strategies to improve online communications with stakeholders, namely, inform, connect, engage, mobilise, and interact. Information is shared by the organisation about its activities and offers content that is useful to stakeholders. Connection enables organisations build links with its online stakeholders. The strategy of engagement permits online visitors to actively participate on the organisations' social media pages. Organisations can encourage stakeholders to interact by liking, commenting or sharing the organisations' posts, which elevates it from one-way communication to bilateral symmetric stakeholder communication.

Social networks offer support for stakeholder engagement as they allow organisations to develop web-based relationships and disclose information that could instantaneously reach anyone in the world. An organisation that is actively present on social networks can develop constructive dialogue with existing and prospective stakeholders, inspire an exchange of ideas that is beneficial to both parties, and involve stakeholders in the decision-making and evaluation process of the organisation (Driessen, Kok and Hillebrand, 2013). Every message, picture or video the organisation posts on its social network sites can increase stakeholders' comments, replies and likes, which provides essential feedback to the organisation. Organisations can reach and involve a broader audience on the Internet, consisting of online friends of the organisation's fans and followers. When an organisation's posts on social media receive likes, is commented on, or shared by a fan, the post becomes visible to all the people connected to that person.

In the next subsection, previous research on the various metrics used on Facebook to measure stakeholder engagement is discussed.

5.2.5 MEASURING STAKEHOLDER ENGAGEMENT ON THE SOCIAL MEDIA PLATFORM FACEBOOK

The changes in the business environment have encouraged scholars to look at social networking sites as a new business communication channel, specifically for engaging stakeholders. The body of literature on stakeholder engagement on social networking sites is growing. Several papers focus on Facebook in particular (Waters *et al.*, 2009; Bonsón and Ratkai, 2013; Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015; Bosetti, 2015; Manetti and Bellucci, 2016; Mar Gálvez-Rodríguez *et al.*, 2017; Alonso-Cañadas *et al.*, 2018; Molinillo *et al.*, 2019). Facebook and other social networking sites offer a reliable platform for empirical studies due to their public features, even though their measurement is not simple (Bonsón and Ratkai, 2013).

When using social media, an organisation’s primary objective is to improve its stakeholder engagement. Thus, organisations can build robust and positive relationships with stakeholders that last (Sashi, 2012). For this reason, organisations must understand the impact a post has on stakeholders, what the reaction would be to information shared by the organisation and identify features that increase engagement. Consequently, organisations must analyse the different levels of engagement achieved in social media (Alonso-Cañadas *et al.*, 2018). Scholars have made various attempts to create and standardise social media measurement (Chen, Ji and Men, 2017). Social media platforms offer a natural matrix, and a typology was developed. Unlike websites, social media platforms such as Facebook offer user interaction with organisations through indicators such as likes, shares, and comments (Bonsón and Ratkai, 2013).

Table 5.6 summarises previous studies measuring stakeholder engagement on social media platforms. The table provides the authors and date, the study’s title, the social media platform used, the type of methodology used, and the specific metrics used to measure engagement.

Table 5.6: Summary of previous studies measuring stakeholder engagement on social media

AUTHOR	TITLE	SOCIAL MEDIA	METHOD	MEASURES TO EVALUATE STAKEHOLDER ENGAGEMENT
(Waters *et al.*, 2009)	Engaging stakeholders through social networking: How non-profit organisations are using Facebook	Facebook	Content analysis	Disclosure, information dissemination, and involvement. The number of friends, files and how frequency of discussion boards used.
(Bonsón and Ratkai, 2013)	A set of metrics to assess stakeholder engagement and social legitimacy on a corporate Facebook page	Facebook	Content analysis	Popularity, commitment and virality
(Bonsón, Royo and Ratkai, 2015)	Citizens' engagement on local governments' Facebook sites. An empirical analysis: The impact of different media and content types in Western Europe	Facebook	Content analysis	Popularity, commitment, virality and engagement
(Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015)	Corporate Facebook and stakeholder engagement	Facebook	Content analysis	Popularity, commitment and virality
(Bosetti, 2015)	Engaging stakeholders through Facebook. The case of global compact lead participants	Facebook	Content analysis	Content, number of fans, likes, comments, shares, and replies

(Luarn, Lin and Chiu, 2015)	Influence of Facebook brand-page posts on online engagement	Facebook	Content analysis	Likes, comments and shares
(Carboni and Maxwell, 2015)	Effective social media engagement for non-profits: What matters?	Facebook	Content analysis via Simply Measured	Likes, shares and posts
(Ihm, 2015)	Network measures to evaluate stakeholder engagement with non-profit organisations on social networking sites	Twitter	Content analysis	Posts, replies, followers, following, accumulated tweets and number of active stakeholders
(Ernest and Ronald, 2015)	Investigating Public Universities Facebook Pages: Extent of Users Engagement	Facebook	Content analysis	Popularity, commitment and virality
(Manetti and Bellucci, 2016)	The use of social media for engaging stakeholders in sustainability reporting	Facebook, Twitter and YouTube	Content analysis	Posts, likes and page likes
(Rahman, Suberamanian and Zanuddin, 2016)	Social media content analysis – A study of fan pages of electronics companies	Facebook	Content analysis	Posts (video and images), likes, comments and shares
(Chen, Ji and Men, 2017)	Strategic Use of Social Media for Stakeholder Engagement in Start-up Companies in China	Weibo and WeChat.	Quantitative content analysis	Views, shares, likes, and comments

(Mar Gálvez-Rodríguez *et al.*, 2017)	Stakeholder Engagement via Social Media in the Hospitality Sector: The Evidence from BRIC Countries	Facebook	Comparative content analysis	Popularity, commitment and virality metric developed by Bonsón and Ratkai (2013), as adapted by Bonsón Ponte, Carvajal-trujillo, and Escobar-Rodríguez (2015)
(Alonso-Cañadas *et al.*, 2018)	Using social media to enhance stakeholder engagement in the fashion industry: the case of Inditex	Facebook	Secondary data analysis on Facebook pages	Like, share, comments and responses; content, format and moment of participation
(Rakhmawati and Hanindito, 2018)	An integrated Assessment System of Citizen Reaction towards Local Government Social Media Accounts	Facebook, YouTube and Twitter	Content analysis	Popularity, commitment, virality and engagement, and Facebook reactions
(Molinillo, Anaya-Sánchez, Morrison, and Coca-Stefaniak, 2019)	Smart city communication via social media: Analysing residents' and visitors' engagement	Facebook, Twitter and Instagram	Digital content analysis	Popularity, commitment, virality and engagement
(Kucukusta, Perelygina and Lam, 2019)	CSR communication strategies and stakeholder engagement of upscale hotels in social media	Facebook	Content analysis via Netvizz	Popularity, commitment, virality and engagement by Bonsón and Ratkai (2013)

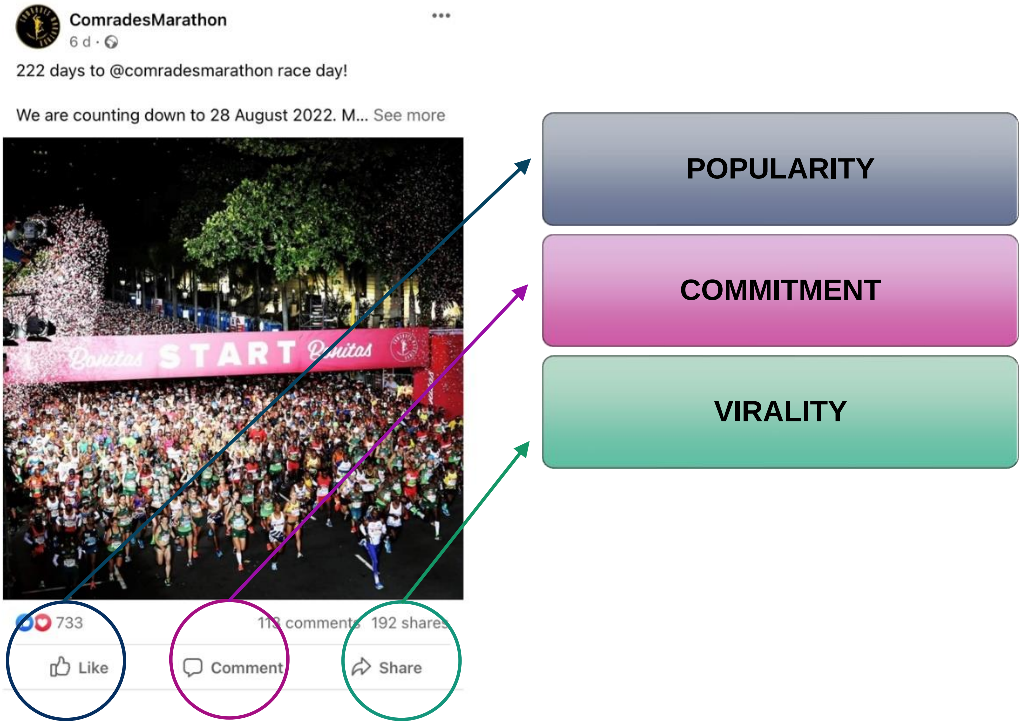
(Surucu-Balci, Balci and Yuen, 2020)	Social Media Engagement of Stakeholders: A Decision Tree Approach in Container Shipping	Twitter	CHAID analysis	Popularity, commitment, virality and engagement by Bonsón and Ratkai (2013) and fluency of message, the tangibility of resources, vividness level, content type, existence of a link, and the existence of a call-to-action
(Ruas and Barbosa, 2022)	Tourist Social Media Engagement: Conceptualization and Indicators	Social media	Mixed method (secondary data and interviews)	Popularity, commitment, virality and post engagement.

Source: Author’s own compilation of available sources

Investigating how non-profit organisations use Facebook to engage stakeholders, which is also the earliest study found measuring engagement, Waters *et al.* (2009) used content analysis to evaluate the presence of items representing organisations' virtual relationship cultivation strategies. These relationship cultivation strategies were named: disclosure, information dissemination and involvement. Additionally, the number of friends and files such as images, video and audio were collected, including how frequently discussion boards were used. The like, comment and share features were not used in this study as they were only released later. The like feature was released 9 February 2009 (Speed, 2015).

According to Bonsón and Ratkai (2013), the amount of public information offered quantitatively by Facebook, popularity, commitment and virality can be measured. These measurements enable organisations to understand better the stakeholder engagement occurring on their social networking site. Popularity is measured by the number of 'likes', commitment by the number of 'comments', and virality by the number of 'shares' on Facebook. The theories of dialogue and stakeholders were considered in developing these metrics (Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015). These metrics are useful and publicly available; therefore, there is no need for a Facebook page administrator to examine them. These features make the metrics advantageous to researchers and professionals (Bonsón and Ratkai, 2013). Figure 5.4 visually illustrates Bonsón and Ratkai's (2013) Facebook stakeholder engagement metrics on a random post of the Comrades Marathon.

Figure 5.4: Facebook stakeholder engagement measures – Popularity, commitment and virality



Source: Adapted from (Comrades Marathon Facebook Page, 2019)

Looking at citizens' engagement on local governments Facebook sites, Bonsón, Royo and Ratkai (2015) classified posts according to media and content type. To measure their engagement, the metric of Bonsón and Ratkai (2013) was adopted and adapted by adding an aggregated index of engagement. The stakeholder engagement index is illustrated in Figure 5.5. These metrics are independent of the size of the audience and are therefore the most representative in measuring engagement (Bonsón, Royo and Ratkai, 2015). Table 5.7 illustrates the Facebook engagement metric measurements used by Bonsón and Ratkai (2013) and adapted by Bonsón, Royo and Ratkai (2015).

Table 5.7: Facebook metrics for stakeholder engagement

METRIC	ABBREVIATION	CALCULATION	DESCRIPTION
Popularity	P1	Number of posts liked/total posts	Percentage of posts liked
	P2	Total likes/total number of posts	Average number of likes per post
	P3	(P2/number of fans) × 1000	Average number of likes per post per 1000 fans
Commitment	C1	Number of posts commented/total posts	Percentage of posts commented on
	C2	Total comments/total posts	Average number of comments per post
	C3	(C2/number of fans) × 1000	Average number of comments per post per 1000 fans
Virality	V1	Number of posts shared/total posts	Percentage of posts shared
	V2	Total shares/total posts	Average number of shares per post
	V3	(V2/number of fans) × 1000	Average number of shares per post per 1000 fans
Engagement	E	P3 + C3 + V3	Stakeholder engagement index

Source: (Bonsón and Ratkai, 2013; Bonsón, Royo and Ratkai, 2015)

Figure 5.5: Facebook stakeholder engagement index

Source: Adapted from (Bonsón, Royo and Ratkai, 2015)

Perusal of the literature (Tables 5.6; 5.7) indicates that the metrics of popularity, commitment and virality, are adopted by most researchers to measure engagement on Facebook (Bonsón Ponte, Carvajal-trujillo and Escobar-Rodríguez, 2015; Ernest and Ronald, 2015; Mar Gálvez-Rodríguez *et al.*, 2017; Rakhmawati and Hanindito, 2018; Kucukusta, Perelygina and Lam, 2019; Molinillo *et al.*, 2019; Surucu-Balci, Balci and Yuen, 2020; Ruas and Barbosa, 2022) and informed the use of metrics for the current study. In some studies these metrics are expressed as likes, comments and shares (Bosetti, 2015; Carboni and Maxwell, 2015; Luarn, Lin and Chiu, 2015; Rahman, Suberamanian and Zanuddin, 2016; Alonso-Dos-Santos *et al.*, 2018), which according to Bonsón and Ratkai (2013), equate to popularity, commitment and virality, respectively (Figure 5.5). In this study, the adapted metrics of Bonsón, Royo and Ratkai (2015) to measure the stakeholder engagement index, is adopted as the dependent variable. The relevant Facebook measurements are discussed in the following section.

5.2.5.1 Levels and characteristics of engagement on Facebook

5.2.5.1.1 Like, share, comments and responses

Any organisations' primary objective in using social media is to enhance their stakeholder engagement to build stable, positive, and lasting relationships (Sashi, 2012) and therefore must analyse the different levels of engagement achieved in social media. There are three levels of participation (Table 5.8), which is based on the level of effort and time invested by the social media user (Gorry and Westbrook, 2011; Bonsón and Ratkai, 2013).

The first level of participation includes actions that require little effort, such as a ‘click’. In Facebook, it relates to the ‘like’ and ‘share’ actions. Even though the ‘like’ action does not require much effort, it has a multiplying effect because its execution is simple, and gets reflected in the users list of friends (Bonsón and Ratkai, 2013). By February 2015, Facebook included a range of reactions to the ‘like’ button, symbolising different emotional responses, such as love, laugh, wow, sad, and anger. These different options were included, so the user of Facebook can express their opinion towards a particular post more accurately. Therefore it is now possible for a person or organisation to better determine the reaction shown by fans on the published information (Betters, 2016). As of April 2020, Facebook added a new ‘care’ reaction to show support while many people worldwide were advised to stay apart during the coronavirus pandemic (Hutchinson, 2020). Figure 5.6 illustrates the seven Facebook reactions.

Figure 5.6: The seven Facebook reactions

Like Love Care Laugh Wow Sad Angry

Source: Adapted from (Cohen, 2020)

The ‘share’ action has a more significant implication than the ‘like’ action, as Facebook gives the user a chance to share the publication and say something about the content being shared. The ‘sharing’ action indicates that the user likes the organisation or the brand and wants to make the information known among their respective Facebook friends. Hence, the ‘sharing’ action has a viral effect as the information is visible on the timeline of the original sender as well as on the sharer’s timeline where their friends can see it (Phethean, Tiropanis and Harris, 2015; Myers, 2021).

The second level of participation includes actions that require more time and effort that is needed when commenting and reflects the number of comments and people who comment. Therefore, when measuring the impact of each publication on stakeholder engagement, the comment is more relevant (Bonsón and Ratkai, 2013). In the third level of participation the number of conversations that have taken place between the organisation and the various stakeholders is considered. The feedback that occurs makes this stage the most relevant, as organisations increasingly attempt to maintain direct contact with their stakeholders via the conversations in the various publications on Facebook. This type of bilateral communication positively impacts the organisation since the public feels welcomed, cared for and empowered (Gorry and Westbrook, 2011). The three levels of participation on Facebook are summarised in Table 5.8.

Table 5.8: Levels of participation on Facebook

LEVEL OF PARTICIPATION	CHARACTERISTIC	DESCRIPTION
First	Like and Share	Actions do not involve a lot of effort, for example, a ‘click’, such as the actions ‘like’ and ‘share’.
Second	Comment	Actions that take more time and effort. Considers the number of comments and the number of people who comment.
Third	Responses/Feedback	The number of conversations that have taken place between the organisation and the various stakeholders.

Source: Adapted from (Gorry and Westbrook, 2011; Bonsón and Ratkai, 2013)

The next subsection focuses on the Facebook post characteristics as determinants of higher stakeholder engagement via social media.

5.2.5.1.2 Post characteristics

Engaging stakeholders on social media platforms is challenging as the content posted can significantly affect the level of stakeholder engagement achieved (Surucu-Balci, Balci and Yuen, 2020). Therefore, post characteristics is another factor that needs to be taken into consideration. An increased level of engagement, in terms of the number of likes, shares and comments, will largely depend on the content that is published, the format of the publication, the length of the post, and the time of publication, according to Pletikosa

Cvijikj and Michahelles (2013) and Surucu-Balci, Balci and Yuen (2020). Therefore organisations must take all aspects of a social media post into account, such as posting of a picture or video, short or lengthy messages, the content type and when it is posted (Surucu-Balci, Balci and Yuen, 2020). The following social media post characteristics were found to influence the engagement rates of stakeholders: Content type, vividness, interactivity, fluency, format, moment of participation, call-to-action, live content, COVID-19 and virtual race.

Content types, strategies, developed by content creators, must capture the attention of users (Falkinger, 2008). The content must be appropriate to the dissemination channel, as there is a difference between publishing on an organisation's official website and on social media (Alonso-Cañadas *et al.*, 2018). Therefore, managers can interact with online users regularly, optimising resources and identifying public needs to develop a strategy specifically adapted to the content (Alonso-Cañadas *et al.*, 2018). In Denktaş-Şakar and Sürücü (2020) and Surucu-Balci, Balci and Yuen's (2020) analysis, content type was found to significantly influence stakeholder engagement. Content must be deemed valuable, illustrative, exciting, and entertaining, to make the organisation sociable, and positively affects stakeholder engagement (Muntinga, Moorman and Smit, 2011; Pletikosa Cvijikj and Michahelles, 2014; Alonso-Cañadas *et al.*, 2018). Saxton and Waters' (2014) research results confirm that users prefer dialogue over information messages. Dialogue messages regarding community building, relationship building, and networking that promotes interactivity as well as call-to-action messages, asking the public for help in lobbying, advocating, and volunteering, attract significantly more likes and comments.

The literature identifies information, entertainment, remunerative, social and promotional as the major content types (Pletikosa Cvijikj and Michahelles, 2013; Khan, Dongping and Wahab, 2016; Dolan *et al.*, 2019; Menon Sigurdsson, Fagerstrøm, Larsen, Foxall, 2019; Annamalai Yoshida, Varshney, Pathak and Venugopal, 2021; Aydin, Uray and Silahtaroglu, 2021; Li, Larimo and Leonidou, 2021). Entertaining content was found to be a key determinant of higher engagement (Menon *et al.*, 2019) compared to information and remuneration content, which received less engagement (Pletikosa Cvijikj and

Michahelles, 2014). Annamalai *et al.* (2021) found that stakeholders engage most with social media posts containing social content and least with remuneration-related content. Aydin, Uray and Silahtaroglu (2021) found promotional content to be insignificant in improving the engagement rates of stakeholders.

Content format, such as text, video, photo or link, is just as important in increasing online stakeholder engagement on social media (Pletikosa Cvijikj and Michahelles, 2014). Bonsón, Royo and Ratkai (2015) identifies five media types in their study, namely, (1) video, (2) link, (3) photo, (4) text and (5) others. However, different formats do not exert the same influence on online engagement (Brafton, 2014). Some texts influence the level of participation negatively when it reaches a specific length (Valerio, Herrera-Murillo and Rodríguez-Martínez, 2014 in Alonso-Cañadas *et al.*, 2018). However, images tend to affect participation on social media positively. The findings of Kim and Yang (2017) confirm that different message formats cause different reactions and posts with sensory and visual features are more liked. Post formats with informational content and interactive features are more commented on. Post formats with sensory, visual, and rational features are more shared among Facebook friends. Kim and Yang (2017) conclude that the 'like' is affectively (emotionally) driven, the 'comment' is a cognitively triggered reaction, and the 'share' is either affective or cognitive or a combination of both (Kim and Yang, 2017).

The vividness and interactivity levels of social media posts were also found to influence stakeholder engagement rates (Pletikosa Cvijikj and Michahelles, 2014; Tafesse, 2015; Khan, Dongping and Wahab, 2016; Viglia, Pera and Bigné, 2018; McShane, Pancer and Poole, 2019; Aydin, 2020; Denktaş-Şakar and Sürücü, 2020) but conflicting results are found in the literature. Some research indicates that highly vivid posts containing videos generate higher stakeholder engagement (Khan, Dongping and Wahab, 2016; Viglia, Pera and Bigné, 2018; McShane, Pancer and Poole, 2019; Aydin, 2020). Conversely, other research find opposite results, indicating that less vivid posts containing photos or text yield greater engagement levels (Pletikosa Cvijikj and Michahelles, 2014; Denktaş-Şakar and Sürücü, 2020). Similar results were found with interactive posts. Aydin's (2020) results highlighted the positive effects of interactive content. In contrast, Tafesse's (2015) findings indicated a significant negative effect on stakeholder engagement. The level of interactivity incorporated in social media posts was also found to affect levels of engagement (Kaplan and Haenlein, 2010; Luarn, Lin and Chiu, 2015; Tafesse, 2015; Gutiérrez-Cillán, Camarero-Izquierdo and San José-Cabezudo, 2017; Aydin, 2020; Aydin, Uray and Silahtaroglu, 2021; Chiu, 2021). Luarn, Lin and Chiu (2015) found that social media posts, with high interactivity, leads to higher stakeholder engagement; similarly, Gutiérrez-Cillán, Camarero-Izquierdo and San José-Cabezudo (2017) found it to be the main driver of engagement. Call-to-action phrases such as ‘register now’ or ‘click here’ is another form of interactivity that positively affects the engagement levels of stakeholders (Weiger, Hammerschmidt and Wetzel, 2018; Moran, Muzellec and Johnson, 2019; Surucu-Balci, Balci and Yuen, 2020).

The fluency of a social media post is considered another determinant of higher stakeholder engagement (McShane, Pancer and Poole, 2019; Pancer, Chandler, Poole and Noseworthy, 2019; Surucu-Balci, Balci and Yuen, 2020). Fluency refers to the subjective ease associated with processing information. Message features such as the length of the message, the number of hashtags included and whether another user was tagged could impede processing fluency of a social media post and possibly negatively impact user engagement (Pancer and Poole, 2016; McShane, Pancer and Poole, 2019). Pancer *et al.* (2019) suggest that the readability of a post is crucial in driving engagement on social media. The aim of hashtags and tags is to increase stakeholder engagement, however, Pancer and Poole (2016) states that these features can make the text difficult to read. Tags and hashtags create disfluency by firstly changing the contrast between the font and the background, as they are shown in a light blue font colour to distinguish them from other text strings in the message. And secondly by including symbols (#; @) that require translation into meaning. Results indicate that lengthy messages, hashtags, and tagging a person or organisation, interrupt the fluency of the message, resulting in lower engagement rates, and that more fluent social media posts increase stakeholder engagement (McShane, Pancer and Poole, 2019; Pancer *et al.*, 2019; Surucu-Balci, Balci and Yuen, 2020).

Live streaming has become a standard method in delivering content to stakeholders within social media platforms. Numerous sports organisations include live streaming services as part of their social media strategies (Wymer, Naraine, Thompson and Martin, 2021). Live streaming gives fans unique access to the action on the field, in the locker room and enable them to interact with players, coaches and media personalities (Meta, 2016). Wymer *et al.* (2021) found live streaming impacts fan engagement, especially if it provides exclusive content.

The global coronavirus (COVID-19) pandemic greatly impacted sporting events (Hayes, 2022), as gatherings of large crowds were restricted and live sports events were suspended globally (Sharpe, Mountifield and Filo, 2020). However, sports organisations and athletes could continually engage stakeholders and promote physical activity via social media platforms (Hayes, 2022) because of the importance of exercise during lockdown (Skinner and Smith, 2021). Sports organisations were forced to adapt and find new ways to promote and maintain stakeholder interest in their sport (Hayes, 2022) and took an approach to social media that included virtual experiences (Sharpe, Mountifield and Filo, 2020; Skinner and Smith, 2021) as alternatives to participatory sports events and in support of individuals training efforts (Helsen, Derom, Corthouts, De Bosscher, Willem and Scheerder, 2021).

Virtual sports events resemble traditional sports participation in terms of realism; however, athletes can participate remotely and in unlimited virtual environments (Westmattelmann, Grotenhermen, Sprenger and Schewe, 2021). Helsen *et al.* (2021) describe the concept of virtual sports events as being broad, ranging from a tracked activity at a preferred time and date for the participant and uploading it to an online platform to create online leader boards, to being active on a specified date and time when everyone participating is active simultaneously, to being active at a location linked to an online platform and seeing participants from other locations being active virtually. Helsen *et al.'s* (2021) results indicate that 9% of sports event participants took part in virtual events before COVID-19, 23% became interested in virtual events since the COVID-19 pandemic, and 30% of sports event participants took part in a virtual sports event as an alternative when real events were cancelled. Westmattelmann, Grotenhermen, Sprenger and Schewe (2021) confirmed that virtual events during the pandemic were well-received by sports participants and that they may complement traditional sport in the future.

However, Woyo and Nyamandi's (2022) results indicate mixed perceptions regarding virtual reality applications for outdoor sporting events like the Comrades Marathon in South Africa. Irrespective, they recommend that sports event organisations invest in virtual sports throughout the pandemic and beyond.

Lastly, the time of posting on social media sites also plays a key role in participation. The Facebook algorithm prioritise recency as a major ranking factor of social media posts (Cooper, 2021). Therefore, an organisation's post can lose visibility if it is posted when online users are not connected, hence reducing the possibility of interaction (Hyder, 2016). Posting content when your audience is online could mitigate this loss of visibility and is the easiest way to improve engagement rates (Cooper, 2021). For this reason, the organisation should know the time and day of the week their specific target stakeholders are online and more inclined to interact with the organisation's posts (Valerio, Herrera-Murillo and Rodríguez-Martínez, 2014 in Alonso-Cañadas *et al.*, 2018). The best times to post is early morning when people want to catch up on their newsfeed; lunchtime as people tend to have the largest gaps in their schedule and are available to check their social newsfeed; and after working hours as people check what they have missed throughout the day (Cooper, 2021). The findings of Alonso-Cañadas, Galán-Valdivieso, Saraite-Sariene, and del Mar Gálvez-Rodríguez's (2018) indicate that the greatest interaction occurs during the days of the week and in night hours, indicating that people tend to be more active on social media after the workday is done. A global audience with different time zones can pose an additional challenge for page administrators, however, after discovering the unique ideal times to post, page administrators can create a social media posting schedule that ensures messages are posted at certain times of the day on a regular basis (Cooper, 2021; Davey, 2022). However, even though posting time has been identified as a significant predictor of online engagement, page administrators do not always take it seriously (Tassawa, 2019).

This section informed the research methodology employed in this study, more specifically, the coding to be considered in the content analysis of the various sports event organisation's Facebook pages.

5.3 CHAPTER SUMMARY

Digital stakeholder engagement and how it can be measured on social media, which form the basis of the methodology of this study, are contextualised and discussed.

The discussion included the concept of digital stakeholder engagement, its definition, history, transformation to digital platforms, drivers of change, and the future of stakeholder engagement. The advantages and disadvantages of digital stakeholder engagement and the various tools and channels available to organisations to engage digitally on social media platforms, particularly Facebook was reflected on. The chapter ends with measures to evaluate engagement on social media.

The literature review is concluded in this chapter, and in Chapter 6, the research methodology utilised in this study, is elucidated.

CHAPTER 6

THE RESEARCH PROCESS AND RESEARCH METHODOLOGY

"Research is to see what everybody else has seen and to think what nobody else has thought."

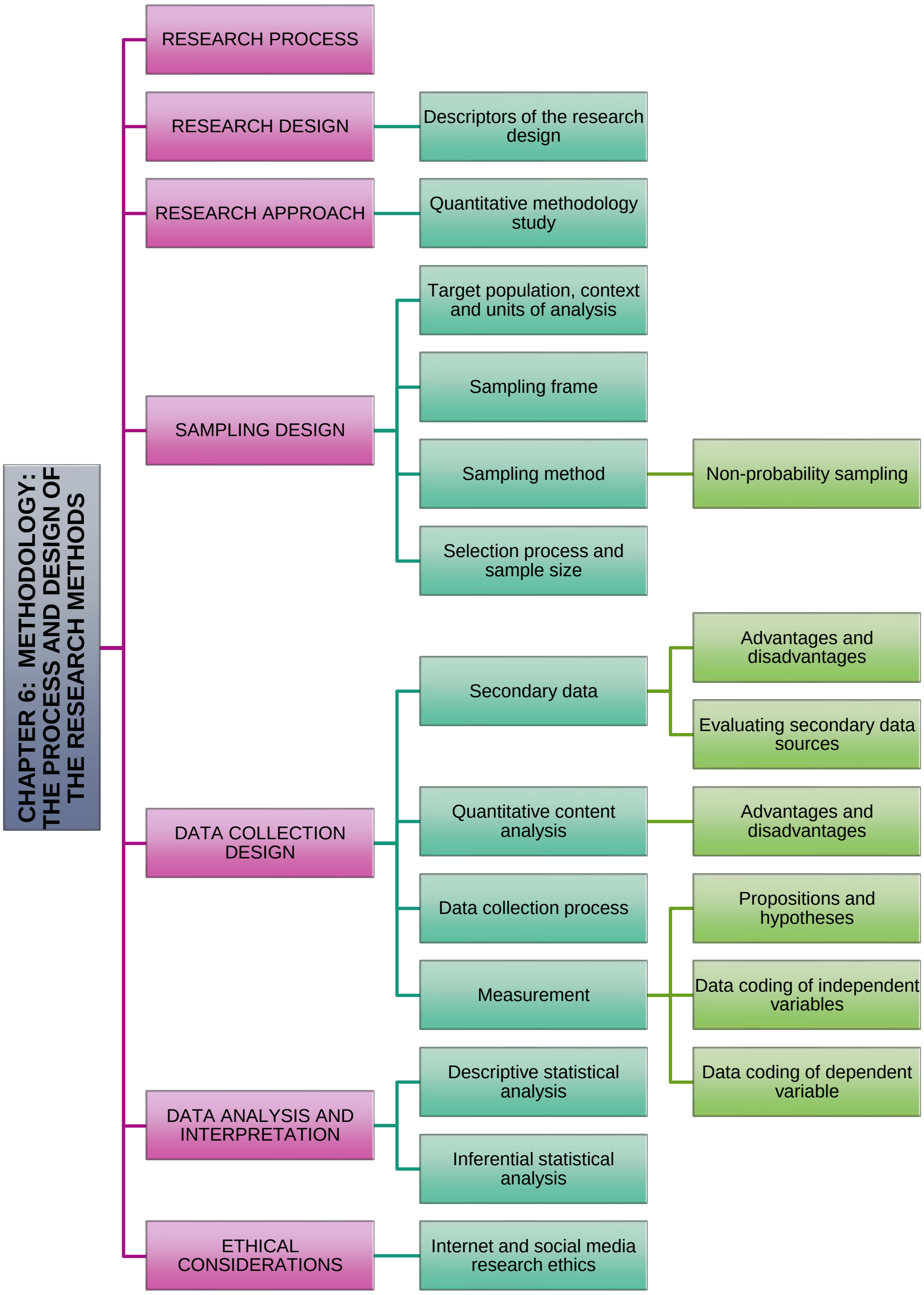
– Albert Szent-Gyorgyi (SE Research Centre, 2021)

6.1 INTRODUCTION

The previous chapters served as the theoretical foundation to provide context to the research. Sport events, stakeholders, social media, and digital stakeholder engagement were discussed in detail.

This chapter discusses the research methodology employed in this study. The chapter begins with a brief look at the research process followed, and a detailed discussion of the research design and descriptors, as well as the research approach of this study. The sampling design, data collection and analysis methods are then highlighted. The chapter concludes with a discussion on the ethical considerations adopted. The layout of this chapter is graphically depicted in Figure 6.1.

Figure 6.1: Layout of Chapter 6



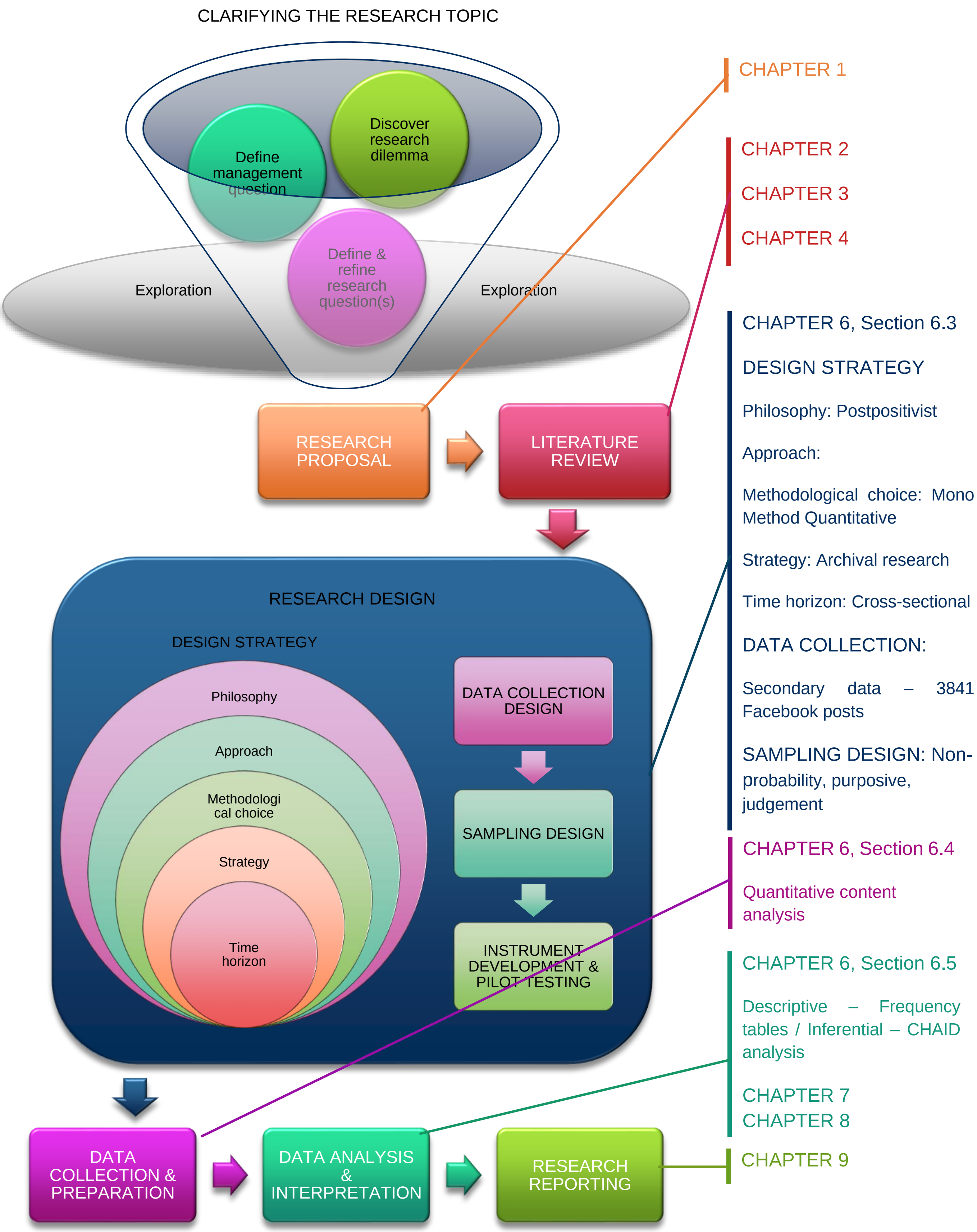
Source: Author’s own compilation

6.2 THE RESEARCH PROCESS

Cooper, Schindler and Sharma (2019) refer to the research process as a sequential process that involves several clearly defined steps. Even though some steps can be skipped, performed in a different sequence, conducted concurrently or excluded entirely, the research process is useful to develop and order the study (Saunders, Lewis and Thornhill, 2016:11). Figure 6.2 illustrates the sequence the research process followed in this study and is presented in terms of the corresponding chapters and content summary.

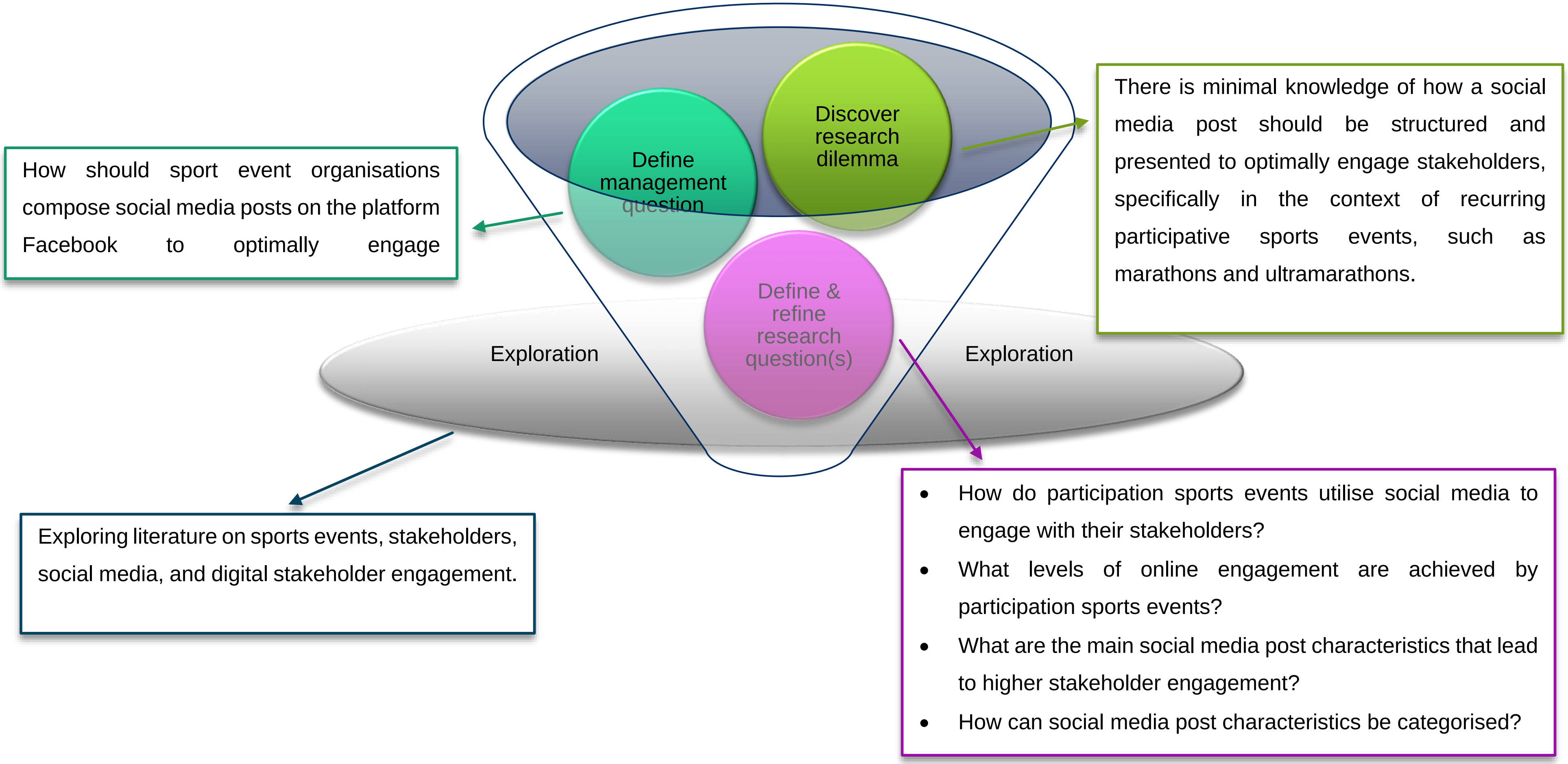
The research process started with a dilemma that prompted the need for research. Exploratory research was necessary to progress from the dilemma to the management questions and subsequent research questions. This exploratory research included examining previous studies and reviewing published studies and organisational records (Cooper and Schindler, 2014:78). The research dilemma is restated to form the management question. The research question is presented by questions that focus the researcher's attention, representing the research's objectives. Figure 6.3 illustrates the process of clarifying the research question of this research study. These steps, as followed, are discussed in the first five chapters. The research design is discussed in the following section.

Figure 6.2: Graphical depiction of the Research Process



Source: Adapted from Cooper and Schindler (2014:76) and Saunders, Lewis and Thornhill (2016:12;164)

Figure 6.3: Clarifying the research question



Source: Author's own compilation

6.3 THE RESEARCH DESIGN

The research design is a blueprint for collecting, measuring, and analysing data to achieve the stated objectives and find solutions to the research problem (Sekaran and Bougie, 2016; Cooper, Schindler and Sharma, 2019). Both Cooper and Schindler (2014) and Saunders, Lewis and Thornhill (2016) make mention of the issues a researcher is faced with when it comes to choosing the research design. However, Cooper, Schindler and Sharma (2019) group the research design issues, using descriptors, whereas Saunders, Lewis and Thornhill (2016) depict these various issues in the layers of a ‘research onion’. Some of Cooper, Schindler and Sharma’s (2019) descriptors are the same as Saunders, Lewis and Thornhill’s (2016) layers. However, both authors mention descriptors and layers that are not the same. Therefore, this section’s structure is guided by the layers of Saunders, Lewis and Thornhill’s (2016) research onion. Cooper, Schindler and Sharma’s (2019) extra descriptors are included to ensure that the research design used is discussed thoroughly.

Table 6.1 displays Cooper, Schindler and Sharma, (2019) research design descriptors and summarises this study’s research design choices according to these descriptors and are briefly discussed in the subsection that follows.

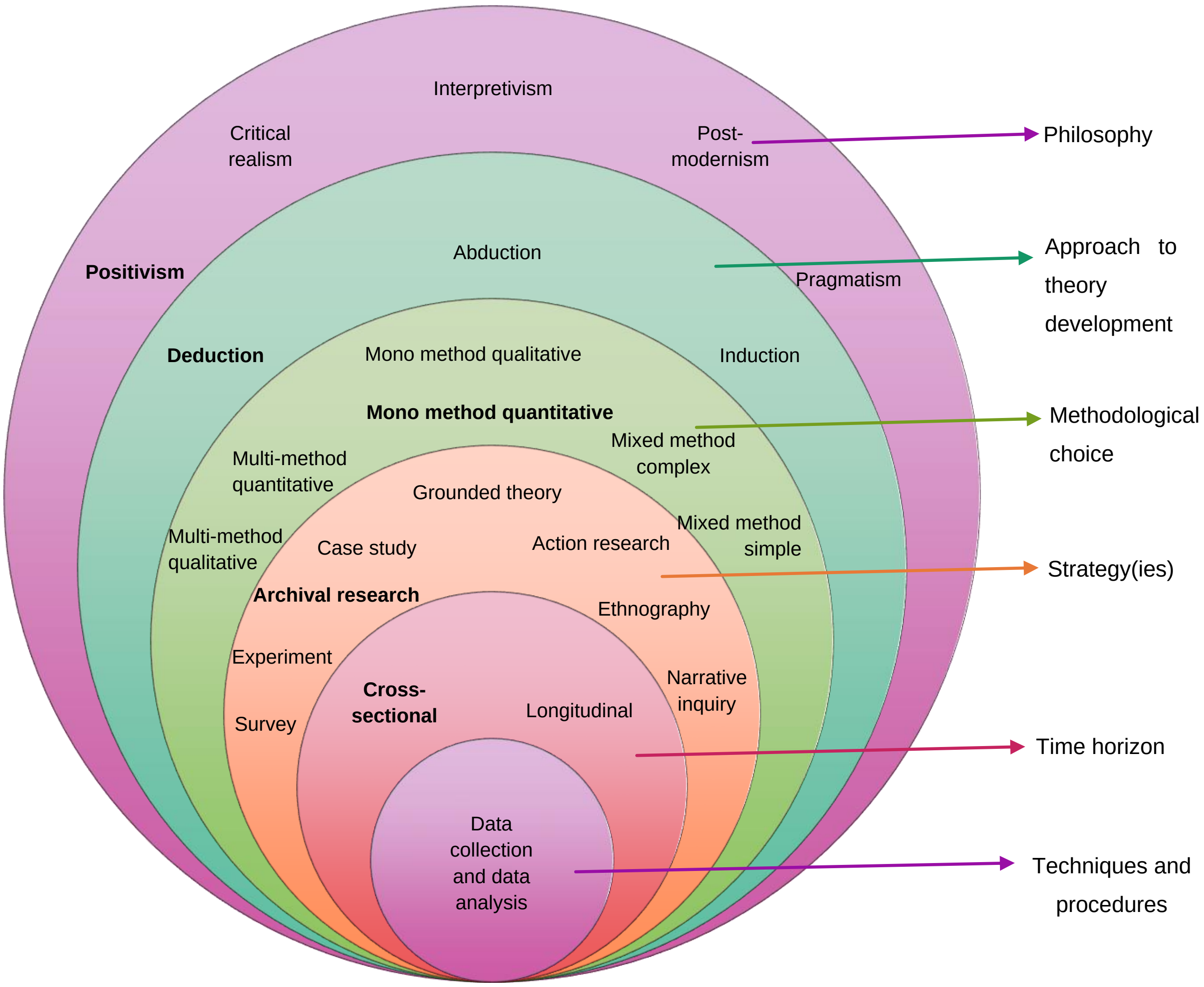
Table 6.1: Cooper, Schindler and Sharma's (2019) descriptors of research design

CATEGORY	**DESCRIPTOR OF THE STUDY**
The degree to which the research question has been crystallised	Exploratory study ***Formal study***
Method of data collection	***Monitoring*** Communication study
Power of researcher to produce effects in the variables under study	Experimental ***Ex-post facto***
Purpose of the study	Reporting ***Descriptive*** Causal Explanatory Predictive
The time dimension	***Cross-sectional*** Longitudinal
The topical scope – breadth and depth – of the study	Case ***Statistical study***
The research environment	***Field setting*** Laboratory research Simulation

Source: (Cooper, Schindler and Sharma, 2019)

Figure 6.4 displays the research onion with its layers depicting the underlying issues in the choice of data collection method(s).

Figure 6.4: The research onion



Source: (Saunders, Lewis and Thornhill, 2016:124)

After the discussion of Cooper, Schindler and Sharma's (2019) eight descriptors, the various layers of the research onion are addressed in the subsections to follow, starting from the outer layers moving inward.

6.3.1. DESCRIPTORS OF THE RESEARCH DESIGN

A brief discussion of the eight descriptors follows, illustrating their nature and applying it to this study.

6.3.1.1. <u>The degree to which the research question has been crystallized</u>

According to Cooper and Schindler (2014:126), a research study can be classified as exploratory or formal. An exploratory and formal study is distinguished by the degree of structure and the objectives of the study. An exploratory study is loosely structured with objectives to discover future research questions or develop hypotheses. A formal study commences where the exploration stops. The formal study starts with hypotheses or research questions and involves precise procedures and specified data sources, with the main objective of testing the hypotheses or answering the research questions.

The degree to which the research question: "*How should sports event organisations compose social media posts on the platform Facebook to optimally engage their stakeholders?"* is crystallised, indicates that this study will be formal. The main objective of this study is to answer the research question using precise procedures and a specified data source, which in this study is a quantitative content analysis of Facebook pages of sports event organisations.

6.3.1.2. The method of data collection

The data collection method of this study used a monitoring process, as identified by Cooper, Schindler and Sharma (2019), where the researcher observes and documents the nature of the researched material, which is the postings on the official Facebook pages of sports event organisations, specifically marathons and ultramarathons.

6.3.1.3. The ability of the researcher to affect the variables

Within an ex post facto design, researchers cannot control or manipulate variables, thus only reporting what has or is happening. This research employs an *ex post facto* design, as identified by Cooper, Schindler and Sharma (2019), as the researcher reports on data from the social media site, Facebook, of marathons and ultramarathons.

6.3.1.4. The purpose of the study

A descriptive study focuses on finding answers to the questions, *who*, *what*, *when*, *where* or *how*, and describing and defining a subject through the compilation of a profile of the problem, people or events, through which powerful inferences can be drawn (Saunders, Lewis and Thornhill, 2016; Cooper, Schindler and Sharma, 2019).

This study on social media stakeholder engagement post composition of recurring participative marathon and ultramarathon sports events is descriptive as it will describe and define the sports events' social media stakeholder engagement posts and answer questions such as, what types of posts are posted, when do they post, and how often do they post.

6.3.1.5. <u>The time dimension</u>

This study is cross-sectional, as various population segments were sampled, collected once and represents a snapshot of a point in time (Zikmund *et al.*, 2015; Saunders, Lewis and Thornhill, 2016; Cooper, Schindler and Sharma, 2019).

6.3.1.6. <u>The scope of the study</u>

Cooper, Schindler and Sharma (2019) distinguish between two types of studies based on topical scope: statistical studies and case studies. The statistical study's objective is to make inferences about a population's characteristics from the research sample's characteristics. Hypothesis testing and generalisations about the findings based on the sample's representativeness and validity of the design point to a typical quantitative research approach. The topical scope of this research population is statistical, as the study attempts to characterise sports events by making inferences from a sample, testing hypotheses and generalising results (Cooper, Schindler and Sharma, 2019).

6.3.1.7. <u>The research environment</u>

Research can be conducted under staged or manipulated conditions, known as laboratory conditions, which makes replication of a research study easier. Research can also occur under environmental conditions, known as field conditions (Cooper, Schindler and Sharma, 2019). This study took place under the actual environmental conditions, as the researcher did not stage, manipulate or control any variables in this research.

Now that the research design descriptors have been identified and discussed, the next section is dedicated to the layers of the research onion.

6.3.2. THE LAYERS OF THE RESEARCH ONION

A brief discussion of the six layers follows, illustrating their nature and then applying it to this research study.

6.3.2.1. <u>Philosophy</u>

Creswell and Creswell (2018:46) define research paradigms as “general philosophical orientations about the world and the nature of research that the researcher brings to a study” and prefer to use the term worldviews. Worldviews can be developed and influenced by the research discipline, the research community, advisors and mentors, and the past research experience of the researcher. Worldviews centred around these factors would lead to the researcher adopting either a qualitative, quantitative, or mixed-methods approach in research endeavours.

Four worldviews are most used in research: postpositivism, critical realism, constructivism, and pragmatism. By considering the differences in assumptions of each of these worldviews, researchers can distinguish between them. There are three types of research assumptions: ontology, epistemology, and axiology. Ontology refers to assumptions about the nature of reality, epistemology refers to what the researcher believes to be acceptable, valid and legitimate knowledge, and axiology concerns itself with the role of values and ethics within the research process (Saunders, Lewis and Thornhill, 2016:127). Table 6.2 presents the key elements of each worldview according to its ontology, epistemology, axiology, and the typical methods used.

Table 6.2: Comparison of the worldviews according to their ontology, epistemology and axiology assumptions

ONTOLOGY (nature of reality or being)	**EPISTEMOLOGY** (what constitutes acceptable knowledge)	**AXIOLOGY** (role of values)	**TYPICAL METHODS**
		POSTPOSITIVISM	
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed
		CRITICAL REALISM	
Stratified/layered (the empirical, the actual and the real) External, independent Intransient Objective structures Causal mechanisms	Epistemological relativism Knowledge historically situated and transient Facts are social constructions Historical causal explanation as contribution	Value-laden research Researcher acknowledges bias by world views, cultural experience and upbringing Researcher tries to minimise bias and errors Researcher is as objective as possible	Retroductive, in-depth historically situated analysis of pre-existing structures and emerging agency. Range of methods and data types to fit the subject matter

CONSTRUCTIVISM			
Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Theories and concepts too simplistic Focus on narratives, stories, perceptions, and interpretations New understandings and worldviews as contribution	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive	Typically, inductive. Small samples, in-depth investigations, qualitative methods of analysis, but a range of data can be interpreted
PRAGMATISM			
Complex, rich, external ‘Reality’ is the practical consequences of ideas Flux of processes, experiences, and practices	Practical meaning of knowledge in specific contexts ‘True’ theories and knowledge are those that enable successful action Focus on problems, practices and relevance Problem-solving and informed future practice as contribution	Value-driven research Research initiated and sustained by researcher’s doubts and beliefs Researcher reflexive	Following research problem and research question Range of methods: mixed, multiple, qualitative, quantitative, action research Emphasis on practical solutions and outcomes

Source: (Saunders, Lewis and Thornhill, 2016:136-137)

The postpositivist worldview represents the traditional form of research, and the assumptions are congruent with quantitative research methods. This worldview is also referred to as the scientific method, positivist, postpositivist research, empirical science, and postpositivism. Leavy (2017:14) explains that research within the postpositivist worldview involves making and testing claims, which includes the identification and testing of relationships, with the main aim of accepting or rejecting hypotheses. The research process starts with a theory, and then data is collected that either supports or refutes the theory. Then necessary revisions can be made, and additional tests can be conducted (Creswell and Creswell, 2018:46-47). A postpositivist worldview was adopted in this study, as the research problem is investigated by using a quantitative research approach, testing hypotheses, and generalising the results. The research problem and question are emphasised to find practical solutions and outcomes.

6.3.2.2. Approach to theory development

Saunders, Lewis and Thornhill (2016) emphasise that any research study will involve theory. There are three approaches to theory development: deductive, inductive, and abductive. A deductive approach is used when research starts with a theory, is developed from reading academic literature, and a research strategy is designed to test the theory. On the other hand, an inductive approach starts with data collection to explore a phenomenon and theory is built or generated to form a conceptual framework. Lastly, an abductive approach is used when data is collected to explore a phenomenon, themes are identified, and patterns are explained to generate a new or modify an existing theory which is then tested with additional data collection. Table 6.3 summarises these three approaches.

Table 6.3: Approaches to theory development

	DEDUCTION	INDUCTION	ABDUCTION
Logic	When the premises are true, the conclusion must also be true	Known premises are used to generate untested conclusions	Known premises are used to generate testable conclusions
Generalisability	Generalising from the general to the specific	Generalising from the specific to the general	Generalising from the interactions between the specific and the general
Use of data	Data collection is used to evaluate propositions or hypotheses associated with an existing theory	Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework	Data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection
Theory	Theory falsification or verification	Theory generation and building	Theory generation or modification; including existing theory where appropriate, to build new theory or modify existing theory

Source: (Saunders, Lewis and Thornhill, 2016)

From the information provided in Table 6.3, it is clear that this study follows a deductive approach as the research process starts with reading academic literature to form a theory, and the research strategy was designed accordingly to test the theory. Various hypotheses are posited (6.5.3.1), data collected (6.5) and analysed (6.6, Chapter 7 and Chapter 8) and according to the results, hypotheses are either accepted or rejected (9.3.1.3.1).

6.3.2.3. Methodological choice

Research approaches refer to the plans and procedures of the research that include details of the data collection methods, analysis and interpretation (Creswell and

Creswell, 2018). To determine the research approach of any study, the researcher needs to consider whether the study's objectives are achievable by either quantitative or qualitative methods or a combination of both, usually referred to as mixed methods (Boncz, 2015). Qualitative and quantitative research are commonly distinguished by using words (qualitative) or numbers (quantitative). This decision is informed by the nature of the research problem, philosophical assumptions, procedures of inquiry, also known as the research design, the specific methods of data collection, analysis and interpretation, as well as the previous experience of the researcher (Creswell and Creswell, 2018).

Quantitative research is used when theories are tested by investigating the relationship among variables. Variables can be measured, usually on instruments. Statistical procedures are then used to analyse the numbered data (Creswell and Creswell, 2018:44). Cooper, Schindler and Sharma (2019) define quantitative research as attempting to measure something precisely. Quantitative methodologies are frequently used in business research to measure consumers' behaviours, knowledge, opinions, or attitudes. Therefore, answering questions such as how much, how often, how many, when and who. According to Creswell and Creswell (2018:44), researchers using quantitative research methods test theories deductively and can generalise and replicate the findings.

Table 6.4 illustrates the main distinctions between qualitative and quantitative research approaches side by side for easy comparison.

Table 6.4: Distinctions between qualitative and quantitative research approaches

	QUALITATIVE	QUANTITATIVE
Focus of research	Understand and interpret	Describe, explain, and predict
Research purpose	In-depth understanding; theory building	Describe or predict; build and test theory
Sample design	Nonprobability; purposive	Probability
Sample size	Small	Large
Questions	Open-ended questions	Instrument-based questions
Research design	• May evolve or adjust during the project • Often uses multiple methods simultaneously or sequentially • Consistency is not expected • Longitudinal approach	• Determined before commencing the project • Uses single method or mixed methods • Consistency is critical • Cross-sectional or longitudinal approach
Data type and preparation	• Verbal or pictorial descriptions • Interview, observation, document, and audio-visual data • Reduced to verbal codes	• Verbal descriptions • Performance, attitude, observational and census data • Reduced to numerical codes for computerised analysis
Data analysis and interpretation	• Text and image analysis • Human analysis following computer or human coding • Forces researcher to see the contextual framework of the phenomenon - distinction between facts and judgments less clear • Always ongoing • Themes, patterns interpretation	• Computerised analysis—statistical and mathematical methods dominate • Analysis may be ongoing during the project • Maintains clear distinction between facts and judgments • Statistical interpretation

Source: Adapted from (Creswell and Creswell, 2018; Cooper, Schindler and Sharma, 2019)

Given the distinctions, this study takes a quantitative research approach. The following considerations point to a quantitative research approach:

- The study, as discussed in Section 6.3.1.4 is descriptive and therefore concerned with answering questions such as how much, how often, how many, when and who.
- The type of data collected, and the preparation thereof, is textual content reduced to numerical codes.
- The data is analysed through Statistical Packages for the Social Sciences (SPSS) using statistical and mathematical methods.

6.3.2.4. <u>Strategy</u>

This section focuses on the research strategy chosen for the study. Saunders, Lewis and Thornhill (2016) indicate a research strategy as that which can be used to answer the research question. Therefore, it is considered to be the methodological link between the philosophy and choice of method to collect and analyse the data. Creswell and Creswell (2018) state that selecting a qualitative, quantitative or mixed methods study is not enough, and emphasise the types of inquiry within these methodological choices, also called strategies of inquiry. Saunders, Lewis and Thornhill (2016) mention the following strategies: Experiment, survey, archival and documentary research, case study, ethnography, action research, grounded theory and narrative inquiry. Table 6.5 gives an overview of the various strategies of inquiry and their corresponding methodological choice.

Table 6.5: Strategies of inquiry within the methodological choices

QUANTITATIVE	QUALITATIVE
Experiment	Archival and documentary research
Survey	Case study
Archival and documentary research	Ethnography
	Action research
	Grounded theory
	Narrative inquiry

Source: Adapted from (Saunders, Lewis and Thornhill, 2016; Creswell and Creswell, 2018)

An archival and documentary research strategy involves analysing documents as the principal sources of data, as documents are considered products of organisations' day-to-day activities. Documentary research can be defined as data that physically and digitally lasts as evidence and can be moved across time and space and reanalysed for a different purpose than that for which they were initially intended (Saunders, Lewis and Thornhill, 2016). The Internet, digitalisation of data, and online archives have increased the scope of using an archival or documentary research strategy. A wide range of archival and documentary sources exist online and potentially offer a rich data source for analyses, namely, textual documents, visual and audio sources. Textual documents can include communications such as social media postings.

This research study uses an archival and documentary research strategy, as data was gathered from communications between sports event organisations and their stakeholders on social media.

The research design strategy has been introduced, the research descriptors described, and the layers of the research onion discussed, the next section focuses on the sampling design of this study.

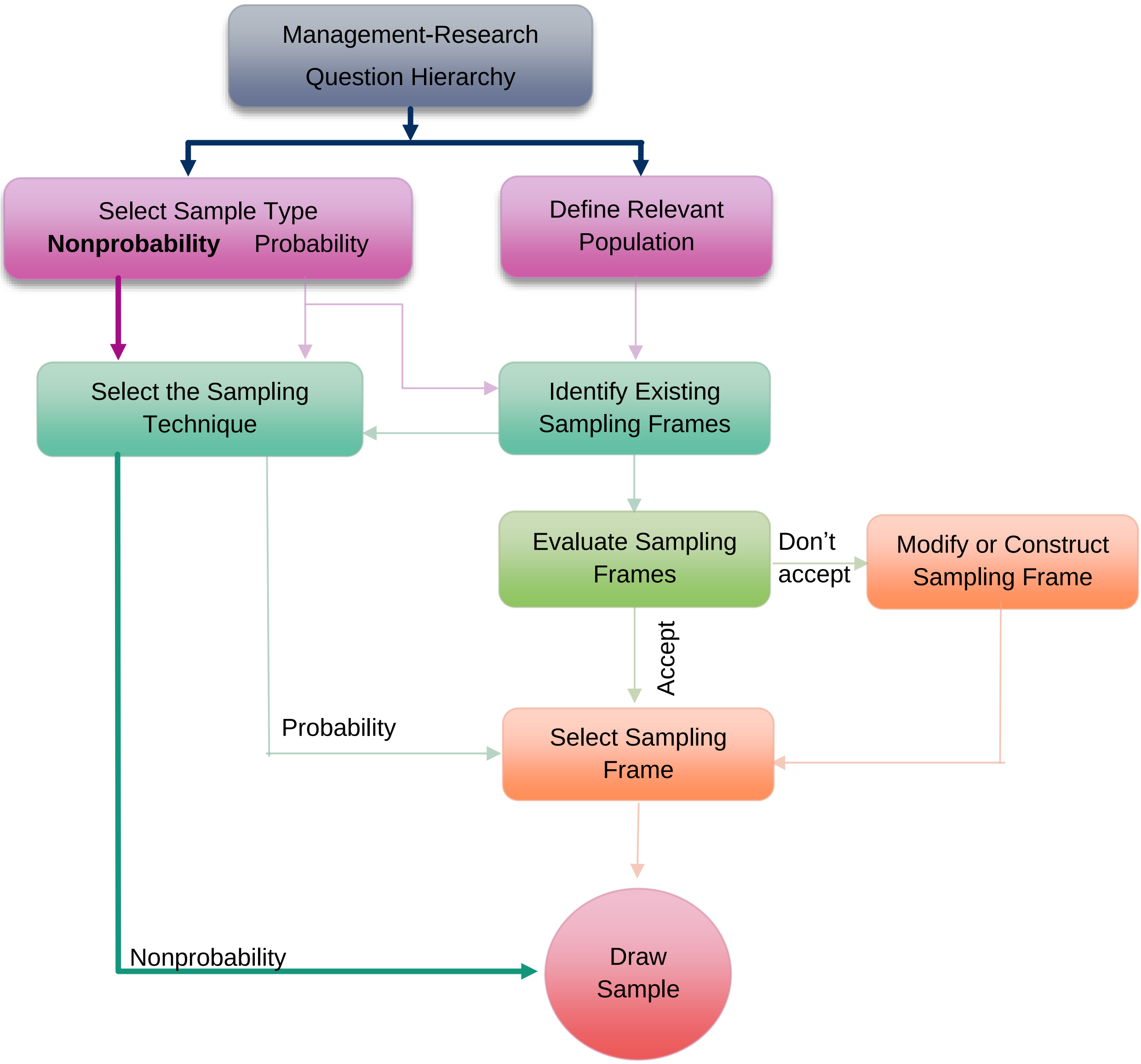
6.4 SAMPLING DESIGN

Determining the sampling design forms part of the research design strategy, as illustrated in Figure 6.2. According to Sekaran and Bougie (2016:239), sampling is selecting an adequate number of elements from a population to study the sample. Once its characteristics are understood, it is possible to generalise the characteristics to the population elements.

In the sampling design stage, the researcher identifies the target population. Cooper, Schindler and Sharma (2019) define the target population as the individuals, events, or records that hold the information that enables the researcher to answer the measurement questions posed. Once the target population is identified, the researcher determines whether a sampling frame exists and whether only a sample or a census is required. Examining all the elements in a target population is called a census. Conversely, a sample is when a carefully selected, representative portion of the whole target population, is examined. When a sample is selected, it is necessary to determine the number of elements to inspect such as records or events to observe. Within the sampling process, each element of the target population is given a known nonzero chance of being selected when using probability sampling. Nonprobability sampling may be applied if no feasible alternative is possible (Cooper, Schindler and Sharma, 2019).

Figure 6.5 illustrates the sampling design process followed and is discussed under the sub-headings.

Figure 6.5: Sampling design process of this study



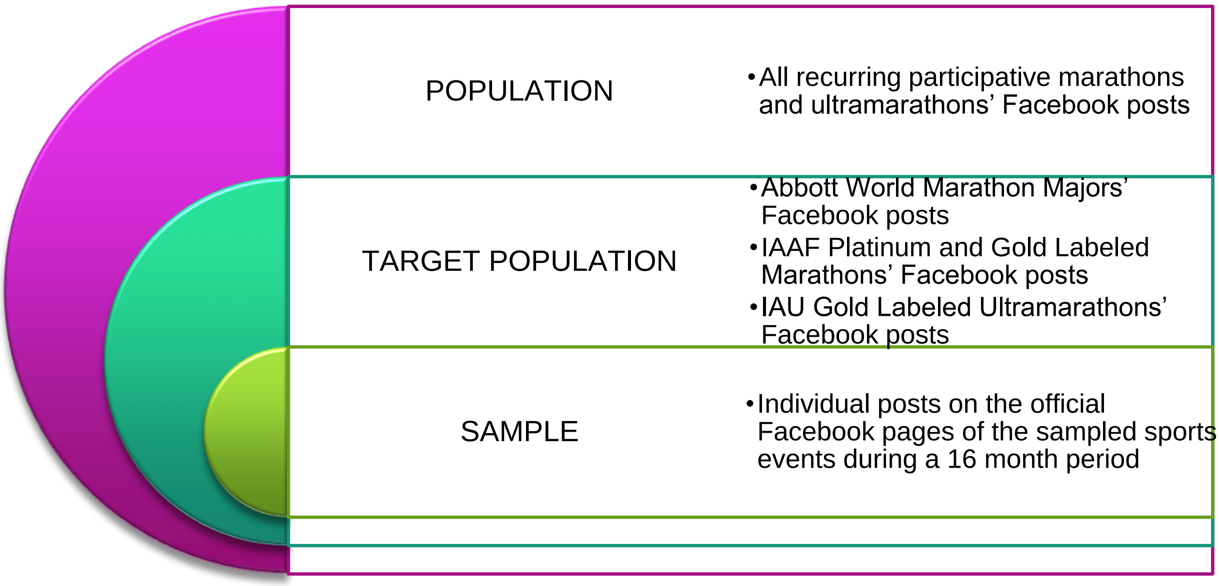
Source: (Cooper, Schindler and Sharma, 2019)

6.4.1. TARGET POPULATION, CONTEXT AND UNITS OF ANALYSIS

The reasoning behind sampling is that by choosing only a few elements in a population, researchers can draw inferences about the entire population. According to Cooper, Schindler and Sharm, (2019), a population element is either an individual or object on which the measurement is taken, also referred to as the sampling unit or unit of analysis (Sekaran and Bougie, 2016). Therefore, a population comprises all the elements in the collection, from which the researcher wishes to draw inferences (Sekaran and Bougie, 2016; Cooper, Schindler and Sharma, 2019). The population for this study is all Facebook posts of recurring participative marathon and ultramarathon sports events using the social media networking site to engage stakeholders. The target population are Facebook posts of the Abbott World Marathon Majors and those marathons and ultra-marathons with platinum and gold label status with World Athletics and the International Association of Ultrarunners. The units of analysis for this study are the individual posts on the official Facebook pages of the selected sports events from 12 August 2019 to 30 November 2020. Figure 6.6 graphically illustrates this in accordance with this study.

In the subsections that follow, the sampling frame and method, including advantages and disadvantages, how the sampling units were selected, and sample size, is discussed.

Figure 6.6: Population, target population and sample of this study



Source: Adapted from (Saunders, Lewis and Thornhill, 2016:275)

6.4.2. SAMPLING FRAME

The sampling frame can be defined as a physical representation of the total elements in the population from which the sample will be drawn (Cooper and Schindler, 2014:347; Sekaran and Bougie, 2016:240). For this study, a sampling frame was used to select marathons and ultramarathons from which a sample of Facebook posts was drawn, and is a compilation of the following lists:

- Abbott World Marathon Majors (WMM)
- World Athletics Label Road Races (Platinum and Gold labelled marathons) (formerly known as the International Amateur Athletic Federation and the International Association of Athletics Federation, both abbreviated as IAAF)
- International Association of Ultrarunners (IAU) (Gold labelled ultramarathons)

According to Sekaran and Bougie (2016:240), while the sampling frame lists each element in the population, the document may not be the most recent or up-to-date listing. For this study, the available sampling frame was up to date with the 2020 platinum and gold labelled marathons and ultramarathons. However, it was modified according to the study's inclusion and exclusion criteria, which is discussed under Section 6.4.4. Appendix C contains the original sampling frame listing all the events before modifications were made.

6.4.3. SAMPLING METHOD

There are various decisions to be made when designing a sample, which are represented in Figure 6.7. Within the decision of the sample design, the basis of representation and the element selection techniques classify the various approaches that can be used, as shown in Table 6.6. The elements of a sample can be selected by using either probability or non-probability procedures. The main difference between probability or non-probability samples is in terms of randomisation (Cooper, Schindler and Sharma, 2019). Both these procedures and their respective approaches are briefly discussed.

Table 6.6: Types of sampling designs

ELEMENT SELECTION	REPRESENTATION BASIS	
	Probability	**Nonprobability**
Unrestricted	Simple random	Convenience
Restricted	Complex random	**Purposive**
	Systematic	**Judgement**
	Cluster	Quota
	Stratified	Snowball
	Double	

Source: (Cooper, Schindler and Sharma, 2019)

Since nonprobability sampling was employed in this study, the next subsection will discuss its' various approaches, specifically those used in this study's sampling design.

6.4.3.1. <u>Nonprobability sampling</u>

Nonprobability sampling is when the elements within the target population do not have a known or predetermined possibility of being selected as sample elements (Sekaran and Bougie, 2016). Even though probability sampling is technically superior, nonprobability sampling procedures are used for practical reasons such as sufficiently meeting the study objectives, cost and time implications, or because it is the only feasible alternative (Cooper, Schindler and Sharma, 2019). For the stated reasons, a nonprobability sampling approach was selected for this study.

Nonprobability sampling can either be unrestricted; referred to as convenience sampling, or restricted, which refers to either snowball sampling or purposive sampling, which includes techniques such as judgement and quota sampling (Cooper, Schindler and Sharma, 2019). Only those applicable to this study are discussed under the ensuing sub-headings.

6.4.3.1.1. Purposive-judgement sampling

A restricted nonprobability sample that conforms to certain criteria is called purposive sampling. There are two types of purpose sampling, namely judgement and quota sampling (Cooper, Schindler and Sharma, 2019).

Judgement sampling occurs when the researcher selects sample elements to fit certain criteria (Cooper, Schindler and Sharma, 2019). According to Sekaran and Bougie (2016:248) and Saunders, Lewis and Thornhill, (2016:301), selecting elements involves the researcher using judgement when choosing that which provides the required information to meet the research objectives. Therefore, it is important to consider the impact of including and excluding elements when selecting the sample (Saunders, Lewis and Thornhill, 2016:301). Judgement sampling is usually employed when a few elements possess the sought-after information. Judgment sampling can limit the ability to generalise the findings to the target population because the sample is conveniently available to the researcher. Nevertheless, to obtain the specific information required to answer the research questions, it is considered the only viable sampling method. Judgment sampling also requires special efforts to find and access the elements with the necessary information (Sekaran and Bougie, 2016:248).

Judgement sampling was implemented in this study. After the sampling frame was identified, further modifications were made in terms of inclusion and exclusion criteria to ensure the sports events chosen best met the research objectives of the study. In the following section, the discussion concerns how the sports events were chosen, and the specific inclusion and exclusion criteria was applied to the sampling frame.

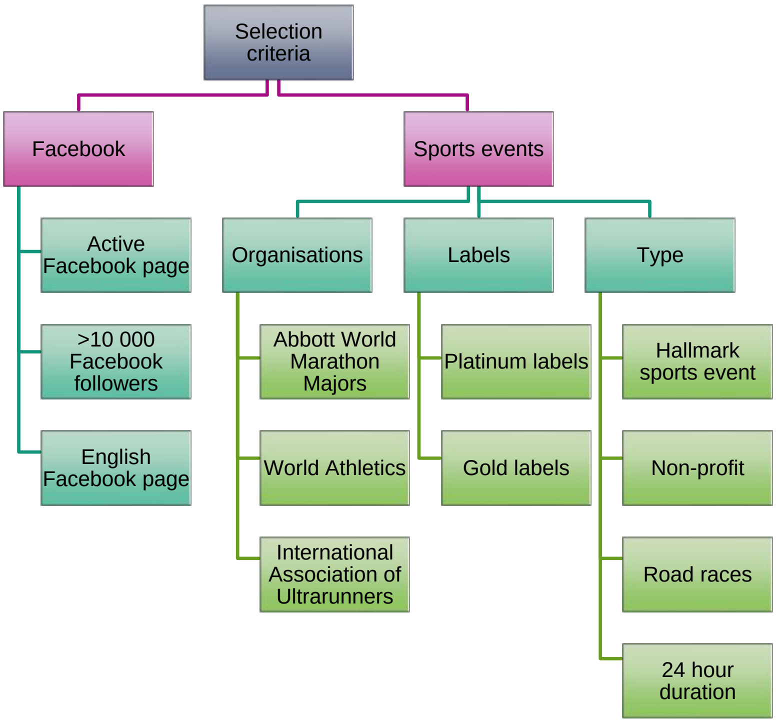
6.4.4. THE SELECTION PROCESS AND SAMPLE SIZE

This section is dedicated to a discussion of the process that was followed in identifying these specific sports events that make up the sample in this study.

The sports events were selected based on a set of similar characteristics. The criteria for selecting the specific marathons and ultramarathons (Table 6.7) were as follows: The events must occur annually and be tied to a specific place. These events are hallmark single sports events of an international nature and must operate on a non-profit basis. The race terrain is the road, and the event conclude in one day. Therefore, participants have less than 24 hours to complete the race.

The marathons and ultramarathons included had to be part of the Abbott World Marathon Majors (AbbottWMM) and hold platinum and gold label status with World Athletics and International Association of Ultrarunners (IAU). The Abbott World Marathon Majors are considered the largest and most renowned marathons globally, and IAAF labelled events are world-leading road races. Criteria specific to this study were added to achieve the study's specific research objectives, therefore, events required a public Facebook page with an audience of more than 10 000 followers or likes, and be active on their official Facebook Pages. To ensure the quality of the data collected, only those official Facebook pages that communicated originally in English were considered. Figure 6.7 depicts the selection criteria used to narrow down the sample frame to those events best suited to the research objectives.

Figure 6.7: Recurring participative marathon and ultramarathon sport event selection criteria



Source: Author's own compilation

Table 6.7 lists those events meeting the criteria discussed above. A total of 13 sports events met the criteria, from which the sample Facebook posts were drawn from.

Table 6.7: The selected sample marathons and ultramarathons meeting the criteria for this study

STATUS	EVENT NAME	COUNTRY	EVENT DATE	FACEBOOK PAGE	FACEBOOK PAGE AUDIENCE
Abbott World Marathon Major	Boston Marathon	United States of America	14 September 2020	https://www.facebook.com/BostonMarathon/	350 304
Abbott World Marathon Major	Virgin Money London Marathon	United Kingdom	4 October 2020	https://www.facebook.com/LondonMarathon/	354 286
Abbott World Marathon Major	BMW Berlin Marathon	Germany	27 September 2020	https://www.facebook.com/berlinmarathon/	227 789
Abbott World Marathon Major	Bank of America Chicago Marathon	United States of America	11 October 2020	https://www.facebook.com/ChicagoMarathon/	196 998
Abbott World Marathon Major	TCS New York City Marathon	United States of America	1 November 2020	https://www.facebook.com/nycmarathon/	338 689
IAAF Platinum Label	TCS Amsterdam Marathon	Netherlands	18 October 2020	https://www.facebook.com/TCSAmsterdamMarathon/	72 584
IAAF Gold Label	Blackmores Sydney Running Festival	Australia	19 September 2020	https://www.facebook.com/officialbsrf/	48 546

IAAF Gold Label	Sanlam Cape Town Marathon	South Africa	18 October 2020	https://www.facebook.com/CTMarathon/	51 972
IAAF Gold Label	Scotiabank Toronto Waterfront Marathon	Canada	18 October 2020	https://www.facebook.com/TOwaterfront42k/	26 105
IAAF Gold Label	Schneider Electric Marathon de Paris	France	15 November 2020	https://www.facebook.com/parismarathon/	206 346
IAU Gold Label	Om die Dam 50K	South Africa	14 March 2020	https://www.facebook.com/omdiedam/	12 714
IAU Gold Label	Comrades Marathon	South Africa	14 June 2020	https://www.facebook.com/ComradesMarathon/	78 366
IAU Gold Label	Two Oceans Marathon	South Africa	12 April 2020	https://www.facebook.com/TwoOceansMarathon/	67 752

Source: Author's own compilation

After the marathon and ultramarathon running events were identified, the sample size and units of analysis, were addressed. The units of analysis for this study were the individual Facebook posts of the sports events (6.4.1). The Facebook posts of the 13 sports events were collected between the 12th of August 2019 and the 30th of November 2020. The process of collecting the Facebook posts is discussed in 6.5.2. Table 6.8 lists the total Facebook posts collected for each event, making up the sample for this study. In total, 3 841 Facebook posts formed the sample size.

Table 6.8: Sample size: Facebook posts per event

EVENT	**NUMBER OF FACEBOOK POSTS**
Comrades Marathon	738
TCS New York City Marathon	592
London Marathon	372
Cape Town Marathon	322
Bank Of America Chicago Marathon	304
Berlin Marathon	303
Blackmores Sydney Running Festival	293
Boston Marathon	272
Toronto Waterfront Marathon	221
TCS Amsterdam Marathon	166
Two Oceans Marathon	104
Schneider Electric Marathon De Paris	96
Om Die Dam Marathon	58
TOTAL FACEBOOK POSTS	3841

Source: Author’s own compilation

6.5 DATA COLLECTION DESIGN

The sampling design of the study was discussed, and the discussion now turns to the data collection design, as part of the research design, depicted in Figure 6.2. Secondary data as the source of data collection and its advantages and disadvantages are discussed. Then, the discussion shifts to quantitative content analysis as the method for data collection and its advantages and disadvantages. The process for collecting data and the data collection design follow, and the section concludes with a discussion of the measurement variables.

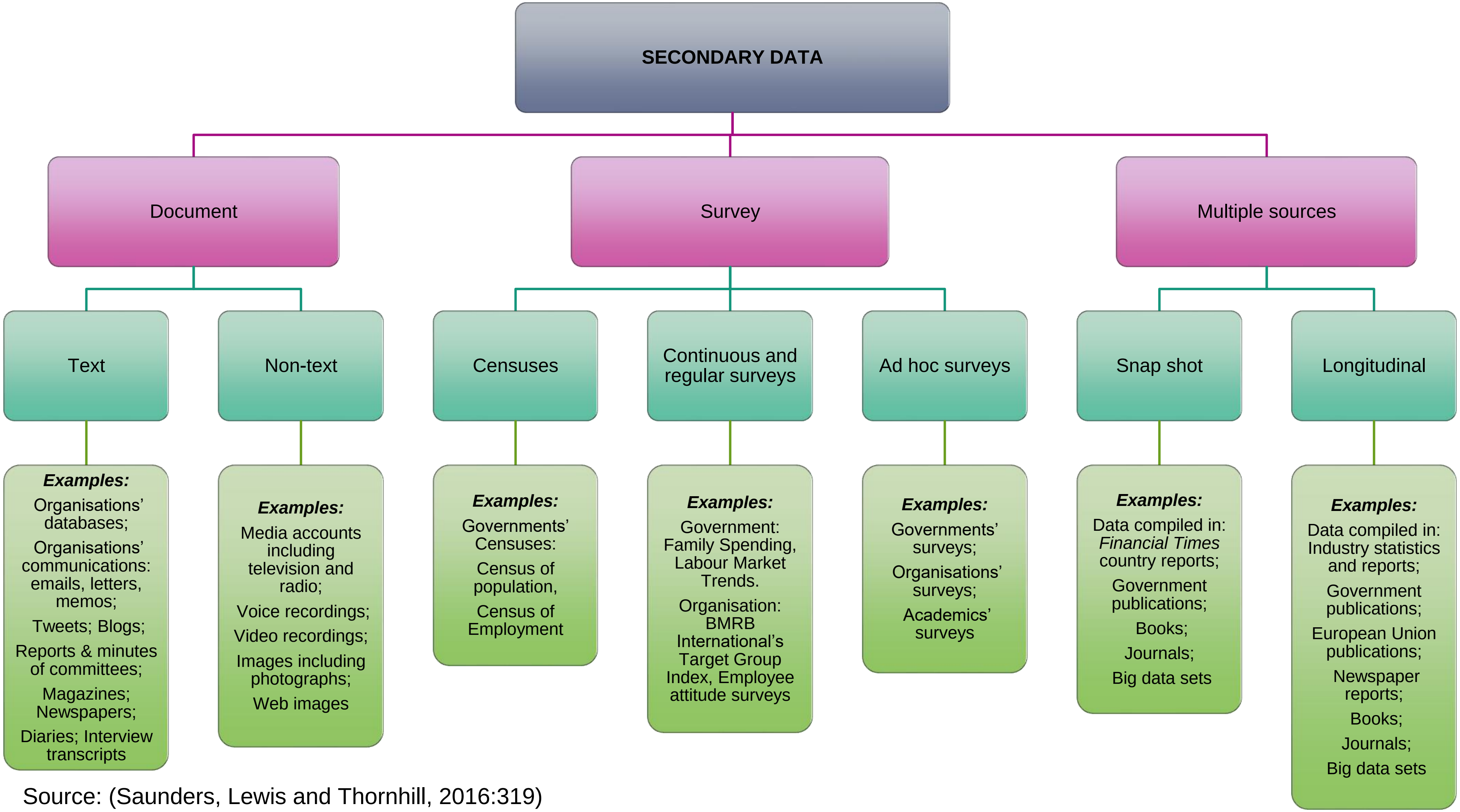
6.5.1. SECONDARY DATA

Once the research objectives or questions are set, the researcher thinks of how data will be obtained to answer the research question or meet the objectives. Data can be either primary or secondary. Data obtained from sources originally intended for other purposes, are secondary data (Saunders, Lewis and Thornhill, 2016:318). Facebook posts are an example of secondary data and as this is used in the study, the discussion focuses solely on secondary data and its appropriateness

Sources of potential secondary data and the ease of gaining access have grown rapidly over the past decade. Sources include organisational databases, newspapers, government censuses, search engines such as Google and social networking sites such as Facebook pages, which can range from being open-access, to being restricted to group members. Secondary data can be used to answer, or partially answer, research questions. In this study, using secondary data enabled the researcher to answer the research question and objectives set fully. Secondary data are primarily used in descriptive and explanatory research and can comprise quantitative (numeric) and qualitative (non-numeric) data. Secondary data that have undergone little to no processing, which requires further analysis, is referred to as raw data. In contrast, secondary data sets that have undergone some form of selection or summarising are compiled data (Saunders, Lewis and Thornhill, 2016:318).

According to Saunders, Lewis and Thornhill (2016:318) and Cooper, Schindler and Sharma (2019), there are three major classifications of secondary data, including those based on documents and surveys and those compiled from multiple sources. Figure 6.8 illustrates the three types of secondary data, their sub-categories, and examples of each type.

Figure 6.8: Types of secondary data



Source: (Saunders, Lewis and Thornhill, 2016:319)

From the various types of secondary data in Figure 6.8, it is evident that this study uses document secondary data analysis. Therefore, the discussion focuses on defining secondary document data relevant to this study.

Saunders, Lewis and Thornhill (2016:319) describe document secondary data as data that can physically, as well as digitally, continue to exist as evidence, which allows the data to be transferred across both time and space to be reanalysed for a purpose other than that for which it was initially collected. Document secondary data can be sub-divided into text materials and non-text materials, both of which, are increasingly available online. Examples of text materials include social media written posts. Content analysis can be used on secondary data to generate statistical measures such as frequencies. The other sub-division of secondary data is non-text materials, and examples include videos, photos, and the non-text content. These types of document secondary data can be quantitatively analysed.

According to Saunders, Lewis and Thornhill (2016:320), web-based materials generated by online communities are increasingly used by researchers as secondary document data. Even though the data from web pages, such as blogs and social networking sites, were never intended to be used in this way, they can still provide secondary data for research studies. This study therefore uses documentary secondary data, from the official Facebook pages of the sports events. There are, however, some considerations related to the use of such data and the advantages and disadvantages are therefore discussed.

6.5.1.1. Advantages and disadvantages of secondary data

Table 6.9 tabulates several advantages and disadvantages of using secondary data.

Table 6.9: Advantages and disadvantages of secondary data

ADVANTAGES	DISADVANTAGES
May have fewer resource requirements	May be collected for a purpose that does not meet the researcher's need
Unobtrusive	Access may be difficult or costly
Longitudinal studies may be feasible	Aggregations and definitions may be unsuitable
Can provide comparative and contextual data	No real control over data quality
Can result in unforeseen discoveries	Initial purpose may affect how data are presented
Permanence of data	

Source: (Saunders, Lewis and Thornhill, 2016:330-334)

Using secondary data has advantages as indicated in Table 6.9. It is unobtrusive. The main advantage for this research was fewer resource requirements. Using secondary data is less expensive and time-consuming, especially if the data can be downloaded as a file compatible with analysis software (Saunders, Lewis and Thornhill, 2016:330-331).

Conversely, secondary data have potential disadvantages (Saunders, Lewis and Thornhill, 2016:332-335). However, the researcher evaluated the intended secondary data to ensure it could answer the research question and meet the study objectives and determined secondary data to be the appropriate data source for the study.

The next subsection's focus on evaluating the secondary data source used in this study and how disadvantages were addressed.

6.5.1.2. Evaluating the secondary data source

Assessing the secondary data source is a three-step process. Firstly, the researcher ensures its overall suitability for answering the research question and meeting the objectives, including measurement validity and coverage of the data. Secondly, the researcher evaluates the secondary data source's suitability, including reliability and possible measurement bias and finally evaluates it in terms of cost versus benefits

(Saunders, Lewis and Thornhill, 2016:335). Figure 6.9 depicts the evaluation process of secondary data sources. This three-step evaluation process is briefly discussed and applied to this study's secondary data source.

Figure 6.9: The evaluation process of secondary data sources

Source: Adapted from (Saunders, Lewis and Thornhill, 2016:341)

The measurement of the validity of any data set is a crucial criterion for evaluating its overall suitability. Secondary data that do not provide the required information to answer the research question and meet the objectives give invalid results. The measures used in some secondary data sets may not always match those needed precisely. According to Saunders, Lewis and Thornhill (2016:336), there is no clear solution to measurement invalidity, but nevertheless, the researcher evaluates the extent of the data's validity to make a decision. A popular method is to examine whether other research successfully uses similar secondary data sets in similar contexts. Relevant, related studies demonstrating this are discussed in the literature review chapters (Luarn *et al.*, 2015; Tafesse, 2015; Menon *et al.*, 2019; Quesenberry and Coolsen, 2019; Tassawa, 2019; Surucu-Balci *et al.*, 2020).

The coverage of any data set is the other crucial criterion for evaluating its overall suitability. Coverage refers to the population, time period and variables. Ensuring that the secondary data relate to the identified population requires data from the identified time period of investigation, containing the relevant variables (Saunders, Lewis and Thornhill, 2016:336). The secondary data from the official Facebook pages cover marathons and ultramarathons, as the identified population, the engagement time period assessed, 12

August 2019 to 30 November 2020, and the relevant variables, in accordance with the research question and objectives

The second step evaluates the secondary data set's suitability, including reliability and measurement bias. Reliability and validity assigned to secondary data are functions of the data collection method and its source. Researchers assess these functions by examining the source of the data, which is referred to as assessing the authority or reputation of the source. When conducting the initial assessment of data available via the Internet, Saunders, Lewis and Thornhill (2016:338-339) direct researchers to first look for the person or organisation responsible for the data, a copyright statement, and additional information be obtained to assess the reliability of the source. Internet sources often contain email addresses or other means of contacting the author.

Following Saunders, Lewis and Thornhill (2016:338-339) indications for assessing the precise suitability of the study's secondary data source, the researcher established that the Facebook page sources were the official Facebook pages run by the marathon or ultramarathon organising committee. Only the sports event administrators could post content on the specific Facebook pages. This was established by clicking on the Facebook icon on the official website of each sports event, where the researcher was then directed to the official Facebook pages. Each Facebook page also included official contact information such as the website address, telephone number and email address in the 'About' section, and the copyright belongs to Facebook.

Saunders, Lewis and Thornhill (2016:338-339) assert that a detailed assessment of the validity and reliability of all secondary data involves assessing the method used for data collection. As many documentary sources, such as blogs and social media pages do not formally describe the methodology used to collect the data, the assessment determined who collected or recorded the information and considered the context of data the context of data to gain insight into possible errors and biases. Facebook, as the source of the raw data was collected from the official Facebook pages of the identified sports events which was posted by the sports event organising committees themselves and therefore assessed to be valid. The data collection procedure is discussed in 6.5.2.

Measurement bias occurs for three reasons, firstly, when data is deliberately distorted; secondly, when the way data are collected changes, and thirdly, when the method of data collection does not truly measure the topic of interest (Saunders, Lewis and Thornhill, 2016:341). No bias, resulting from deliberate distortion of the data obtained from the official Facebook pages of the sports events was anticipated as even though the sports event organisers are responsible for posting on Facebook pages, the response of likes, comments and shares, are not controlled by them. These can also not be manipulated by the researcher and could therefore not be changed during the data collection phase. Therefore, the data is considered an accurate account of engagement taking place on the Facebook platform, free from external bias being introduced.

Lastly, the researcher considered the costs of obtaining secondary data versus the benefits it will bring. Secondary data analysis is central to the study's methodology. The data required are readily available online for free and therefore the costs were in terms of the researcher's time and Internet data costs.

The benefits of the secondary data source can be judged by whether it allows the researcher to, fully or partially, answer the research question and meet the set objectives. The form in which the data is received is considered to be an added benefit if the data is in a spreadsheet readable format, commonly referred to as comma-separated values (csv), which saves the researcher valuable time as data will not have to be re-entered before analysis begins (Saunders, Lewis and Thornhill, 2016:342-343). Considering this study's research question and objectives, the secondary data from the official Facebook pages of the sampled sports events enabled the researcher to answer the research question and meet the set objectives fully. The form in which the study's data was received was also beneficial as it was received in csv format on an excel spreadsheet (Section 6.5.2).

The evaluation assessment of the secondary data source used in this study, Facebook, is summarised in Table 6.10 as a checklist of questions that have been considered and investigated.

Table 6.10: Secondary data evaluation checklist

OVERALL SUITABILITY		PRECISE SUITABILITY	
Does the data set contain the information you require to answer your research question(s) and meet your objectives?	✓	Is the data set reliable?	✓
Do the measures used match those you require?	✓	Is the data source credible?	✓
Is the data set a proxy for the data you really need?		Is it clear what the source of the data is?	✓
Does the data set cover the population that is the subject of your research?	✓	Do the credentials of the source of the data (author, institution or organisation sponsoring the data) suggest it is reliable?	✓
Does the data set cover the geographical area that is the subject of your research?	✓	Do the data have an associated copyright statement?	✓
Can data about the population that is the subject of your research be separated from unwanted data?	✓	Do associated published documents exist?	✓
Are the data for the right time period or up to date?	✓	Does the source contain contact details for obtaining further information about the data?	✓
Are data available for all the variables you require to answer your research question(s) and meet your objectives?	✓	Is the method described clearly?	✓
Are the variables defined clearly?	✓	If sampling was used, what was the procedure and what were the associated sampling errors and response rates?	N/A

COST AND BENEFITS		Who was responsible for collecting or recording the data?	✓
What are the financial and time costs of obtaining these data?	✓	(For surveys) Is a copy of the questionnaire or interview checklist included?	N/A
Can the data be downloaded into a spreadsheet, statistical analysis software?	✓	(For compiled data) Are you clear how the data were analysed and compiled?	✓
Do the benefits of using these secondary data sources outweigh the costs?	✓	Does the data contain measurement bias?	✓
PERMISSION		What was the original purpose for data collection?	✓
Is permission required to use these data and, if 'yes', can you obtain it?	✓	Who was the target audience and what was its relationship to the data collector or compiler?	✓
		Have there been any documented changes in the way the data are measured or recorded including definition changes?	✓
		How consistent are the data obtained from this source compared to other sources?	✓
		Have the data been recorded accurately?	✓
		Are there any ethical concerns?	No

Source: Adapted from (Saunders, Lewis and Thornhill, 2016:343)

The evaluation of the secondary data source in Figure 6.9 comprised three steps: the evaluation of the overall suitability for answering the research question and objectives, the precise suitability, and cost versus benefits. These steps consider measurement validity, coverage of the data, reliability and measurement bias (Saunders, Lewis and Thornhill, 2016:335). Therefore, the evaluation of checklist in Table 6.10 can conclude that secondary data meets the criteria and is therefore considered valid and reliable for the study.

The next section will discuss the data collection process.

6.5.2. DATA COLLECTION PROCESS

As concluded in the previous section on the advantages and disadvantages of content analysis, it can be a time-consuming and labour-intensive activity. According to Riffe, Lacy and Fico (2014:168), computerised content analysis programs that categorise content, the same way human coders would have traditionally done, can save research projects time and money. Therefore, Facebook post data were gathered over four months using Keyhole. Keyhole is an organisation specialising in Automated Social Media Analytics. Keyhole is an official partner with all major social networks, including Twitter, Instagram, Facebook and YouTube, and their agreement allows them to directly plug into official API's (application programming interface) and receive data in real-time. Therefore, the secondary data retrieved by Keyhole is considered trustworthy. Keyhole simplifies reporting and strategising by illustrating information gained by accurately measuring real-time and historical social media data in easy-to-read graphs and layouts. Keyhole's analytic program allows for the detailed content analysis of Facebook engagement metrics and include one year's worth of posts and engagement historical data (Keyhole, 2020). Facebook engagement metrics include the number of likes, comments and shares on posts (Bonsón and Ratkai, 2013), and as sports event organisers do not allow external users to make changes to posts made on official Facebook page timelines, these posts could be used for analyses.

To ensure sufficient data would be obtained for analysis, a period of four months was selected for the study. Data gathering started on 12 August 2020 and concluded on 30 November 2020. Due to Keyhole's unique ability to include historical data before the Keyhole tracker started, a year's worth of post and engagement data was added to the reports. After data collection ended, reports for each sports event were downloaded during December 2020 in csv format on Excel spreadsheets. Each report covered almost

16 months' worth of Facebook posts for each sports event, from 12 August 2019 to 30 November 2020.

6.5.3. MEASUREMENT

Riffe, Lacy and Fico (2014:51) define measurement as the reliable and valid process of assigning numbers to content units and state that measurement links conceptualisation and data collection and analysis steps. When considering the linking process, a researcher is compelled to start with identifying properties of content representing the theoretical concepts of interest, followed by transforming those properties into numbers for statistical analysis. Cooper and Schindler (2014:246) define measurement in research as the allocation of numbers to empirical events, objects, or activities according to certain rules, of which the main goal is to present high quality, error-free data for hypotheses testing, estimation, prediction, or description.

Cooper, Schindler and Sharma (2019) use four key terms when describing the object of measurement, namely, concept, construct, variable and operational definition. A concept is defined as meanings or characteristics ascribed to certain events, objects, conditions, situations or behaviours. In contrast, a construct is a higher-level concept invented specifically for research and theory-building. Therefore, concepts and constructs are used at the theoretical level (Cooper, Schindler and Sharma, 2019). A variable is defined as an event, act or characteristic that numbers or values are assigned to, to be measured quantitatively. The variable is also a synonym for the studied construct, which shows a variation (Riffe, Lacy and Fico, 2014:51; Cooper, Schindler and Sharma, 2019). Therefore, variables are used at the empirical level. Riffe, Lacy and Fico (2014:51) add that the researcher allocates numbers that indicate variations in communication content in quantitative content analysis. Concepts, constructs, and variables can be defined descriptively, such as those defined above, or operationally. An operational definition defines a variable in terms of specific criteria to enable testing or measuring, and is considered an empirical standard that should allow the researcher to count, measure or gather information about the standard (Cooper, Schindler and Sharma, 2019).

However, the relationship among these variables is what interest researchers the most. Every relationship comprises a minimum of one independent variable (IV) and one dependent variable (DV), expressed in a hypothesis statement (Cooper, Schindler and Sharma, 2019). Cooper, Schindler and Sharma (2019) define propositions as statements about phenomena, also called concepts, which are observable and can determine whether the statements are true or false. Hypotheses are merely propositions formulated for empirical testing; therefore, the statement is formulated to declare a relationship between two or more variables. Saunders, Lewis and Thornhill (2016:179) define the independent variable as the variable being manipulated or changed to measure its impact on the dependent variable. However, in non-experimental research, the research lacks the manipulation of an independent variable, the researcher simply measure variables as they naturally occur (Price, Jhangiani, Chiang, Leighton and Cuttler, 2017). The dependent variable, also known as the criterion variable, is described by Cooper, Schindler and Sharma (2019) as the variable that is measured, predicted or monitored with the expectation of being affected when the independent variable changes. Saunders, Lewis and Thornhill (2016:179) define the dependent variable simply as the variable that may change in response to changes in other variables. In this research, the values of the various independent variables (Section 6.5.3.2) were taken as they naturally occurred on the Facebook postings to measure the dependent variable (Section 6.5.3.3).

This research study uses Chi-Square Automatic Interaction Detection (CHAID) analysis, which utilises several independent variables and a dependent variable to classify the posts of the identified sports events. The propositions and formulated hypotheses are first stated, then the coding of the variables used in this analysis is discussed. The CHAID method is discussed in Section 6.6.3.

6.5.3.1. <u>Hypotheses</u>

As discussed in the literature review (Section 5.2.5), scholars have made various attempts to create and standardise social media measurement (Chen, Ji and Men, 2017). Bonsón and Ratkai (2013) assert that social media platforms already offer a natural matrix, and this typology was developed. The social media platform, Facebook, offers measures of how users interact with organisations through indicators such as likes, shares, and comments. However, the literature review (Section 5.2.5.1.2) also points out that post characteristics such as the content that is published, the format of the publication, the length of the post, and the time of publication can greatly influence the level of engagement, in terms of likes, shares and comments (Cvijikj and Michahelles, 2014; Surucu-Balci, Balci and Yuen, 2020).

Therefore, based on the literature review findings, the following overarching research hypotheses (RH) and their associated statistical hypotheses were developed regarding stakeholders' engagement rate. Research hypotheses are supported/not supported if all the associated statistical null hypotheses can be rejected/not rejected. The hypotheses were tested using a multiple linear regression analysis (Section 8.4). Categorical variables which are introduced in the multiple linear regression require the use of dummy variables. Therefore, separate statistical hypotheses were required for each of the dummy variables created. The variables in these research hypotheses are the independent variables used in the CHAID analysis (Section 8.5).

- RH 1: The *moment of participation* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Moment of participation was measured using the *month of the year*, *day of the week*, and *time of the day*.

  RH1a_1: The *month of the year* a social media post is posted has a relationship with the engagement rate of stakeholders.

  - The following statistical hypotheses were formulated for the *month of the year*:

    H1a_{1a}: The month of the year, *09/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    H1a_{1b}: The month of the year, *10/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    H1a_{1c}: The month of the year, *11/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1d}$: The month of the year, *12/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1e}$: The month of the year, *01/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1f}$: The month of the year, *02/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1g}$: The month of the year, *03/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1h}$: The month of the year, *04/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1i}$: The month of the year, *05/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1j}$: The month of the year, *06/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1k}$: The month of the year, *07/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1l}$: The month of the year, *08/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1m}$: The month of the year, *09/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1n}$: The month of the year, *10/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1a_{1o}$: The month of the year, *11/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$RH1b_1$: The *day of the week* a social media post is posted has a relationship with the engagement rate of stakeholders.

- The following statistical hypotheses were formulated for the *day of the week*:

$H1b_{1a}$: The day of the week, *Tuesdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1b_{1b}$: The day of the week, *Wednesdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1b_{1c}$: The day of the week, *Thursdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1b_{1d}$: The day of the week, *Fridays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1b_{1e}$: The day of the week, *Saturdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1b1_{f}$: The day of the week, *Sundays* in reference to *Mondays*, a social media post is posted has a relationship with the engagement rate of stakeholders.

$RH1c_{1}$: The *time of day* a social media post is posted has a relationship with the engagement rate of stakeholders.

- The following statistical hypotheses were formulated for the *time of day*:

$H1c_{1a}$: The time of day, *mornings* in reference to *evenings,* a social media post is posted has a relationship with the engagement rate of stakeholders.

$H1c1_{b}$: The time of day, *afternoons* in reference to *evenings*, a social media post is posted has a relationship with the engagement rate of stakeholders.

- RH 2: The *design* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Design was measured using *vividness level* and *level of interactivity*.

$RH2a_{1}$: The social media posts' *vividness level* has a relationship with the engagement rate of stakeholders.

- The following statistical hypotheses were formulated for *vividness level*:

$H2a_{1a}$: The social media posts' vividness level, *high* in reference to *low*, has a relationship with the engagement rate of stakeholders.

$RH2b_1$: The social media posts' *level of interactivity* has a relationship with the engagement rate of stakeholders.

- The following statistical hypotheses were formulated for *level of interactivity*:

  $H2b_{1a}$: The social media posts' level of interactivity, *low* in reference to *none*, has a relationship with the engagement rate of stakeholders.

  $H2b_{1b}$: The social media posts' level of interactivity, *medium* in reference to *none*, has a relationship with the engagement rate of stakeholders.

  $H2b_{1c}$: The social media posts' level of interactivity, *high* in reference to *none*, has a relationship with the engagement rate of stakeholders.

- RH 3: The *fluency* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Fluency was measured using *post length*, *number of total hashtags* and *tagging people or organisations*.

  - The following statistical hypothesis was formulated for post length, number of total hashtags and tagging people or organisations:

    $H3a_1$: The *length* of a social media post has a relationship with the engagement rate of stakeholders.

    $H3b_1$: The *total number of hashtags* used in a social media post has a relationship with the engagement rate of stakeholders.

    $H3c_1$: *Tagging people or organisations* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 4: The *format* of the content of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Format was measured using *photos*, *external links*, *texts* and *videos*.

  - The following statistical hypotheses were formulated for *photos*, *external links*, *texts* and *videos*:

$H4a_1$: The use of *photos* in a social media post has a relationship with the engagement rate of stakeholders.

$H4b_1$: The use of *external links* in a social media post has a relationship with the engagement rate of stakeholders.

$H4c_1$: The use of *text* in a social media post has a relationship with the engagement rate of stakeholders.

$H4d_1$: The use of *videos* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 5: *Live content* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.
    - The following statistical hypothesis was formulated for *live content*:

      $H5_1$: Using *live content* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 6: The existence of a *call-to-action* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.
    - The following statistical hypothesis was formulated for *call-to-action*:

      $H6_1$: The inclusion of a *call-to-action* phrase in a social media post has a relationship with the engagement rate of stakeholders.

- RH 7: *COVID-19* updates in sports events' Facebook posts have a relationship with their stakeholders' engagement rate.
    - The following statistical hypothesis was formulated for *COVID-19*:

      $H7_1$: A *COVID-19 update* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 8: *Virtual race* content in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.
    - The following statistical hypothesis was formulated for *virtual race*:

$H8_1$: *Virtual race* content in a social media post has a relationship with the engagement rate of stakeholders.

- RH 9: The *content type* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Content was measured using *informational*, *entertainment*, *promotional*, *social* and *remunerative content*.
    - The following statistical hypotheses were formulated for *informational*, *entertainment*, *promotional*, *social* and *remunerative content*:

      $H9a_1$: A social media post sharing *informational content* has a relationship with the engagement rate of stakeholders.

      $H9b_1$: A social media post sharing *entertainment content* has a relationship with the engagement rate of stakeholders.

      $H9c_1$: A social media post sharing *promotional content* has a relationship with the engagement rate of stakeholders.

      $H9d_1$: A social media post sharing *social content* has a relationship with the engagement rate of stakeholders.

      $H9e_1$: A social media post sharing *remunerative content* has a relationship with the engagement rate of stakeholders.

6.5.3.2. Operationalisation of independent variables – coding of the data

As stated in the data collection process (6.5.2), Keyhole was used to collect the data as their analytic program allows for a detailed content analysis of Facebook engagement metrics (Keyhole, 2020). Their content analysis of social media accounts is pre-coded and corresponds to the literature review conducted in this study and includes data on all independent variables used in this study, except the content type, real-time updates, call-to-action and COVID-19 posts, which were coded by the researcher separately. The following explanation covers the coding used by Keyhole for independent variables and the coding used by the researcher.

Posting consistency is measured with the independent variable known as the number of posts made by the sports event administrators in the reporting timeline. Keyhole reports the number of posts per month, week, and day.

Moment of participation indicates when sports event administrators post their content. To measure the moment of participation, three independent variables were used. Keyhole divides the moment of participation in two categories: time of day and day of the week. The day of the week the Facebook post is posted is divided into the seven days of the week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. The time of day the Facebook post is posted is divided into 24hour segments. However, the researcher further subdivided the times of the day into mornings (posted between 00:00 and 11:59), afternoons (posted between 12:00 and 17:59), and evenings (posted between 18:00 and 23:59). The researcher also added month of the year as a variable, which were dived into the 12 months of the year.

Two independent variables were used to measure the design of messages, namely: vividness and interactivity. The vividness level is subdivided into three categories: low, medium, and high. Posts containing only text or links have a low level of vividness; hence, there are no visual elements. Posts that include photos have a medium level of vividness, and those posts with videos were coded as having high vividness. The interactivity level is subdivided into four categories: none, low, medium, and high. Posts containing only text that does not require engagement were coded as having no interactivity. Those containing links have a low level of interactivity. Posts that include call-to-action messages have a medium level of interactivity. Those posts containing questions or a quiz were coded as having a high level of interactivity.

To measure the fluency of posts, three independent variables were used: length of messages, number of hashtags, and tagging people or firms. The length of a Facebook post has a maximum allowance of 63 206 characters (Jackson, 2021). Keyhole measured the length of a Facebook post as the number of characteristics used in a post. Keyhole used the following categories to code the different lengths of the Facebook posts: 0–140; 141–280; 281–560; 561–1120; and 1121+. The number of hashtags used in a post is divided by Keyhole into 3 categories, namely, 0 hashtags, 1–2 hashtags and 3–5 hashtags. Hashtags are words or keyword phrases with a hash symbol (#) in front of it (O'Brien, 2022). Tagging people or firms is a categorical independent variable and was coded into two categories, namely yes and no, whether they tagged a person or a firm in the post. Tagging refers to searching for and identifying a person or organisation using the @ symbol in order to mention them, and effectively linking them to a social media post (Ocreative, 2017; BigCommerce, 2022).

The format of the content or media type used in the Facebook posts is divided by Keyhole into four categories: photo, link, text, and video.

Real-time updates and 'live' content are yet another categorical independent variable, where each post was coded if it shared real-time updates or live content (yes) or not (no).

A call-to-action message is a categorical independent variable, consisting of two categories, namely, yes and no. If a post contains sentences that encourage a certain action from the followers, statements such as 'try it now', 'call us now', or 'explore now', it was coded as yes. A post was coded as no if it does not include such sentences.

A COVID-19 update is another categorical independent variable, where posts were coded if they shared information regarding COVID-19 (yes) or (no).

The mention of a virtual race is considered another categorical independent variable, where each post was coded whether it mentioned hosting a virtual event (yes) or (no).

The content type consists of five categories, namely: Information, entertainment, promotional, social and remunerative. Informative posts include information about the sports event organisation, its brand, the event itself and any other important announcements to their stakeholders. Entertainment posts awaken users' interest, containing interesting or humorous pictures, photos, videos, trivia, or educational content. Promotional posts contain various advertising campaigns, whereas posts with remunerative content consist of sales promotions, including contests, coupons, and offers with a prize. Social posts encourage users to participate in social activities such as social events, sports events, or posts containing open questions to audiences regarding daily activities and humanitarian work.

Table 6.12 summarises the independent variables, their categories and their codes assigned to measure them.

Table 6.11: Independent variables and the coding scheme

INDEPENDENT VARIABLE	**CATEGORIES**	**CODES/IDENTIFIERS/OPERATIONALISATION**
	MOMENT OF PARTICIPATION	
Post days	Monday	A simple indication of what day of the week the post was posted
	Tuesday	
	Wednesday	
	Thursday	
	Friday	
	Saturday	
	Sunday	
Post time of day	Mornings	Posted between 00:00 and 11:59
	Afternoons	Posted between 12:00 and 17:59
	Evenings	Posted between 18:00 and 23:59
Month of the year		A simple indication of which month and year the post was posted
	DESIGN	
Vividness	Low (1)	Texts and links
	Medium (2)	Photos
	High (3)	Videos
Interactivity	None (1)	Texts (requires no engagements)
	Low (2)	Links
	Medium (3)	Call-to-action
	High (4)	Questions

FLUENCY		
Post length	0-140 141-280 281-560 561-1120 1121+	A simple count of the number of characters in the post
Number of # hashtags	0 1-2 3-5	A simple count of the number of hashtags used
Tagging people or organisations	Yes (1) No (0)	A simple indication of whether the post is tagging a person or organisation
FORMAT		
Media type	Photo Link Text Video	A simple indication of the media type used in a post (photo, link, text or video)
POST CONSISTENCY		
Number of posts in reporting period	Posts	A simple count of the number of posts posted during the reporting period
LIVE CONTENT		
Live content	Yes (1) No (0)	A simple indication if a post is sharing live content
CALL-TO-ACTION		
Call-to-action	Yes (1) No (0)	A simple indication of the text in a post asking the reader to do something
COVID-19		
COVID-19 update	Yes (1) No (1)	A simple indication of whether a post mentioned the coronavirus or its impact on the event or country.
VIRTUAL RACE		
Virtual race update	Yes (1) No (1)	A simple indication whether a post mentioned virtual races or provided information regarding a virtual race.
CONTENT		

Content type	Informational (1)	Information about the organisation or event
	Entertainment (2)	Humorous or educational content
	Promotional (3)	Advertising the organisation and sports event.
	Social (4)	Mentioning a charity, asking questions, social events.
	Remunerative (5)	Mentioning a contest, prize, or sales promotion.

Source: Author’s own composition

6.5.3.3. Operationalisation of the dependent variable

The dependent variable in this study is the stakeholder engagement rate or index. As indicated in the previous chapter (5.2.5), this study makes use of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai’s (2015) formula to calculate the stakeholder engagement rate. According to the formula of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai’s (2015), popularity can be measured by the number of ‘likes’ of the posts on the Facebook pages; the commitment, by the number of ‘comments’, and virality by the number of ‘shares’. Therefore, only the likes, comments and shares are necessary to calculate stakeholders’ engagement rate. Table 6.13 illustrates the various formulas needed to calculate stakeholders’ engagement rate.

Table 6.12: Formula for calculating the stakeholder engagement rate

NAME		FORMULA	MEASURES
Popularity	P1	Number of posts liked/total posts	Percentage of posts liked
	P2	Total likes/total number of posts	Average number of likes per post
	P3	(P2/audience size) × 1000	Average number of likes per post per 1000 audience members
Commitment	C1	Number of posts commented on/total posts	Percentage of posts commented on
	C2	Total comments/total posts	Average number of comments per post
	C3	(C2/ audience size) × 1000	Average number of comments per post per 1000 audience members
Virality	V1	Number of posts shared/total posts	Percentage of posts shared
	V2	Total shares/total posts	Average number of shares per post
	V3	(V2/ audience size) × 1000	Average number of shares per post per 1000 audience members
Engagement	E	P3 + C3 + V3 =	Stakeholder engagement index

Source: (Bonsón and Ratkai, 2013; Bonsón, Royo and Ratkai, 2015)

As these metrics are publicly available for examination, Keyhole collected all the sports event's Facebook posts' number of likes, comments and shares. After the reports were downloaded from Keyhole, the procedure of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) was followed. Firstly, the percentage of posts that were liked (P1) was calculated by dividing the number of posts liked, by the total number of posts. The percentage of posts commented on (C1), and the percentage of posts shared (V1), used the same calculation. After P1, C1 and V1 were calculated, the average number of likes per post (P2), comments per post (C2), and shares per post (V2) was calculated by dividing the total likes, comments, or shares by the total number of posts, respectively. Thereafter, the average number per 1000 followers for likes (P3), comments (C3), and shares (V3) was calculated. P3 was calculated by dividing P2 by the number of followers, then multiplying the value obtained by 1000. The same calculation was used for comments (C3) and shares (V3), respectively. To mitigate the risk of the calculated stakeholder engagement rate being affected by the difference, sports event Facebook page followers, P3, C3 and V3 were deflated by dividing the average number of likes, comments or shares, respectively, by the number of followers. Therefore, because these metrics are independent of the follower size, Bonsón, Royo and Ratkai (2015) assert that the metrics are the most representative when measuring engagement. Finally, the stakeholder engagement index was calculated by summing up the values of P3, C3 and V3.

This study's research design strategy (Figure 6.2), which included the sampling and data collection designs, were discussed. This research study uses content analysis of secondary data discussing the measurements and coding of variables. This was followed by data collection and preparation for analysis. The analysis of data and the interpretation of findings is discussed in the next section.

6.6 DATA ANALYSIS AND INTERPRETATION

Information is necessary to answer the management question, not raw data. Information is generated by analysing the data after it has been collected. According to Cooper, Schindler and Sharma (2019), data analysis entails reducing accumulated data to a more manageable size to develop summaries, identify patterns, and apply statistical techniques. The findings must then be interpreted with the research question in mind or determine whether the results are consistent with the theories discussed and the hypotheses posed (Cooper, Schindler and Sharma, 2019).

6.6.1. QUANTITATIVE CONTENT ANALYSIS

As the term suggests, content analysis is an approach used to analyse documents and texts (printed or visual) to quantify content into predetermined categories in a systematic and replicable way. It is considered a flexible method that can be applied to an array of media types. In its essence, it is an approach to analyse documents and texts rather than a method to generate data (Bell, Bryman and Harley, 2019).

According to Iowa State University (2020) content analysis is similar to documentary analysis, and is used to identify patterns and characteristics in a wide range of content from text and visual sources, that includes social media (Luo, 2021). Riffe, Lacy and Fico (2014:3) briefly define quantitative content analysis as the systematic categorisation of communication content according to rules and analyses relationships among categories, using statistical methods. Riffe, Lacy and Fico (2014:19) describe quantitative content analysis as the systematic and replicable investigation of symbols of communication that numeric values have been assigned to, as prescribed by valid measurement rules and relationship analysis, which involves values and makes use of statistical methods to describe the communication and make inferences about its meaning from the context. Content analysis has been used in mass communication and other fields to describe the content and test theory-derived hypotheses (Riffe, Lacy and Fico, 2014:17).

In the literature discussed in previous chapters, Table 4.10 and Table 5.7 identifies quantitative content analysis as the research method most often used in social media, social media engagement, and sport management. Therefore, quantitative content analysis was considered an appropriate method for use in this study.

6.6.1.1. Advantages and disadvantages of content analysis

As with all research methods, content analysis has advantages and disadvantages. Table 6.11 tabulates several advantages and disadvantages of content analysis related to its scope, data and process.

Table 6.13: Advantages and disadvantages of content analysis

ADVANTAGES	DISADVANTAGES
SCOPE	
Descriptive tool – used to describe communication messages	Cannot be used to draw cause-and-effect conclusions
DATA	
Can be applied to various texts	Cannot study what is not recorded
Data is often readily available	Can miss key ‘real-time’ features from the communicative exchange
Richer data – more detailed data can be obtained than through survey research	Misinterpretation can occur
Eliminates participant recall and recall bias	
Removes human participants from the process	
PROCESSES	
Safe process – if errors occur, repeating parts of the process is easier	Finding a representative sample may be difficult
Repeating parts of the process is less costly and time-consuming	Coding issues make it difficult to generalize across content analyses
One of the most replicable research methods (Maier, 2018:2-5) due to its transparency (Bell, Bryman and Harley, 2019)	Time-consuming, complex, and labour-intensive
Unobtrusive/ or non-reactive method – no direct participants the researcher need take into account (Bell, Bryman and Harley, 2019)	Researchers may code messages too narrowly or too broadly
Allows for longitudinal studies to be done with ease (Bell, Bryman and Harley, 2019)	Reliability (intercoder) and validity is a concern
Highly flexible method – can be applied to a variety of information (Bell, Bryman and Harley, 2019)	

Source: (Maier, 2018: 2-5; Bell, Bryman and Harley, 2019)

As can be determined from the content of Table 6.11, content analysis is a useful descriptive tool that can be broadly applied, is unobtrusive, and a reasonably safe research method. However, content analysis can be time-consuming, labour-intensive, restricted to accessible texts, and can pose challenges regarding reliability and validity. Nevertheless, content analysis remains a useful empirical research tool for describing communicative messages (Maier, 2018:6).

There are two types of statistics: descriptive and inferential (Zikmund *et al.*, 2015:413). These statistics are briefly discussed with their application in this study.

6.6.2. DESCRIPTIVE STATISTICAL ANALYSIS

Descriptive statistics describe basic characteristics and summarise data in a straightforward and understandable manner (Zikmund *et al.*, 2015:413). To make the data usable, information is organised and summarised. Methods include frequency distribution, proportions, measures of central tendency, and measures of dispersion (Zikmund *et al.*, 2015:413). These concepts are briefly defined in this section, and their practical applications are included in Chapter 7.

Cooper, Schindler and Sharma (2019) refers to descriptive statistics as exploratory data analysis (EDA) and describe it as both a perspective and as using numerous techniques to analyse data. Exploratory data analysis is important because data visualisation forms an integral part of the data analysis process and is necessary for hypothesis testing. Data can be visually displayed using graphical and tabular devices such as frequency tables, bar charts, pie charts and histograms.

Frequency tables or frequency distributions are one of the most commonly used methods to summarise data sets. The frequency table reports the number of times a specific value of a variable occurs. These numbers can also be presented in percentages by dividing the frequency of each value by the total number of occurrences and multiplying the result by 100. Proportion indicates the percentage of population elements that meet some characteristic (Zikmund *et al.*, 2015:413-415).

The next method for organising and summarising data is the measure of central tendency, which can be measured in three ways: the mean, median, and mode. The most commonly used measure is the mean, which is the average of the data. The median is the middle point of distribution, and the mode indicates the value that occurs the most. After the measure of central tendency is calculated, it is necessary to analyse how the observations vary from the mean (Zikmund *et al.*, 2015:418).

The measure of dispersion (Zikmund *et al.*, 2015:418), is also known as measures of variability (Cooper, Schindler and Sharma, 2019). There are several measures of dispersion, namely, range, variance, and standard deviation (Zikmund *et al.*, 2015; Cooper, Schindler and Sharma, 2019), and these measures describe how the observations cluster or scatter in the distribution (Cooper, Schindler and Sharma, 2019). The easiest of these measures of dispersion is the range, which is the distance between the lowest and the highest values in a frequency distribution. The variance is a measure of score dispersion about the mean (Cooper, Schindler and Sharma, 2019) and is calculated by the square root of the standard deviation. Standard deviation is the square root of the variance for a distribution (Zikmund *et al.*, 2015:413-415) and measures the extent to which values differ from the mean (Saunders, Lewis and Thornhill, 2016; Bell, Bryman and Harley, 2019).

Frequency distributions, proportions, measures of central tendency, and measures of dispersion are all methods in descriptive statistical analysis. With the help of graphical and tabular devices such as frequency tables and histograms, their results are visually displayed in Chapter 7. After data are descriptively analysed, inferential statistical analyses follows, and this is briefly discussed in the following subsection.

6.6.3. INFERENTIAL STATISTICAL ANALYSIS

Inferential statistics are used to make inferences from a sample to an entire population (Zikmund *et al.*, 2015:413). Cooper, Schindler and Sharma (2019) refer to it as confirmatory data analysis and define it as an “analytical process guided by classical statistical inference in its use of significance testing and confidence”.

To address tertiary objectives 1.2 and 1.4, which tests whether there is a relationship between channel activity and stakeholder engagement, and audience size and stakeholder engagement, Spearman's rank correlation coefficient (Spearman's rho) was done. Spearman's rank correlation coefficient (Spearman's rho) is a statistical test that assesses the strength of the relationship between two ranked data variables. The probability of the correlation coefficient having occurred by chance alone needs to be calculated.

To answer secondary research objective 3, namely, to identify the main social media post characteristics that lead to higher stakeholder engagement, a multiple linear regression analysis was done to test the effect of independent variables on dependent variables. The multiple linear regression analyses how the dependent variable changes as the independent variables change and estimates the relationship between two independent variables and one dependent variable.

This research study's main objective is to determine social media post compositions of marathons and ultramarathons, based on their engagement rates, to understand the types of posts that lead to a greater engagement level. The inferential statistical analysis conducted to address secondary objective 4 and to answer the study's primary objective is the Chi-Square Automatic Interaction Detection (CHAID), which is briefly discussed.

CHAID is a decision tree methodology applied to classify and predict (Surucu-Balci, Balci and Yuen, 2020). Tree-based learning algorithms enhance predictive models with high accuracy, stability, and ease of interpretation and is therefore considered one of the best, commonly used assessing methods (Ramzai, 2020). The interpretation of results becomes easier as decision trees are presented visually (Bhardwaj, 2018; Surucu-Balci, Balci and Yuen, 2020). The CHAID analysis is used to discover relationships between variables (Bhardwaj, 2018; Statistics Solutions, 2020). It uses one dependent variable and multiple independent variables, also known as predicting variables, and at each step, the independent variables are compared, and the best predictor is determined (Surucu-Balci, Balci and Yuen, 2020). Thereby building a predictive model, or tree, that determines how variables best merge so that the outcome in the given dependent variable can be explained (Statistics Solutions, 2020). CHAID analysis has the following components: root node, parent node, child node and terminal node. The root node contains the dependent variable. In the case of this study, the stakeholder engagement rate is the dependent variable. The CHAID algorithm divides the dependent variable into two or more independent variable categories, known as parent nodes. Child nodes are the independent variable categories placed below the parent node categories. Within the CHAID analysis, those categories that most influence the dependent variable come first. The last categories of the CHAID analysis are known as terminal nodes (Statistics Solutions, 2020).

Decision tree methodology is used in several disciplines (Surucu-Balci, Balci and Yuen, 2020) and commonly used in the business environment (Lopez Yse, 2019). Even though numerous studies exist in different disciplines that have used CHAID methodology, the methodology is uncommon in a sporting or social media context. Only one study used CHAID to determine the type of Twitter post that results in greater engagement in freight transportation (Surucu-Balci, Balci and Yuen, 2020).

All research studies need to adhere to ethical standards. Therefore, ethical guidelines were considered when conducting this research and are discussed in the next section.

6.7 ETHICAL CONSIDERATIONS

Cooper, Schindler and Sharma (2019) define ethics as “norms or standards of behaviour that guide moral choices about behaviour and relationships with others”. The main objective of ethics in research is to ensure that no harm or adverse consequences result from the research activities performed. Quinlan, Babin, Carr, Griffin, and Zikmund (2015:39) include that ethics in research is about honesty, integrity, safety. The conduct in this study’s was guided by the Policy on Research Ethics of the University of South Africa (UNISA, 2016)

In compliance with the policy, the study was submitted to the Ethics Review Committee of the Department of Business Management of the University of South Africa. The research ethics committee is responsible for scrutinising aspects of research quality associated with ethics (Babbie, 2016:70; Saunders, Lewis and Thornhill, 2016:242). This study does not pose harm or threat to any organisation whose information was used in the study. Therefore, ethical clearance (2019_CRERC_022(SD) for this research study was obtained before the data was collected, and a copy of the ethical clearance certificate can be found in Appendix A.

6.7.1. INTERNET AND SOCIAL MEDIA RESEARCH ETHICS

Digital ethics refers to ethical considerations in research that uses and studies web-based activities and settings. Such studies are e-research, Internet-mediated, web, digital or online research (Cassell, Cunliffe and Grandy, 2018). The debate in digital ethics is whether information on the Internet is public or private. Key concerns regarding this debate are briefly discussed with application to this research study.

- The question of what is considered public and private on the Internet largely determines whether the material may be used as data in research, especially without explicit consent. The Internet is generally considered a public space, however, some areas are perceived as private (Cassell, Cunliffe and Grandy, 2018:567). The source of the data collected in this study, the official Facebook pages of the 13 sporting events, is deemed to be in the public domain (Facebook Help Centre, 2022b). Therefore, access to the data is not restricted, and no permission was needed to obtain access to the Facebook sites.
- Data sets that contain personal information might be an ethical concern, as this relates to the anonymity or confidentiality of the data (Cassell, Cunliffe and Grandy, 2018:571). According to the Facebook Help Centre (2020), Facebook pages or public groups are public spaces. Therefore, anyone who can see the page or group can also see any post or comment. Comments, posts, likes and shares on Facebook contain identifiers, such as the user's name and surname. The participants openly participate on social media networking sites. However, in this study, identifying names, surnames or verbatim quotes are irrelevant to the study and are therefore excluded, ensuring the anonymity of Facebook respondents.

- Whether informed consent needs to be obtained is also a digital ethics concern (Cassell, Cunliffe and Grandy, 2018:570) and whether consent has been given for future use of the data. According to Facebook's (2020) data policy, to create an account with Facebook, the account creator gives certain permissions to Facebook and acknowledgements regarding the privacy policy on Facebook, which includes permission to use data for research purposes for social good.

6.8 CHAPTER SUMMARY

The main aim of this chapter was to describe and review the research design and methodological considerations adopted in this study, highlighting the methodology deemed most suitable to gain insight into the social media stakeholder engagement post compositions of marathons and ultramarathons that lead to greater engagement.

The research philosophy, design and process are explained. The various considerations relating to the study are justified. In the context of this study, hypotheses are stated, the use of nonprobability purposive judgement sampling, data collection, quantitative content analysis of secondary data, and appropriate analysis methods are comprehensively discussed and justified. This chapter concludes with a description of the various ethical considerations of this study.

The methodological approach adopted served to determine which participation sports events' social media stakeholder engagement post composition led to greater engagement by focusing on the current compositions employed by these marathons and ultramarathons. In the forthcoming chapters, the focus changes to the analysis of the data. Together with the theoretical background, this data will be used to determine post compositions for stakeholder engagement on social media for participation sports events, utilising decision trees. In Chapter 7 and Chapter 8 the study's empirical aspect are presented and the research findings, using descriptive and inferential statistical analyses, are reported and interpreted, respectively.

CHAPTER 7

DATA ANALYSIS: DISCUSSIONS AND INTERPRETATIONS OF THE DESCRIPTIVE STATISTICS

"The greatest value of a picture is when it forces us to notice what we never expected to see."

– John Tukey (Tukey, 2022)

7.1 INTRODUCTION

The preceding six chapters focused on the theoretical aspects of this study, namely, the literature review (Chapters 1-5) and the research methodology (Chapter 6). This chapter focuses on the actual analysis of the primary data obtained from the social media posts of the participating sports events. A quantitative research approach was followed to analyse social media stakeholder engagement for participation sports events, focusing on marathons and ultramarathons. Descriptive and inferential statistical analyses were conducted to address the study's primary and secondary research objectives.

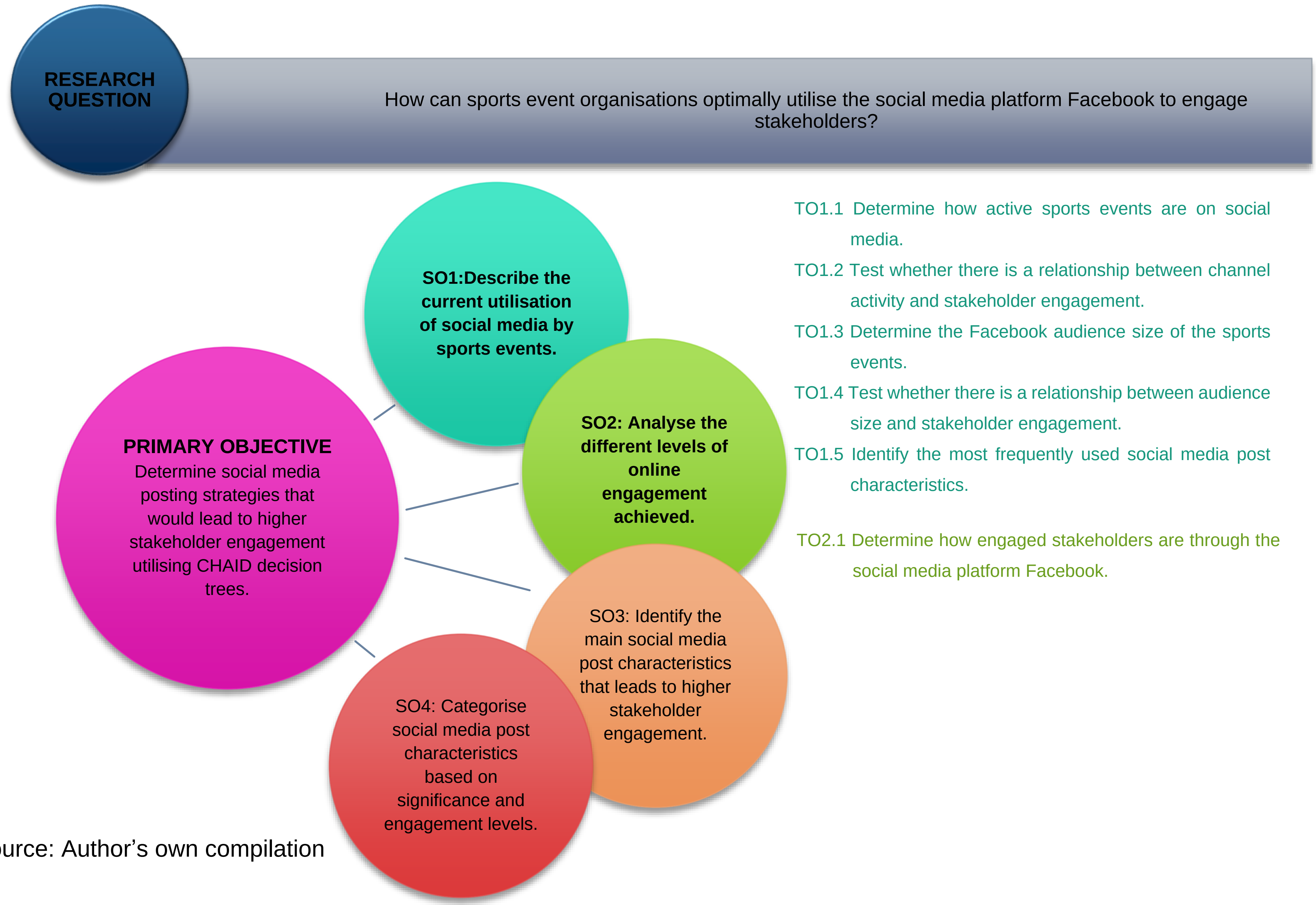
This chapter begins by revisiting the primary and secondary objectives to see which objectives are addressed in this chapter. This chapter focuses on the results and findings of the descriptive analysis of the social media posts of the sports events. The results and findings in this section are subdivided into subsections reporting on the various variables of this study, starting with the dependent variable and thereafter the numerous independent variables. The chapter concludes with an indication of the objectives achieved with the descriptive statistical analysis and a summary of the most significant findings.

7.2 RECAPITULATION OF THE RESEARCH QUESTION AND OBJECTIVES

The social media posts were analysed in two phases. During the first phase, the data was analysed descriptively, whereas the second phase involved the inferential analysis of the data (to be discussed in Chapter 8). Both data analysis phases were conducted using the IBM SPSS V27 statistical software package.

Before discussing the results and findings of the descriptive statistical analysis, it is important to recapitulate the research question and objectives to determine the focus and structure of this chapter. Figure 7.1 reintroduces the overarching research question, the primary research objective of this study, and the those secondary and tertiary research objectives that will be addressed with descriptive statistics in this chapter. The secondary and tertiary objectives are displayed in the order of accomplishment with descriptive statistical analysis.

Figure 7.1: Research problem and objectives addressed descriptively



Source: Author's own compilation

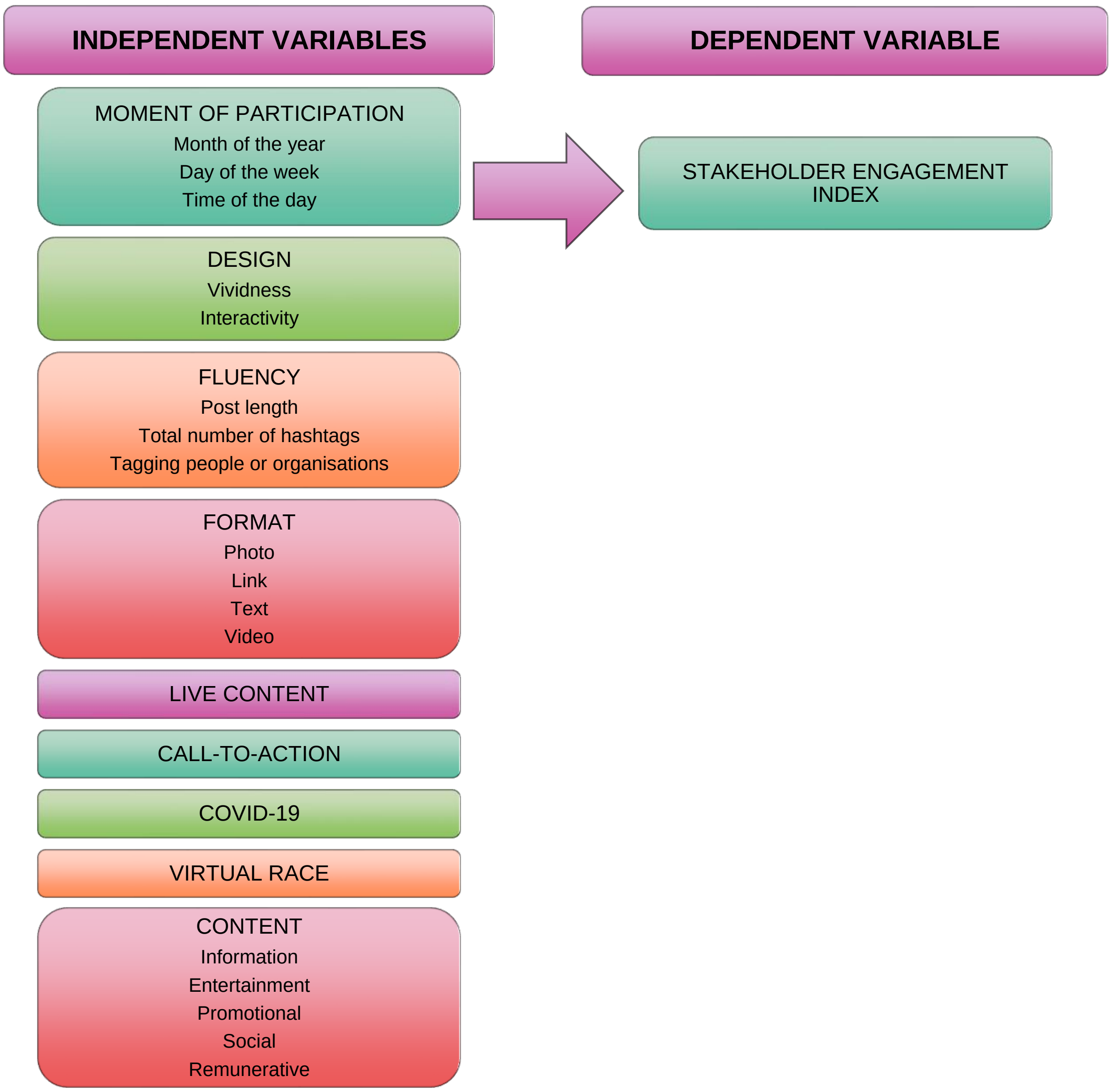
7.3 DESCRIPTIVE STATISTICAL ANALYSIS OF THE SOCIAL MEDIA POSTS

The purpose of this chapter is to provide a description of the essential characteristics of the data and summarise it straightforwardly and understandably (Zikmund *et al.*, 2015:413). In this chapter, data is visualised, as an integral part of the data analysis process and displayed by means of frequency tables and column charts. The frequency table or frequency distribution is a common method to summarise a data set. The frequency table reports the number of times a specific value of a variable occurs. These numbers are presented in percentages by dividing the frequency of each value by the total number of occurrences and multiplying the result by 100 (Zikmund *et al.*, 2015:413-415).

The frequency tables, which indicate the frequencies, percentages, valid percentages and the cumulative percentages of the social media posts per variable, were constructed with the IBM SPSS V27 statistical software package. As the volume of data is too large to include in appendices, it is available on request from the researcher. Charts were constructed through MS Excel based on the statistical information gathered.

This section's results are subdivided into subsections according to the dependent and independent variables specified in Chapter 6. Each independent variable section is further subdivided into various independent sub-variables that make up the independent variables. Figure 7.2 illustrates the dependent and independent variables.

Figure 7.2: Dependent and independent variables



Source: Author's own composition

The main summary of the descriptive statistical analysis results on the social media posts of the sampled sports events posted between August 2019 and November 2020 can be found in Appendix D due to the large volume of data.

The following sections are dedicated to describing, summarising, and graphically presenting each variable separately. The first subsection discusses the descriptive results of the dependent variable, namely the stakeholder engagement index.

7.3.1. STAKEHOLDER ENGAGEMENT INDEX

As discussed in the literature of Section 5.2.5.1.1, when using social media, the primary goal of the sports event is to enhance their stakeholder engagement and build relationships through constant interaction (Sashi, 2012). This requires knowing the impact of a post on stakeholders; the reactions the information provided causes and the characteristics that would increase participation, is crucial for creating enthusiasm for sports events. This section analyses the different levels of engagement achieved on social media in the sports event, by looking at two levels of participation; the level of effort and the amount of time invested by the user on social media (Gorry and Westbrook, 2011; Bonsón and Ratkai, 2013).

As indicated in Figure 7.2, the dependent variable in this study is the stakeholder engagement rate or index. This study uses Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) formula to calculate the stakeholder engagement index and according to them, popularity can be measured by the number of 'likes' of the Facebook posts; commitment is measured by the number of 'comments' and virality by the number of 'shares' and these are used to calculate the stakeholder engagement index of social media posts for all sports events.

The results were further split into four subsections. The first section holds the results of the Facebook engagement metrics (likes, comments and shares) for each of the sports events separately. In the second section, the results of the actual stakeholder engagement index, calculated with Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) formula, for each sports event are presented. The third section provides the results of the Facebook engagement metrics per marathon audience size group (small, medium and large), and the fourth section, presents the actual stakeholder engagement index per marathon audience size.

The discussion below highlights the most significant findings from the descriptive data analysis.

7.3.1.1 <u>Facebook engagement metrics per sports event</u>

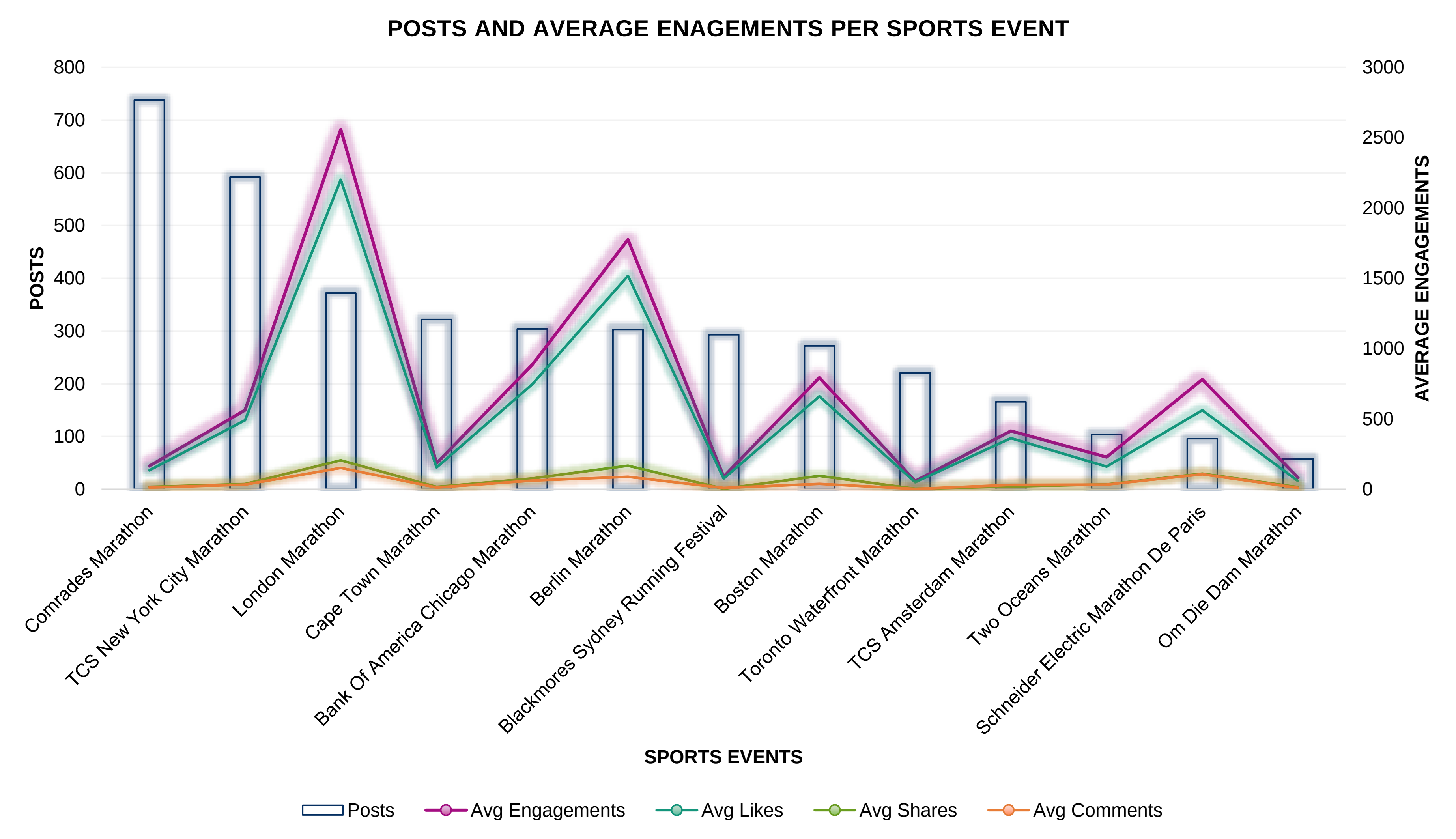
The first section presents the results in Table 7.1 and contains the mean and total values of the online engagement metrics of Facebook, per sports event and the combined data set. The number of likes, comments and shares of all posts of each sports event represents the online engagement metrics of Facebook. Figure 7.3 graphically displays the number of posts and average engagement received for each sports event.

Table 7.1: Total and average values of Facebook metrics per sports event

	Number of Posts	Audience size	Stakeholder engagement							
			Likes		Comments		Shares		Total engagements	
			Total	Mean	Total	Mean	Total	Mean	Total	Mean
Comrades Marathon (RSA)	738	78 366	99 485	134.80	9 250	12.53	12 691	17.20	121 432	164.53
TCS New York City Marathon (USA)	592	338 689	290 812	491.24	19 468	32.89	22 783	38.48	333 063	562.61
London Marathon (UK)	372	354 286	818 690	2200.78	56 576	152.09	76 571	205.84	951 837	2558.70
Cape Town Marathon (RSA)	322	51 972	49 903	154.98	4 181	12.98	5 549	17.23	59 633	185.20
Bank Of America Chicago Marathon (USA)	304	196 998	227 135	747.15	18 870	62.07	23 366	76.86	269 371	886.09
Berlin Marathon (DEU)	303	227 789	459 893	1517.80	27 101	89.44	51 008	168.34	528 002	1775.58
Blackmores Sydney Running Festival (AUS)	293	48 546	22 378	76.38	2 830	9.66	1 179	4.02	26 387	90.06
Boston Marathon (USA)	272	350 304	179 710	660.70	10 645	39.14	25 719	94.56	216 074	794.39
Toronto Waterfront Marathon (CAN)	221	26 105	11 156	50.48	651	2.95	941	4.26	12 748	57.68
TCS Amsterdam Marathon (NLD)	166	72 584	60 358	363.60	5 123	30.86	3 348	20.17	68 829	414.63
Two Oceans Marathon (RSA)	104	67 752	16 811	161.64	279	32.57	3 639	34.99	23 837	229.20
Schneider Electric Marathon De Paris (FRA)	96	206 346	53 981	562.30	10 295	107.24	10 657	111.01	74 933	780.55
Om Die Dam Marathon (RSA)	58	12 714	3378	58.24	577	9.95	859	14.81	4 814	83.00
Data Set Combined	3 841	2 032 451	2 293 690	597.16	168 954	43.99	238 310	62.04	2 700 951	703.19

Source: Author’s own data

Figure 7.3: Posts and average engagements per sports event



Source: Author’s own data

Table 7.1 presents the results of the levels of online engagement, with 3 841 posts analysed, focussing on each sports event separately, and a look at the combined data set's level of engagement. The results include the number of posts made for each sports event and the total and mean for each level of online engagement. Figure 7.3 is a visual display of the number of posts for each sports event and the mean of each level of engagement to enable easier comparison.

When considering the period where data were collected from Facebook, 16 August 2019 to 30 November 2020, which amounts to 473 days, or 67 weeks or almost 16 months, some conclusions can be drawn from the results presented in Table 7.1 and Figure 7.3. The Comrades Marathon (738) and the TCS New York City Marathon (592) have significantly higher levels of activity (number of posts) on their Facebook pages and therefore have more than one post a day. The London Marathon (372), Cape Town Marathon (322), Bank of America Chicago Marathon (304), Berlin Marathon (303), Blackmores Sydney Running Festival (293), Boston Marathon (272) and Toronto Waterfront Marathon (221) number of posts indicate a medium level of activity. These sports events post three to five times a week.

In contrast, TCS Amsterdam Marathon (166), Two Oceans Marathon (104), Schneider Electric Marathon de Paris (96) and Om Die Dam Marathon (58) display the lowest values, indicating lower levels of activity on their Facebook pages, posting only once or twice a week, or three times a month. Therefore, three levels of activity are identified: high, medium, and low. A high level of activity refers to posts occurring more than once a day. A medium level of activity refers to posts three to five times a week. A low activity level refers to posts once or twice a week, or less.

Analysing the first level of engagement, likes, the results in Table 7.1 and Figure 7.3 clearly show that it is the most used reaction to a post for all sports events. A total of more than 2 million likes for the combined data set (2 293 690), surpassing both shares (238 310) as well as comments (168 954) (Table 7.1 last row). The results also indicate that the highest engagement obtained at this level is not related to a higher activity level (number of posts). For example, Figure 7.3 indicates that the Comrades Marathon has the highest activity level among all the sports events, but it only received an average of 134 likes per 738 posts. Whereas the London Marathon achieved an average of 2200 likes per 372 posts with a medium level of activity and half the number of posts the Comrades Marathon had.

When analysing the share results in Table 7.1 and Figure 7.3, it is the second most used reaction to a post for most sports events. There are over two hundred thousand shares for the combined data set (238 310) (Table 7.1 last row). The results are similar to the like indicator, in that engagement is not necessarily related to a higher posting activity level. For example, in Figure 7.3 the London Marathon's posts are the most shared among all sports events (an average of 205 shares per post) with a medium level of activity (372 posts). The Schneider Electric Marathon De Paris's posts have a high share rate (an average of 111 shares per post) even with a low activity level (96 posts). Compared to the Comrades Marathon and TCS New York City Marathon, with the highest activity level among all the sports events (738 and 592 posts respectively), receiving a mere 17 and 38 shares, on average per post, respectively.

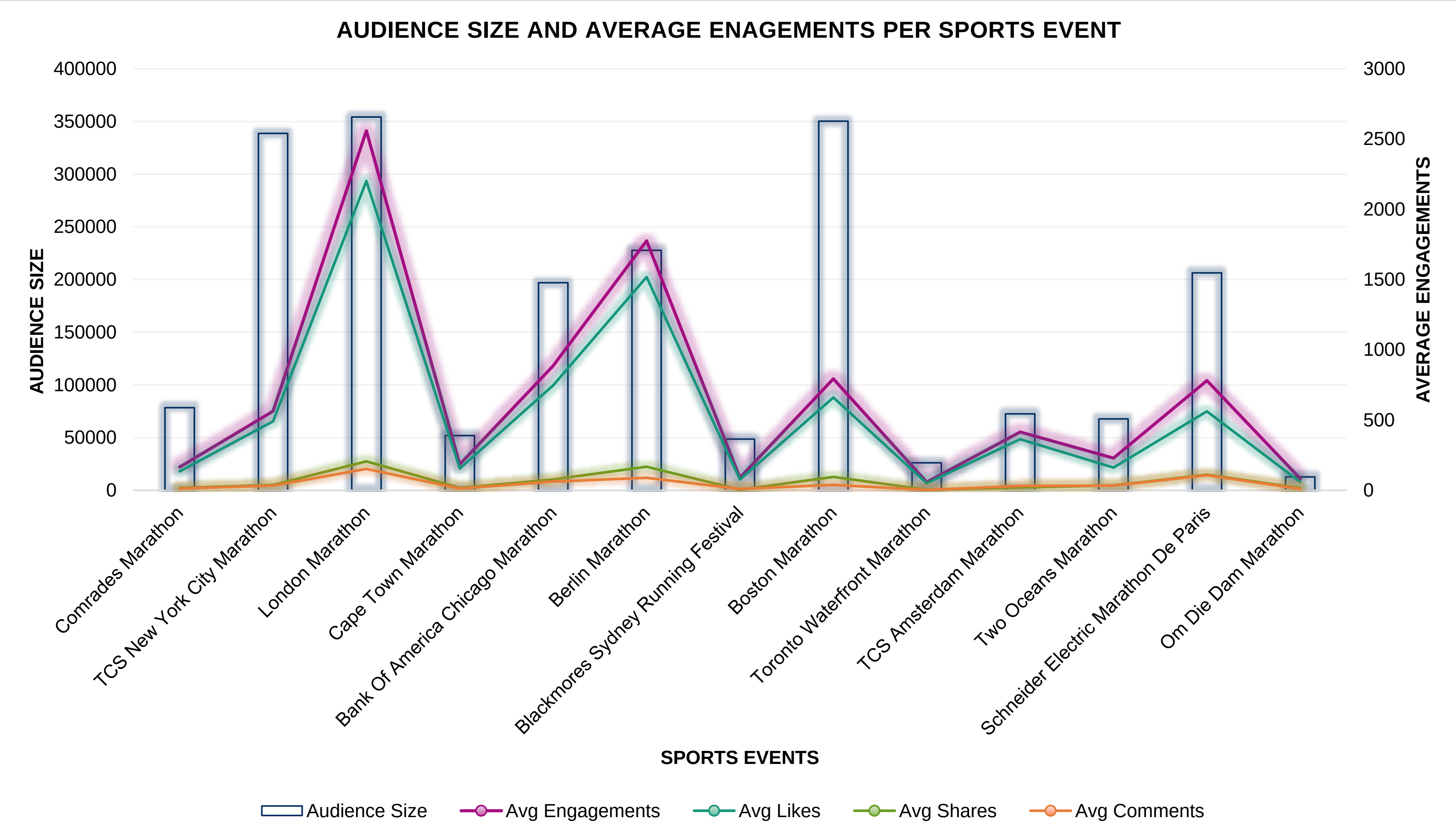
In the analysis of the third level of online engagement, comments, in Table 7.1 and Figure 7.3, the results show that the London Marathon's posts are the most commented on among all the sports event posts (56 576 comments). The London Marathon also receives the most online participation for each post (an average of 152 comments per post). The Berlin Marathon's has the second most comments (27 101 comments) with online participation of 89 comments on average for each post. However, the Schneider Electric Marathon De Paris's posts are less commented on (10 295 comments) but receive higher online participation for each post (an average of 107 comments per post). Once again, the Comrades Marathon and TCS New York City Marathon do not reach higher levels of engagement at this level (12 and 32 comments on average per post, respectively) even though they have the highest level of activity (738 and 592 posts respectively).

The results, as shown in Table 7.1 and Figure 7.3, that levels of engagement are the highest with regard to the number of likes, followed by the number of shares and the number of comments, agree with previous research findings (Alonso-Cañadas *et al.*, 2018; Kucukusta, Perelygina and Lam, 2019; Denktaş-Şakar and Sürücü, 2020). According to the literature, this result is because the like is the easiest and quickest reaction that can be made to a post on Facebook, as compared with share and comment options, which takes more time and effort. However, the Blackmores Sydney

Running Festival and the TCS Amsterdam Marathon’s results are exceptions to the rule, achieving more comments (2 830 and 5 123 respectively) on posts than shares (1 179 and 3 348 respectively).

Figure 7.4 graphically displays the audience size and the average engagement received for each sports event.

Figure 7.4: Audience size and average engagements per sports events



Source: Author’s own data

Table 7.1 includes the audience size for each sports event and the total and mean for each level of online engagement, namely, like, share, comment and total engagements. Figure 7.4 gives a visual display of the audience size for each sports event and the mean of each level of engagement, to enable easier comparison.

The results in Table 7.1 and Figure 7.4, indicate that the London Marathon (354 286), Boston Marathon (350 304) and TCS New York City Marathon (338 689) have significantly larger audience sizes on Facebook, with sizes exceeding 300 000. The Berlin Marathon (227 789), Schneider Electric Marathon De Paris (206 346) and Bank of America Chicago Marathon (196 998) follow with the second largest audience size of more than 150 000 but less than 250 000. The remaining sports events have smaller Facebook audience sizes of less than 100 000.

When analysing the level of total engagements for each sports event in Table 7.1 and Figure 7.4, it clearly shows that the London Marathon, with the largest audience, achieved the highest average engagement (an average of 2559 engagements per post). It might be initially concluded that a higher average engagement level is related to larger audience sizes. however, Figure 7.4 also indicates that both the Boston Marathon and the TCS New York City Marathon, which are among the events with the largest audience sizes, received far fewer engagements (averages of 794 and 563 engagements per post, respectively). Conversely, both the Berlin Marathon and Bank of America Chicago Marathon received higher engagement levels (averages of 1776 and 886 engagements per post, respectively) with medium audience sizes. All events with smaller audience sizes also had low levels of engagement. For example, the Blackmores Sydney Running Festival (an average of 90 engagements per post), Om Die Dam Marathon (an average of 83 engagements per post) and Toronto Waterfront Marathon (an average of 57 engagements per post) with an average engagement level of below 100 per post. Some of these findings correspond to those of Bonsón Ponte and Carvajal-trujillo, (2015), as marathon majors are considered larger international events, have larger audience sizes, and have greater activity levels on Facebook.

This section focused on the results of the Facebook engagement metrics (number of likes, comments and shares) for each of the sports events. The focus of the next section is placed on the results of the actual stakeholder engagement index calculated for each sports event.

7.3.1.2 Stakeholder engagement index per sports event

This section presents the results in two tables: Table 7.2 displays the actual calculations of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) formula for each sports event's popularity, commitment, virality and stakeholder engagement index (Table 6.13 give the formulas). Table 7.3 summarises the descriptive statistics of Table 7.2 for each sports event Facebook page.

Table 7.2: Popularity, commitment, virality and stakeholder engagement index calculations per sports event

			Popularity			Commitment			Virality			Stakeholder Engagement Index
	Posts	**Audience**	**P1***	**P2***	**P3***	**C1***	**C2***	**C3***	**V1***	**V2***	**V3***	**E****
Comrades Marathon	738	78 366	1.00	134.80	1.72	0.79	12.53	0.16	0.86	17.20	0.22	2.10
TCS New York City Marathon	592	338 689	1.00	491.24	1.45	0.88	32.89	0.10	0.95	38.48	0.11	1.66
London Marathon	372	354 286	1.00	2200.78	6.21	0.99	152.09	0.43	0.99	205.84	0.58	7.22
Cape Town Marathon	322	51 972	1.00	154.98	2.98	0.85	12.98	0.25	0.91	17.23	0.33	3.56
Bank Of America Chicago Marathon	304	196 998	1.00	747.15	3.79	0.97	62.07	0.32	0.98	76.86	0.39	4.50
Berlin Marathon	303	227 789	1.00	1517.80	6.66	0.98	89.44	0.39	0.99	168.34	0.74	7.79
Blackmores Sydney Running Festival	293	48 546	0.99	76.38	1.57	0.75	9.66	0.20	0.59	4.02	0.08	1.86
Boston Marathon	272	350 304	1.00	660.70	1.89	0.95	39.14	0.11	0.99	94.56	0.27	2.27
Toronto Waterfront Marathon	221	26 105	1.00	50.48	1.93	0.52	2.95	0.11	0.69	4.26	0.16	2.21
TCS Amsterdam Marathon	166	72 584	1.00	363.60	5.01	0.99	30.86	0.43	0.90	20.17	0.28	5.71
Two Oceans Marathon	104	67 752	1.00	161.64	2.39	0.88	2.68	0.04	0.88	34.99	0.52	2.94
Schneider Electric Marathon De Paris	96	206 346	0.99	562.30	2.73	0.95	107.24	0.52	0.96	111.01	0.54	3.78
Om Die Dam Marathon	58	12 714	1.00	58.24	4.58	0.83	9.95	0.78	0.91	14.81	1.16	6.53
Data Set Combined	3 841	2 032 451	1.00	597.16	0.29	0.87	43.99	0.02	0.90	62.04	0.03	0.35

*Metrics for stakeholder engagement on Facebook ** Stakeholder Engagement Index calculation: P3 +C3 + V3 = E

Source: Author's own data

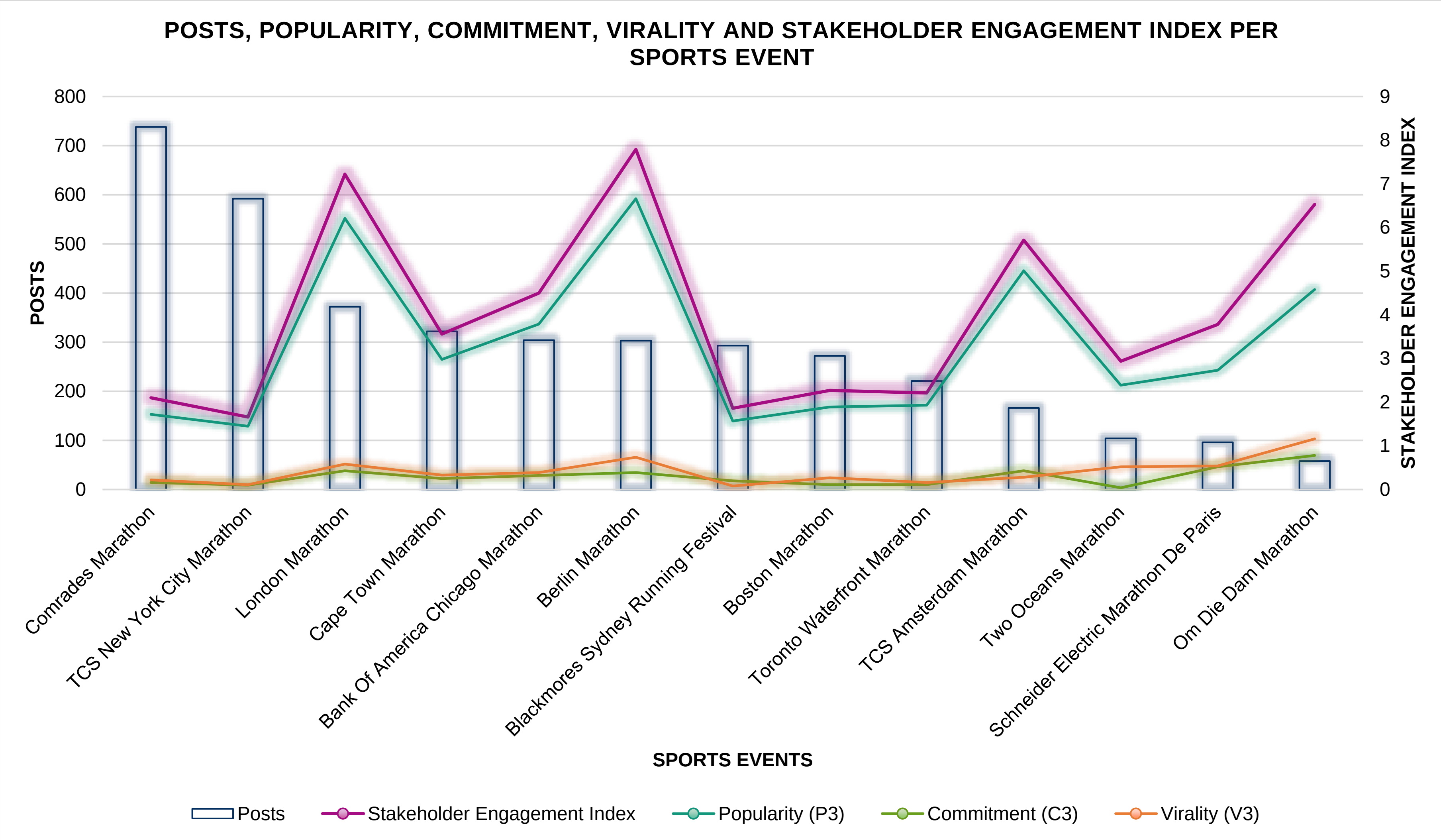
Table 7.3: Descriptive statistics for online engagement – comparison between sports events

	Min	**Max**	**Average**	**SD**
Audience size	12 714	354 286	156 342 .38	129 215.29
Number of posts	58	738	295.46	192.82
P1*	0.99	1.00	0.99	0.004
P2*	50.48	2200.78	552.31	642.004
P3*	1.45	6.66	3.30	1.794
C1*	0.52	0.99	0.87	0.131
C2*	2.68	152.09	43.42	46.612
C3*	0.04	0.78	0.29	0.211
V1*	0.59	0.99	0.89	0.121
V2*	4.02	205.84	62.13	65.604
V3*	0.08	1.16	0.41	0.299
E*	1.66	7.79	4.01	2.153

*Metrics for stakeholder engagement on Facebook

Source: Author’s own data

Figure 7.5: Posts, popularity, commitment, virality and stakeholder engagement index per sports event



Source: Author’s own data

Table 7.2 contains the calculations for popularity, commitment, virality and stakeholder engagement index for each sports event, and the combined data set. Table 7.3, containing the descriptive statistics of the results in Table 7.2, and Figure 7.5, illustrates the results of the number of posts, popularity, commitment, virality and the stakeholder engagement index, for each sports event, to enable easier comparison.

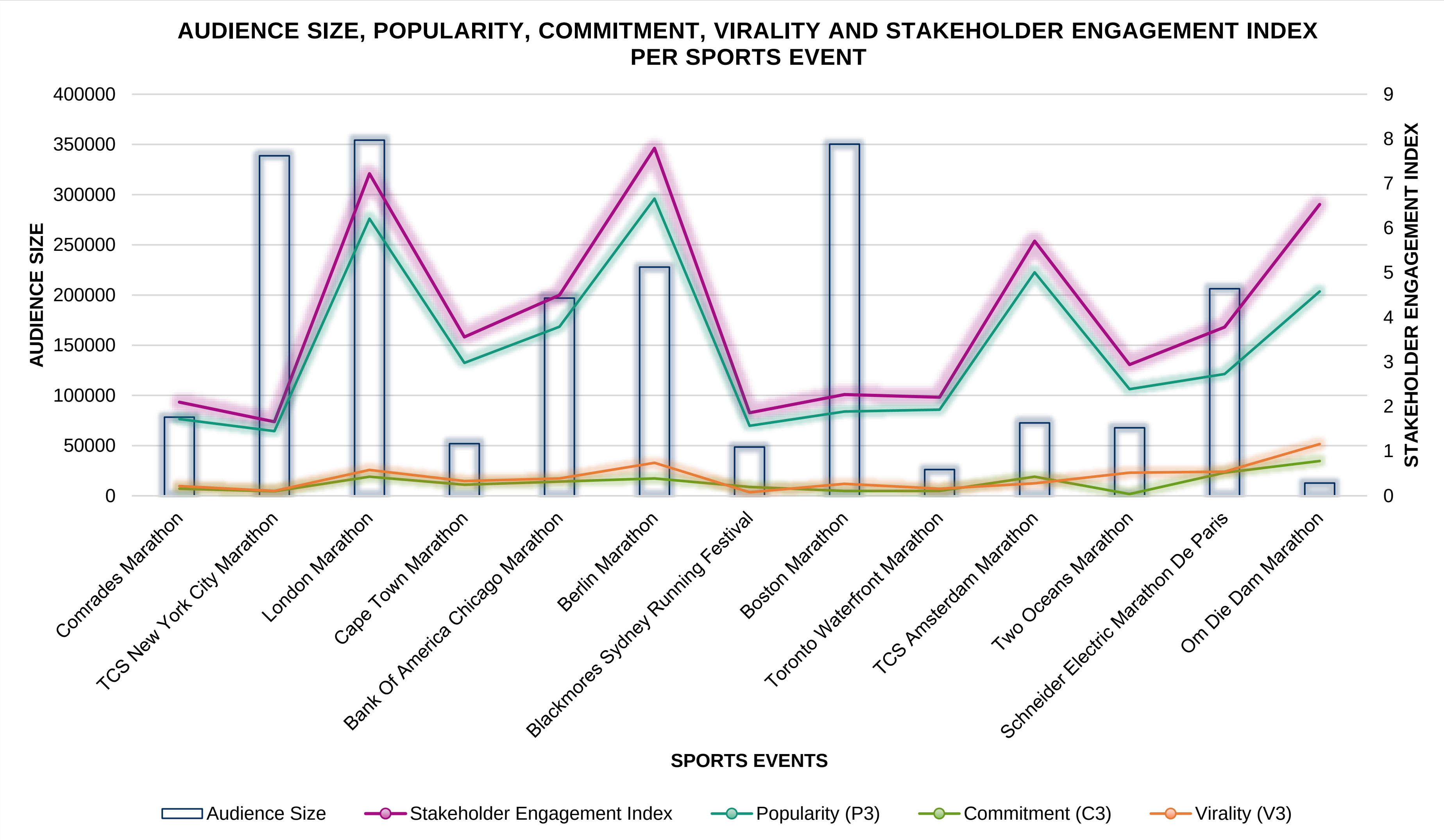
As shown in Table 7.3, the values for the variables measured vary across all sports events. Even though all sports events included in the sample were platinum or gold labelled and must ascribe to similar high standards, the audience size vary substantially, with a difference between the minimum and maximum thresholds close to 30-fold (12 714 and 354 286 respectively). The activity level of the sports events or the number of postings vary as well. Within the almost 16-month research period of study, there were as few as 58 posts for some sports events, whereas for another, there were 738 posts. This can be ascribed to the fact that some sports events are more active throughout the year while others only post closer to the time and on the day of the event, and do not post again for the rest of the year.

Of all the posts collected, all were liked (100%) (P1), 87% received comments (C1), and 90% were shared (V1). The difference between the average number of likes per post (P2) and the average number of comments (C2) and shares (V2) per post varies substantially as well. According to the results in Table 7.3, each post is liked 552 times on average (P2), whereas the average number of comments and shares per post is below 70, receiving 62 shares (V2) and 43 comments (C2) on average per post. The metrics of popularity, commitment and virality are eventually expressed in terms of the audience size a sports event has on their Facebook page (average number of likes (P3), comments (C3) and shares (V3) per post per 1000 audience members). Therefore, popularity was measured at 3.30, commitment at 0.29 and virality at 0.41. These results reveal that the highest level of participation in Facebook is achieved through popularity measures (number of likes), followed by virality (number of shares), and then commitment (number of comments), representing the lowest level of participation.

Finally, and most importantly, Table 7.3 indicates that the stakeholder engagement index levels differ considerably across various sports events, ranging from a minimum score of 1.66 and a maximum score of 7.79. However, the average stakeholder engagement level across sports events was measured as 4.01 (E). Figure 7.5 visually displays the differing stakeholder engagement indexes across various sports event levels of activity on Facebook (number of posts). The results show four peaks, indicating the four sports events achieving the highest stakeholder engagement index scores. The Berlin Marathon (303 posts) achieved the highest stakeholder engagement index with a value of 7.79. The London Marathon (372 posts) closely follows with a stakeholder engagement index value of 7.22. Both these events' numbers of posts indicate a medium level of activity on Facebook, with postings of 3-5 times a week. The Om Die Dam Marathon (58 posts) has the third-highest stakeholder engagement index with a value of 6.53, followed by the TCS Amsterdam Marathon (166) with a value of 5.71. Both these events' post numbers indicate a low level of activity on Facebook, with postings of once or twice a week or 3 times a month. The marathon with the lowest stakeholder engagement index, a value of 1.66, is the TCS New York City Marathon (592 posts), which has a high level of Facebook page activity with posts of more than once a day. These results indicate that higher stakeholder engagement index is not necessarily related to the levels of activity on Facebook; a finding that concurs with Bonsón Ponte and Carvajal-trujillo's (2015) results.

Figure 7.6 illustrates the results of the audience size, popularity, commitment, virality and the stakeholder engagement index for each sports event to enable easier comparison.

Figure 7.6: Audience size, popularity, commitment, virality and stakeholder engagement index per sports event



Source: Author’s own data

The Berlin Marathon (227 789) with the highest stakeholder engagement index (7.79) is considered to have a medium audience size that falls between 150 000 and 250 000 audience members. The London Marathon (354 286) with the second-highest stakeholder engagement index (7.22) is considered to have a large audience size, with more than 300 000 audience members. The Om Die Dam Marathon (12 714) has the third-highest stakeholder engagement index (6.53), followed by the TCS Amsterdam Marathon (72 584) (a stakeholder engagement index score of 5.71). These events' fan numbers indicate a small audience on Facebook, with less than 100 000 audience members. The TCS New York City Marathon (338 689) with the lowest stakeholder engagement index (1.66) has a large audience on Facebook with more than 300 000 audience members. These results indicate that high stakeholder engagement index is not necessarily related to the audience size on Facebook, which is in agreement with the findings of Bonsón Ponte and Carvajal-trujillo's (2015).

This section focused on the results of the actual stakeholder engagement index calculated for each sports event. The focus of the next section is placed on the results of the Facebook engagement metrics (number of likes, comments and shares) for each of the three marathon Facebook audience sizes.

7.3.1.3 Facebook engagement metrics per marathon audience size

This section presents the results in Table 7.4, which contains the total and average values of the online engagement metrics of Facebook per marathon audience size. The number of likes, comments and shares all the posts of each marathon size group received represents the online engagement metrics of Facebook.

Table 7.4 presents the results concerning the levels of online engagement, with 3 841 posts analysed, focusing on each of the groups of marathon audience sizes, namely, small, medium and large. The first marathon size grouping is small; refers to those sports events with a Facebook audience size of less than 100 000 and includes the Comrades Marathon, Sanlam Cape Town Marathon, Two Oceans Marathon, TCS Amsterdam Marathon, Blackmores Sydney Running Festival, Scotiabank Toronto Waterfront Marathon and Om Die Dam Marathon. The second marathon size grouping is medium and refers to those sports events with a Facebook audience size between 150 000 and 250 000, and includes the Berlin Marathon, Bank of America Chicago

Marathon and the Schneider Electric Marathon de Paris. The third marathon size grouping is large and refers to those sports events with a Facebook audience of more than 300 000, and includes the London Marathon, TCS New York City Marathon, and the Boston Marathon. The results, in Table 7.4, include the number of posts made by each group of marathon audience size, the number of audience members, and the total and mean for each level of online engagement, namely, like, share, comment and total engagements.

Table 7.4: Total and average values of Facebook metrics per marathon size

	Number of Posts	Audience size	Stakeholder engagement							
			Likes		Comments		Shares		Total engagements	
			Total	Mean	Total	Mean	Total	Mean	Total	Mean
Small*	1902	358039	263469	139	25999	14	28206	15	317671	167
Medium**	703	631127	741009	1054	56266	80	85031	121	882306	1255
Large***	1236	1043279	1289212	1043	86689	70	125073	101	1500974	1214

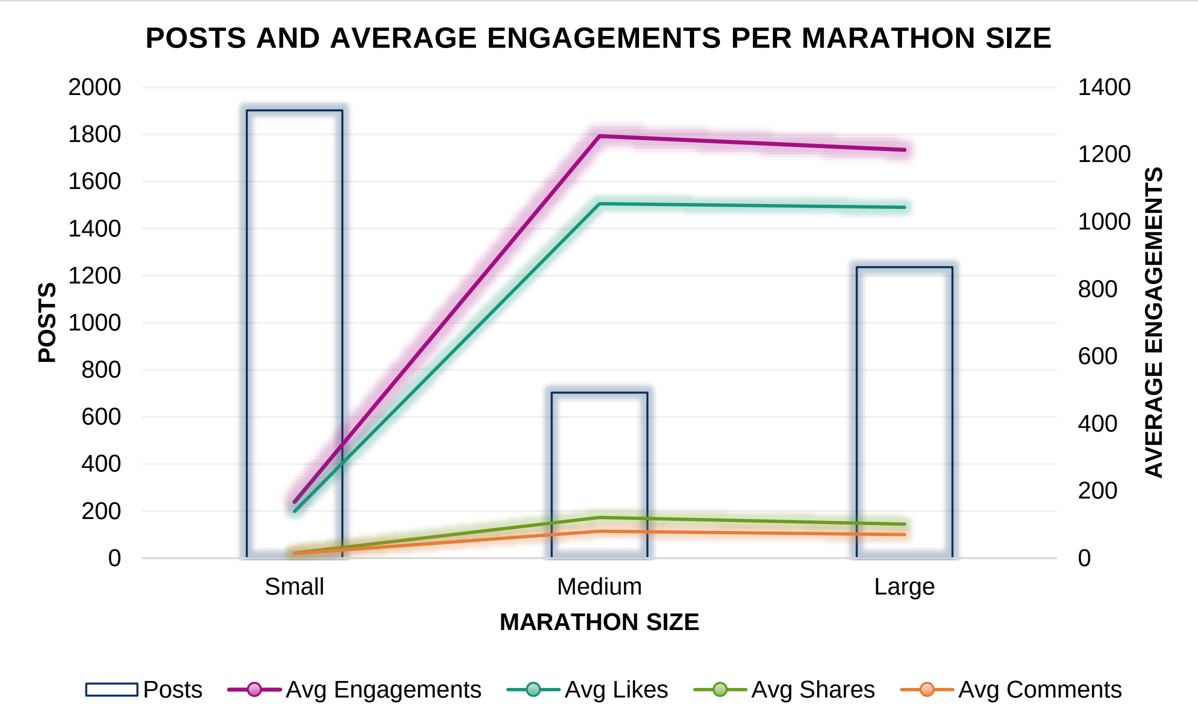
* Small marathons include the Comrades Marathon, Sanlam Cape Town Marathon, Two Oceans Marathon, TCS Amsterdam Marathon, Blackmores Sydney Running Festival, Scotiabank Toronto Waterfront Marathon, and Om Die Dam Marathon.

** Medium marathons include the Berlin Marathon, Bank of America Chicago Marathon, and the Schneider Electric Marathon de Paris.

*** Large marathons include the London Marathon, TCS New York City Marathon, and the Boston Marathon.

Source: Author’s own data

Figure 7.7: Posts and average engagements per marathon size



Source: Author's own data

Figure 7.7 is a visual display of the number of posts for each marathon size group and the mean of each level of engagement, for easier comparison. Table 7.4 indicates that while large sports events have the greatest audience (1 043 279), they do not have the most posts (1236). The medium sized sports events have the second audience size (631 127) and least number of posts (703) on their Facebook pages. The small sized sports events with the least audience members (358 039), have the greatest number of posts (1902). When the composition of the marathon size groups is considered, the results indicate that the large marathon group is composed of three Abbott World Marathon Majors are the most popular and have the greatest audience. There is a more than 600 000 fan difference between the large sports event group containing three Abbott World Marathon Majors and the small sports event group containing IAAF Platinum and Gold Label marathons and IAU Gold Label Ultramarathons. This difference can be ascribed to the facts that the Abbott World Marathon Majors is a championship-style competition, considered the most high-profile marathon on the calendar, and is better known worldwide than the biennial IAAF World Championships Marathons.

Regarding the level of engagements with the Facebook posts, the results in Table 7.4 show that the large sports events group has the greatest number of total engagements (1 500 974). The total engagements comprise the most likes (1 289 212), comments (86 689) as well as the most shares (125 073). The medium sports events have the second greatest number of total engagements (882 306), with the second greatest number of likes (741 009), comments (56 266) and shares (85 031). The small sports events' posts are the least engaged in (317 671), with the least likes (263 469), comments (25 999), and shares (28 206). However, the average engagement per post, Figure 7.7, shows that even though large sports event groups had by far the largest total engagements (an average of 1043 likes, 70 comments, 101 shares and 1214 engagements per post); the medium sports events average engagements per post were higher for each level of engagement (an average of 1054 likes, 80 comments, 121 shares and 1255 engagements per post).

The results in Table 7.4 and Figure 7.7 also show that levels of engagement are the highest with regard to the number of likes, followed by the number of shares and the number of comments, which comports with the literature on the levels of engagement discussed in Chapter 5, as well as previous research findings (Alonso-Cañadas *et al.*, 2018; Kucukusta, Perelygina and Lam, 2019; Denktaş-Şakar and Sürücü, 2020) that find 'like' the easiest, quickest reaction that can be made to a Facebook post.

This section focused on the results of the Facebook engagement metrics for each of the three marathon audience sizes. The focus of the next section is placed on the results of the actual stakeholder engagement index calculated for the three marathon audience sizes.

7.3.1.4 <u>Stakeholder engagement index per marathon group</u>

This section presents the results in two tables: Table 7.5 displays the calculations of Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) formula for each marathon audience size group's popularity, commitment, virality and stakeholder engagement index (Table 6.11 for the formulas). Table 7.6 summarises the descriptive statistics of Table 7.5 per marathon audience size group's Facebook page (the calculations in Table 7.5).

Table 7.5: Popularity, commitment, virality and stakeholder engagement index calculations per marathon size

				Popularity			Commitment			Virality		Stakeholder Engagement Index
	Posts	Audience	P1*	P2*	P3*	C1*	C2*	C3*	V1*	V2*	V3*	E*
Small**	1902	358039	0.99	138.52	0.38	0.78	13.66	0.03	0.81	14.83	0.04	0.46
Medium***	703	631127	0.99	1054.06	1.67	0.97	80.03	0.12	0.98	120.95	0.19	1.98
Large****	1236	1043279	1.00	1043.05	1.00	0.93	70.13	0.06	0.97	101.19	0.09	1.16

*Metrics for stakeholder engagement on Facebook

** Small marathons include the Comrades Marathon, Sanlam Cape Town Marathon, Two Oceans Marathon, TCS Amsterdam Marathon, Blackmores Sydney Running Festival, Scotiabank Toronto Waterfront Marathon, and Om Die Dam Marathon.

*** Medium marathons include the Berlin Marathon, Bank of America Chicago Marathon, and the Schneider Electric Marathon de Paris.

**** Large marathons include the London Marathon, TCS New York City Marathon, and the Boston Marathon

Source: Author’s own data

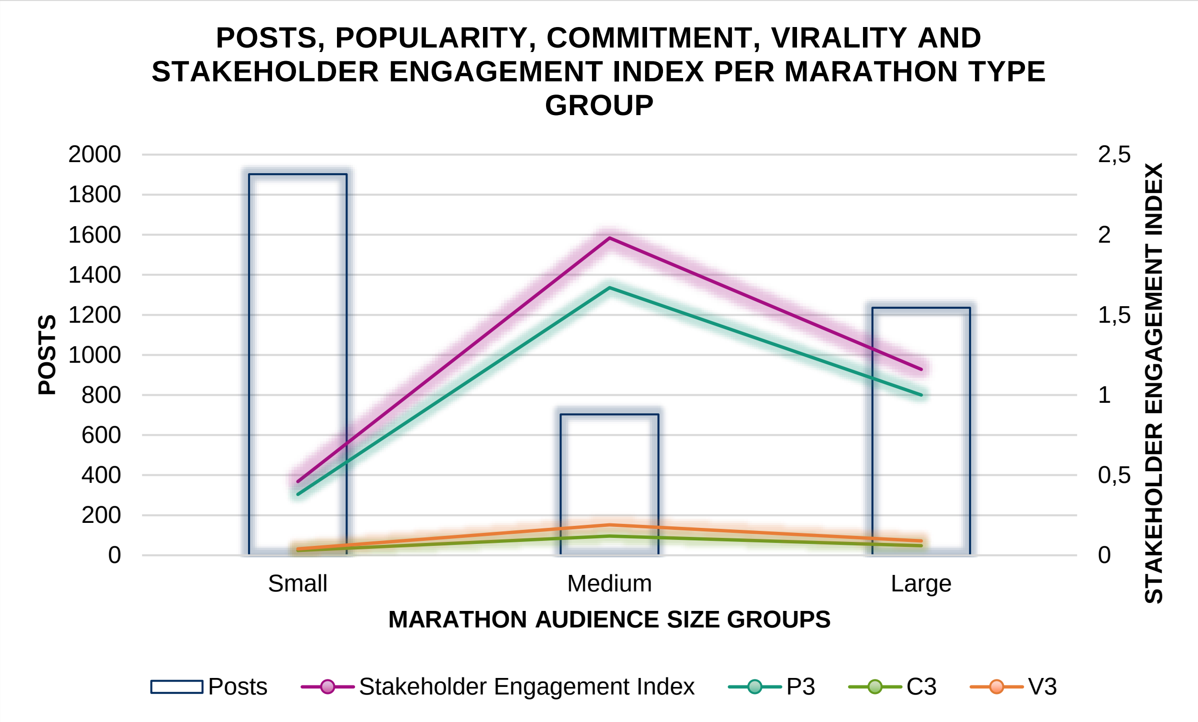
Table 7.6: Descriptive statistics for online engagement – comparison between marathon size groups

	Min	Max	Average	SD
Audience size	358039.00	1043279.00	677481.66	344963.81
Number of posts	703	1902	1280.33	600.72
P1*	0.99	1.00	0.99	0.00
P2*	138.52	1054.06	745.21	525.43
P3*	0.38	1.67	1.01	0.64
C1*	0.78	0.97	0.89	0.10
C2*	80.03	13.66	54.60	35.80
C3*	0.03	0.12	0.07	0.04
V1*	0.81	0.98	0.92	0.09
V2*	14.83	120.95	78.99	56.43
V3*	0.04	0.19	0.10	0.07
E*	0.46	1.98	1.20	0.76

*Metrics for stakeholder engagement on Facebook

Source: Author's own data

Figure 7.8: Posts, popularity, commitment, virality and stakeholder engagement index per marathon size group



Source: Author's own data

Table 7.5 contains the calculations for popularity, commitment, virality and the stakeholder engagement index for each of the three groups of marathon audience size. Table 7.6 contains the descriptive statistics of the results from Table 7.5. Figure 7.8 illustrates the results of popularity (P3), commitment (C3), virality (V3) and the stakeholder engagement index (E) for each group of the marathon audience size for easier comparison.

As shown in Table 7.5 and 7.6, the values for the variables measured varies across the groups of marathon audience sizes. The audience size varies substantially, with a minimum of 358 039, and the maximum, almost three times larger with an audience of 1 043 279. Additionally, the number of posts shared by the marathon audience size groups varies too. Within the selected period, the medium audience size posted as little as 703 times collectively, whereas the small audience size more than doubled that amount, with 1902 posts, albeit there also being twice as many sports events included in the small audience size category.

According to the results in Table 7.6, popularity is measured at 1.01 (P3), commitment at 0.07 (C3) and virality at 0.10 (V3). This result reveals the same trend among the groups, with the highest level of participation being the popularity measure (number of likes), followed by virality (number of shares), and then commitment (number of comments), which once again is the lowest level of engagement.

The stakeholder engagement index levels differ substantially across the three marathon groups, with a minimum score of 0.46 and a maximum of 1.98. The average stakeholder engagement index across the marathon audience size groups was measured as 1.20 (E). Interestingly, the results displayed in Figure 7.8 indicate that the highest stakeholder engagement index score was achieved by the medium sized audience (1.98), and the lowest number of posts. This group achieved higher average numbers of likes, comments and shares per post, per 1000 audience members.

The following section discusses the descriptive results of the first independent variable, for postings made on Facebook by sport event organisers, namely, the moment of participation.

7.3.2 MOMENT OF PARTICIPATION

Chapter 5, Section 5.2.5.1.2, introduced that the moment of participation plays a key role in the level of participation. Sport event posts can lose visibility if posted when stakeholders are not connected, consequently reducing the possibility of interaction (Hyder, 2016). Therefore, the time and day of the week target stakeholders are online must be known to facilitate interaction (Valerio, Herrera-Murillo and Rodríguez-Martínez, 2014 in Alonso-Cañadas *et al.*, 2018).

The social media posts of all marathons and ultramarathons were analysed to measure the moment of participation, which is made up of three independent sub-variables, namely, the month of the year, day of the week and time of day. To better interpret the results of the moment of participation, Table 7.7 is included specifying each event's established year, 2019 and 2020 dates; whether the event was postponed or cancelled in 2020 and whether a virtual race was held. Nine of the 13 sports events were held virtually. Om Die Dam Marathon took place in March 2020 before lockdown regulations were implemented. The Virgin Money London Marathon, postponed from 26 April 2020 to 4 October 2020, was not cancelled and was held as a physical sports event as no restrictions impacted London at that time. The Two Oceans Marathon, which was to take place in April 2020, had to be cancelled due to lockdown regulations late in March, and therefore there was no time to make other arrangements. The Schneider Electric Marathon de Paris, due to take place 5 April 2020, was postponed to 15 November 2020 but was inevitably cancelled with a decision against hosting a virtual race.

The results of the moment of participation for each sports event are summarised and presented in Table 7.8.

Table 7.7: The thirteen events and their dates

	1st YEAR	2019 EVENT DATE	ORIGINAL 2020 EVENT DATE	POSTPONED 2020 EVENT DATE	VIRTUAL RACE
Boston Marathon	1897	15 April 2019	20 April 2020	7 – 14 September 2020	Y 7 – 14 September 2020
Virgin Money London Marathon	1981	28 April 2019	26 April 2020	4 October 2020	N
BMW Berlin Marathon	1974	29 September 2019	27 September 2020 -	Cancelled	Y 26 – 27 September 2020
Bank of America Chicago Marathon	1977	13 October 2019	11 October 2020	Cancelled	Y 5 – 11 October 2020
TCS New York City Marathon	1970	3 November 2019	1 November 2020 –	Cancelled	Y 31 October – 3 November 2020
TCS Amsterdam Marathon	1928	20 October 2019	18 October 2020	Cancelled	Y 18 – 25 October 2020
Blackmores Sydney Running Festival	1999	14 September 2019	20 September 2020	Cancelled	Y 20 September - 8 November 2020
Sanlam Cape Town Marathon	2007	15 September 2019	18 October 2020	Cancelled	Y 18 October 2020
Scotiabank Toronto Waterfront Marathon	1995	20 October 2019	18 October 2020	Cancelled	Y 1 – 31 October 2020
Schneider Electric Marathon de Paris	1896	14 April 2019	5 April 2020	15 November 2020 – Cancelled	N
Om die Dam Marathon	1991	16 March 2019	14 March 2020	-	-
Comrades Marathon	1921	9 June 2019	14 June 2020 -	Cancelled	Y 14 June 2020
Two Oceans Marathon	1970	20 April 2019	8 - 11 April 2020 -	Cancelled	N

Source: Author's own compilation

Table 7.8: Moment of participation: Frequency of posts by month of the year, day of week and time of day per sports event

	Moment of participation																	
	Number of Posts	Audience size	Month				Days of the week				Time of day					
			Month of event		Other months		Weekdays		Weekends		Mornings		Afternoons		Evenings	
			Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Comrades Marathon	738	78 366	155	21.0	583	79.0	615	83.3	123	16.7	347	47.0	340	46.1	51	6.9
TCS New York City Marathon	592	338 689	29	4.9	563	95.1	437	73.8	155	26.2	137	23.1	183	30.9	272	45.9
London Marathon	372	354 286	71	19.1	301	80.9	309	83.1	63	16.9	104	28.0	148	39.8	120	32.3
Cape Town Marathon	322	51 972	58	18.0	264	82.0	241	74.8	81	25.2	191	59.3	110	34.2	21	6.5
Bank Of America Chicago Marathon	304	196 998	43	14.1	261	85.9	232	76.3	72	23.7	36	11.8	107	35.2	161	53.0
Berlin Marathon	303	227 789	55	18.2	248	81.8	217	71.6	86	28.4	80	26.4	154	50.8	69	22.8
Blackmores Sydney Running Festival	293	48 546	20	6.8	273	93.2	245	83.6	48	16.3	220	75.1	31	10.6	42	14.3
Boston Marathon	272	350 304	59	21.0	213	79.0	198	72.8	74	27.2	12	4.4	126	46.3	134	49.3
Toronto Waterfront Marathon	221	26 105	29	13.1	192	86.9	153	69.2	68	30.8	27	12.2	81	36.7	113	51.1

TCS Amsterdam Marathon	166	72 584	30	18.1	136	81.9	116	69.9	50	30.1	55	33.1	72	43.4	39	23.5
Two Oceans Marathon	104	67 752	9	8.7	95	91.3	66	63.5	38	36.5	36	34.6	44	42.3	24	23.1
Schneider Electric Marathon De Paris	96	206 346	1	1.0	95	99.0	84	87.5	12	12.5	18	18.8	33	34.4	45	46.9
Om Die Dam Marathon	58	12 714	37	63.8	21	36.2	41	70.7	17	29.3	39	67.2	17	29.3	2	3.4
Combined data set	3 841	2 032 451					2954	76.9	887	23.1	1302	33.9	1446	37.6	1093	28.5

Source: Author’s own data

Table 7.8 showcases a summary of the results for the three components that constitute the variable 'moment of participation'. The results for months are summarised by splitting the variable into two, namely, the event's month and other months, however, posts for each month were also calculated in Table 7.10. The results for the day of the week are summarised by splitting the variable into two, namely, weekdays and weekends, however, posts for each day of the week were also calculated in Table 7.11. Lastly, the results for the time of day are summarised by splitting the variable into three, namely, morning, afternoon and evening.

The results in Table 7.8 indicate that most sports events are active on the social media platform throughout the year; however, activity during the month of some sports events make up a large portion of the total posts. For example, 21% of the Comrades Marathons' posts were posted in the month the event were scheduled to take place in 2020. London Marathon (19.1%), Cape Town Marathon (18%), Berlin Marathon (18.2%), Boston Marathon (21%), TCS Amsterdam Marathon (18.1%), and Om Die Dam Marathon recorded the highest percentage of posts in the months the events were scheduled to take place (63.8%). This result is comprehensible as during the month of the event, pre-race information is shared, and on the actual event day, posts are accessed and perused by stakeholders for updates and results, people finishing the race etc.

The results in Table 7.8 show that most sports events activity on Facebook, occurs more during weekdays (76.9%), from Monday to Friday, than over the weekends (23.1%). The time of day most postings occur, reveal that afternoons (37.6%) are the most popular time, followed by mornings (33.9%) and evenings (28.5%).

The following sections with Tables 7.9; 7.10 and 7.11, and Figures 7.9; 7.10; 7.11; 7.12 and 7.13 take a closer look at the results of the various components that make up the variable of the moment of participation, namely, month, day of the week, and time of day.

7.3.2.1 Month of the year

Table 7.10 contains the frequency of posts per month of the year for each sports event. Due to each sports event having different dates and having made different arrangements in 2020 because of the coronavirus pandemic, it was deemed necessary to highlight the months of importance, to enable easier comparison. Those months highlighted in light blue are when sports events physically took place either in 2019 or 2020. Months highlighted in light green are months the original 2020 event dates were scheduled and the sports events were either postponed or cancelled. Those months highlighted in light pink are when the sports event took place virtually.

Table 7.9: Moment of participation: Frequency of posts by month of year per sports event

		Month of the year																
		Aug '19	**Sep '19**	**Oct '19**	**Nov '19**	**Dec '19**	**Jan '20**	**Feb '20**	**Mar '20**	**Apr '20**	**May '20**	**Jun '20**	**Jul '20**	**Aug '20**	**Sep '20**	**Oct '20**	**Nov '20**	**Total**
Comrades Marathon	Total	12	26	50	39	27	30	25	37	23	63	155	74	52	40	47	38	738
	%	1.6	3.5	6.8	5.3	3.7	4.1	3.4	5.0	3.1	8.5	21.0	10.0	7.0	5.4	6.4	5.1	100
TCS New York City Marathon	Total	29	65	105	112	34	43	42	15	4	9	4	6	12	9	74	29	592
	%	4.9	11.0	17.7	18.9	5.7	7.3	7.1	2.5	0.7	1.5	0.7	1.0	2.0	1.5	12.5	4.9	100
London Marathon	Total	5	9	19	9	17	28	33	46	38	8	5	1	15	41	71	27	372
	%	1.3	2.4	5.1	2.4	4.6	7.5	8.9	12.4	10.2	2.2	1.3	0.3	4.0	11.0	19.1	7.3	100
Cape Town Marathon	Total	25	71	7	6	6	7	22	12	27	9	4	23	21	24	58	0	322
	%	7.8	22.0	2.2	1.9	1.9	2.2	6.8	3.7	8.4	2.8	1.2	7.1	6.5	7.5	18.0	0.0	100
Bank Of America Chicago Marathon	Total	9	35	71	23	23	15	18	8	11	9	2	3	11	18	43	5	304
	%	3.0	11.5	23.4	7.6	7.6	4.9	5.9	2.6	3.6	3.0	0.7	1.0	3.6	5.9	14.1	1.6	100
Berlin Marathon	Total	18	76	34	17	13	9	5	6	8	1	3	11	19	55	21	7	303
	%	5.9	25.1	11.2	5.6	4.3	3.0	1.7	2.0	2.6	0.3	1.0	3.6	6.3	18.2	6.9	2.3	100

		Month of the year																
		Aug ‘19	**Sep ‘19**	**Oct ‘19**	**Nov ‘19**	**Dec ‘19**	**Jan ‘20**	**Feb ‘20**	**Mar ‘20**	**Apr ‘20**	**May ‘20**	**Jun ‘20**	**Jul ‘20**	**Aug ‘20**	**Sep ‘20**	**Oct ‘20**	**Nov ‘20**	**Total**
Blackmores Sydney Running Festival	Total	22	55	14	2	6	11	10	13	13	17	21	23	22	20	18	26	293
	%	7.5	18.8	4.8	0.7	2.0	3.8	3.4	4.4	4.4	5.8	7.2	7.8	7.5	6.8	6.1	8.9	100
Boston Marathon	Total	2	33	10	6	8	15	23	16	13	10	4	14	42	57	10	9	272
	%	0.7	12.1	3.7	2.2	2.9	5.5	8.5	5.9	4.8	3.7	1.5	5.1	15.4	21.0	3.7	3.3	100
Toronto Waterfront Marathon	Total	9	16	87	10	8	6	6	3	2	4	2	9	9	14	29	7	221
	%	4.1	7.2	39.4	4.5	3.6	2.7	2.7	1.4	0.9	1.8	0.9	4.1	4.1	6.3	13.1	3.2	100
TCS Amsterdam Marathon	Total	3	3	44	6	8	9	11	8	9	5	6	5	4	10	30	5	166
	%	1.8	1.8	26.5	3.6	4.8	5.4	6.6	4.8	5.4	3.0	3.6	3.0	2.4	6.0	18.1	3.0	100
Two Oceans Marathon	Total	4	5	2	13	8	8	19	14	9	5	9	2	2	1	3	0	104
	%	3.8	4.8	1.9	12.5	7.7	7.7	18.3	13.5	8.7	4.8	8.7	1.9	1.9	1.0	2.9	0.0	100
Schneider Electric Marathon De Paris	Total	3	9	6	12	15	16	23	2	1	0	2	1	1	0	0	5	96
	%	3.1	9.4	6.3	12.5	15.6	16.7	24.0	2.1	1.0	0.0	2.1	1.0	1.0	0.0	0.0	5.2	100
Om Die Dam Marathon	Total	0	0	4	3	6	4	3	37	0	0	0	0	0	1	0	0	58
	%	0.0	0.0	6.9	5.2	10.3	6.9	5.2	63.8	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	100

		Month of the year																
		Aug '19	**Sep '19**	**Oct '19**	**Nov '19**	**Dec '19**	**Jan '20**	**Feb '20**	**Mar '20**	**Apr '20**	**May '20**	**Jun '20**	**Jul '20**	**Aug '20**	**Sep '20**	**Oct '20**	**Nov '20**	**Total**
Combined data set	Total	141	403	453	258	179	201	240	217	158	140	217	172	210	290	404	158	3 841
	%	3.7	10.5	11.8	6.7	4.7	5.2	6.2	5.6	4.1	3.6	5.6	4.5	5.5	7.6	10.5	4.1	100
Total engagements	Mean	413	1066	863	655	413	566	607	1561	684	347	250	348	376	541	662	1311	-
Likes	Mean	356	888	730	579	350	473	502	1318	541	268	187	278	296	469	580	1251	-
Shares	Mean	30	121	71	39	23	46	50	175	105	53	38	37	46	37	41	24	-
Comments	Mean	28	57	62	37	39	46	54	69	38	27	26	33	34	34	42	36	-

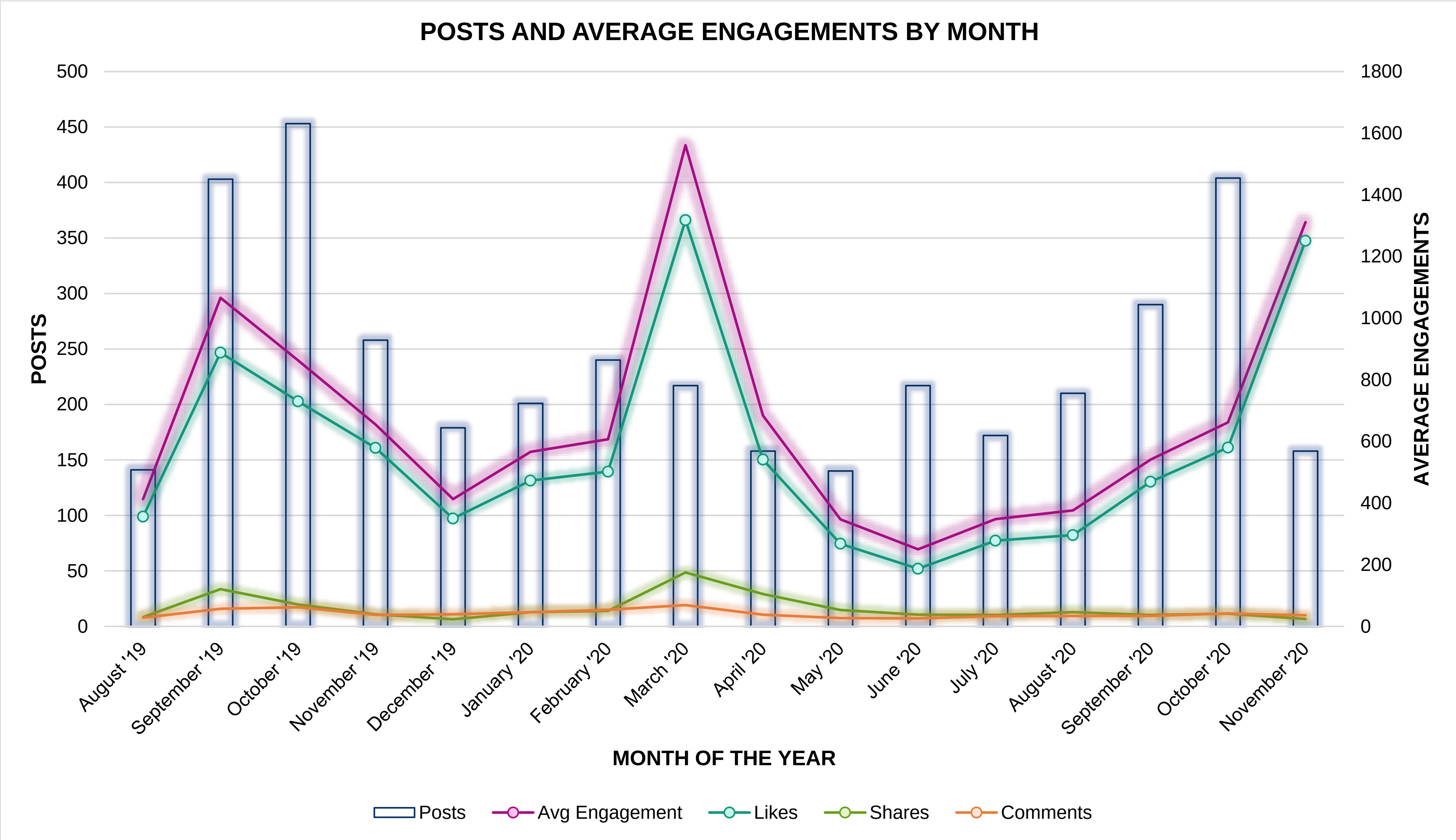
Physical event

Original date then cancelled or postponed

Virtual event

Source: Author's own data

Figure 7.9: Posts and average engagements by month



Source: Author’s own data

Table 7.10's results indicate that most posts were made during October 2019 (453). When comparing Table 7.8, which contains the various dates of the thirteen sports events, with the results in Table 7.10, the results make sense, as three events were held in October 2019 (highlighted in blue Table 7.10). The second-most posts were in October 2020, however, due to the coronavirus pandemic, a total of seven events were hosted, of which, six were virtual events (highlighted in pink Table 7.10).

Most event posts were published during the month of the event, and when taken together with the month leading up to the event, make up more than half of the total posts for that event. For example, the Bank of America Chicago Marathon published more posts in the month of the actual event, with October 2019 making up 23.4% and October 2020 14.1% of all posts. When September 2019 and 2020 (11.5% and 5.9%), the month leading up to the event are calculated together with October 2019; 2020, it constitutes more than half of the total posts with a combined percentage of 54.9%. Other examples with similar results include, TCS New York City Marathon (October 2019 and 2020 (17.7% and 12.5%) + November 2019 and 2020 (18.9% and 4.9%) = 54%), Berlin Marathon (August 2019 and 2020 (5.9% and 6.3%) + September 2019 and 2020 (25.1% and 18.2%) = 55.5%), TCS Amsterdam Marathon (September 2019 and 2020 (1.8% and 6.0%) + October 2019 and 2020 (26.5% and 18.1%) = 52.4%) as well as Om die Dam Marathon (February 2020 (5.2%) + March 2020 (63.8%) = 69%).

Figure 7.9 illustrates the number of posts made for all sports events (combined data set) per month and the average number of engagements per post during that specific month. It is of interest that even though October 2019 had the most posts (453), these posts do not have the greatest number of engagements (an average of 863 engagements). In comparison, March 2020 had a mere 217 posts but received the highest number of engagements (an average of 1565 engagements). However, this increase in engagements in March 2020 could be due to most countries in the world, including the host countries of all thirteen events, announcing national lockdown or strict social distancing measures, which led to most of the events being either cancelled or postponed due to the coronavirus pandemic (ABC News, 2020; BusinessTech, 2020; City of Boston, 2020; Cuthbertson, 2020; GardaWorld, 2020; Government Department of Illinois, 2020; Johnson, 2020; Katawazi, 2020; NOS News, 2020).

7.3.2.2 Days of the week

Table 7.11 contain the frequency of posts per day of the week for each sports event. The results indicate that most sports events are more active during weekdays, with a total of 76.9% of the posts, whereas weekend posts occur less with only 23.1% of the total posts (also in Table 7.9). Some events are the exception, such as Toronto Waterfront Marathon (6.8% on Saturdays and 24.0% on Sundays), Two Oceans Marathon (16.3% on Saturdays and 20.2% on Sundays) and Om Die Dam Marathon (29.0% on Saturdays) who posts more on weekends, either Saturday or Sunday. For Om Die Dam Marathon, this could be because their event took place on a Saturday; therefore, updates were given throughout that day. As for the Toronto Waterfront Marathon and the Two Oceans Marathon, both events were cancelled; however, the Toronto Waterfront Marathon held a virtual event, therefore, postings over the weekends could have been scheduled to post at certain times over weekends and perhaps to encourage participation in the virtual event.

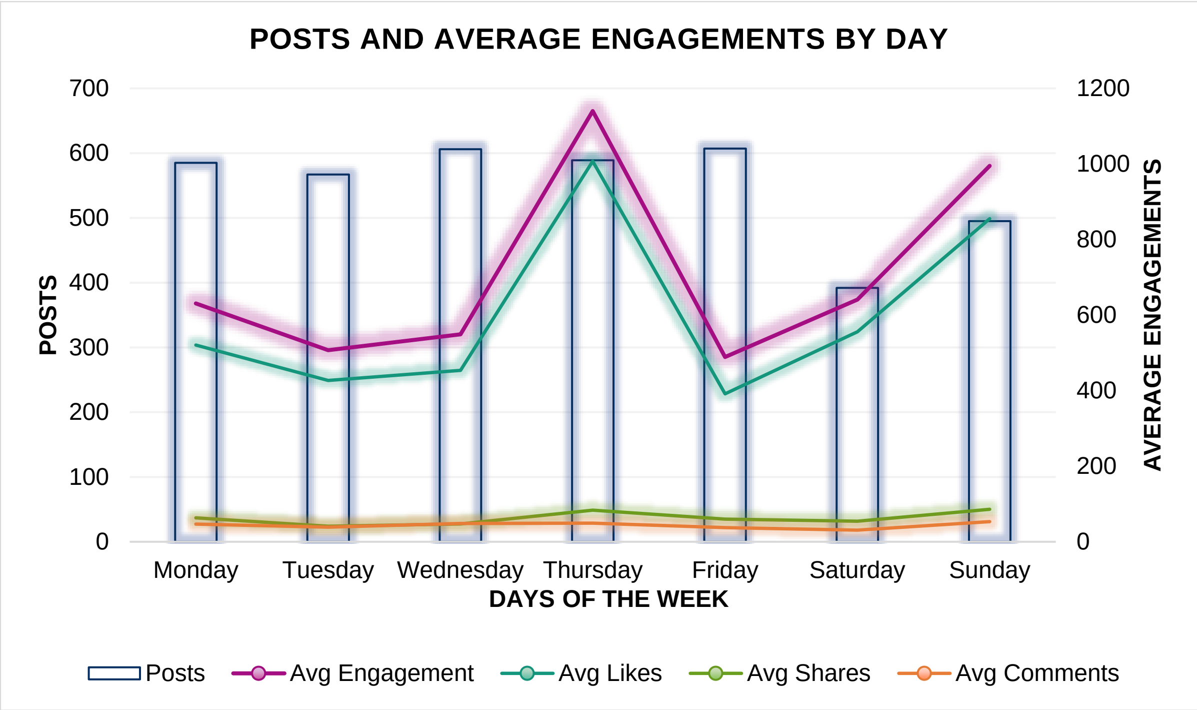
Table 7.10: Moment of participation: Frequency and percentage of posts by day of the week per sports event

		Day of the week							
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Subtotal
Comrades Marathon	Total	123	123	135	123	111	55	68	738
	%	16.7	16.7	18.3	16.7	15.0	7.5	9.2	100
TCS New York City Marathon	Total	77	77	111	76	96	71	84	592
	%	13.0	13.0	18.8	12.8	16.2	12.0	14.2	100
London Marathon	Total	69	51	64	66	59	24	39	372
	%	18.5	13.7	17.2	17.7	15.9	6.5	10.5	100
Cape Town Marathon	Total	55	38	41	53	54	31	50	322
	%	17.1	11.8	12.7	16.5	16.8	9.6	15.5	100
Bank Of America Chicago Marathon	Total	58	47	35	50	42	33	39	304
	%	19.1	15.5	11.5	16.4	13.8	10.9	12.8	100
Berlin Marathon	Total	50	38	40	55	34	40	46	303
	%	16.5	12.5	13.2	18.2	11.2	13.2	15.2	100
Blackmores Sydney Running Festival	Total	44	64	40	48	49	22	26	293
	%	15.0	21.8	13.7	16.4	16.7	7.5	8.9	100
Boston Marathon	Total	35	36	41	34	52	39	35	272
	%	12.9	13.2	15.1	12.5	19.1	14.3	12.9	100
Toronto Waterfront Marathon	Total	21	40	34	31	27	15	53	221
	%	9.5	18.1	15.4	14.0	12.2	6.8	24.0	100

TCS Amsterdam Marathon	Total	15	23	23	21	34	22	28	166
	%	9.0	13.9	13.9	12.7	20.5	13.3	16.9	100
Two Oceans Marathon	Total	13	15	11	16	11	17	21	104
	%	12.5	14.4	10.6	15.4	10.6	16.3	20.2	100
Schneider Electric Marathon De Paris	Total	19	11	26	10	18	6	6	96
	%	19.8	11.5	27.1	10.4	18.8	6.3	6.3	100
Om Die Dam Marathon	Total	6	4	5	6	20	17	0	58
	%	10.3	6.9	8.6	10.3	34.5	29.3	0.0	100
Combined data set	Total	585	567	606	589	607	392	495	3 841
	%	15.2	14.8	15.8	15.3	15.8	10.2	12.9	100
Total engagements	Mean	631	507	549	1140	489	641	995	-
Likes	Mean	521	427	454	1007	392	556	855	-
Shares	Mean	63	41	47	84	60	54	86	-
Comments	Mean	47	39	48	49	38	31	53	-
		Weekdays				**Weekends**			
Total engagements	Mean	663				838			-
Likes	Mean	559				723			-
Shares	Mean	59				72			-
Comments	Mean	44				43			-

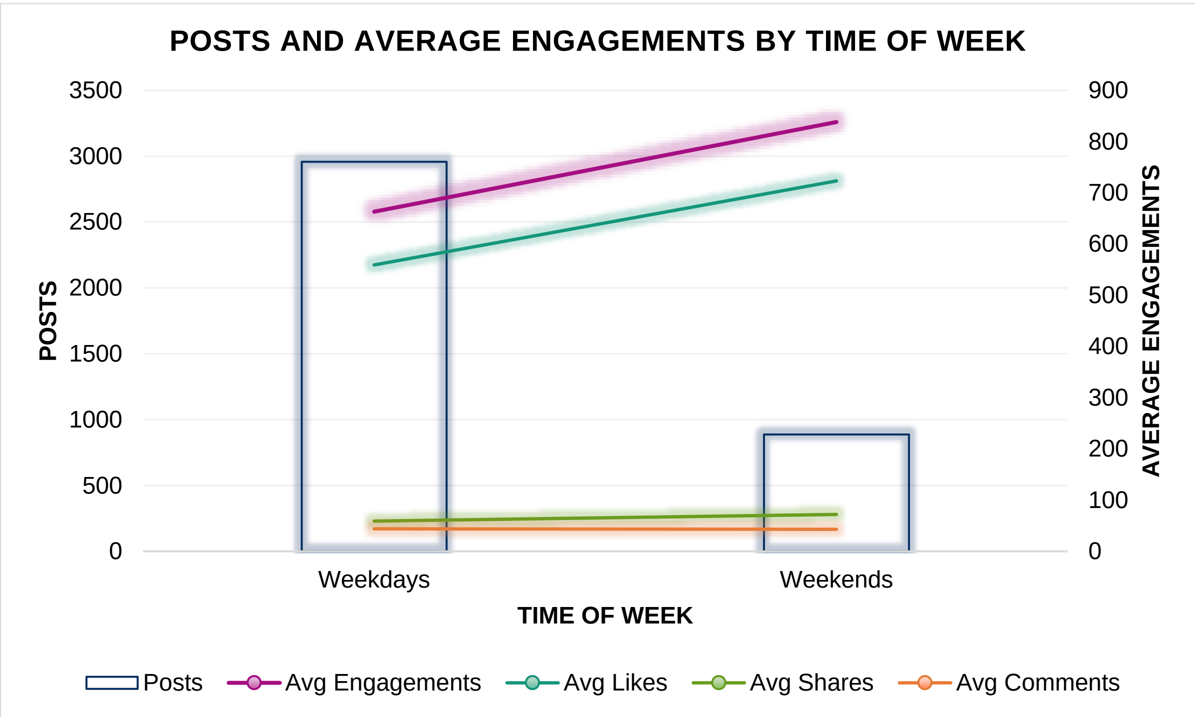
Source: Author’s own data

Figure 7.10: Posts and average engagements by the day of the week



Source: Author's own data

Figure 7.11: Posts and average engagements by the time of the week



Source: Author's own data

Figure 7.10 provides a visual display of the frequency of posts versus the average engagements received for each day of the week. Figure 7.11 provides a visual display of the frequency of posts versus the average engagements received for the time of the week, weekdays versus weekends. Once again, Figures 7.10 and 7.11 indicate that sports event posts occur more during weekdays than weekends. An interesting result in Figure 7.10 indicates that posts on Thursdays receive the highest average engagement (an average of 1140 engagements). Another noteworthy result in Figure 7.11 is that although sports events post more during weekdays, the average engagement per post is higher over weekends (an average of 838 engagements during weekends versus the average of 663 engagements during weekdays). This result implies that the sports events' social media audience is more active and willing to engage with posts posted during the weekends. This result also suggests that the sport events are not utilising this information of their audience's online engagement activities as discussed in the literature, Section 5.2.5.1.

7.3.2.3 Time of day

Table 7.12 contains the frequency and percentage of posts per time of the day for each sports event. The time of the day was subdivided into mornings (00:00 and 11:59), afternoons (12:00 and 17:59), and evenings (18:00 and 23:59).

The results indicate that across sports events, most activity is during afternoons, with 37.6% posts, followed by mornings with 33.9% of posts. The least activity occurs during evenings, which make up 28.5% of total posts. However, for a few sports events, most posts occur in the morning, for example, Comrades Marathon (47.0%), Cape Town Marathon (59.3%), Blackmores Sydney Running Festival (75.1%) and Om Die Dam Marathon (67.2%). Other exceptions include TCS New York City Marathon (45.9%), Bank of America Chicago Marathon (53.0%), Boston Marathon (49.3%), Toronto Waterfront Marathon (51.1%), and Schneider Electric Marathon De Paris (46.9%) who post more during the evenings.

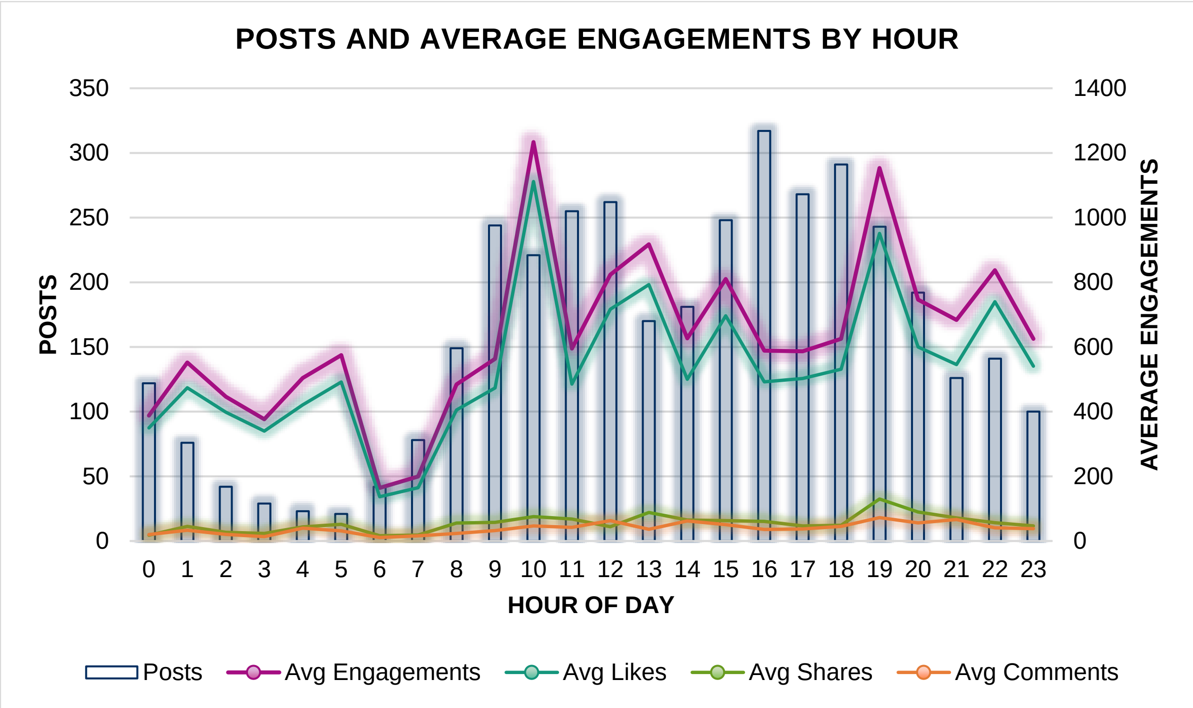
Table 7.11: Moment of participation: Frequency of posts by time of day per sports event

		Time of the day					
	Number of posts	Mornings		Afternoons		Evenings	
		Total	%	Total	%	Total	%
Comrades Marathon	738	347	47.0	340	46.1	51	6.9
TCS New York City Marathon	592	137	23.1	183	30.9	272	45.9
London Marathon	372	104	28.0	148	39.8	120	32.3
Cape Town Marathon	322	191	59.3	110	34.2	21	6.5
Bank Of America Chicago Marathon	304	36	11.8	107	35.2	161	53.0
Berlin Marathon	303	80	26.4	154	50.8	69	22.8
Blackmores Sydney Running Festival	293	220	75.1	31	10.6	42	14.3
Boston Marathon	272	12	4.4	126	46.3	134	49.3
Toronto Waterfront Marathon	221	27	12.2	81	36.7	113	51.1
TCS Amsterdam Marathon	166	55	33.1	72	43.4	39	23.5
Two Oceans Marathon	104	36	34.6	44	42.3	24	23.1
Schneider Electric Marathon De Paris	96	18	18.8	33	34.4	45	46.9
Om Die Dam Marathon	58	39	67.2	17	29.3	2	3.4

	Number of posts	Time of the day					
		Mornings		Afternoons		Evenings	
		Total	**%**	**Total**	**%**	**Total**	**%**
Combined data set	3 841	1302	33.9	1446	37.6	1093	28.5
Total engagements	Mean	614		712		798	
Likes	Mean	529		606		666	
Shares	Mean	52		59		78	
Comments	Mean	32		47		54	

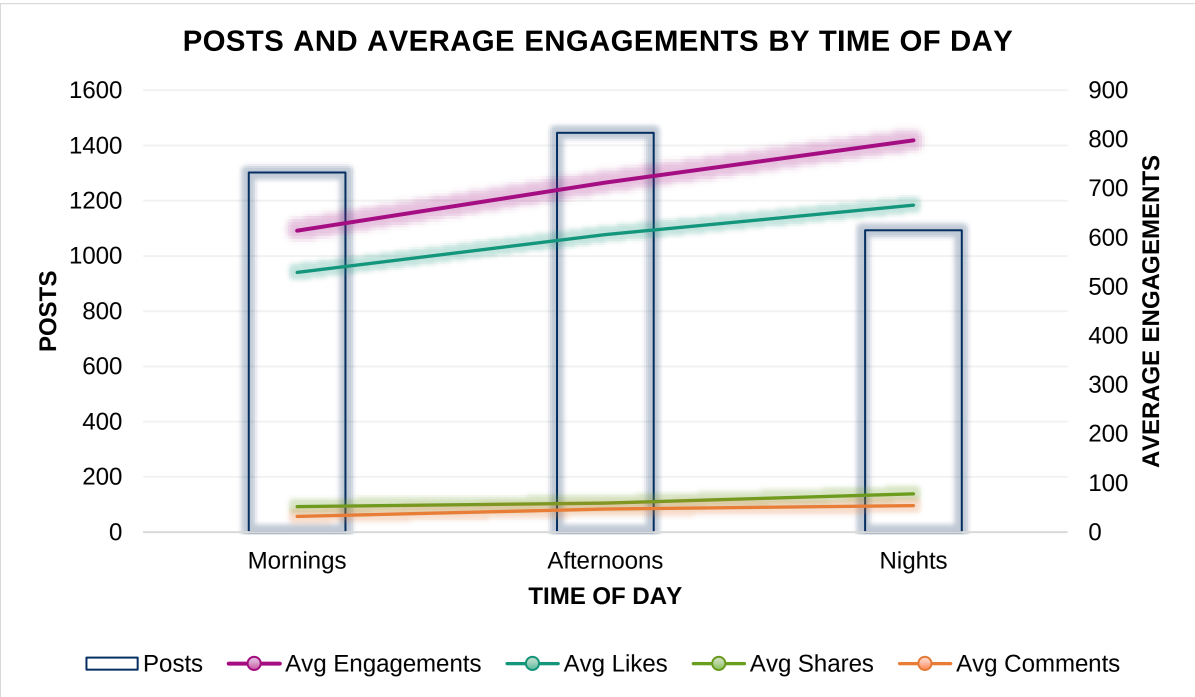
Source: Author's own data

Figure 7.12: Posts and average engagements by the hour



Source: Author's own data

Figure 7.13: Posts and average engagements by the time of day



Source: Author's own data

Figure 7.12 provides a visual display of the frequency of posts versus the average engagements received for each hour of the day. Figure 7.13 provides a visual display of the frequency of posts versus the average engagements received for the general time of day. The results in Figures 7.12 and 7.13 both clearly show that, overall, most sports event posts occur during afternoons, followed by mornings and then evenings. An interesting result in Figure 7.13 indicates that posts in the evening receive the highest average engagement (average of 798) even though there are fewer posts during these times. The evening posts also receive the highest average likes (average of 666), shares (average of 78) and comments (average of 54). This supports the research findings of Alonso-Cañadas *et al.* (2018), who find evenings being the preferred moment to interact with Facebook posts and mornings having the least participation. This could be because people tend to participate more actively on social media once the workday is over.

In the following section, the results for the next independent variable, namely, design, is presented.

7.3.3 DESIGN

As previously mentioned (Section 5.2.5.1.2), there are conflicting findings in previous studies indicating that the vividness and level of interactivity of a post can influence engagement level. Sports event organisers must know how to design their posts for maximum engagement (Alonso-Cañadas *et al.*, 2018)

The design of all the social media posts for the sports events were measured and analysed in terms of the two independent variables, vividness and interactivity. The vividness level is subdivided into three categories, namely, low, medium, and high. Posts containing no visual elements, only text or links, have a low level of vividness. Posts that include photos have a medium level of vividness, and those with videos have high vividness. The interactivity level is subdivided into four categories: none, low, medium, and high. Posts containing only text that does not require any engagement have no interactivity. Those containing links have a low level of interactivity. Posts that include call-to-action messages have a medium level of interactivity, and those posts containing questions or a quiz, have a high level of interactivity.

A summary of the design results for each sports event is presented in Table 7.13 and in the last row is the combined data set. The discussion that follows highlights the most significant findings from the descriptive data analysis.

Table 7.12: Design: Frequency of posts by the level of interactivity and vividness per sports event

	Number of Posts	Audience size	Design													
			Interactivity								Vividness					
			None		Low		Medium		High		Low		Medium		High	
			Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Comrades Marathon	738	78 366	481	65.2	41	5.6	147	19.9	69	9.3	15	2.0	648	87.8	75	10.2
TCS New York City Marathon	592	338 689	180	30.4	68	11.5	224	37.8	120	20.3	11	1.9	383	64.7	198	33.4
London Marathon	372	354 286	174	46.8	24	6.5	118	31.7	56	15.1	31	8.3	196	52.7	145	39.0
Cape Town Marathon	322	51 972	135	41.9	27	8.4	93	28.9	67	20.8	14	4.3	239	74.2	69	21.4
Bank Of America Chicago Marathon	304	196 998	32	10.5	99	32.6	104	34.2	69	22.7	2	0.7	258	84.9	44	14.5
Berlin Marathon	303	227 789	137	45.2	7	2.3	67	22.1	92	30.4	3	1.0	232	76.6	68	22.4
Blackmores Sydney Running Festival	293	48 546	11	3.8	133	45.4	58	19.8	91	31.1	4	1.4	243	82.9	46	15.7
Boston Marathon	272	350 304	4	1.5	152	55.9	85	31.3	31	11.4	24	8.8	170	62.5	78	28.7
Toronto Waterfront Marathon	221	26 105	11	5.0	91	41.2	78	35.3	41	18.6	41	18.6	115	52.0	65	29.4
TCS Amsterdam Marathon	166	72 584	32	19.3	42	25.3	22	13.3	70	42.2	0	0.0	114	68.7	52	31.3
Two Oceans Marathon	104	67 752	38	36.5	35	33.7	14	13.5	17	16.3	33	31.7	59	56.7	12	11.5
Schneider Electric Marathon De Paris	96	206 346	18	18.8	9	9.4	31	32.3	38	39.6	9	9.4	55	57.3	32	33.3

			Design													
	Number of Posts	Audience size	Interactivity								Vividness					
			None		Low		Medium		High		Low		Medium		High	
			Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Om Die Dam Marathon	58	12 714	36	62.1	8	13.8	11	19.0	3	5.2	9	15.5	39	67.2	10	17.2
Combined data set	3 841	2 032 451	1289	33.6	736	19.2	1052	27.4	764	19.9	196	5.1	2751	71.6	894	23.3
Total engagements		Mean	968		487		536		695		303		611		1074	
Likes		Mean	848		399		427		599		236		523		906	
Shares		Mean	78		59		54		50		36		45		119	
Comments		Mean	42		29		56		46		31		43		49	

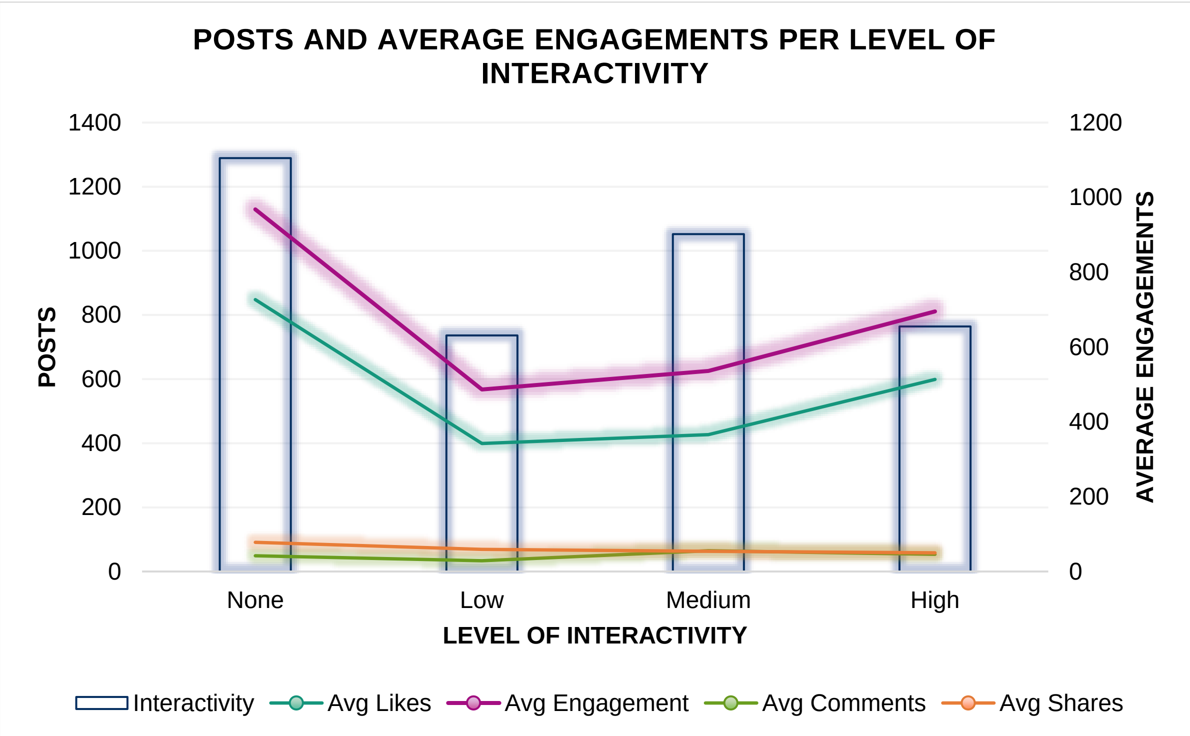
Source: Author’s own data

7.3.3.1 Level of interactivity

The results in Table 7.13 indicate that most sports event posts contain text that does not require any form of interactivity (33.3%); followed by posts with a medium level of interactivity (27.4%), containing call-to-action messages. Low and high interactivity posts were used less often (19.2% and 19.9%, respectively); therefore, not many posts contain links or questions. The Comrades Marathon, TCS New York City Marathon, London Marathon, Cape Town Marathon, and Om Die Dam Marathon have similar results, making most use of text that do not require interaction and a medium level of interactivity. However, the Schneider Electric Marathon De Paris make use of more medium and high level of interactivity posts, with most posts containing questions (39.6%) and call-to-action phrases (32.3%).

Figure 7.14 provides a visual display of the frequency of posts versus the average engagements received for each level of interactivity.

Figure 7.14: Posts and average engagements for design: Level of interactivity



Source: Author's own data

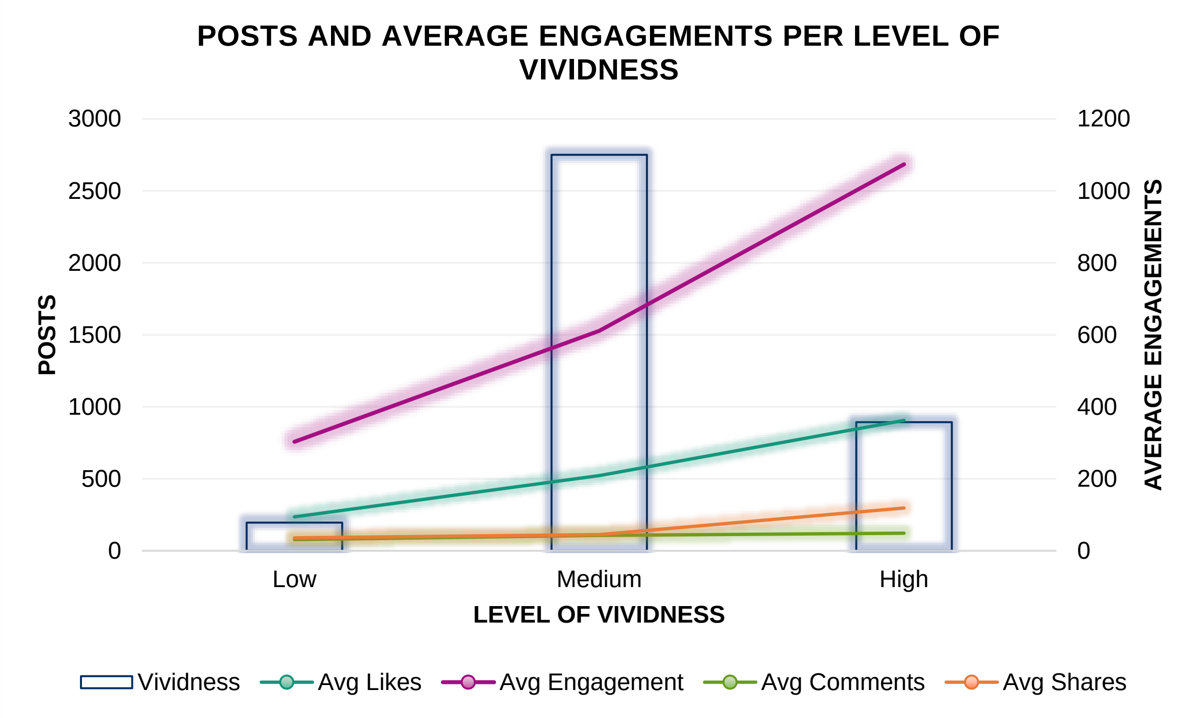
The visual display of the interactivity results in Figure 7.14 indicates that most posts do not require any form of interaction, followed by posts with a medium level of interactivity, containing call-to-actions. An interesting result in Figure 7.14 indicates that posts that require no form of interactivity received the highest average engagement (an average of 968). On closer inspection, most of these engagements are in the form of likes (average 848), followed by shares (average 78) and then comments (average 42). Another interesting result indicates that posts that ask questions directly to their audience, a high level of interactivity, received the second-highest average engagement rate (average 695). In contrast, medium level interactivity posts received a lower average engagement rate (average 536), even though it was the second most used post.

7.3.3.2 Level of vividness

Table 7.13 indicate that most postings by the sports events have a medium level of vividness (71.6%), which are posts containing photos. Posts with a high vividness level containing videos (23.3%) are the second most used post, followed by low vividness posts (5.1%), containing only text. Most of the sports events are in accordance with this trend, however, the Two Oceans Marathon make use of more low vividness level posts containing only text (31.7%) than high vividness level posts (11.5%) containing videos.

Figure 7.15 provides a visual display of the frequency of posts versus the average engagements received for each level of vividness.

Figure 7.15: Posts and average engagements for design: Level of vividness



Source: Author’s own data

The vividness results visually displayed in Figures 7.15 indicate that posts comprise substantially more photos (medium vividness), followed by posts with a high level of vividness containing videos. Posts containing only text with no visuals, are the least used. An interesting result in Figure 7.15 indicates that posts with low vividness also receive the lowest average engagement (an average of 303). Medium vividness posts receive the second-highest average engagement (average 611), even though it is the most used post. Posts with high vividness containing videos, have the highest average engagement (average 1074), even though only 23.3% of the posts have a high vividness level. These results concur with the findings of previous studies, which indicates that the vividness and level of interactivity of a post affects the engagement level (Cvijikj and Michahelles, 2014; Tafesse, 2015; Khan, Dongping and Wahab, 2016; Viglia, Pera and Bigné, 2018; McShane, Pancer and Poole, 2019; Aydin, 2020; Denktaş-Şakar and Sürücü, 2020).

The following section focuses on the independent variable, fluency of the social media posts results.

7.3.4 FLUENCY OF POSTS

As previously mentioned (Section 5.2.5.1.2), the findings of previous studies indicates that the fluency of a social media post affects the engagement level. Therefore, the sports event organisers must know how to compile fluent posts for maximum engagement (Alonso-Cañadas *et al.*, 2018; Surucu-Balci, Balci and Yuen, 2020).

The social media posts of all marathons and ultramarathons were analysed to measure the fluency of the posts. These were made up of three independent variables: length of the post, number of hashtags, and tagging people or organisations. The results of the fluency of posts for each sports event are presented in Table 7.14 and the last row contains the results of the combined data set. The discussion follows and highlights the most significant findings from the descriptive data analysis.

The different lengths of Facebook post characters were as follows: 0-140; 141-280; 281-560; 561-1120; and 1121+. The number of hashtags used in a post was divided into three categories, namely, 0, 1-2 and 3-5+ hashtags. Lastly, merely a yes or a no was required for tagging people or organisations.

Table 7.13: Fluency: Frequency of posts by post length, number of hashtags and tagging per sports event

		Fluency of posts									
		Post length					Number of hashtags			Tagging people or organisations	
		0-140	**141-280**	**281-560**	**561-1120**	**1121+**	**0**	**1-2**	**3-5+**	**Yes**	**No**
Comrades Marathon	Total	297	262	120	38	21	59	210	469	215	523
	%	40.2	35.5	16.3	5.1	2.8	8.0	28.5	63.6	29.1	70.9
TCS New York City Marathon	Total	119	257	192	22	2	193	327	72	209	383
	%	20.1	43.4	32.4	3.7	0.3	32.6	55.2	12.2	35.3	64.7
London Marathon	Total	145	174	46	5	2	94	266	12	80	292
	%	39.0	46.8	12.4	1.3	0.5	25.3	71.5	3.2	21.5	78.5
Cape Town Marathon	Total	112	93	88	24	5	210	99	13	126	196
	%	34.8	28.9	27.3	7.5	1.6	65.2	30.7	4.0	39.1	60.9
Bank Of America Chicago Marathon	Total	52	136	89	24	3	164	138	2	179	125
	%	17.1	44.7	29.3	7.9	1.0	53.9	45.4	0.7	58.9	41.1
Berlin Marathon	Total	58	99	106	38	2	14	77	212	74	229
	%	19.1	32.7	35.0	12.5	0.7	4.6	25.4	70.0	24.4	75.6
Blackmores Sydney Running Festival	Total	155	67	60	8	3	252	18	23	106	187
	%	52.9	22.9	20.5	2.7	1.0	86.0	6.1	7.8	36.2	63.8
Boston Marathon	Total	41	58	117	51	5	150	110	12	151	121
	%	15.1	21.3	43.0	18.8	1.8	55.1	40.4	4.4	55.5	44.5

		Fluency of posts									
		Post length					Number of hashtags			Tagging people or organisations	
		0-140	141-280	281-560	561-1120	1121+	0	1-2	3-5+	Yes	No
Toronto Waterfront Marathon	Total	54	51	66	41	9	112	89	20	49	172
	%	24.4	23.1	29.9	18.6	4.1	50.7	40.3	9.0	22.2	77.8
TCS Amsterdam Marathon	Total	38	65	51	12	0	138	28	0	23	143
	%	22.9	39.2	30.7	7.2	0.0	83.1	16.9	0.0	13.9	86.1
Two Oceans Marathon	Total	38	26	32	7	1	35	46	23	27	77
	%	36.5	25.0	30.8	6.7	1.0	33.7	44.2	22.1	26.0	74.0
Schneider Electric Marathon De Paris	Total	15	39	32	5	5	10	75	11	39	57
	%	15.6	40.6	33.3	5.2	5.2	10.4	78.1	11.5	40.6	59.4
Om Die Dam Marathon	Total	15	39	32	5	5	7	10	41	14	44
	%	15.6	40.6	33.3	5.2	5.2	12.1	17.2	70.7	24.1	75.9
Combined data set	Total	1147	1345	1012	277	60	1438	1493	910	1292	2549
	%	29.9	35.0	26.3	7.2	1.6	37.4	38.9	23.7	33.6	66.4
Total engagements	Mean	649	746	738	534	975	483	1031	513	567	772
Likes	Mean	565	619	646	439	621	400	880	445	498	647
Shares	Mean	46	76	51	59	249	46	88	44	37	75
Comments	Mean	38	51	40	35	106	37	63	24	31	50

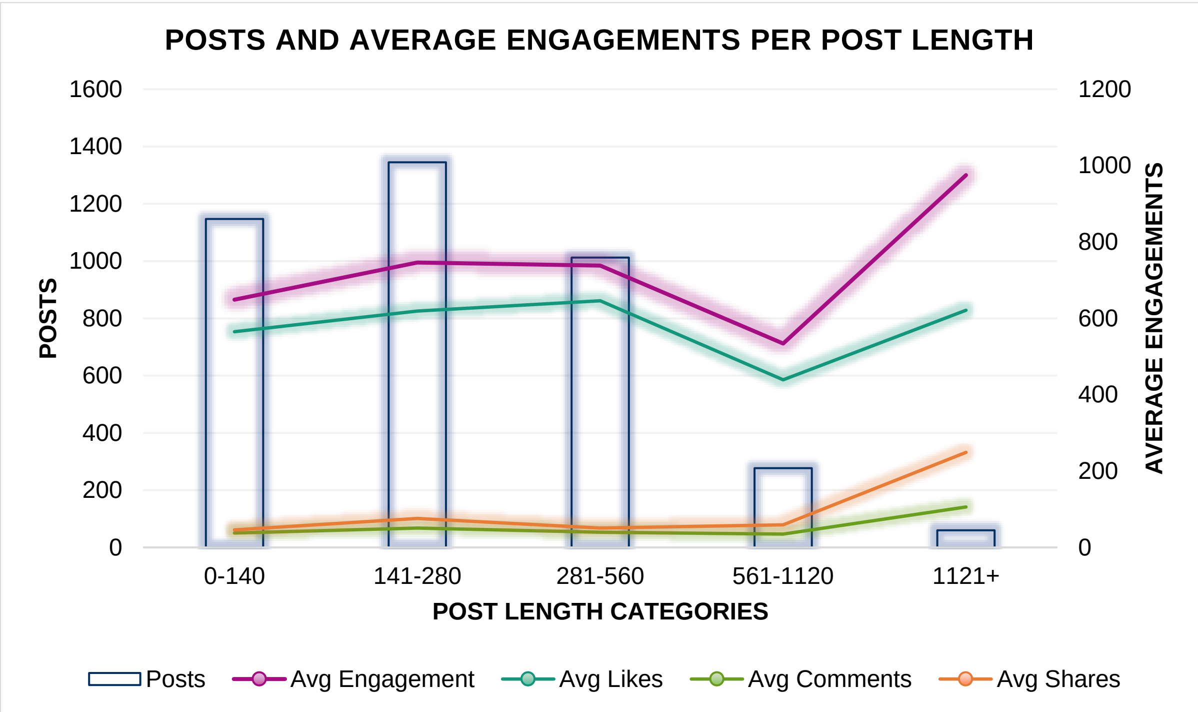
Source: Author’s own data

7.3.4.1 Length of posts

The results in Table 7.14 regarding the length of posts show that sports events social media posts were kept relatively short, with most posts being between the length of 141 and 280 characters (35.0%), followed by the shortest length of 0 and 140 characters (29.9%). The results also indicate that lengthy sports event social media posts were kept to a minimum (7.2% of posts were 561-1120 characters long and only 1.6% of posts longer than 1121 characters).

Figure 7.16 illustrates the number of posts versus the average engagements received per post for each post-length category.

Figure 7.16: Posts and average engagements per post length



Source: Author’s own data

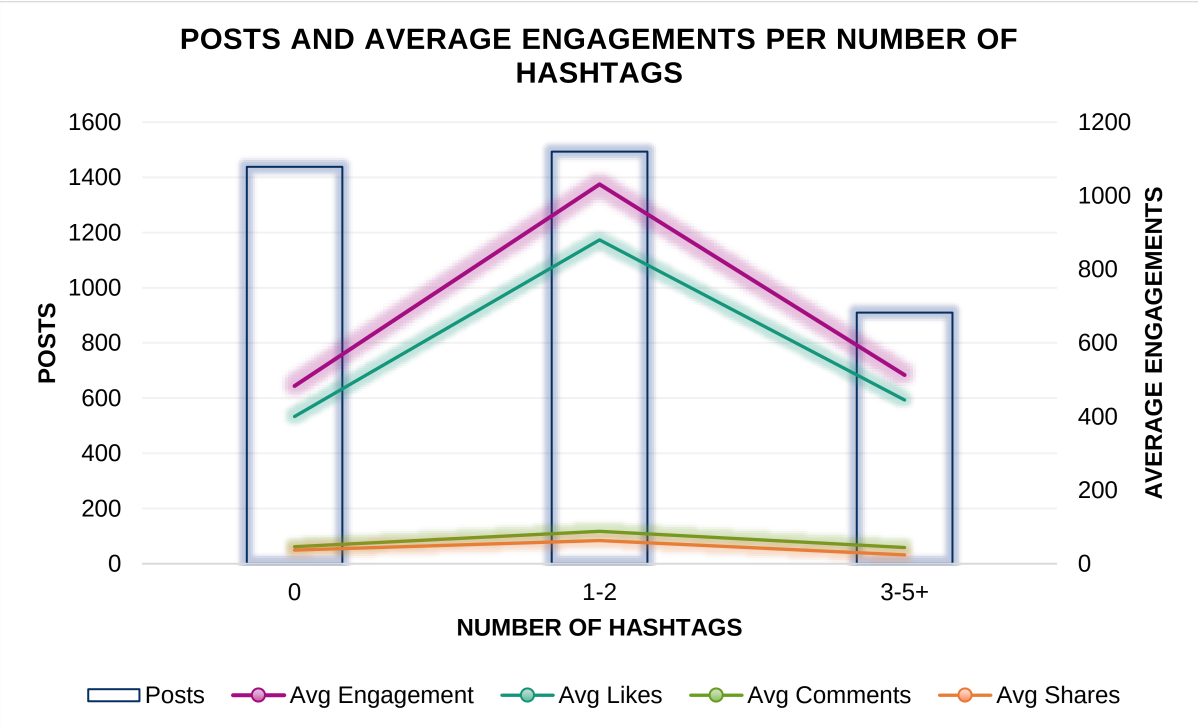
The results in Figure 7.16 indicate that even though the lengthiest posts were used least (1.6% of posts), they received the highest average engagement per post (an average of 975). Previous research findings of Dodson (2016) and Surucu-Balci, Balci and Yuen (2020) suggest that the lengthier a social media post, the lower the engagement rate will be. However, the results displayed in Figure 7.16 contradict their finding, possibly because longer posts contain important information about the organisation and the marathon event itself.

7.3.4.2 Number of hashtags

Table 7.14 reveals that most posts contain between 1 and 2 hashtags (38.9%), closely followed by posts with no hashtags at all (37.4%). The least number of posts comprised 3 to 5 or more hashtags (23.7%). However, most of the Comrades Marathon, Berlin Marathon and Om Die Dam Marathon's posts contain 3 to 5 or more hashtags (63.6%, 70.0% and 70.7%, respectively).

Figure 7.17 illustrates the number of posts versus the average engagements received per post for each hashtag number category.

Figure 7.17: Posts and average engagements per number of hashtags



Source: Author's own data

The results displayed in Figure 7.17 once again show that posts with one or two hashtags are most used among sports events (38.9% of posts). Previous research findings of Surucu-Balci, Balci and Yuen (2020) suggest that the use of one or more hashtags in a social media post, is associated with lower engagement rates

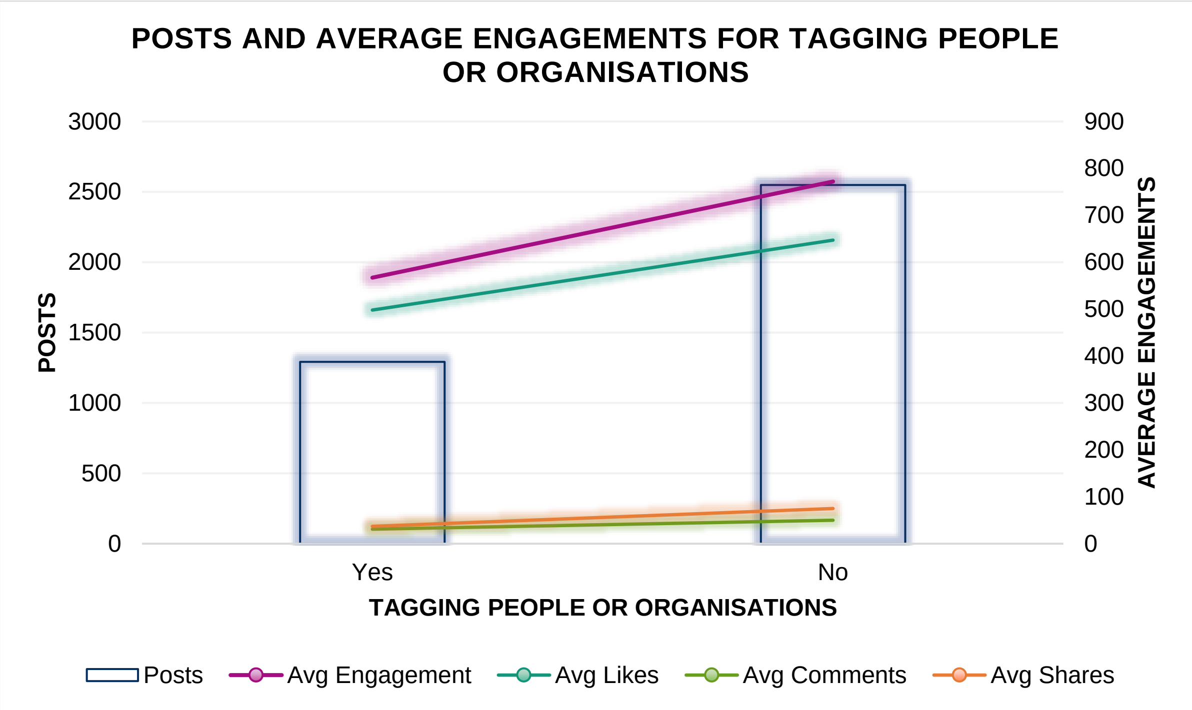
Interestingly, the results displayed in Figure 7.17 refute their findings indicating that posts containing one or two hashtags received the highest engagement rate of all post lengths (an average of 1031 engagements). Although posts with one or two hashtags received the highest average engagement rate, including more hashtags, 3 to 5 or more, does not yield the same result (average 513 engagements).

7.3.4.3 Tagging people or organisations

Table 7.14 indicates that most of the sports event posts do not tag a person or organisation (66.4%), with only 33.6% of posts making use of the tag function. Bank of America Chicago Marathon and Boston Marathon are exceptions, tagging people or organisations in most of their social media posts (58.9% and 55.5%, respectively).

Figure 7.18 illustrates the number of posts versus the average engagements received per post for tagging people or organisations in social media posts.

Figure 7.18: Posts and average engagements for tagging people or organisations



Source: Author’s own data

The results displayed in Figure 7.18 clearly show that for most sports events, tags were not used in their posts (66.4%). Posts that do not contain any tags received more engagements (average of 772), than those containing tags (average 567). Therefore, the results in Figure 7.18 agree with the previous research findings of Surucu-Balci, Balci and Yuen (2020), who suggest that when a person or organisation is tagged in a social media post, the engagement rate will be lower.

The next section focuses on the format type independent variable used in the social media posts.

7.3.5 FORMAT TYPE

As previously mentioned (Section 5.2.5.1.2), the format of the shared content is important to increase online stakeholder engagement on social media, such as text, video, photo or link (Pletikosa Cvijikj and Michahelles, 2014). However, according to Brafton (2014), these different formats do not all have the same influence on online engagement.

The social media posts of all the marathons and ultramarathons were analysed to measure the format type, which were made up of four sub-independent variables: text, link, photo, and video. The results of the format types for each sports event are presented in Table 7.15 and the last row contains the results of the combined data set. The discussion that follows highlights the most important findings from the descriptive data analysis.

Table 7.14: Format: Frequency of posts for photo, link, text and video per sports event

		Format							
		Photo		Link		Text		Video	
		Yes	No	Yes	No	Yes	No	Yes	No
Comrades	Total	652	86	126	612	652	86	73	665
Marathon	%	88.3	11.7	17.1	82.9	88.3	11.7	9.9	90.1
TCS New York City	Total	395	197	277	315	540	52	179	413
Marathon	%	66.7	33.3	46.8	53.2	91.2	8.8	30.2	69.8
London Marathon	Total	201	171	95	277	366	6	142	230
	%	54.0	46.0	25.5	74.5	98.4	1.6	38.2	61.8
Cape Town	Total	241	81	145	177	295	27	67	255
Marathon	%	74.8	25.2	45.0	55.0	91.6	8.4	20.8	79.2
Bank Of America	Total	258	46	221	83	299	5	46	258
Chicago Marathon	%	84.9	15.1	72.7	27.3	98.4	1.6	15.1	84.9
Berlin Marathon	Total	234	69	69	234	299	4	66	237
	%	77.2	22.8	22.8	77.2	98.7	1.3	21.8	78.2
Blackmores Sydney	Total	191	102	145	148	289	4	47	246
Running Festival	%	65.2	34.8	49.5	50.5	98.6	1.4	16.0	84.0
Boston Marathon	Total	167	105	231	41	265	7	77	195
	%	61.4	38.6	84.9	15.1	97.4	2.6	28.3	71.7
Toronto Waterfront	Total	115	106	167	54	216	5	65	156
Marathon	%	52.0	48.0	75.6	24.4	97.7	2.3	29.4	70.6
TCS Amsterdam	Total	113	53	60	106	164	2	53	113
Marathon	%	68.1	31.9	36.1	63.9	98.8	1.2	31.9	68.1

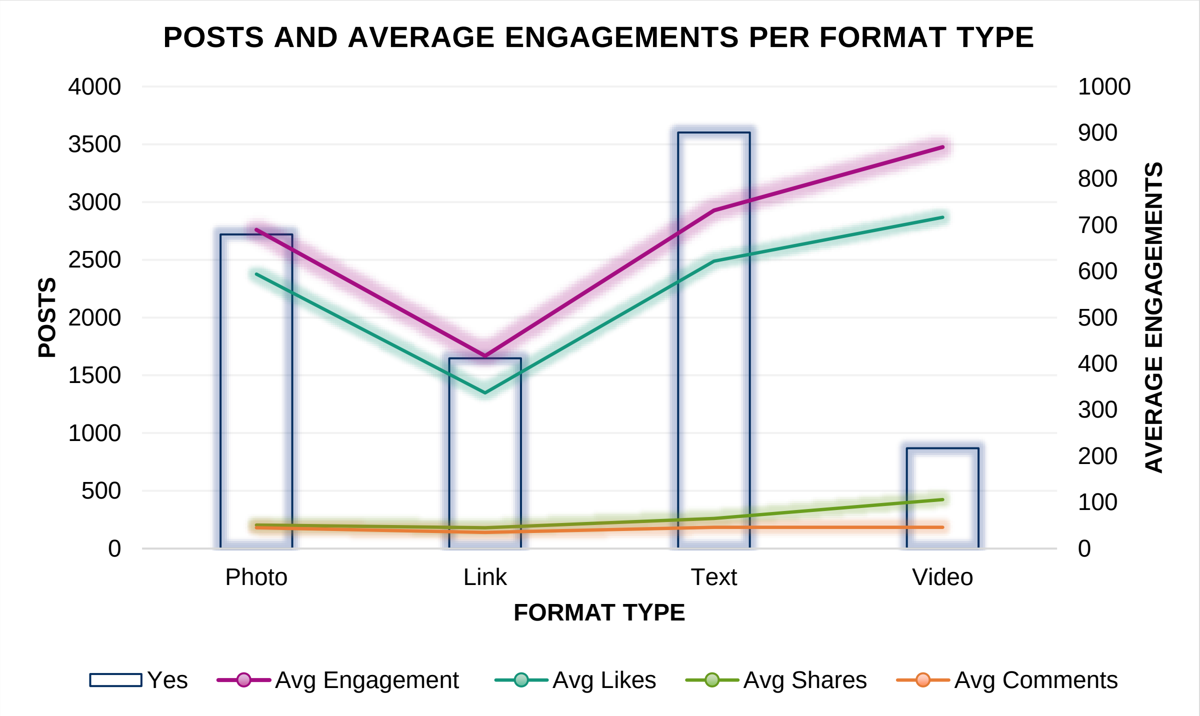
		Format							
		Photo		Link		Text		Video	
		Yes	No	Yes	No	Yes	No	Yes	No
Two Oceans Marathon	Total	59	45	39	65	3	101	12	92
	%	56.7	43.3	37.5	62.5	2.9	97.1	11.5	88.5
Schneider Electric Marathon De Paris	Total	55	41	43	53	92	4	32	64
	%	57.3	42.7	44.8	55.2	95.8	4.2	33.3	66.7
Om Die Dam Marathon	Total	39	19	29	29	55	3	10	48
	%	67.2	32.8	50.0	50.0	94.8	5.2	17.2	82.8
Combined data set	Total	2720	1121	1647	2194	3603	238	869	2972
	%	70.8	29.2	42.9	57.1	93.8	6.2	22.6	77.4
Total engagements	Mean	690	734	417	918	732	265	869	655
Likes	Mean	594	604	337	793	622	223	717	562
Shares	Mean	51	89	45	74	65	22	106	49
Comments	Mean	45	41	35	51	46	20	46	43

Source: Author’s own data

The results in Table 7.15 indicate that most posts contain text (93.8%), followed by photos (70.8%) and links (42.9%). Although links are the third most used format type, the results show that most posts do not contain links (57.1%). The format type, video, is used least with only 22.6% of posts containing videos.

Figure 7.19 shows the number of posts versus the average engagements received for each format type used in social media posts.

Figure 7.19: Posts and average engagements per format type



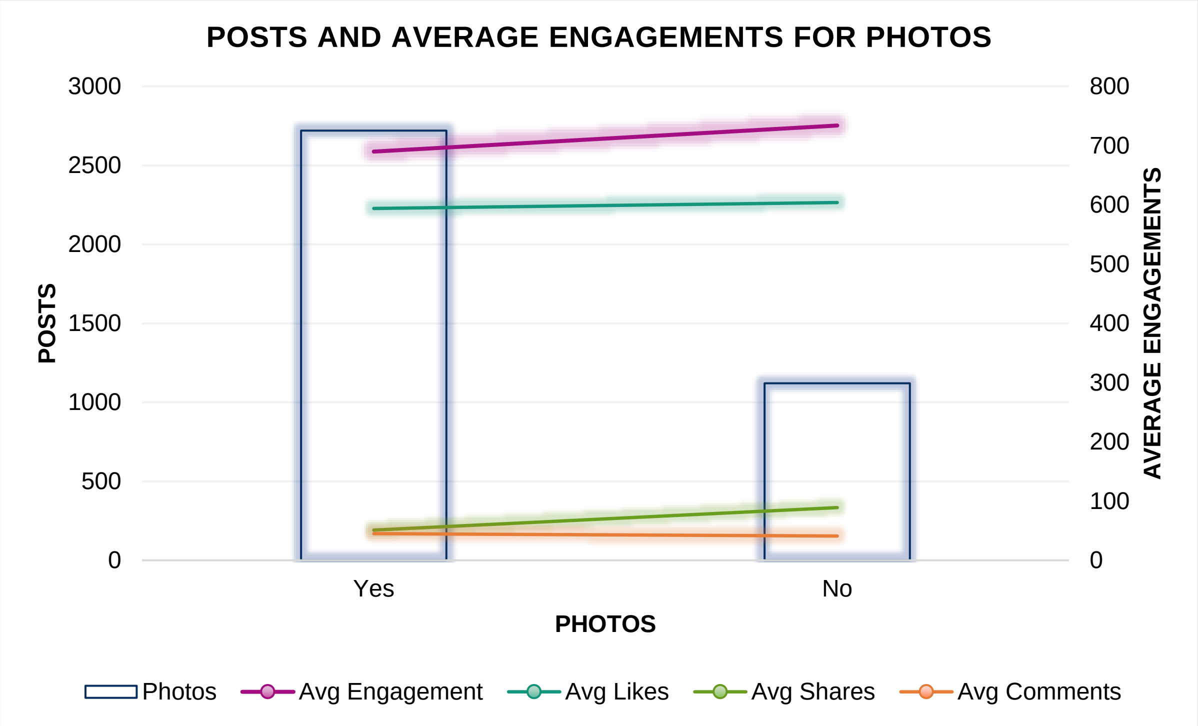
Source: Author's own data

As with the results in Table 7.15, Figure 7.19 depicts that the format types most used in posts are text followed by photos. However, a noteworthy result reveals videos; the least used format type, received the greatest engagement (an average of 869), which is far more substantial than for texts (average of 732 engagements per post), and photos (average 690). Another interesting result is the link, as a format type, which received the lowest total average engagement (an average of 417 engagements per post) that includes likes (average 337), shares (average 45) and comments (average 35). Despite conflicting results in previous research studies regarding the inclusion of a link to gain an increase in engagement, the results in Figure 7.19 indicate that a link received less engagement than the other formats.

7.3.5.1 Photos

Figure 7.20 shows the number of posts versus the average engagements received for photos used in the social media posts.

Figure 7.20: Posts and average engagements for photos



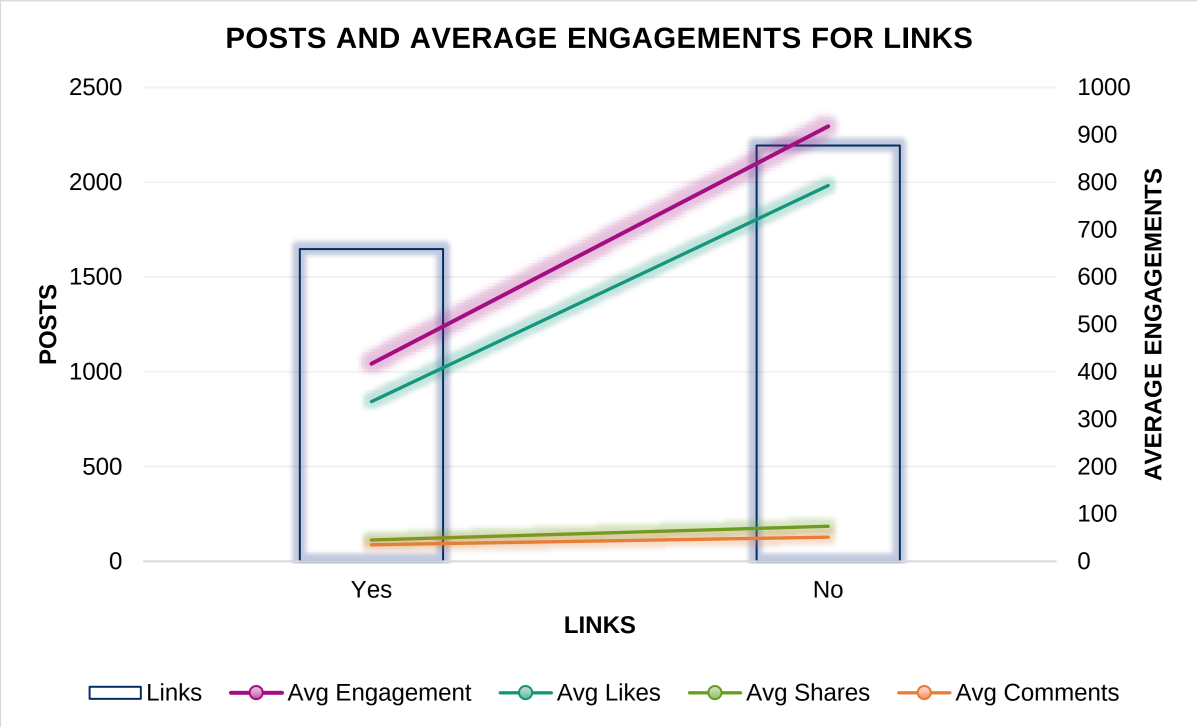
Source: Author's own data

Table 7.15 and Figure 7.20 show that photos are mostly used in social media postings, as 70.8% of the posts contain photos, and only 29.2% had no photos. However, the results of the average engagement for these indicate that both received similar engagement. Although social media posts that do not contain photos generated slightly more engagements (an average of 734 engagements) than posts with photos (an average of 690 engagements). Social media posts without photos also generated more likes (an average of 604 versus 594) and shares (an average of 89 versus 51), however social media posts with photos received slightly more comments (an average of 45 versus 41). Therefore, evidently the audience were more inclined to engage with posts without photos.

7.3.5.2 <u>Links</u>

Figure 7.21 shows the number of posts versus the average engagements received for links used in the social media posts.

Figure 7.21: Posts and average engagements for links



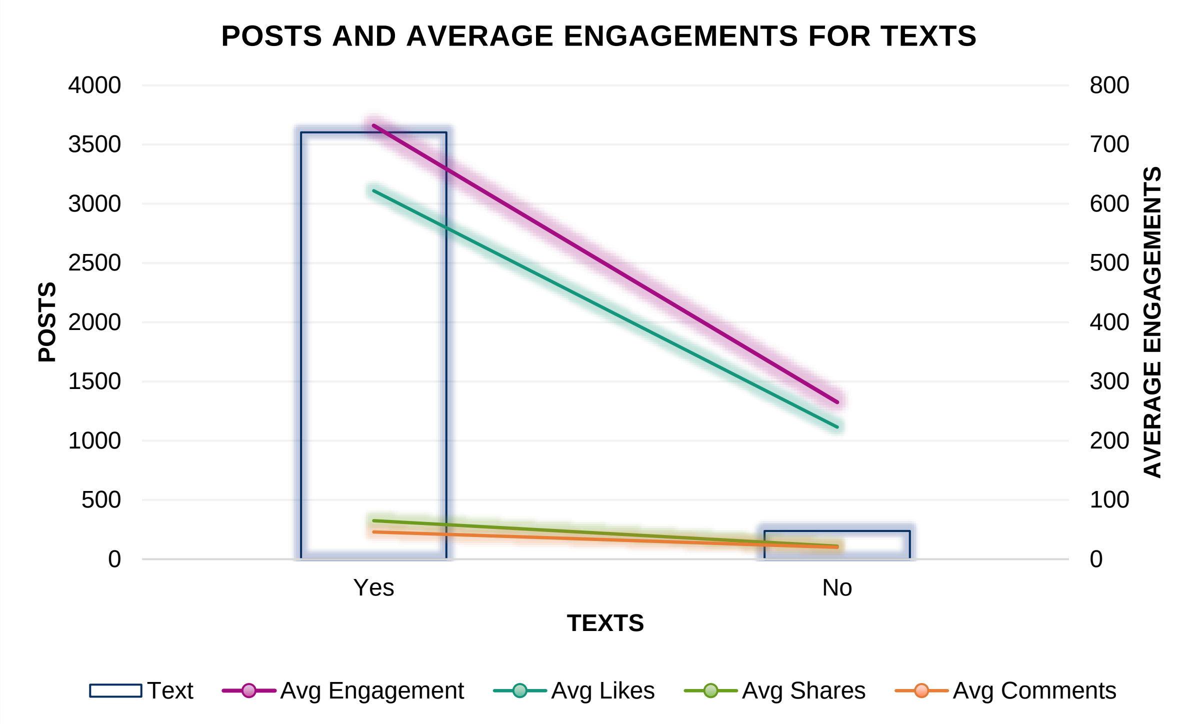
Source: Author's own data

Upon closer inspection of posts containing external links versus those that do not, the visual presentation of the results in Figure 7.21 shows that fewer external links are associated with greater engagement. Those posts without external links generated more engagements (average 918) than posts that include external links (average 417 engagements).

7.3.5.3 <u>Texts</u>

Figure 7.22 shows the number of posts versus the average engagements received for text used in the social media posts.

Figure 7.22: Posts and average engagements for texts



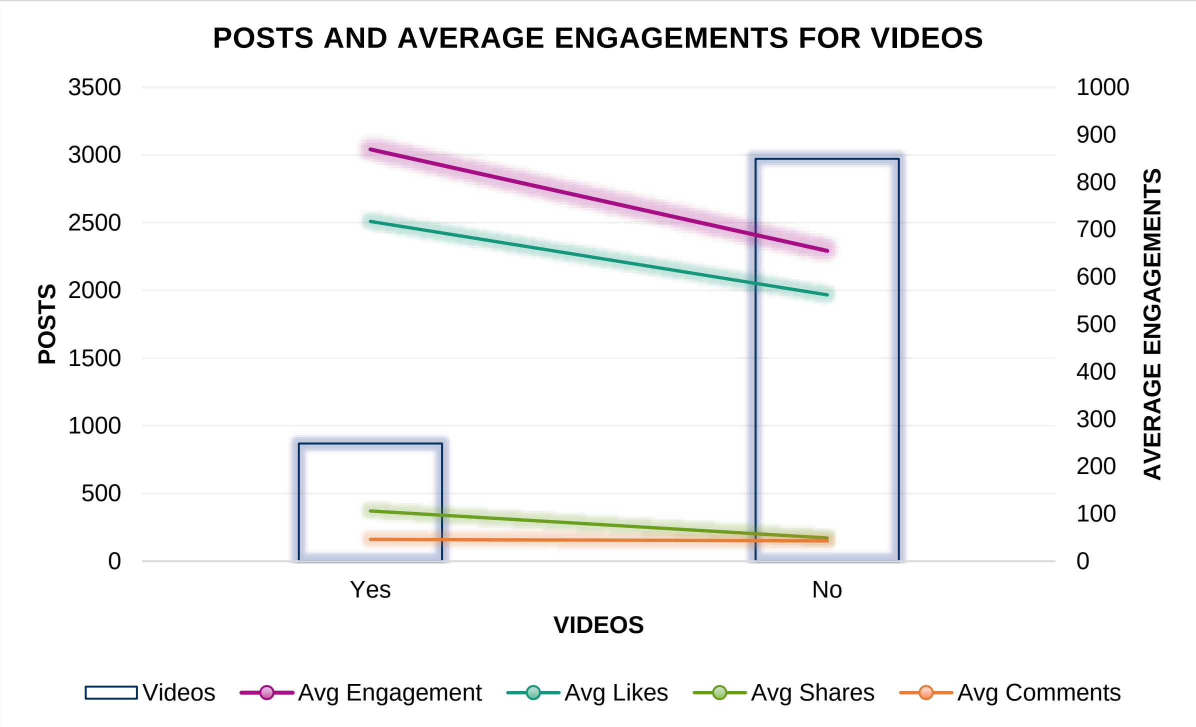
Source: Author’s own data

When studying posts that contain text versus those that do not, the visual presentation of the results in Figure 7.22 show few posts for sports events without any text. A total of 238 of 3841 posts were made across 13 sports events, constituting a mere 6.2%. Similarly, the results of the average engagement for the posts without text clearly show that the audience do not engage as much with these posts. Posts containing text received an average of 732 engagements, whereas posts without text received an average of 265 engagements. Therefore, it indicates that the audience are more inclined to engage with posts that contain texts. This result could be because the audience look for content regarding what is included in the sports event on the social media page.

7.3.5.4 Videos

Figure 7.23 shows the number of posts versus the average engagements received for videos used in the social media posts.

Figure 7.23: Posts and average engagements for videos



Source: Author's own data

The visual display of the results in Figure 7.23 of posts containing videos versus those that do not, shows how seldom videos are used in social media posts. Only 22.6% of the posts contained videos. The results of the average engagement for these posts clearly show that sports events are disadvantaged with potential engagements, as videos generate far more engagements (an average of 869 engagements) than posts that do not contain videos (average 655). Videos also generate more likes (an average of 717 versus 562), shares (an average of 106 versus 49) and comments (an average of 46 versus 43). Therefore, the audience are more inclined to engage with posts that contain videos.

The following section focuses on the independent variables results for live content, call-to-action, COVID-19 and virtual race.

7.3.6 BINARY INDEPENDENT VARIABLES

As discussed in Section 5.2.5.1.2, Facebook Live and live content, in general, is considered the most sociable, genuine way to communicate with stakeholders. Live broadcasts and other live content are said to get more reach and engagement.

Therefore, it is considered an essential method for sports events to increase their engagement rate on social media. Similarly, the existence of a call-to-action in a social media message is stated to positively influence engagement (Escobar-Rodríguez and Bonsón-Fernández, 2017; Surucu-Balci, Balci and Yuen, 2020). It is therefore important to know if including phrases such as ‘register now’, ‘join us’, or ‘click here’ increases engagement for sports events.

The coronavirus pandemic and its impact on sporting events were discussed in Chapter 2, Section 2.3.3.1. The coronavirus pandemic resulted in some sports events hosting virtual races for their participants. For this reason, these two variables were included in this study to contribute to the body of knowledge, as limited research is available due to the newness of these concepts when this study’s data collection occurred. Nonetheless, it could prove valuable to know how stakeholders engaged with posts containing content regarding these variables.

The social media posts of all marathons and ultramarathons were analysed to measure live content, call-to-action, reference to COVID-19, and virtual race. The results for all sports events are presented in Table 7.16 and the last row contains the results of the combined data set. The discussion that follows, highlights the most significant findings. The full frequency tables for sports events were created in SPSS.

Table 7.15: Binary dependent variables: Frequency of posts for live content, call-to-action, COVID-19 and virtual race per sports event

		Binary dependent variables							
		Live content		**Call-to-Action**		**COVID-19**		**Virtual race**	
		Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Comrades	Total	26	712	144	594	41	697	95	643
Marathon	%	3.5	96.5	19.5	80.5	5.6	94.4	12.9	87.1
TCS New York City	Total	41	551	291	301	8	584	115	477
Marathon	%	6.9	93.1	49.2	50.8	1.4	98.6	19.4	80.6
London Marathon	Total	63	309	125	247	37	335	24	348
	%	16.9	83.1	33.6	66.4	9.9	90.1	6.5	93.5
Cape Town	Total	92	230	127	195	24	298	92	230
Marathon	%	28.6	71.4	39.4	60.6	7.5	92.5	28.6	71.4
Bank Of America	Total	3	301	158	146	8	296	41	263
Chicago Marathon	%	1.0	99.0	52.0	48.0	2.6	97.4	13.5	86.5
Berlin Marathon	Total	146	157	94	209	13	290	11	292
	%	48.2	51.8	31.0	69.0	4.3	95.7	3.6	96.4
Blackmores Sydney	Total	9	284	66	227	3	290	23	270
Running Festival	%	3.1	96.9	22.5	77.5	1.0	99.0	7.8	92.2
Boston Marathon	Total	0	272	91	181	8	264	51	221
	%	0.0	100.0	33.5	66.5	2.9	97.1	18.8	81.3
Toronto Waterfront	Total	32	189	99	122	3	218	32	189
Marathon	%	14.5	85.5	44.8	55.2	1.4	98.6	14.5	85.5
TCS Amsterdam	Total	6	160	35	131	6	160	22	144
Marathon	%	3.6	96.4	21.1	78.9	3.6	96.4	13.3	86.7

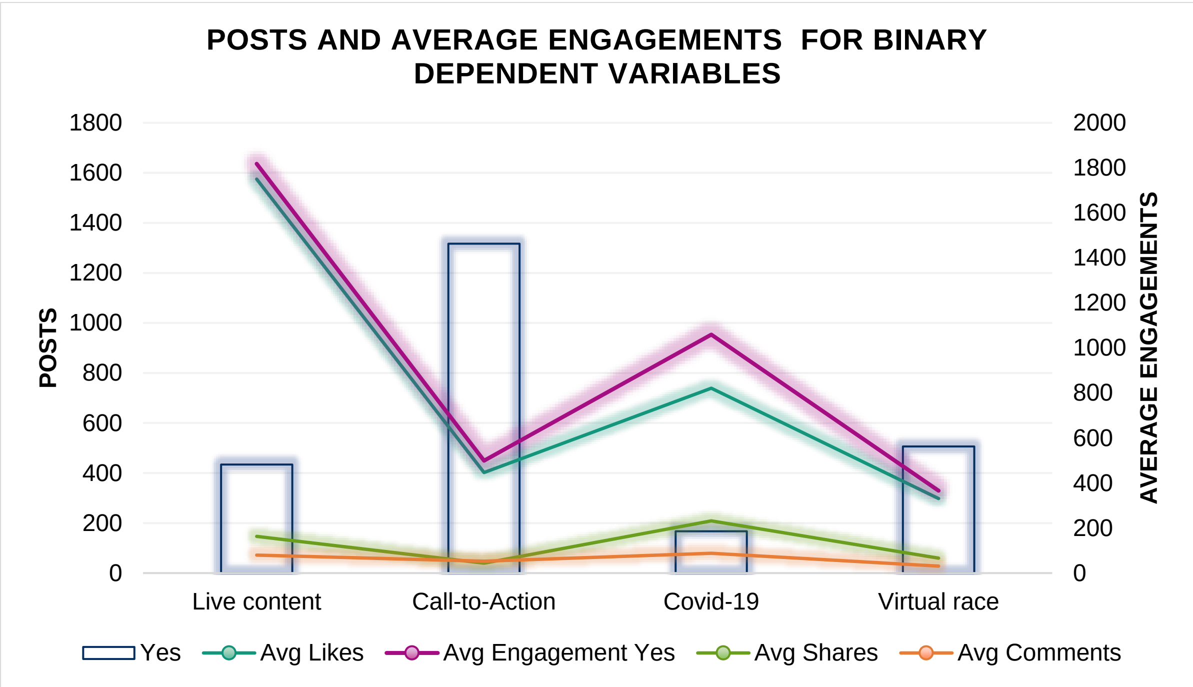
		Binary dependent variables							
		Live content		Call-to-Action		COVID-19		Virtual race	
		Yes	No	Yes	No	Yes	No	Yes	No
Two Oceans Marathon	Total	0	104	22	82	12	92	0	104
	%	0.0	100.0	21.2	78.8	11.5	88.5	0.0	100.0
Schneider Electric	Total	0	96	49	47	3	93	0	96
Marathon De Paris	%	0.0	100.0	51.0	49.0	3.1	96.9	0.0	100.0
Om Die Dam	Total	16	42	16	42	1	57	0	58
Marathon	%	27.6	72.4	27.6	72.4	1.7	98.3	0.0	100.0
Combined data set	Total	434	3407	1317	2524	167	3674	506	3335
	%	11.3	88.7	34.3	65.7	4.3	95.7	13.2	86.8
Total engagements	Mean	1818	561	499	810	1059	687	366	754
Likes	Mean	1575	473	402	699	739	591	298	642
Shares	Mean	163	49	44	71	232	54	36	66
Comments	Mean	80	39	53	39	88	42	31	46

Source: Author’s own data

Table 7.16 showcases a summary of the results for the four binary dependent variables, namely, live content, call-to-action, COVID-19 and virtual races. These are all categorical independent variables, and Table 7.16 displays the results for yes; post contained the variables, or no, post did not contain the variable. The results in Table 7.16 indicate that sports events made little use of these four variables. Only 11.3% of posts had live content, 34.3% contained call-to-action phrases, 4.3% contained updates regarding the Coronavirus pandemic, and 13.2% of posts were about the sports event hosting a virtual race.

Figure 7.24 visually displays the number of posts versus the average engagements received for each of the binary dependent variables used in the social media posts (the 'yes' category).

Figure 7.24: Posts and average engagements for all binary dependent variables



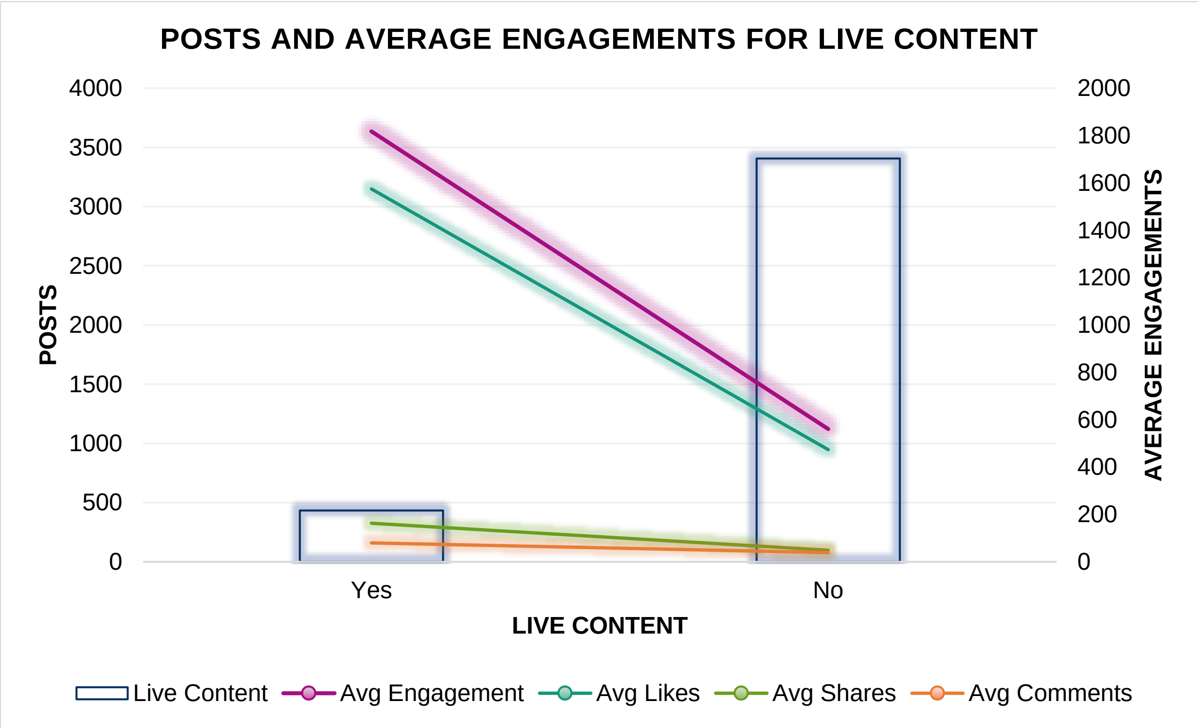
Source: Author's own data

The results in Figure 7.24 show that even though all four of these variables were used minimally, call-to-action phrases were more prevalent in social media posts. Figure 7.24 shows that live content received the highest average engagement (an average of 1818) compared with the other variables, even though it was not used often. Posts that contained COVID-19 updates also received higher average engagements (average 1059) than posts with call-to-action phrases (average 499 engagements) and content regarding virtual races (average 366).

7.3.6.1 Live content

Figure 7.25 shows the number of posts versus the average engagements received for live content used in the social media posts.

Figure 7.25: Posts and average engagements for live content



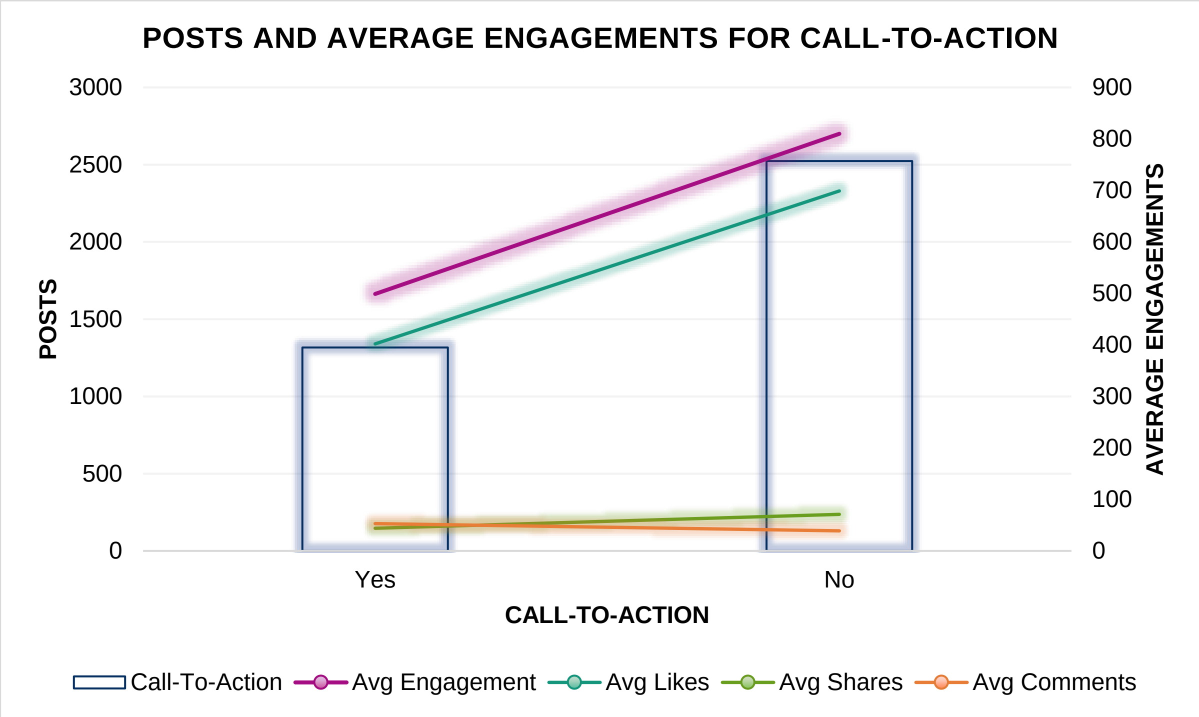
Source: Author's own data

Upon closer inspection of posts containing live updates versus those that did not, the visual display of the results in Figure 7.25 shows how little sports events make use of the new Facebook Live feature and live updates in general. Only 11.3% of the posts contained live content. The results of the average engagement rate for these posts clearly show that sports events are disadvantaged, as live content generates far more engagements (an average of 1818), than posts that do not contain live updates (average 561). Live content also generates more likes (average 1575 versus 474), shares (average 163 versus 49) and comments (average 80 versus 39). Therefore, it is clear that the audience are more inclined to engage with posts that share live content.

7.3.6.2 Call-To-Action

Figure 7.26 shows the number of posts versus the average engagements for call-to-action phrases used in the social media posts.

Figure 7.26: Posts and average engagements for call-to-action



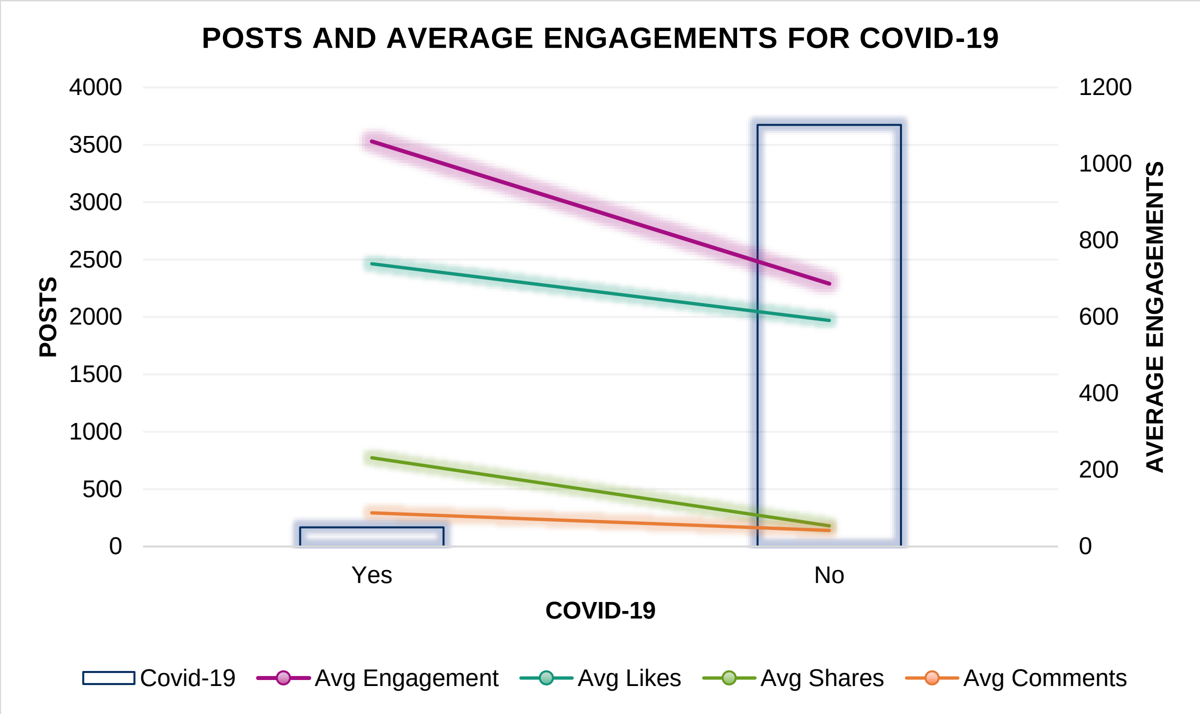
Source: Author's own data

Looking at posts that contain call-to-action phrases versus those that do not, the visual presentation of the results in Figure 7.26 shows just how little sports events make use of call-to-action phrases. Only 34.3% of the posts contained phrases that prompt the audience to take a specific action. However, contrary to previous findings, the results of the average engagement rate for these posts show that sports events are not necessarily disadvantaged regarding potential engagements. Posts that do not ask the audience to take a specific action generated more engagements (average 810), than posts that included call-to-action phrases (average 499). Even though posts with call-to-action phrases generated fewer overall engagements, the audience were more inclined to comment (average of 53 versus 39) on such posts.

7.3.6.3 COVID-19

Figure 7.27 illustrates the number of posts versus the average engagements received for COVID-19 updates used in the social media posts.

Figure 7.27: Posts and average engagements for COVID-19



Source: Author's own data

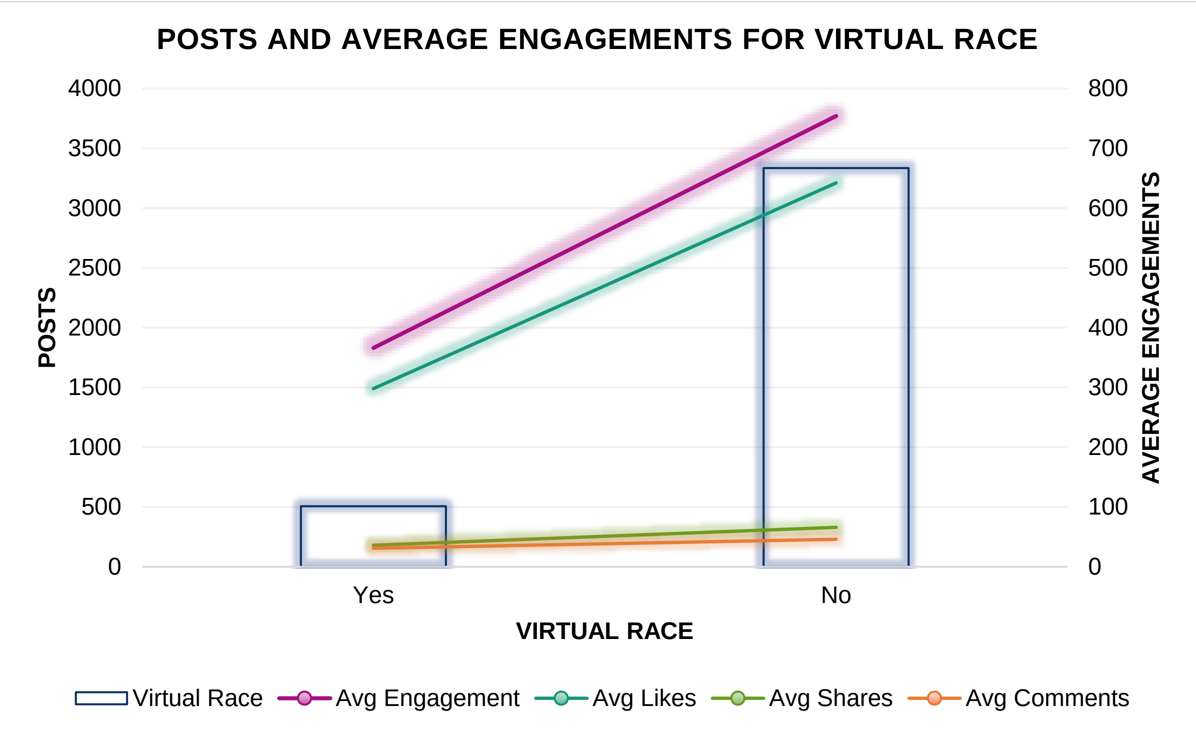
Studying the posts that contain updates regarding the coronavirus pandemic versus those that do not, the visual presentation of the results in Figure 7.27 show the sports events made very few posts regarding the pandemic and its effects on the event itself. However, this could be due to the 'unknown' factor at play, as no one knew what would happen and how far-reaching its consequences would be on the events.

A total of 167 out of 3841 posts were made across 13 sports events, a mere 4.3%. However, the results of the average engagement rate for these coronavirus updates clearly show that the audience engaged with these posts. Posts containing updates received an average of 1059 engagements, whereas posts that did not contain coronavirus updates received an average of 687 engagements. Posts that were about the coronavirus also generated more likes (an average of 739 versus 591), shares (average 232 versus 54) and comments (average 88 versus 42). Therefore, clearly audiences were more inclined to engage with posts that included coronavirus updates. This result could be because the audience were directly impacted by the information shared. Most countries had national lockdown and requested people to stay home. Therefore, more people could go online and engage with social media. The coronavirus was also at the forefront of peoples' minds during that time and an important part of their lived experience, and the information, therefore, may have resonated more with them.

7.3.6.4 Virtual race

Figure 7.28 shows the number of posts versus the average engagements received for content regarding virtual races in the social media posts. Virtual races allowed participants to complete a race on their own schedule, at a location of their choice, log in and record their results afterwards (Miller, 2020; Wahba, 2020; Vennare, 2021; Casanova, 2022).

Figure 7.28: Posts and average engagements for virtual race



Source: Author's own data

Examining the posts containing updates regarding the hosting of virtual races versus those that did not, the visual presentation of the results in Figure 7.28 shows that only a few posts to arrange virtual race events were made. This result could also be due to the ‘unknown’ factor at play, as these were the first virtual races in history. The scarcity of posts, regarding the arrangements for a virtual race could also be due to the efficiency of posting enough information in fewer posts. A total of 506 of 3841 posts were made across 13 sports events, a mere 13.2%. However, nine of the 13 events (69%) hosted virtual events.

The average engagement rate result for these virtual race updates indicate that the audience did not engage more with these posts that shared virtual race updates, than other posts (an average of 366 versus 754). However, this result could be because many participants were disappointed that they would not be able to participate in the actual race. Even though this was out of the events hands, the virtual race was a plan to ease the disappointment of not being able to race after much training. Another possibility is that by the time the virtual races were held, some people could have contracted the coronavirus, prohibiting them from doing any strenuous exercise, or have not kept up with their training, or due to some places experiencing a second wave of coronavirus with further restrictions on movements, which could have prohibited peoples’ participation.

The following section will focus on the content type independent variable results.

7.3.7 CONTENT TYPE

As mentioned in Chapter 5, Section 5.2.5.1.2, the topics of the content influence the levels of online engagement (Muntinga, Moorman and Smit, 2011). The content must be considered valuable, illustrative, exciting, entertaining and sociable, positively affecting stakeholder engagement (Alonso-Cañadas *et al.*, 2018).

The social media posts of all marathons and ultramarathons were analysed to measure the content type and was made up of five independent sub-variables: information, entertainment, promotional, social, and remunerative. The result for each sports event is presented in Table 7.17 and the last row contains the results of the combined data set. The discussion that follows, highlights the most significant findings from the descriptive data analysis.

Table 7.16: Content: Frequency of posts by informational, entertainment, promotional, social, and remunerative content per sports event

		Content type									
		Informational		Entertainment		Promotional		Social		Remunerative	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Comrades Marathon	Total	439	299	207	531	198	540	281	457	29	709
	%	59.5	40.5	28.0	72.0	26.8	73.2	38.1	61.9	3.9	96.1
TCS New York City Marathon	Total	366	226	223	369	195	397	274	318	46	546
	%	61.8	38.2	37.7	62.3	32.9	67.1	46.3	53.7	7.8	92.2
London Marathon	Total	164	208	176	196	100	272	184	188	15	357
	%	44.1	55.9	47.3	52.7	26.9	73.1	49.5	50.5	4.0	96.0
Cape Town Marathon	Total	208	114	245	77	192	130	277	45	35	287
	%	64.6	35.4	76.1	23.9	59.6	40.4	86.0	14.0	10.9	89.1
Bank Of America Chicago Marathon	Total	63	241	154	150	92	212	61	243	10	294
	%	20.7	79.3	50.7	49.3	30.3	69.7	20.1	79.9	3.3	96.7
Berlin Marathon	Total	184	119	199	104	133	170	243	60	15	288
	%	60.7	39.3	65.7	34.3	43.9	56.1	80.2	19.8	5.0	95.0
Blackmores Sydney Running Festival	Total	8	285	162	131	127	166	18	275	22	271
	%	2.7	97.3	55.3	44.7	43.3	56.7	6.1	93.9	7.5	92.5
Boston Marathon	Total	41	231	164	108	102	170	20	252	8	264
	%	15.1	84.9	60.3	39.7	37.5	62.5	7.4	92.6	2.9	97.1

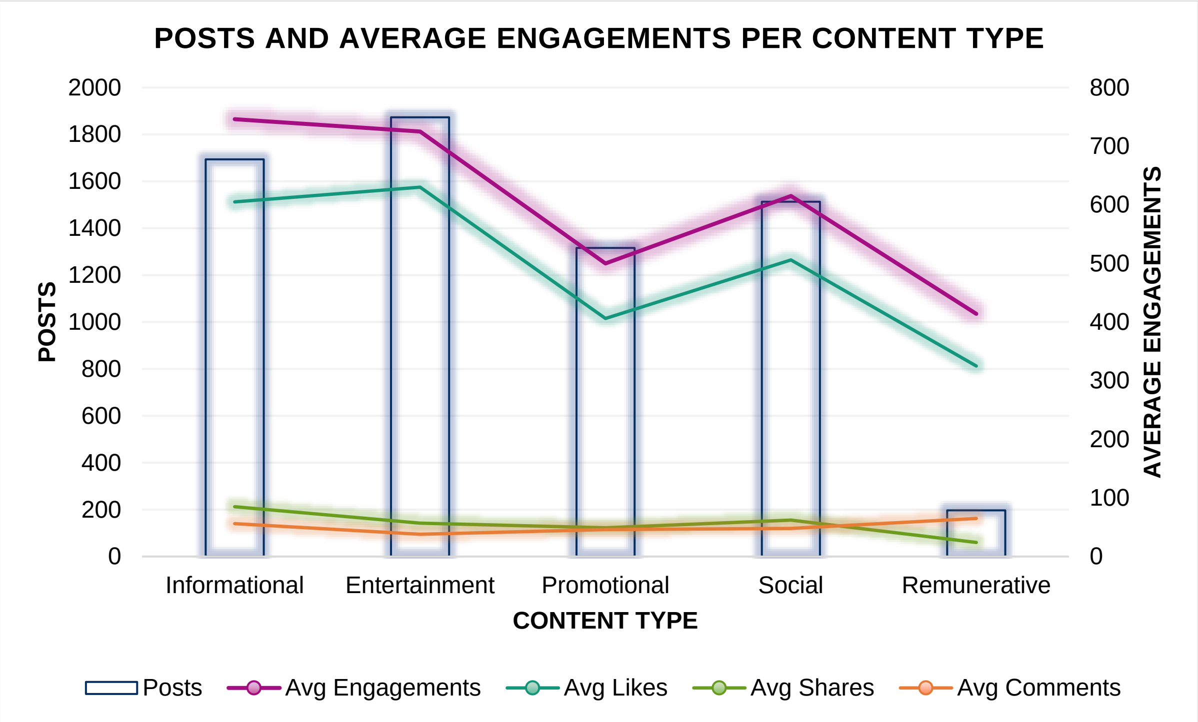
		Content type									
		Informational		Entertainment		Promotional		Social		Remunerative	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Toronto Waterfront Marathon	Total	16	205	166	55	70	151	16	205	0	221
	%	7.2	92.8	75.1	24.9	31.7	68.3	7.2	92.8	0.0	100.0
TCS Amsterdam Marathon	Total	8	158	118	48	52	114	6	160	4	162
	%	4.8	95.2	71.1	28.9	31.3	68.7	3.6	96.4	2.4	97.6
Two Oceans Marathon	Total	81	23	15	89	16	88	53	51	2	102
	%	77.9	22.1	14.4	85.6	15.4	84.6	51.0	49.0	1.9	98.1
Schneider Electric Marathon De Paris	Total	60	36	39	57	32	64	63	33	5	91
	%	62.5	37.5	40.6	59.4	33.3	66.7	65.6	34.4	5.2	94.8
Om Die Dam Marathon	Total	56	2	5	53	7	51	17	41	6	52
	%	96.6	3.4	8.6	91.4	12.1	87.9	29.3	70.7	10.3	89.7
Combined data set	Total	1694	2147	1873	1968	1316	2525	1513	2328	197	3644
	%	44.1	55.9	48.8	51.2	34.3	65.7	39.4	60.6	5.1	94.9
Total engagements	Mean	746	669	725	683	500	809	615	760	414	719
Likes	Mean	605	591	630	566	406	697	506	657	325	612
Shares	Mean	85	44	57	67	49	69	62	62	24	64
Comments	Mean	56	34	38	50	46	43	48	41	65	43

Source: Author’s own data

Table 7.17 summarises the results for the content types, namely, informational, entertainment, promotional, social and remunerative. These are all categorical independent variables, and Table 7.17 displays the results for yes, the post containing the content and no, the post did not contain the content. The results in Table 7.17 indicate that the most used content type is entertainment, with 48.8% of all posts falling into this category, followed by informational (44.1%). Social content the third largest category (39.4%), followed by promotional content (34.3%). Remunerative content was the least used by the sports events, with only 5.1% falling into this category.

Figure 7.29 graphically displays the number of posts versus the average engagements received for each of the content types used in the social media posts (the 'yes' category).

Figure 7.29: Posts and average engagements per content type



Source: Author's own data

The results in Figure 7.29 clearly show that entertaining content is more prevalent in sports events' social media posts, closely followed by informational content. The average engagements displayed in Figure 7.29 shows that informational content receives the highest average engagement (an average of 746) followed by entertaining content (average 725). Even though informational content received the highest total average engagements per post, entertainment content receives more likes than informational content (average of 630 versus 605). However, informational content receives more shares (average of 85 versus 57) and comments (average of 56 versus 38), than entertaining content.

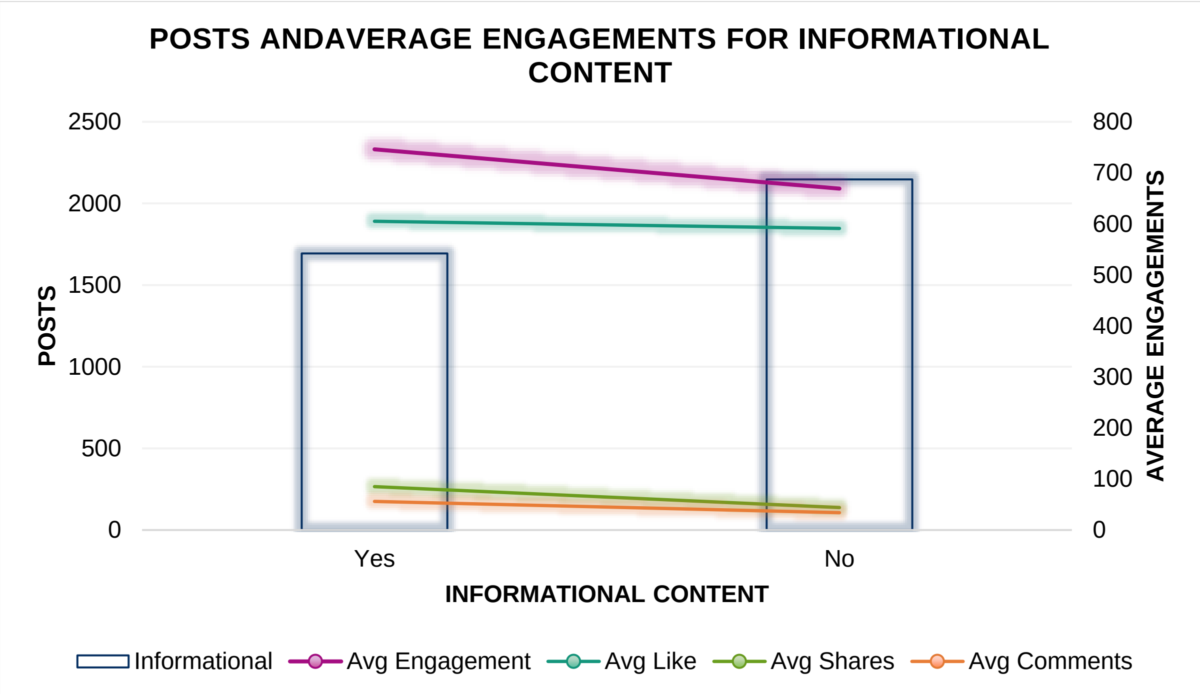
Posts that contained social content also received higher average engagements (an average of 615), than posts with promotional content (average 500) or remunerative content (average 414). Interestingly, remunerative content received more comments than any other content types (average 65).

According to the literature, comments are considered the highest level of engagements as the audience put in more time and effort to write a comment. This result could be because remunerative content includes contests, prizes, and sales promotions. Therefore, the audience could be more invested in commenting in the hopes of some gain or winning a competition.

7.3.7.1 <u>Informational content</u>

Figure 7.30 shows the number of posts versus the average engagements received for the informational content type used in the social media posts.

Figure 7.30: Posts and average engagements for informational content



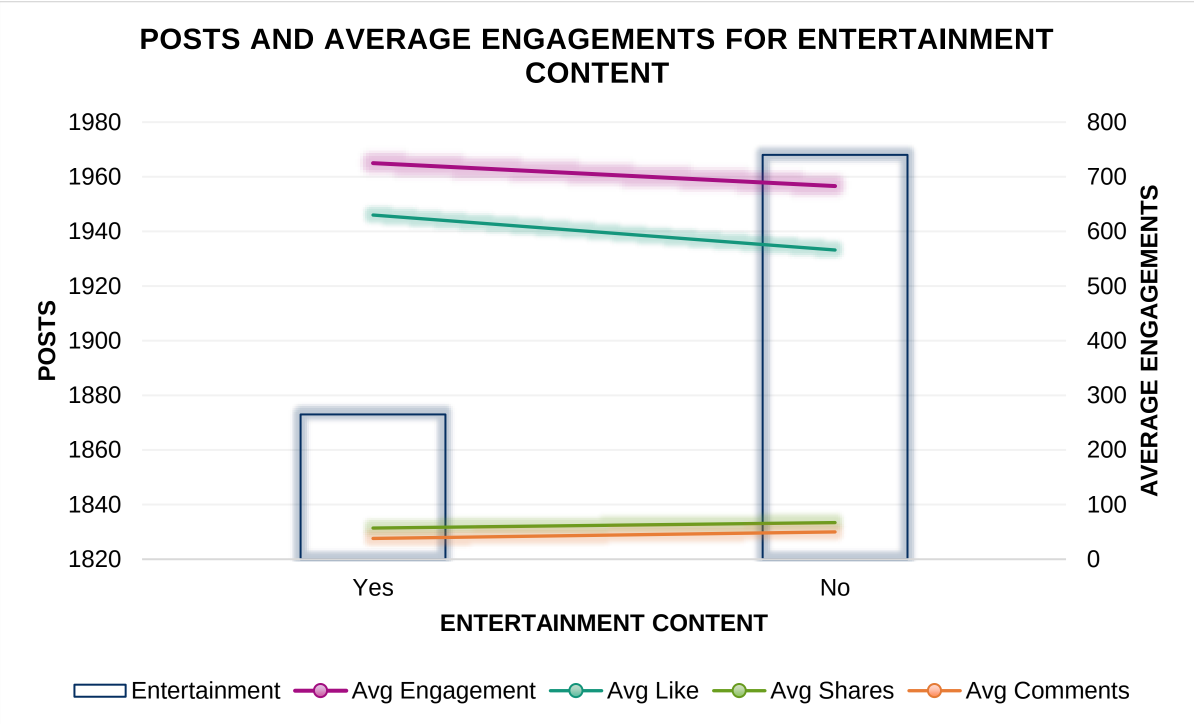
Source: Author's own data

In the visual display of the results in Figure 7.30, posts that contain informational content regarding the organisation or the event itself, versus those that do not, show that more posts that do not contain informational content (55.9%) are shared. Only 44.1% of the posts contain informational content. The results of the average engagement rate for these posts clearly show that informational content generates more engagements (an average of 746) than posts that do not contain informational content (average 669). Informational content also generates more likes (average 605 versus 591), shares (average 85 versus 44) and comments (average 56 versus 34). Therefore, the audience are more inclined to engage with posts that include informational content. These results could be because informational content provides updates and arrangements regarding the event itself, which directly impact participants, stakeholders, and events.

7.3.7.2 Entertaining content

Figure 7.31 shows the number of posts versus the average engagements received for the entertainment content type used in the social media posts.

Figure 7.31: Posts and average engagements for entertainment content



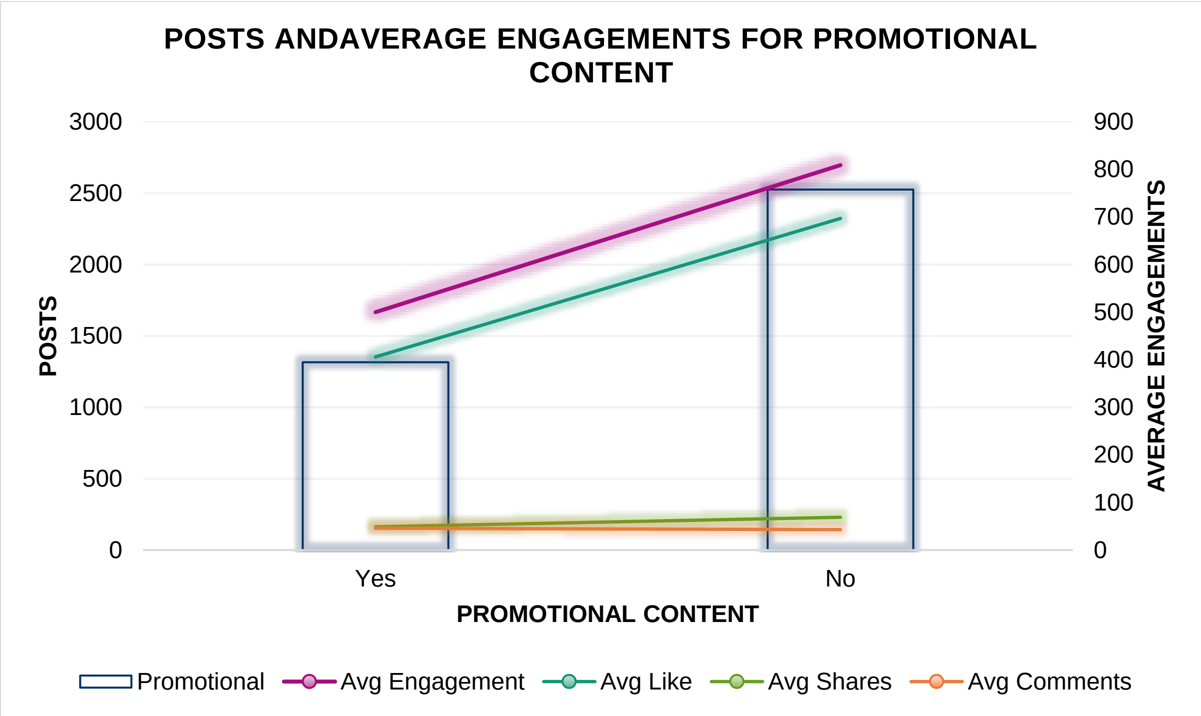
Source: Author's own data

Figure 7.31's results for content of an entertaining nature versus those that do not, indicates it makes up almost half of all posts (48.8%). Entertaining posts with humorous or educational content are inclined to receive higher engagement rates (average 725 versus 683). However, according to Figure 7.31, the audience are more inclined to like entertaining posts (average 630 versus 566) than to share them (average 57 versus 67) or comment on them (average 38 versus 50). Therefore, entertaining posts only compel the audience to engage at the simplest level of engagement, the 'like'.

7.3.7.3 Promotional content

Figure 7.32 shows the number of posts versus the average engagements received for the promotional content type used in the social media posts.

Figure 7.32: Posts and average engagements for promotional content



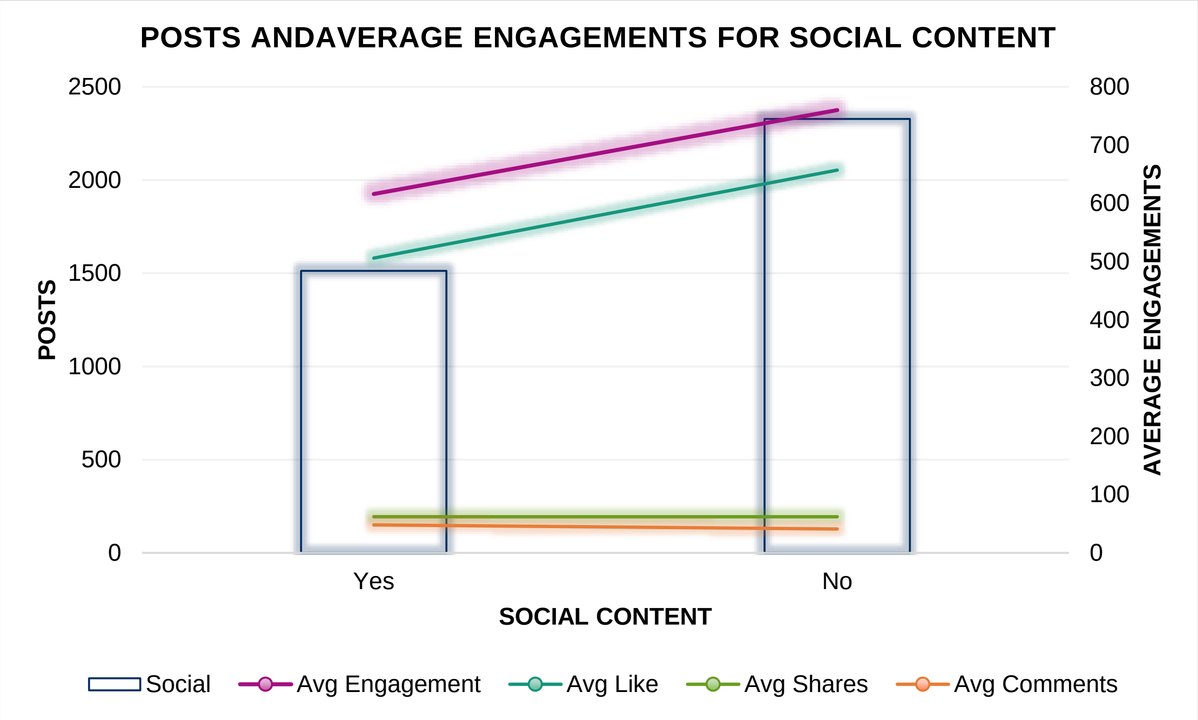
Source: Author's own data

Examining the posts that contain promotional content versus those that do not, the visual presentation of the results in Figure 7.32 shows that only slightly more than one-third of the sports event posts contain promotional content (34.3%). However, the results of the average engagement rate for posts with promotional content indicate that the audience do not engage more with these posts than with others not promoting the event (an average of 500 versus 809 engagements).

7.3.7.4 Social content

Figure 7.33 shows the number of posts versus the average engagements received for the social content type used in the social media posts.

Figure 7.33: Posts and average engagements for social content



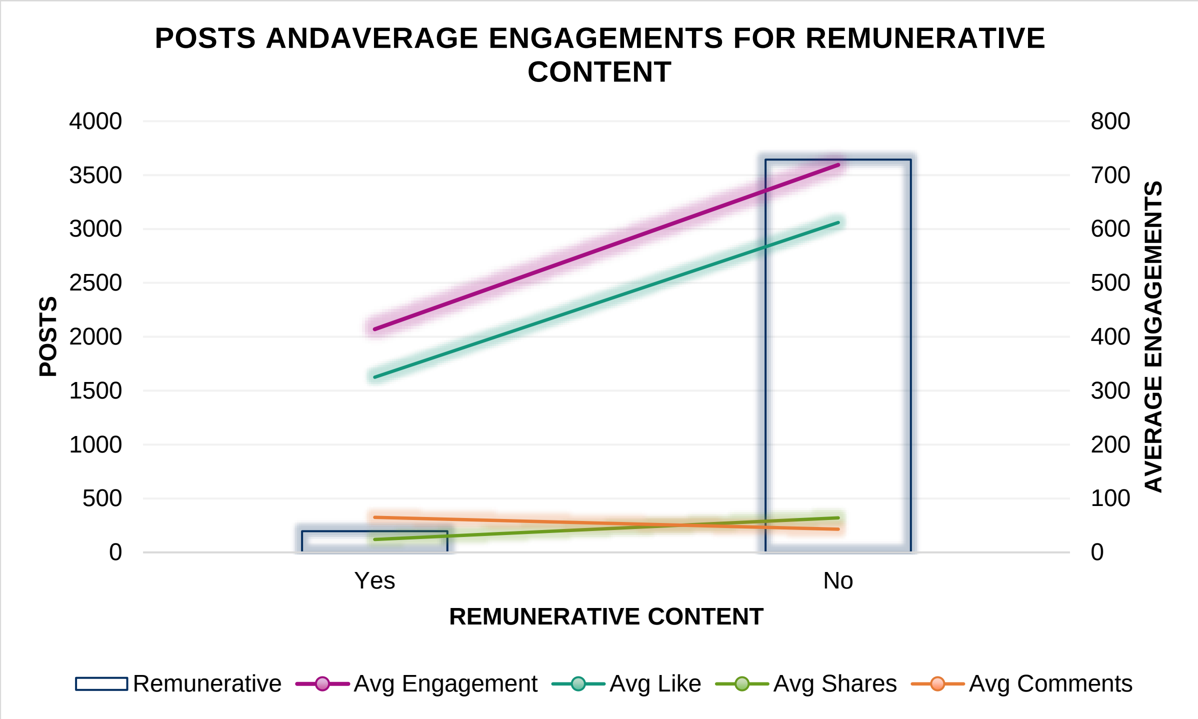
Source: Own data

Regarding posts that contain social content versus those that do not, the visual illustration of the results, Figure 7.33, shows that even though social content is the third most used content type utilised for sports events, it still only comprises 39.4% of posts. The results of the average engagement rate for these posts clearly show that posts that do not include social content generate more engagements (average 760 engagements per post), than posts that include social content (average of 616). Although posts with social content generate fewer overall engagements, the audience are more inclined to comment (average 48) and share (average 62) social posts when it mentions a charity, or a social event, or asks questions.

7.3.7.5 Remunerative content

Figure 7.34 shows the number of posts versus the average engagements received for the remunerative content type used in the social media posts.

Figure 7.34: Posts and average engagements for remunerative content



Source: Author's own data

Upon closer inspection of posts that contain remunerative content versus those that do not, the results in Figure 7.34 show how little sports events use remunerative content such as competitions, prizes and sales promotions. A total of 197 of 3841 posts were made across 13 sports events, a mere 5.1%. The results of the average engagement rate for remunerative content indicate that the audience do not engage more with these posts (an average of 414 versus 719). However, the results indicate that the audience are more inclined to comment on posts with remunerative content (an average of 65 versus 43), the highest level of engagement. This result could be because the audience are more invested in commenting on posts containing remunerative content in the hope of winning contests or prizes.

7.4 SUMMARY OF THE DESCRIPTIVE STATISTICAL ANALYSIS' MAIN FINDINGS

A summary of the main findings of the descriptive statistical analyses in this study is presented in Table 7.18.

Table 7.17: Summary of the main findings of the descriptive statistical analyses

DESCRIPTIVE STATISTIC SECTIONS	FINDINGS
1. Describe the current utilisation of social media by sports events.	
1.1 Determine how active sports events are on social media.	
Section 7.3.1.1, Table 7.3 and Table 7.5.	The activity level of the sports events varied widely. Within the selected time period under study of almost 16 months, some sports events posted as little as 58 times. Another sports event was very active and posted as many as 738 posts.
Section 7.3.2.1, Table 7.10 and Figure 7.9.	Most sports events are active on the social media platform, Facebook, throughout the year; however, activity during the month of some sports events make up a large portion of the total posts. Most event posts were published during the month of the event, and when taken together with the month leading up to the event, make up more than half of the total posts for that event.
Section 7.3.2.2, Table 7.11 and Figure 7.10 and Figure 7.11.	The results indicate that most sports events are more active during weekdays, with a total of 76.9% of the posts, whereas weekend posts occur less with only 23.1% of the total posts Some events are the exception, posting more on weekend days, either Saturday or Sunday.
Section 7.3.2.3, Table 7.12 and Figure 7.12 and Figure 7.13.	Results indicate that across sports events, most activity is during afternoons, with 37.6% posts, followed by mornings with 33.9% of posts. The least activity occurs during nights, which make up 28.5% of total posts.

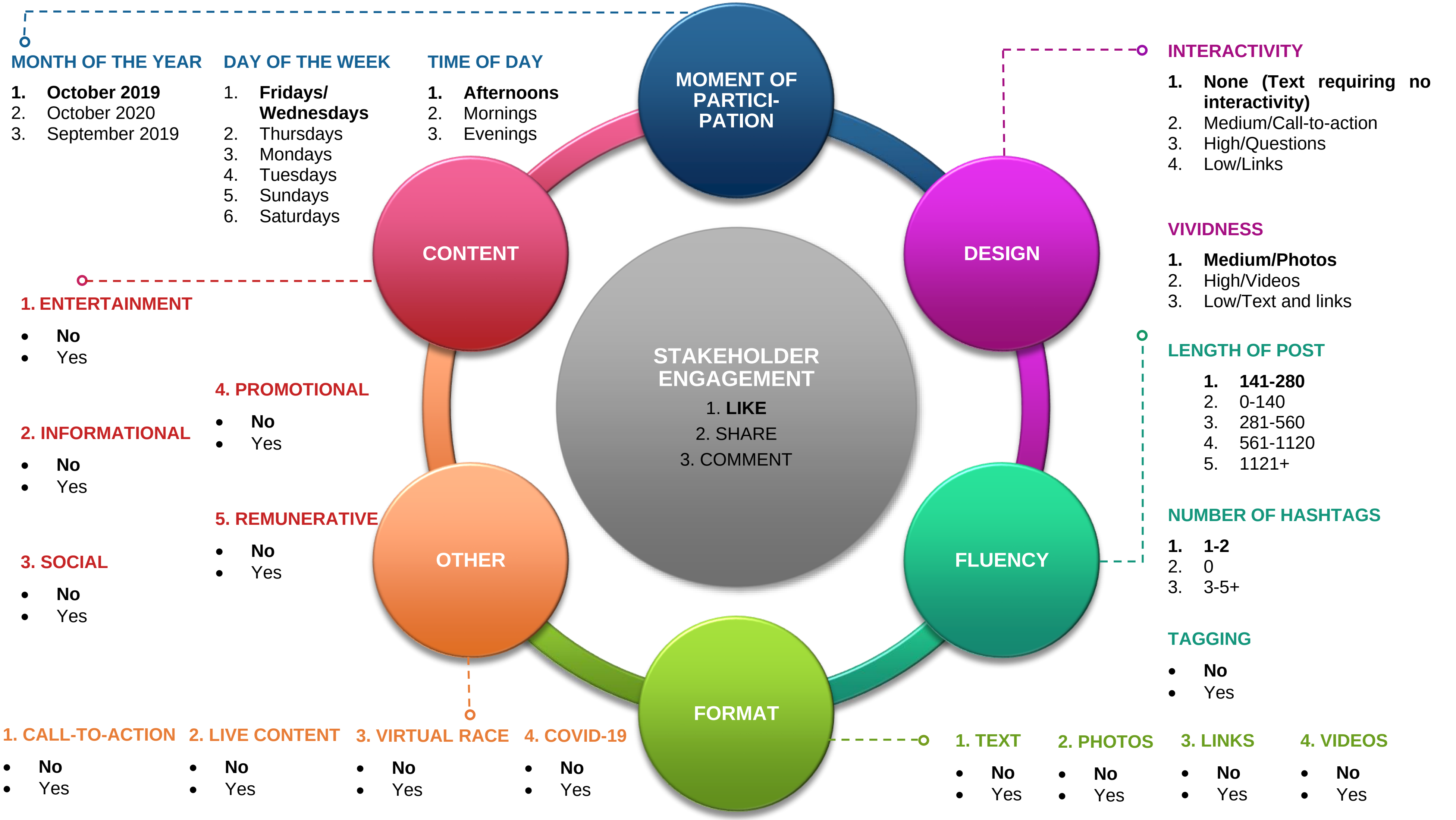
1.2 Test whether there is a relationship between channel activity and stakeholder engagement.	
Section 7.3.1.1, Table 7.1 and Figure 7.3; Section 7.3.1.2, Table 7.2, Table 7.3 and Figure 7.5.	The results indicate that a higher stakeholder engagement rate is not related to a higher level of activity. It will also be tested inferentially with Pearson correlation in Chapter 8.
1.3 Determine the Facebook audience size of the sports events.	
Section 7.3.1.2, Table 7.2; Section 7.3.1.3, Table 7.4.	The audience size of the sports events varies widely, finding that some sports events have small audiences (12 714) and others with very large audiences (354286). A difference being close to 30-fold.
1.4 Test whether there is a relationship between audience size and stakeholder engagement.	
Section 7.3.1.1, Table 7.1 and Figure 7.4; Section 7.3.1.2, Table 7.2, Table 7.3 and Figure 7.6.	The results indicate that a higher stakeholder engagement rate is not related to larger audience size. It will also be tested inferentially with Pearson correlation in Chapter 8.
1.5 Identify the most frequently used social media post characteristics.	
Section 7.3.3, Table 7.13 and Figures 7.14 and 7.15.	Most sports event posts contain text that does not require any form of interactivity, with a medium level of vividness containing photos.
Section 7.3.4, Table 7.14 and Figures 7.16, 7.17 and 7.18.	The sports events keep their social media posts relatively short, with most posts being between the length of 141 and 280 characters, containing 1-2 hashtags and not tagging any person or organisation.
Section 7.3.5, Table 7.15 and Figure 7.19.	The format type most used in posts by the sports events is text.
Section 7.3.6, Table 7.16 and Figure 7.24.	The sports events made very little use of live content, call-to-action phrases, Coronavirus and virtual race updates.
Section 7.3.7, Table 7.17 and Figure 7.29.	Entertainment is the most used content type in sports event posts.

2. Analyse the different levels of online engagement achieved.	
2.1 Determine how stakeholders are engaging through the social media platform Facebook.	
Section 7.3.1.1, Table 7.1, and Figure 7.3. Section 7.3.1.2, Table 7.2, 7.3 and Figure 7.5.	The highest level of participation in Facebook is achieved through popularity measures (number of likes), followed by virality (number of shares), and then commitment (number of comments), representing the lowest level of participation.

Source: Author's own compilation

Figure 7.35 is a graphical presentation of the findings, explicitly displaying sports events' social media posts most used characteristics and the preferred stakeholder engagement to their social media posts. The characteristics shown in Figure 7.35 are divided into the different independent variables discussed in this chapter, together with each of their different sub-variables, categories and options. The options of each variable are listed in order of most used to least. Those option appearing in bold were indicated in the findings as the most used characteristics.

Figure 7.35: Sports events social media post characteristics and stakeholder engagement achieved



Source: Author’s own data

7.5 CHAPTER SUMMARY

Chapter 7 served as the descriptive statistical analysis chapter of this study and provided a description and summary of the data's basic characteristics.

This chapter commenced by recapitulating the study's primary and secondary objectives, stating the order in which the objectives were addressed. The dependent variable and thereafter, the numerous independent variables' results and findings were presented. Commonly used methods were used to summarise data sets and frequency tables and column charts, were used to visually display data. Each frequency table reported the specific value of the variable with the respective percentage.

This chapter concludes by summarising the main findings of the descriptive statistical analysis against the relative research objectives addressed in this chapter. In Chapter 8, the results and findings of the inferential statistical analysis are provided.

CHAPTER 8

DATA ANALYSIS:
DISCUSSIONS AND INTERPRETATIONS OF INFERENTIAL STATISTICS

"The core advantage of data is that it tells you something about the world that you didn't know before."

- Hilary Mason (Mason, 2022)

8.1 INTRODUCTION

The previous chapter focused on the results and findings of the descriptive analysis of the social media posts of the sports events. This chapter is dedicated to the results and findings of the inferential analysis conducted, using Spearmans' rho correlation, multiple linear regression, and Chi-Square Automatic Interaction Detection (CHAID). The purpose of CHAID is to investigate relationships between variables, which contribute to building a decision tree that classifies social media posts characteristics of sports events, based on their statistical significance, to predict the dependent variable stakeholder engagement. This is the primary objective of the study. Thereby, an understanding of the types of Facebook posts that lead to greater stakeholder engagements, is created.

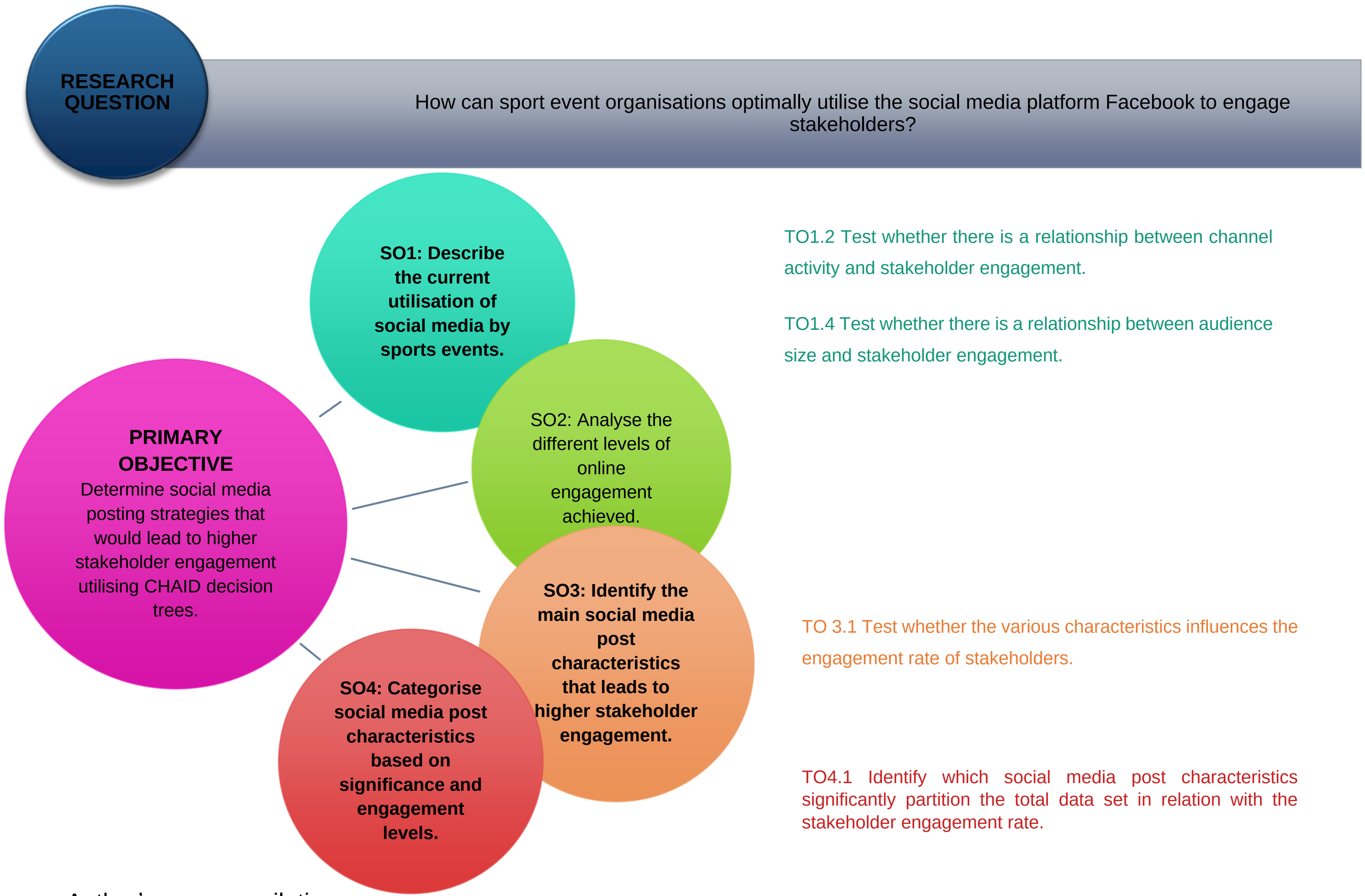
This chapter revisits the primary and secondary objectives and focuses solely on the results and findings of the inferential analysis. The first section addresses the Spearman's rho correlation results and the multiple linear regression analysis follows. CHAID is explained and the results are divided into sections representing the whole data set and the Facebook audience sizes, namely, small, medium and large. The chapter concludes with an indication of the objectives achieved through the inferential statistical analysis and a summary of the most significant findings.

8.2 RECAPITULATION OF THE RESEARCH QUESTION AND OBJECTIVES

As stated in Chapter 7, Section 7.2, the social media posts were analysed in two phases. During the first phase, data were analysed descriptively (Chapter 7). Whereas the second phase involves the inferential analysis of the data. Both data analysis phases were conducted with the use of the IBM SPSS V27 statistical software package.

Before discussing the results of the inferential statistical analysis, it is important to recapitulate the research question and objectives to determine the focus and structure of this chapter. Figure 8.1 reintroduces the overarching research question, primary research objective, and the various secondary and tertiary research objectives that assist in answering the research question. The secondary and tertiary objectives are displayed in the order of accomplishment with inferential statistical analysis.

Figure 8.1: Research problem and objectives addressed inferentially



Source: Author’s own compilation

8.2.1 INFERENTIAL STATISTICAL ANALYSIS OF THE SOCIAL MEDIA POSTS – RESEARCH AND STATISTICAL HYPOTHESES

The following overarching research hypotheses (RH) and their associated statistical hypotheses have been developed to achieve tertiary objective 3.1, regarding which social media post characteristics has a relationship with the engagement rate of stakeholders:

- RH 1: The *moment of participation* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Moment of participation was measured using the *month of the year*, *day of the week*, and *time of the day*.

  - RH$1a_{1}$: The *month of the year* a social media post is posted has a relationship with the engagement rate of stakeholders.

    The following statistical hypotheses were formulated for the *month of the year*:

    – H$1a_{1a}$: The month of the year, *09/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    – H$1a_{1b}$: The month of the year, *10/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    – H$1a_{1c}$: The month of the year, *11/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    – H$1a_{1d}$: The month of the year, *12/2019* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    – H$1a_{1e}$: The month of the year, *01/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

    – H$1a_{1f}$: The month of the year, *02/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

- $H1a_{1g}$: The month of the year, *03/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1h}$: The month of the year, *04/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1i}$: The month of the year, *05/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1j}$: The month of the year, *06/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1k}$: The month of the year, *07/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1l}$: The month of the year, *08/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1m}$: The month of the year, *09/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1n}$: The month of the year, *10/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- $H1a_{1o}$: The month of the year, *11/2020* in reference to *08/2019,* a social media post is posted has a relationship with the engagement rate of stakeholders.

○ $RH1b_1$: The *day of the week* a social media post is posted has a relationship with the engagement rate of stakeholders.

The following statistical hypotheses were formulated for the *day of the week*:

- $H1b_{1a}$: The day of the week, *Tuesdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.

- H1b$_{1b}$: The day of the week, *Wednesdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- H1b$_{1c}$: The day of the week, *Thursdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- H1b$_{1d}$: The day of the week, *Fridays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- H1b$_{1e}$: The day of the week, *Saturdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- H1b1$_{f}$: The day of the week, *Sundays* in reference to *Mondays*, a social media post is posted has a relationship with the engagement rate of stakeholders.

○ RH1c$_1$: The *time of day* a social media post is posted has a relationship with the engagement rate of stakeholders.

The following statistical hypotheses were formulated for the *time of day*:

- H1c$_{1a}$: The time of day, *mornings* in reference to *evenings,* a social media post is posted has a relationship with the engagement rate of stakeholders.
- H1c$_{1b}$: The time of day, *afternoons* in reference to *evenings*, a social media post is posted has a relationship with the engagement rate of stakeholders.

• RH 2: The *design* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Design was measured using *vividness level* and *level of interactivity*.

○ RH2a$_1$: The social media posts' *vividness level* has a relationship with the engagement rate of stakeholders.

The following statistical hypotheses were formulated for *vividness level*:

- H2a$_{1a}$: The social media posts' vividness level, *high* in reference to *low*, has a relationship with the engagement rate of stakeholders.

○ RH2b$_1$: The social media posts' *level of interactivity* has a relationship with the engagement rate of stakeholders.

The following statistical hypotheses were formulated for *level of interactivity*:

- H2b$_{1a}$: The social media posts' level of interactivity, *low* in reference to *none*, has a relationship with the engagement rate of stakeholders.
- H2b$_{1b}$: The social media posts' level of interactivity, *medium* in reference to *none*, has a relationship with the engagement rate of stakeholders.
- H2b$_{1c}$: The social media posts' level of interactivity, *high* in reference to *none*, has a relationship with the engagement rate of stakeholders.

- RH 3: The *fluency* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Fluency was measured using *post length*, *number of total hashtags* and *tagging people or organisations*.

The following statistical hypothesis was formulated for post length, number of total hashtags and tagging people or organisations:

- H3a$_1$: The *length* of a social media post has a relationship with the engagement rate of stakeholders.
- H3b$_1$: The *total number of hashtags* used in a social media post has a relationship with the engagement rate of stakeholders.
- H3c$_1$: *Tagging people or organisations* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 4: The *format* of the content of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Format was measured using *photos*, *external links*, *texts*, and *videos*.

The following statistical hypotheses were formulated for *photos*, *external links*, *texts*, and *videos*:

- H4a$_1$: The use of *photos* in a social media post has a relationship with the engagement rate of stakeholders.
- H4b$_1$: The use of *external links* in a social media post has a relationship with the engagement rate of stakeholders.
- H4c$_1$: The use of *text* in a social media post has a relationship with the engagement rate of stakeholders.
- H4d$_1$: The use of *videos* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 5: *Live content* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.

The following statistical hypothesis was formulated for *live content*:

– $H5_1$: Using *live content* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 6: The existence of a *call-to-action* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.

  The following statistical hypothesis was formulated for *call-to-action*:

  – $H6_1$: The inclusion of a *call-to-action* phrase in a social media post has a relationship with the engagement rate of stakeholders.

- RH 7: *COVID-19* updates in sports events' Facebook posts have a relationship with their stakeholders' engagement rate.

  The following statistical hypothesis was formulated for *COVID-19*:

  – $H7_1$: A *COVID-19 update* in a social media post has a relationship with the engagement rate of stakeholders.

- RH 8: *Virtual race* content in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.

  The following statistical hypothesis was formulated for *virtual race*:

  – $H8_1$: *Virtual race* content in a social media post has a relationship with the engagement rate of stakeholders.

- RH 9: The *content type* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders. Content was measured using *informational*, *entertainment*, *promotional*, *social*, and *remunerative content*.

  The following statistical hypotheses were formulated for *informational*, *entertainment*, *promotional*, *social*, and *remunerative content*:

  – $H9a_1$: A social media post sharing *informational content* has a relationship with the engagement rate of stakeholders.

  – $H9b_1$: A social media post sharing *entertainment content* has a relationship with the engagement rate of stakeholders.

  – $H9c_1$: A social media post sharing *promotional content* has a relationship with the engagement rate of stakeholders.

  – $H9d_1$: A social media post sharing *social content* has a relationship with the engagement rate of stakeholders.

– $H9e_1$: A social media post sharing *remunerative content* has a relationship with the engagement rate of stakeholders.

The testing of these various statistical hypotheses is addressed within the discussion of the multiple linear regression analysis results in Section 8.4. The next three sections focus on the three inferential statistical methods employed in this study. The first section will focus on the results of the Spearman's rho's correlation results testing the relationship between channel activity and audience size and stakeholder engagement. The section thereafter focuses on the results of the multiple linear regression analysis, looking to see which independent variables are significantly associated with stakeholder engagement. The third section focuses on the results of the CHAID analysis, building decision trees of social media posting compositions for sports events.

8.3 THE RELATIONSHIP BETWEEN CHANNEL ACTIVITY AND AUDIENCE SIZE AND STAKEHOLDER ENGAGEMENT

Spearman's rank-order correlation analysis was conducted to examine the relationship between the channel activity (number of sports event social media postings on Facebook) and stakeholder engagement as well as audience size and stakeholder engagement at the sport event level. The Spearman correlation coefficient was used due to the small sample size (n=13) as only a total value was available for each sports event for its channel activity.

The results indicated a weak negative, not statistically significant correlation between channel activity (the number of posts posted) and stakeholder engagement (r_s=-.275; n=13; p=.364). The statistical significance was influenced by the statistical power of the test and correspond to the descriptive findings, which also indicate that a higher stakeholder engagement rate is not related to a higher level of activity. Therefore, sports events would not gain an increased stakeholder engagement rate by posting more frequently on their social media page. The results also indicate a weak positive not statistically significant correlation between audience size and stakeholder engagement (r_s=0.154; n=13; p=.616). This result also corresponds to the descriptive findings, which indicate that a higher stakeholder engagement rate is not necessarily related to a larger audience size. Therefore, sports events will potentially not achieve a higher stakeholder engagement rate if they have a greater Facebook audience.

The following section focuses on the analysis and results of the regression analysis.

8.4 REGRESSION MODEL WITH THE DEPENDENT VARIABLE STAKEHOLDER ENGAGEMENT RATE

Multiple linear regression is useful for exploring the relationship of an independent variable to a dependent variable when the relationship is linear, that is, when there is an obvious downward or upward trend, between the variables.

Multiple linear regression analysis tests the effect of independent variables on a dependent variable. The dependent and independent variables used in this regression analysis are the same as those specified in Figure 7.2, namely, the stakeholder engagement index as the dependent variable and the 21 independent variables are as follows: the month of the year, day of the week, time of day, level of interactivity, vividness level, post length, number of total hashtags, tagging people or organisations, photos, external links, texts, videos, live content, call-to-action, COVID-19, virtual race, and informational, entertainment, social, promotional and remunerative content.

The following independent variables are not dichotomous, but rather ordinal, and dummy variables had to be created before it could be entered into the multiple regression analysis: time of day, day of the week, month of the year, level of interactivity and vividness level. The number of dummy variables depends on the number of categories the categorical independent variable has. As a rule, one less dummy variable than the number of categories in the categorical independent variable needs to be created. If, for example, the independent variable has three categories, there needs to be two dummy variables representing two of the categories, and a reference category representing the third category (SAGE, 2015). A reference category is a category of comparison for the other categories (dummy variables). Therefore, the other categories are compared to the reference (Starkweather, 2018). Reference categories are generally chosen as either the first or the last category of the categorical variable, considering the number of observations in either of these categories. Table 8.1 summarises the dummy variables and reference categories of the independent variables created for the multiple regression analysis.

Table 8.1: Dummy variables created for the multiple regression analysis

INDEPENDENT VARIABLE	**DUMMY VARIABLES**	**REFERENCE CATEGORY**
Time of day	Mornings Afternoons	Evenings
Day of the week	Day of the Week 2 (Tuesdays) Day of the Week 3 (Wednesdays) Day of the Week 4 (Thursdays) Day of the Week 5 (Fridays) Day of the Week 6 (Saturdays) Day of the Week 7 (Sundays)	Day of the Week 1 (Mondays)
Month of the year	Month of the year 0919 to Month of the year 1120	Month of the year 0819
Level of interactivity	Interactivity 2 (Low) Interactivity 3 (Medium) Interactivity 4 (High)	Interactivity 1 (None)
Vividness level	Vividness 2 (Medium) Vividness 3 (High)	Vividness 1 (Low)

Source: Author's own data

Table 8.2 and Table 8.3 represents the results of the multiple regression analysis.

Table 8.2: Regression analysis Model 1 summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.442	.195	.186	1.922591

Source: Author's own data (SPSS output)

Table 8.3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3400.984	44	77.295	20.911	.000
	Residual	14031.361	3796	3.696		
	Total	17432.345	3840			

Source: Author's own data (SPSS output)

Table 8.4: Regression analysis coefficients

Independent variables	Standardized Coefficients Beta	Sig.	Collinearity statistics VIF
(Constant)		.000	
Informational	.056	.001***	1.343
Entertainment	.067	.000***	1.261
Promotional	.173	.000***	1.304
Social	.061	.000***	1.206
Remunerative	.065	.000***	1.073
Covid19	.004	.792	1.154
Virtual Race	.038	.031**	1.449
Call-To-Action	-.156	.000***	3.439
Live Content	.056	.000***	1.225
Photo	-.165	.000***	10.010
Link	-.082	.000***	2.094
Text	-.048	.002***	1.166
Video	.031	.621	18.596
Tagging People or Organisations	-.025	.105	1.165
Number of Hashtags Total	-.034	.034**	1.187
Post Length Total	.008	.605	1.141
Time of Day Mornings	-.222	.000***	1.562
Time of Day Afternoons	-.114	.000***	1.529
Vividness 2 (Medium)	-.311	.000***	12.464
Vividness 3 (High)	-.050	.462	21.456
Interactivity 2 (Low)	-.016	.432	2.025
Interactivity 3 (Medium)	-.050	.096*	4.193
Interactivity 4 (High)	-.048	.016**	1.829
Day of the Week 2	-.010	.612	1.705
Day of the Week 3	-.002	.922	1.750
Day of the Week 4	.000	1.000	1.724
Day of the Week 5	-.021	.282	1.742
Day of the Week 6	-.037	.041**	1.546
Day of the Week 7	.018	.352	1.696
Month of the Year 0919	-.146	.000***	3.504
Month of the Year 1019	.016	.578	3.803
Month of the Year 1119	-.126	.000***	2.690

Month of the Year 1219	-.075	.000***	2.186
Month of the Year 0120	-.105	.000***	2.330
Month of the Year 0220	-.124	.000***	2.555
Month of the Year 0320	-.134	.000***	2.504
Month of the Year 0420	-.110	.000***	2.157
Month of the Year 0520	-.140	.000***	1.977
Month of the Year 0620	-.046	.050**	2.598
Month of the Year 0720	.007	.737	2.179
Month of the Year 0820	-.054	.019**	2.440
Month of the Year 0920	.043	.087*	2.934
Month of the Year 1020	-.072	.011**	3.714
Month of the Year 1120	-.099	.000***	2.107

Dependent variable: Stakeholder engagement rate

* denotes a statistical significance with $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$

Source: Author's own data (SPSS output)

Results in Tables 8.2 and Table 8.3 show only a small percentage of variation (an adjusted R-squared of 0.186) could be explained by the list of independent variables. The F-value of 20.911 ($p < 0.01$) for the regression model was statistically significant, therefore indicating that the Beta coefficients differ significantly from zero. However, within Table 8.4 there is evidence of collinearity with four variables' Variable Inflation Factors (VIF) values above 10, namely, the two format variables, photo and video, as well as the two vividness levels, medium and high, underlined in Table 8.4. Multicollinearity happens when two or more independent variables are highly correlated, which can be problematic in a regression model as the researcher would not be able to differentiate between the individual effects of the independent variables on the dependent variable. VIF is the score of an independent variable representing how well the variables is explained by other independent variables. VIF begins at 1 and do not have an upper limit, where VIF equals 1, there is no correlation between the independent variable and the other variables. Where VIF exceeds 10, it indicates high multicollinearity between the independent variable and the other variables (Analytics Vidhya, 2020). Thus, the format variable video and the medium vividness level were removed from the analysis in Model 2. Tables 8.5 to 8.7 represent the results of Model 2.

Table 8.5: Regression analysis Model 2 summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.432[a]	.186	.177	1.932506

Source: Author's own data (SPSS output)

Table 8.6: Regression analysis Model 2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3248.416	42	77.343	20.710	.000[b]
	Residual	14183.929	3798	3.735		
	Total	17432.345	3840			

Source: Author's own data (SPSS output)

Table 8.7: Regression analysis Model 2 Coefficients – Summary of hypothesis testing

H_a	Independent variables	Standardized Coefficients Beta	Sig.	Collinearity statistics VIF	Finding
	(Constant)		.002***		
$H9a_1$	Informational	.047	.006***	1.332	Null hypothesis rejected
$H9b_1$	Entertainment	.065	.000***	1.260	Null hypothesis rejected
$H9c_1$	Promotional	.185	.000***	1.286	Null hypothesis rejected
$H9d_1$	Social	.058	.000***	1.205	Null hypothesis rejected
$H9e_1$	Remunerative	.064	.000***	1.073	Null hypothesis rejected
$H7_1$	Covid19	.003	.863	1.153	Null hypothesis not rejected
$H8_1$	Virtual Race	.034	.051*	1.447	Null hypothesis rejected
$H6_1$	Call-To-Action	-.163	.000***	3.433	Null hypothesis rejected
$H5_1$	Live Content	.058	.000***	1.225	Null hypothesis rejected
$H4a_1$	Photo	.037	.188	3.700	Null hypothesis not rejected
$H4b_1$	Link	-.087	.000***	2.086	Null hypothesis rejected
$H4c_1$	Text	-.040	.011**	1.158	Null hypothesis rejected

$H3c_1$	Tagging People Or Organisations	-.014	.361	1.151	Null hypothesis not rejected
$H3b_1$	Number Of Hashtags Total	-.028	.074*	1.183	Null hypothesis rejected
$H3a_1$	Post Length Total	.009	.555	1.141	Null hypothesis not rejected
$H1c_{1a}$	Time of Day Mornings	-.227	.000***	1.559	Null hypothesis rejected
$H1c_{1b}$	Time of Day Afternoons	-.113	.000***	1.529	Null hypothesis rejected
$H2a_{1a}$	Vividness 3 (high)	.026	.355	3.678	Null hypothesis not rejected
$H2b_{1a}$	Interactivity 2 (low)	-.010	.618	2.019	Null hypothesis not rejected
$H2b_{1b}$	Interactivity 3 (medium)	-.049	.100	4.188	Null hypothesis not rejected
$H2b_{1c}$	Interactivity 4 (high)	-.051	.010***	1.827	Null hypothesis rejected
$H1b_{1a}$	Day of the Week 2	-.006	.770	1.702	Null hypothesis not rejected
$H1b_{1b}$	Day of the Week 3	-.002	.908	1.750	Null hypothesis not rejected
$H1b_{1c}$	Day of the Week 4	.005	.812	1.722	Null hypothesis not rejected
$H1b_{1d}$	Day of the Week 5	-.019	.338	1.741	Null hypothesis not rejected
$H1b_{1e}$	Day of the Week 6	-.034	.063*	1.545	Null hypothesis rejected
$H1b_{1f}$	Day of the Week 7	.019	.313	1.696	Null hypothesis not rejected
$H1a_{1a}$	Month of the Year 919	-.146	.000***	3.503	Null hypothesis rejected
$H1a_{1b}$	Month of the Year 1019	.019	.498	3.802	Null hypothesis not rejected
$H1a_{1c}$	Month of the Year 1119	-.127	.000***	2.690	Null hypothesis rejected

$H1a_{1d}$	Month of the Year 1219	-.075	.000***	2.185	Null hypothesis rejected
$H1a_{1e}$	Month of the Year 0120	-.104	.000***	2.330	Null hypothesis rejected
$H1a_{1f}$	Month of the Year 0220	-.122	.000***	2.554	Null hypothesis rejected
$H1a_{1g}$	Month of the Year 0320	-.132	.000***	2.502	Null hypothesis rejected
$H1a_{1h}$	Month of the Year 0420	-.108	.000***	2.156	Null hypothesis rejected
$H1a_{1i}$	Month of the Year 0520	-.139	.000***	1.977	Null hypothesis rejected
$H1a_{1j}$	Month of the Year 0620	-.052	.027**	2.593	Null hypothesis rejected
$H1a_{1k}$	Month of the Year 0720	.004	.856	2.177	Null hypothesis not rejected
$H1a_{1l}$	Month of the Year 0820	-.059	.010***	2.437	Null hypothesis rejected
$H1a_{1m}$	Month of the Year 0920	.040	.115	2.933	Null hypothesis not rejected
$H1a_{1n}$	Month of the Year 1020	-.076	.007***	3.710	Null hypothesis rejected
$H1a_{1o}$	Month of the Year 1120	-.100	.000***	2.106	Null hypothesis rejected

Dependent variable: Stakeholder engagement rate

* denotes a statistical significance with p < 0.1, ** denotes p < 0.05, *** denotes p < 0.01

Source: Author's own data (SPSS output)

The adjusted R-squared value was relatively small and showed that only 17.7% of the variation in the dependent variable, stakeholder engagement rate, can be explained by the respective set of variables in the second model. The F-value of 20.71 ($p < 0.01$), for the regression model was highly statistically significant, therefore indicating that the Beta coefficients differ significantly from zero. The Beta coefficients can be negative or positive, indicating the direction of a relationship, as can be seen in the third column of Table 8.7. The unstandardised beta coefficient is the degree of change in the outcome variable (stakeholder engagement rate) for every 1-unit of change in the predictor variable. If the beta coefficient is significant, the sign of the beta should be examined. If the beta coefficient is positive, it can be interpreted that for each 1-unit increase in the predictor variable, the outcome variable will increase by the beta coefficient value. If the beta coefficient is negative, it can be interpreted that for each 1-unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value (Statistics Solutions, 2022). Therefore, since Beta measures the total effect of the predictor variables, the best predictor variable is the one with the greatest total effect (Glen, 2016). The standardised Beta coefficient compares the strength of the effect of each independent variable to the dependent variable (stakeholder engagement rate). The higher the value of the beta coefficient, the stronger the effect. Standardised beta coefficients have standard deviations as their units, meaning the variables can be compared more easily (Statistics How To, 2022).

The results in Table 8.7 show there is no evidence of collinearity as all the variables' VIF values are below 10. A total of 26 of 42 variables are statistically significantly associated with stakeholder engagement. The standardised beta values and associated significance indicate that the following variables are statistically significant at the 1, 5 or 10% levels of significance as indicated in Table 8.7:

- Social media post characteristics deemed highly statistically significant at the 1% level of significance:
    - All five content variables, namely, informational, entertainment, promotional, social and remunerative.
    - The variables call-to-action and live content.
    - The format variable, external link.
    - The moment of participation variables, time of day mornings and time of day afternoons relative to the reference category time of day evenings.
    - The design variable, high level of interactivity.
    - The moment of participation variable, months of the year: 09/19; 11/19; 12/19; 01/20; 02/20; 03/20; 04/20; 05/20; 08/20; 10/20; 11/20 relative to the reference category 08/19.

- Social media post characteristics deemed statistically significant at the 5% level of significance:
    - The format variable, text.

    - The moment of participation variable, month of the year 06/20 relative to the reference category 08/19.

- Social media post characteristics deemed statistically significant at the 10% level of significance:
    - The fluency variable, total number of hashtags.
    - The moment of participation variable, day of the week 6 representing Saturdays relative to the reference category day of the week 1 representing Mondays.

In contrast, other social media post characteristics such as, the mention of COVID-19, the inclusion of photos, the length of a post, the level of vividness of a post as well as the inclusion of a tag, do not significantly influence the stakeholder engagement rate.

According to the results in Table 8.7, the moment of participation variable, time of day morning, relative to time of day evening, has the strongest standardise Beta (β-value = -0.227) followed by promotional content (β-value = 0.185). This indicates that the time of day of a social media posting and promotional content, are the most important independent variables that influence stakeholder engagement. The results also indicated a negative relationship between time of day morning, relative to time of day evening, and the stakeholder engagement rate, which indicates that morning posts do not lead to a higher stakeholder engagement. The results also indicate a positive relationship between promotional content and stakeholder engagement rate, which suggests that more promotional content in posts could lead to a higher stakeholder engagement rates.

In the next section the results of CHAID analyses are discussed.

8.5 CHAID ANALYSIS

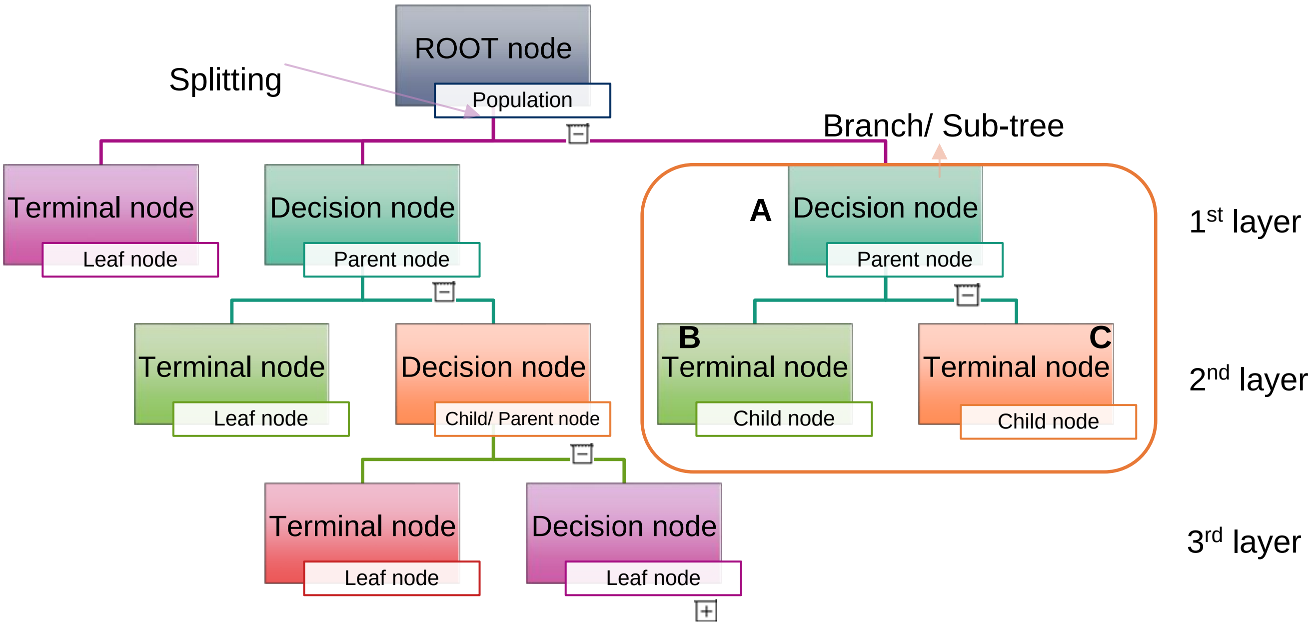
CHAID was introduced and briefly discussed in Chapter 6, Section 6.6.3. However, to ensure a thorough understanding of the findings, discussions and figures, a brief explanation is given again of the terminologies used.

In order to establish relationships between variables, the CHAID analysis uses one dependent variable and multiple independent variables, also known as predicting variables (Bhardwaj, 2018; Statistics Solutions, 2020). At each step, independent variables are compared, and the best predictor (Surucu-Balci, Balci and Yuen, 2020), or the independent variable that has the strongest interaction with the dependent variable (IBM, 2016), is determined. The category groupings, or interval breaks in the case of continuous variables are then assessed, choosing the most significant combination - the independent variables homogeneous regarding of the dependent variable (Thomas and Galambos, 2004:257). These subgroups of the independent variables continue to generate more subgroups of significant variables (determinants), thus, the relationships between the subgroups become visible. Therefore, the CHAID analysis shows the determinants and their interactions with the dependent variable, with the aid of a tree diagram, making use of the chi-square or F statistics, Bonferroni method and category merger algorithm (Kass, 1980:120; Önder and Uyar, 2017:611). In this study, the dependent variable is the Stakeholder Engagement Index.

Within the CHAID analysis, the independent variable categories that most significantly influence the dependent variable appear first, and those categories with less influence come last and are also known as terminal nodes (Statistics Solutions, 2020). The CHAID analysis has been chosen for this study because it can generate nonbinary trees, meaning certain splits have more than two branches. These nonbinary trees are considered an advantage as this tends to create a wider tree than the binary growing methods of C&R Tree and QUEST. The CHAID trees were constructed with the IBM SPSS V27 statistical software package, and this latest version allowed for CHAID to reach a depth of five layers, whereas the C&R Tree and QUEST only allow a depth of up to three layers.

Figure 8.2 illustrates an example of a typical CHAID decision tree and displays the terminologies typically used. These are then further described.

Figure 8.2: Important terminology related to example decision tree



Note: A is the parent node of B and C.

Source: Adapted from (Chauhan, 2020)

- Root node - Represents the entire population or sample and contains the dependent variable.
- Splitting - Process of dividing a node into two or more sub-nodes.
- Decision node - When a sub-node splits into further sub-nodes (also parent node).
- Leaf/ terminal node - Nodes that do not split into further sub-nodes (also child node).
- Pruning - Closing or removing sub-nodes from a decision node.
- Branch/ sub-tree - A subsection of the entire tree.
- Parent and child node - A node divided into sub-nodes are parent nodes of those sub-nodes, and sub-nodes are the child nodes of the parent nodes.
- The small plus (+) at the bottom of some nodes indicate that it branches out to another layer, however, are closed for viewing to keep the focus on the nodes being discussed.
- The small minus (-) at the bottom of some nodes indicate that it branches out to another layer that are open to view.
- Those node with no plus or minus at the bottom indicates that it is a terminal node and have no further branches.

A basic understanding has been created with the discussion on what a CHAID decision tree is, and the terminologies used. In the following section the first CHAID tree for the whole data set is discussed.

8.5.1 CHAID RESULTS FOR ALL SPORTS EVENTS

This section provides the CHAID results for the sports events using the whole data set and explains the specifications used in the model, then each layer of the tree is graphically presented and discussed separately. This section is concluded with a discussion and explanation of the gains summary table (Table 8.9) and the tree table (Table 8.10).

Table 8.8 is a model summary showing the main conditions used in calculating the algorithm in the model. The specifications section in the table gives insights into the general details of the model. These values are the same for all models. The dependent and independent variables used in this model are the same as those specified in Figure 7.2, namely the stakeholder engagement index as the dependent variable and the 21 independent variables (Table 8.8). The model predicts a maximum tree depth of five, with a minimum of 100 cases per parent node and 50 cases per child node. The default significance level for splitting nodes and merging categories is 0.05. The results section in the table is specific to the CHAID algorithm discussed for sports events in general. The statistically significant independent variables in the model are the time of day, the month of the year, call-to-action, tagging people or organisations, interactivity, social content, promotional content, number of hashtags total, informational content, link, photo, day of the week, video, entertainment content, post length total, virtual race, vividness. There are 80 nodes, 43 terminal nodes and the resulting depth of the tree is five, the specified maximum. There are 17 variables used in creating the decision tree as the other variables do not contribute significantly to the model and are therefore excluded.

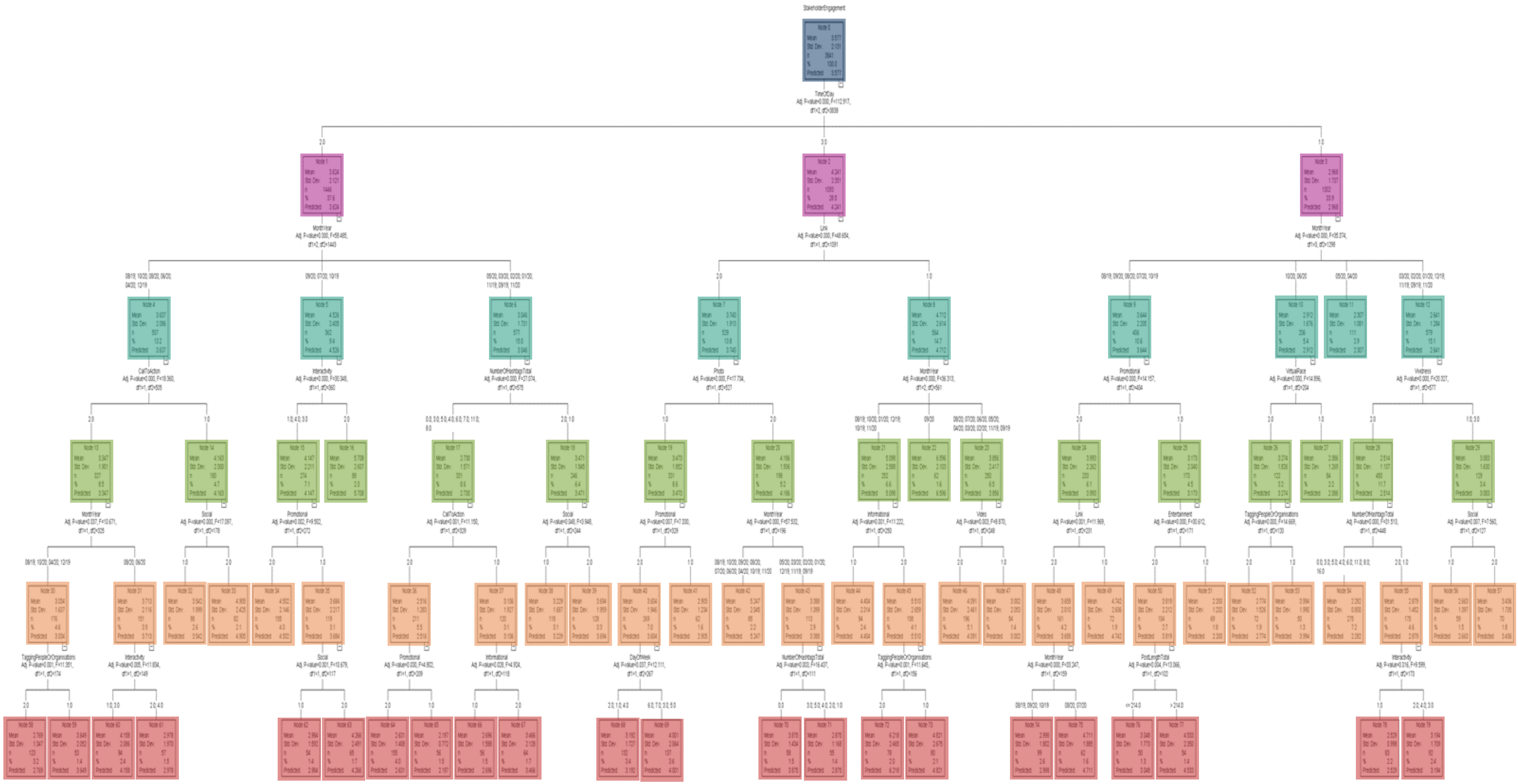
Table 8.8: CHAID Model Specifications summary for all sports events

MODEL SUMMARY		
Specifications	Growing Method	CHAID
	Dependent Variable	Stakeholder Engagement
	Independent Variables	Time of Day, Day of Week, Month Year, Vividness, Interactivity, Post Length Total, Number of Hashtags Total, Tagging People or Organisations, Photo, Link, Text, Video, Live Content, Call-To-Action, Covid19, Virtual Race, Informational, Entertainment, Promotional, Social, Remunerative
	Maximum Tree Depth	5
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
	Significance level	0.05
Results	Independent Variables Included	Time of Day, Month of the Year, Call-to-Action, Tagging people or organisations, Interactivity, Social, Promotional, Number of Hashtags Total, Informational, Link, Photo, Day of the week, Video, Entertainment, Post length total, Virtual Race, Vividness
	Number of Nodes	80
	Number of Terminal Nodes	43
	Depth	5

Source: Author's own data (SPSS output)

Figure 8.3 presents the stakeholder engagement rate CHAID algorithm decision tree for all sports events in its entirety. Due to its large size and complexity, each layer of the decision tree is delt with separately to ensure the discussion is easier to follow and the decision tree's readability is enhanced. The list of all nodes and their related details can be found in the CHAID tree table, Table 8.10.

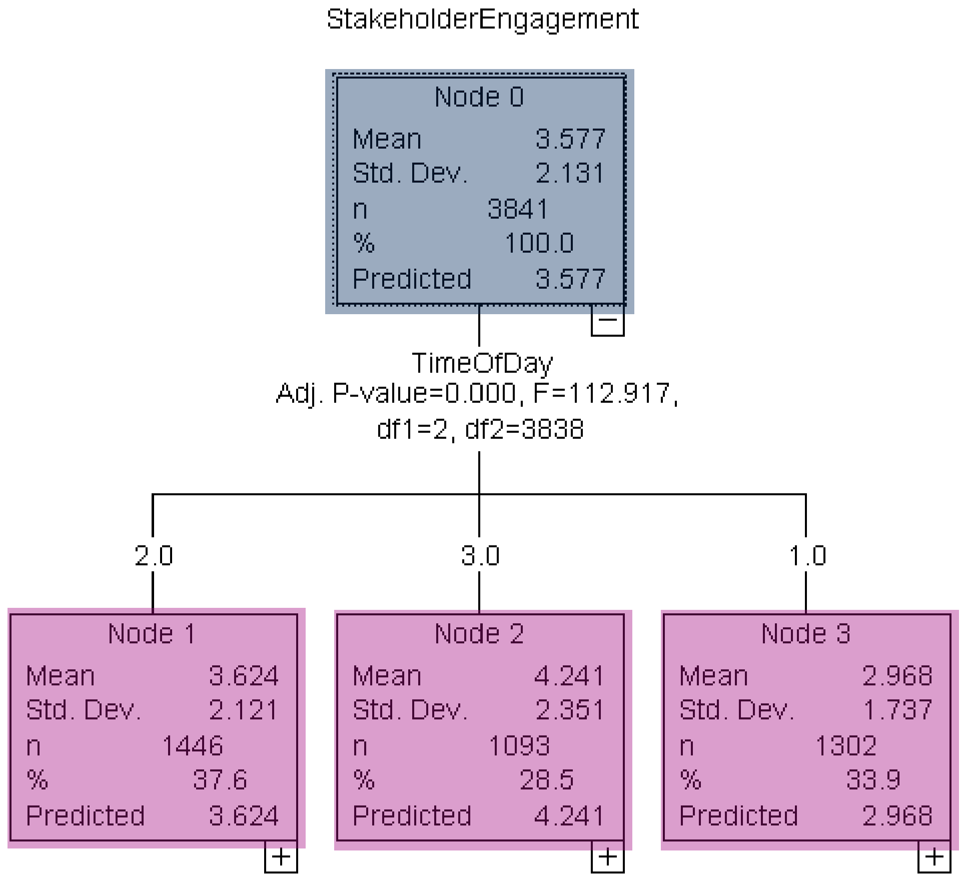
Figure 8.3: CHAID decision tree for all sports events



Source: Author's own data (SPSS output)

Figure 8.4 presents the stakeholder engagement rate CHAID algorithm with the first layer of branches for all the sports events (highlighted in pink). Node 0, also referred to as the root node (highlighted in dark blue), indicates the actual mean, 3.577, of the stakeholder engagement rate of the 3841 social media posts of the 13 sports events.

Figure 8.4: Stakeholder engagement rate CHAID algorithm with first layer of branches for all sports events



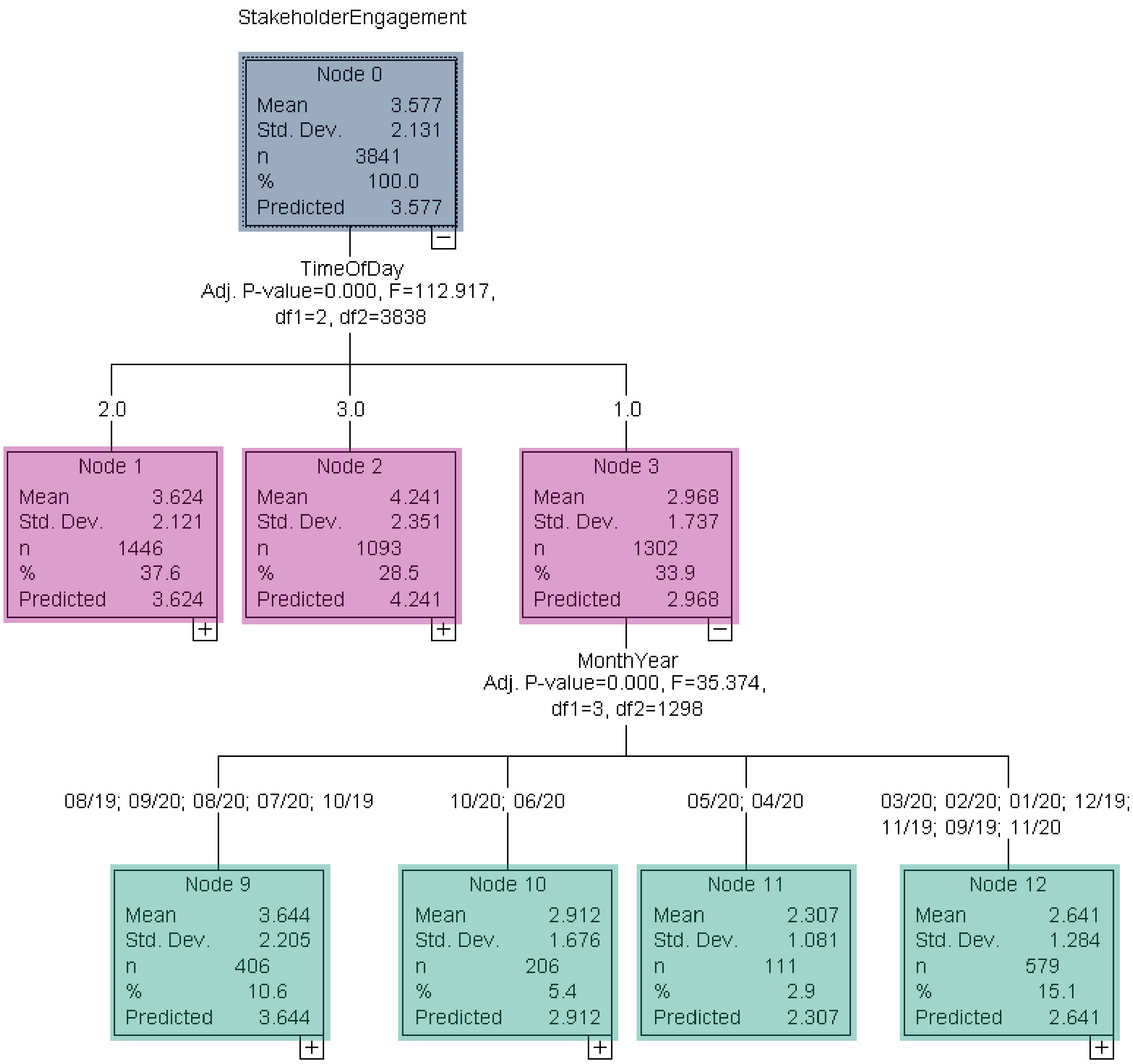
Source: Author's own data (SPSS output)

Figure 8.4 indicates that the best determinant of the stakeholder engagement rate is the *time of day*. This is indicated in the first layer of 'branches' (highlighted in pink) (Adj. P-value=0.000, F112.917, df1=2, df2=3838). Node 3, representing social media postings during the mornings between the hours of 00:00 and 11:59, had the lowest predicted average stakeholder engagement rate of 2.968. These results are interesting as almost a third of the sports event's posts were posted during the mornings (n=1302; 33.9%). Node 2, representing social media postings during the evenings between the hours of 18:00 and 23:59 , had the highest predicted average stakeholder engagement rate of 4.241. These results are interesting as well, as sports events post the least during the evening (n=1093; 28.5%). Node 1 has the second-highest predicted average stakeholder engagement rate of 3.624 and represents social media postings during afternoons between the hours of 12:00 and 17:59. The results of the whole data set regarding the time of day, as discussed in the descriptive Section 7.3.2.3, Figure 7.13, indicate that mornings receive the least amount of engagement, followed by afternoons and evenings, which receive the most engagement. Nodes 1, 2 and 3 had further statistically significant determinants that branched out to the second layer of the tree and are discussed separately in the figures ahead (Figures 8.5 – 8.28).

The time of day a social media post is posted influences the engagement rate of stakeholders. Social media postings during the evenings are more likely to receive higher engagement from stakeholders. This could be due to proper engagement being mostly possible after the workday when people can relax and participate in social activities on social media. This includes participating athletes, as they can only engage with posts after finishing the event.

The various layers of determinants for social media postings during mornings (node 3) are now discussed, from Figures 8.5 to 8.12. Figure 8.5 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for postings during the mornings for all sports events (highlighted in dark green).

Figure 8.5: Stakeholder engagement rate CHAID algorithm with second layer of branches during morning posts for all sports events



Source: Author's own data (SPSS output)

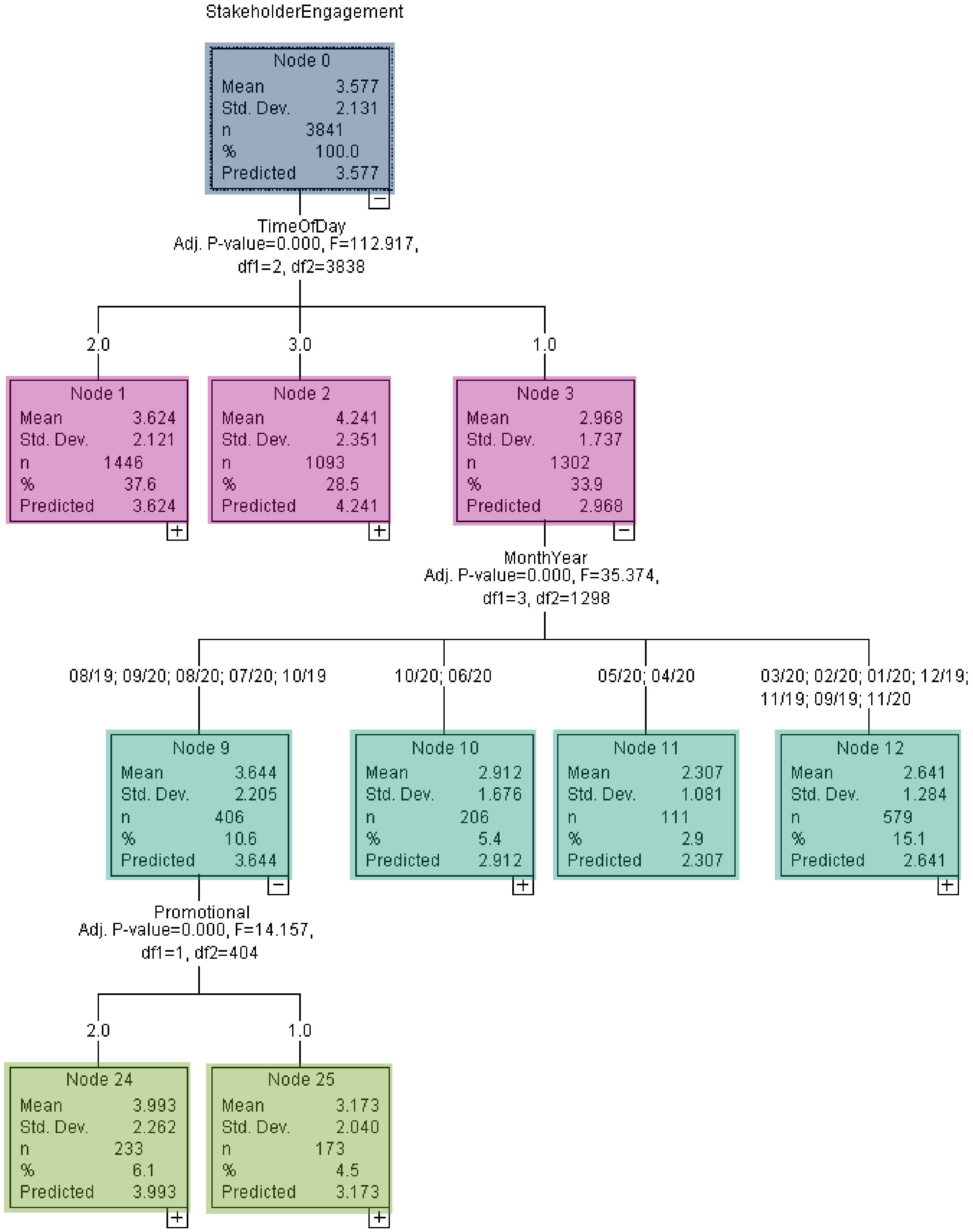
As shown in Figure 8.5, the second-best determinant for social media stakeholder engagement (next layer of branches highlighted in dark green) is dependent on the time of day (first layer of branches highlighted in pink). However, further determinants for the social media postings during the afternoons (node 1) (Figures 8.13 to 8.21) and evenings (node 2) are considered separately (Figures 8.22 to 8.28) to ensure the readability of the CHAID tree diagram in Figure 8.5.

For morning posts (node 3), which had the lowest predicted average stakeholder engagement rate of 2.968, the second-best determinant of the social media posts' stakeholder engagement rate is the *month of the year* (Adj. P-value=0.000, F35.374, df1=3, df2=1298). Node 11 representing postings in the mornings during the months of April and May 2020, had the lowest predicted average stakeholder engagement rate of 2.307 and is a terminal node as it did not branch out into any more statistically significant predictors. A probable explanation is that, during the month of April 2020, four sports events were cancelled due to the coronavirus pandemic, and most countries entered lockdown or had restrictions on movement. Node 12 had a higher average stakeholder engagement rate of 2.641 and represents postings in the morning during September and November 2019, to March 2020 and November 2020, in which four events took place either physically or virtually. Node 10 had the second-highest average stakeholder engagement rate of 2.912, representing the posts posted in the morning of July and October 2020, in which a total of six events took place either physically or virtually. Both nodes 10 and 12 branch out further to statistically significant determinants. These are discussed in Figure 8.6. Node 9, representing postings in the morning during August and October 2019, and July to September 2020, had the highest predicted average engagement rate of 3.644. Most of these represent the months before and during, when six sports events occurred.

The month of the year a social media post is posted has an influence on the engagement rate of stakeholders. When considering the sports event dates given in Table 7.8, it can be concluded that social media posts in the mornings of the month before or during the sports event, are more likely to receive higher engagement from stakeholders. This could be due to stakeholders, such as participants, looking for information regarding the arrangements of the sports event.

Figure 8.6 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches in morning posts during the months of node 9 for all sports events (highlighted in light green).

Figure 8.6: Stakeholder engagement rate CHAID algorithm with third layer of branches during morning posts in months of node 9 for all sports events



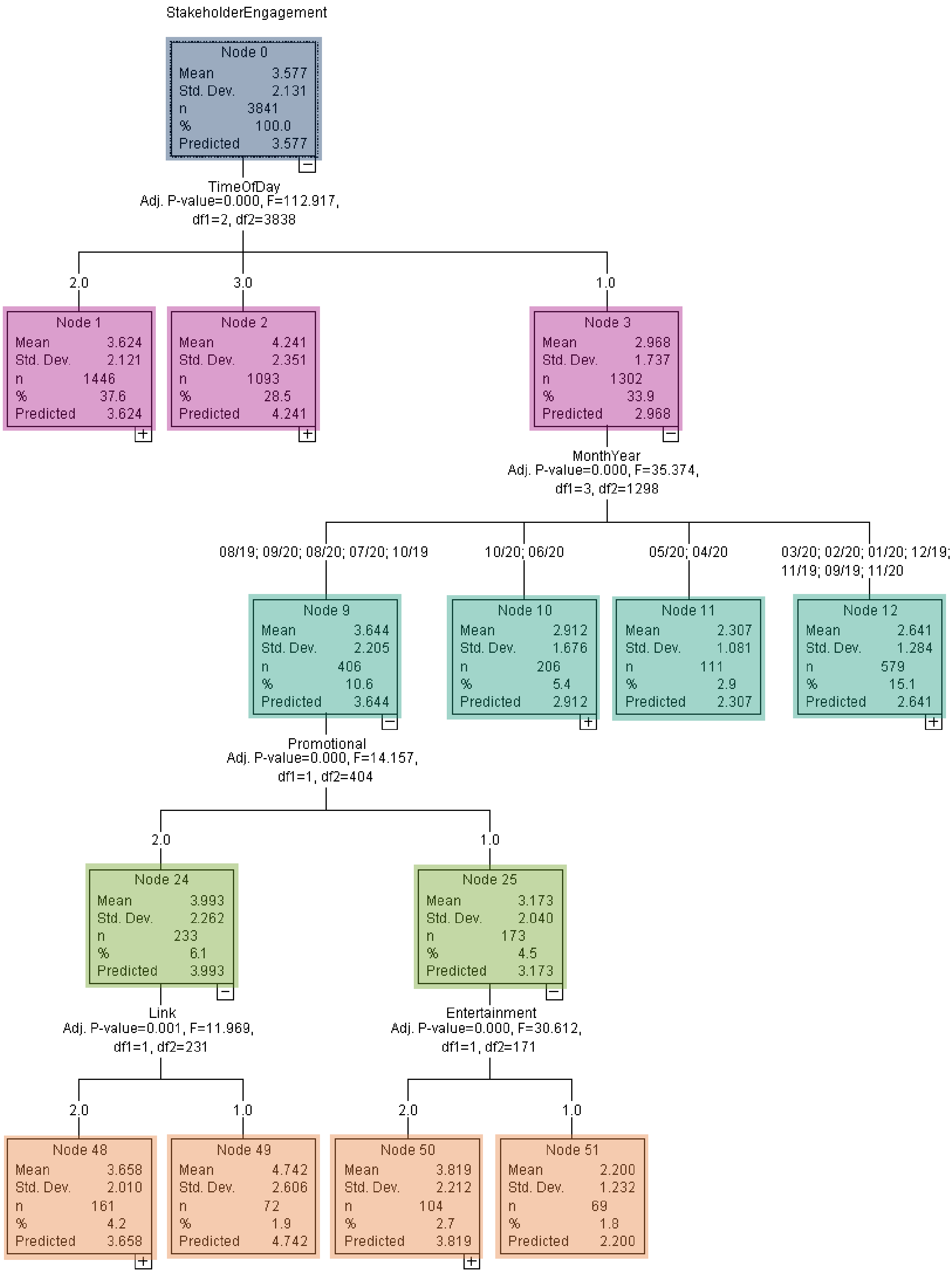
Source: Author’s own data (SPSS output)

Analysis of the third layer of determinants for postings in the mornings (node 3) during August and October 2019, and July through to September 2020 (node 9), presented in Figure 8.6, finds that the next best determinant is *promotional content* used in a social media post (Adj. P-value=0.000, F14.157, df1=1, df2=404). Interestingly, social media posts that did not contain promotional content received a much higher average stakeholder engagement rate (node 24; *n*=233; 3.993) than posts that did (node 25; *n*=173; 3.173). The whole data set descriptive findings in Section 7.3.7.3 Figure 7.29 and Figure 7.32, illustrate that promotional posts do not lead to higher stakeholder engagement. However, these results indicate, that for this subsample, variables such as the moment of participation, namely, the time of day and month of the year, influence the engagement rate of stakeholders on promotional social media posts. Both nodes 24 and 25 have further statistically significant determinants, which are discussed in Figure 8.7.

The sharing of promotional content in a social media post influences the engagement rate of stakeholders. Social media posts that do not promote sports event, posted during the mornings of specific months of the year (node 9), are more likely to receive higher engagement from stakeholders. This could be due to more informative content required regarding sports event arrangements and possibly results, rather than promotional.

Figure 8.7 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches of morning posts during the months of node 9 for all sports events (in orange). When the CHAID was expanded to the fourth layer of branches for postings during mornings, throughout August and October 2019, and July through to September 2020 (node 9), two determinants emerged; link and entertainment content (Figure 8.7).

Figure 8.7: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during morning posts in months of node 9 for all sports events



Source: Author’s own data (SPSS output)

Analysis of the fourth layer of determinants for postings in the mornings (node 3), during August and October 2019, and July through to September 2020 (node 9), containing promotional content (node 25), finds that the next best determinant is *entertainment content* used in a social media post (Adj. P-value=0.000, F=30.612, df1=1, df2=171). Posts that did not contain any entertaining content (node 50; *n*=104) received a significantly higher average stakeholder engagement rate (3.819) than posts containing content of an entertaining nature (node 51; *n*=69; 2.200). The findings for the whole data set descriptive results, Section 7.3.7.2 Figure 7.29 and 7.31, show that entertaining posts containing humorous or educational content received more stakeholder engagement. Therefore, for this subsample, variables such as the moment of participation, namely, time of day and month of year, as well as content, namely, promotional content, contribute to lower stakeholder engagement received on social media posts containing entertainment content. Node 51 is a terminal node with no further statistically significant determinants. However, node 50 had a further determinant (Figure 8.8).

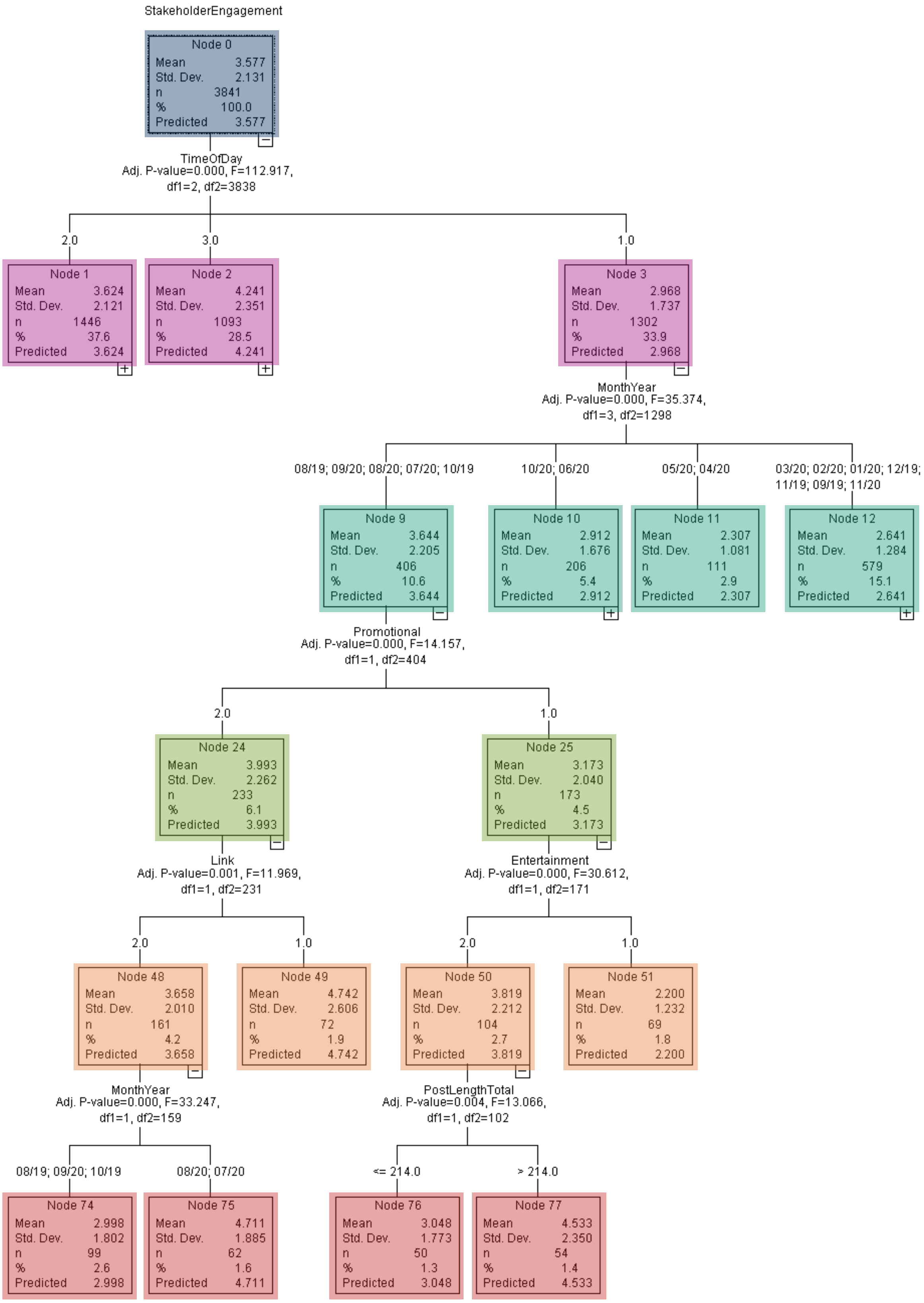
The sharing of entertainment content in a social media post influences the engagement rate of stakeholders. Higher engagement from stakeholders is more likely if posts do not include entertaining content of a humorous or educational nature, with promotional content of the sports events, posted during the mornings during specific months of the year (node 9). This could be an indication that the stakeholders do not enjoy promotional and entertainment content together in a social media post.

Postings in the morning (node 3) during August and October 2019 and July to September 2020 (node 9), that did not contain promotional content (node 24), were further split into whether the post contained a *link* (Adj. P-value=0.001, F11.969, df1=1, df2=231). Interestingly, those social media posts containing links (node 49) had a substantially higher average stakeholder engagement rate (4.742) than posts that did not (node 48; 3.658). However, node 49 is a terminal node, and node 48 had a further determinant, which is discussed in the next layer (Figure 8.8). The whole data set descriptive findings in Section 7.3.5 indicate that a link in a social media post does not gain more stakeholder engagement. Therefore, these results indicate that for this subsample, variables such as the moment of participation, namely, time of day and month of year, and an absence of promotional content, can contribute to higher stakeholder engagement on social media posts containing external links.

The use of external links in a social media post influences the engagement rate of stakeholders. Social media posts that use external links but do not contain promotional content of sports events and are posted during the mornings of specific months of the year, are likely to receive higher engagement from stakeholders. This could be an indication that stakeholders are more inclined to engage with social media posts containing external links if posts do not contain promotional and entertainment content together in a social media post.

Figure 8.8 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches of morning posts during the months of node 9, for all sports events (in red).

Figure 8.8: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during morning posts in months of node 9 for all sports events



Source: Author’s own data (SPSS output)

When the CHAID tree was expanded to the fifth layer, a further two determinants emerged, namely the month of the year again, as well as the total length of the post (Figure 8.8).

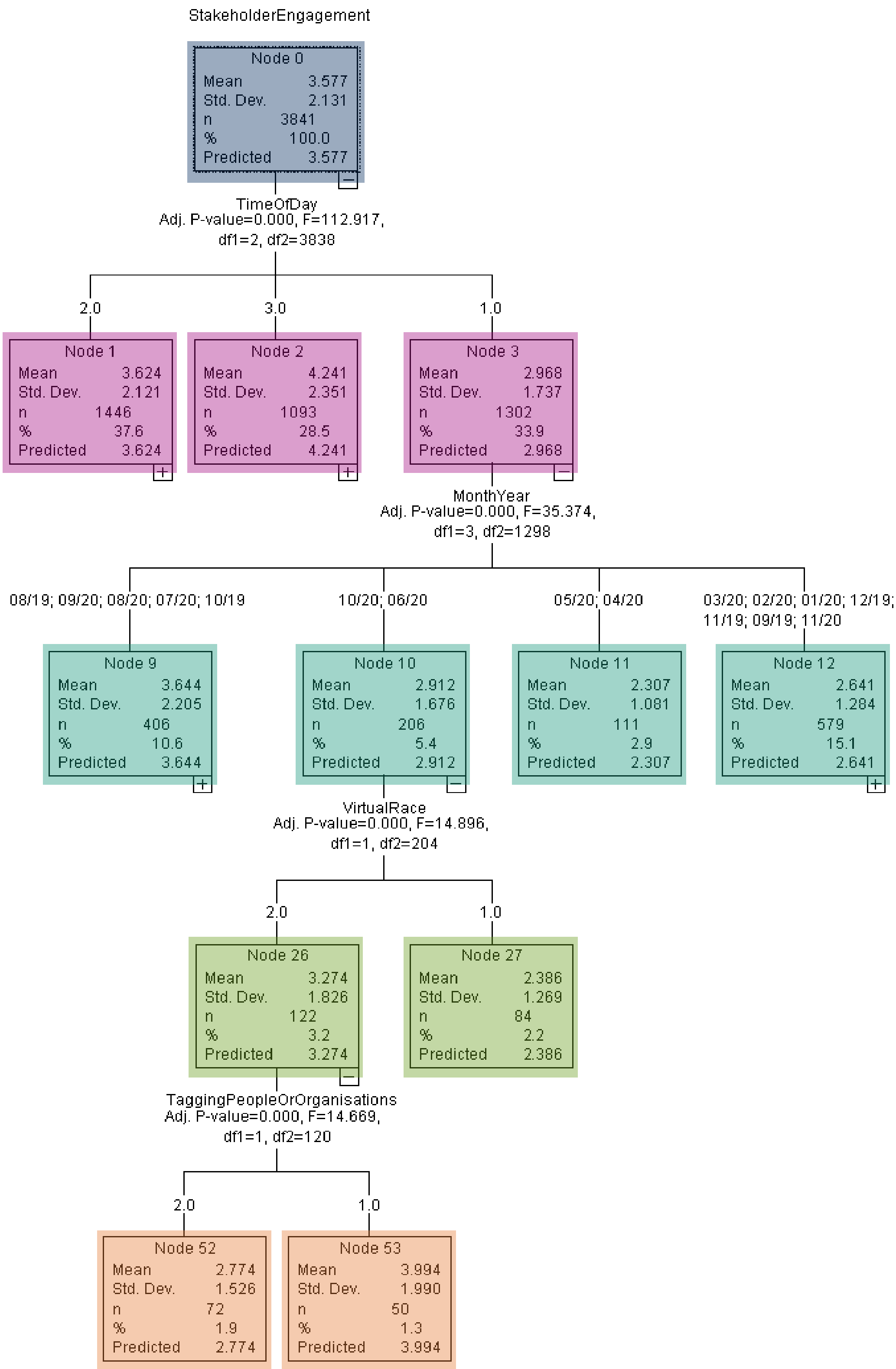
Analysis of the fifth and final layer of determinants presented in Figure 8.8 finds that the stakeholder engagement rate for social media postings in the morning (node 3) in August and October 2019 and July to September 2020 (node 9) containing promotional content (node 25) but not entertaining content (node 50), was further influenced by the *total length of a post* (Adj. P-value=0.004, F13.066, df1=1, df2=102). Interestingly, social media posts of a longer length, more than 214 characters (node 77), had a significantly higher predicted average stakeholder engagement rate (4.533) than shorter social media posts ≤ 214 characters (node 76; 3.048). Similar results in the descriptive findings, Section 7.3.4.1 Figure 7.16, of the whole data set, illustrate that longer length posts gained more stakeholder engagement than shorter posts. Therefore, these results indicate that for this segment, variables such as the moment of participation, namely, time of day and month of year, content, namely, promotional, and the absence of entertainment content, contribute to higher stakeholder engagement on social media posts of a longer text length.

The length of a social media post influences the engagement rate of stakeholders. Social media posts that are longer than 214 characters, posted during the mornings of specific months of the year (node 9), that contain promotional content but not entertainment content, are more likely to receive higher engagement from stakeholders. This could be an indication that the stakeholders are more inclined to engage with longer length promotional social media posts in the mornings.

Social media posts posted in the morning (node 3) in August and October 2019 and July to September 2020 (node 9) that neither contain promotional content (node 24) nor links (node 45) were further influenced by the *month of the year* (Adj. P-value=0.000, F33.247, df1=1, df2=159). Social media postings in July and August 2020 (node 75) received a significantly higher predicted average stakeholder engagement (4.711) than those posted in August and October 2019 and September 2020 (node 74; 2.998). This is an interesting result as August, and October 2019 are months before and during various sports events that occurred before the coronavirus pandemic, and in September 2020, two events were held virtually. Whereas both July and August 2020 were months during the coronavirus pandemic when none of the events took place, but July 2020 is a month after the Comrades Marathon took place virtually. August 2020 was a month or two before many of the other sports events, that were scheduled to take place, were cancelled due to the pandemic and arrangements were made for virtual events.

Figure 8.9 presents the stakeholder engagement rate CHAID algorithm with the third and fourth layer of branches of morning posts during the months of node 10 for all sports events (highlighted in light green and orange).

Figure 8.9: Stakeholder engagement rate CHAID algorithm with third and fourth layer of branches during morning posts in months of node 10 for all sports events



Source: Author’s own data (SPSS output)

Analysis of the results in the third layer of determinants presented in Figure 8.9, find that the stakeholder engagement rate for social media postings in the morning (node 3) in June and October 2020 (node 10) was further influenced by whether posts included the subject of a *virtual race* (Adj. P-value=0.000, F14.896, df1=1, df2=204). Interestingly, social media posts about virtual races (node 27) had a significantly lower average stakeholder engagement rate (2.386) than posts that did not (node 26; 3.274). Similar results are found in the descriptive Section 7.3.6.4 Figure 7.28, which also indicate that posts on virtual races receive less stakeholder engagement. Therefore, for this subsample, variables such as the moment of participation, namely, time of day and month of year, contribute to lower stakeholder engagement received on social media posts about virtual races. Node 27 is a terminal node with no further statistically significant determinants, however, node 26 branched out to a fourth layer.

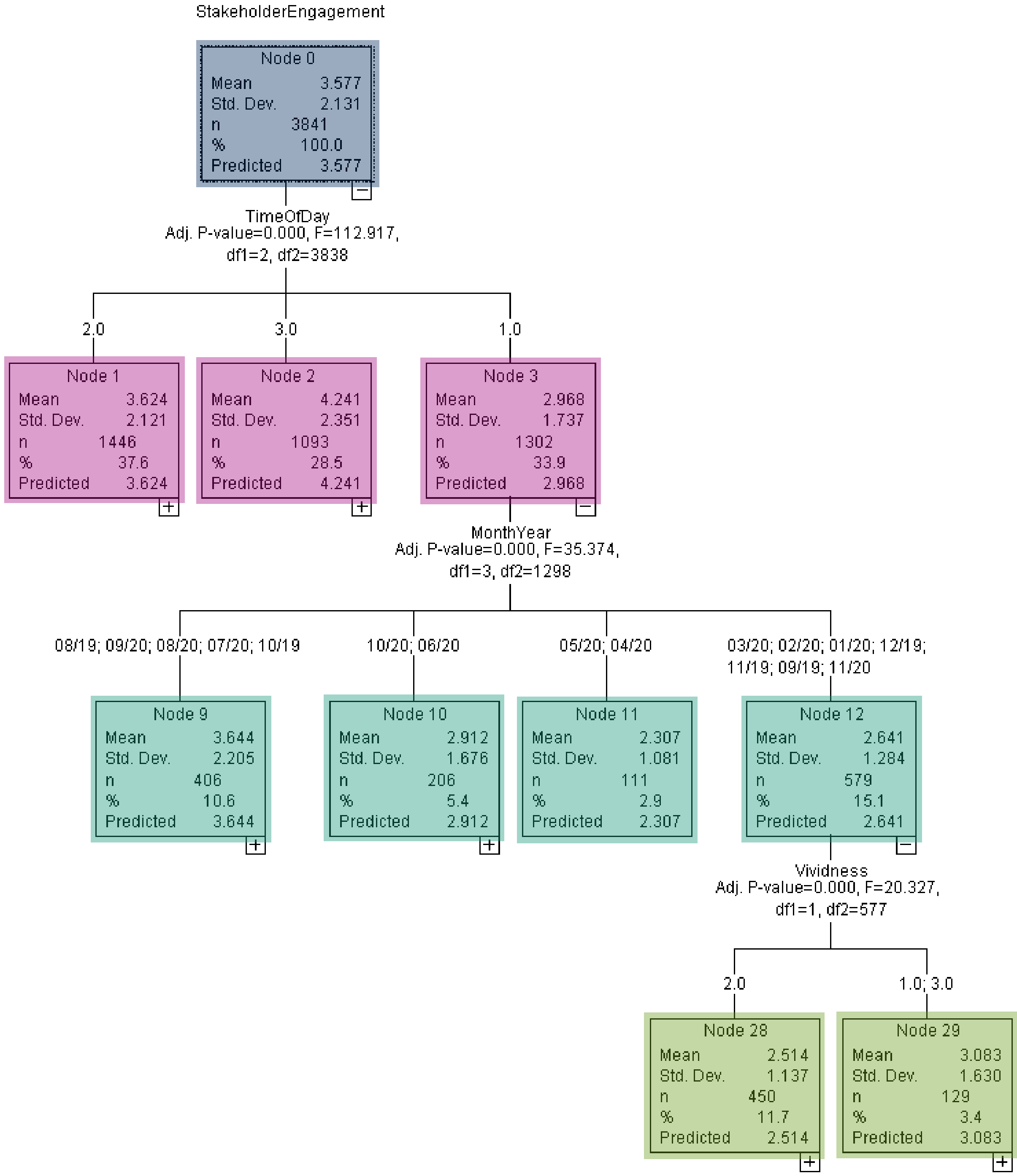
Social media posts that do not mention virtual races and are posted mornings of specific months of the year (node 10), are likely to receive higher engagement from stakeholders. This could be due to many stakeholders not perceiving this information in a positive light as it went hand in hand with the cancellation of the actual event.

The fourth layer of the CHAID decision tree reveals *tagging people or organisations* as the next determinant influencing the stakeholder engagement rate of social media postings in the morning (node 3) in June and October 2020 (node 10) that exclude virtual races as a subject (node 26) (Adj. P-value=0.000, F14.669, df1=1, df2=120). Social media posts tagging people or organisations (node 53) received a higher predicted average stakeholder engagement rate (3.994) than those posts that did not tag (node 52; 2.774). The descriptive findings of the whole data set in Section 7.3.4.3 Figure 7.18, illustrate that not using tags in posts generates more engagement amongst stakeholders. However, the findings for this subsample, show that variables such as the moment of participation, namely, time of day and month of year, and the absence of virtual race information, contribute to higher stakeholder engagement received on social media posts using tags. Both nodes 52 and 53 are terminal nodes and do not branch into the fifth layer of statistically significant determinants, due to the small number of social media posts in each node (n=72; n=52).

Tagging people or organisations in a social media post influences the engagement rate of stakeholders. Social media posts using tags, posted mornings of specific months of the year (node 10), that do not mention virtual races, are likely to receive higher engagement from stakeholders. This could be due to tagging people or organisations leading to a wider audience being reached with the specific social media post.

Figure 8.10 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches of morning posts during the months of node 12 for all sports events (highlighted in light green).

Figure 8.10: Stakeholder engagement rate CHAID algorithm with third layer of branches during morning posts in months of node 12 for all sports events



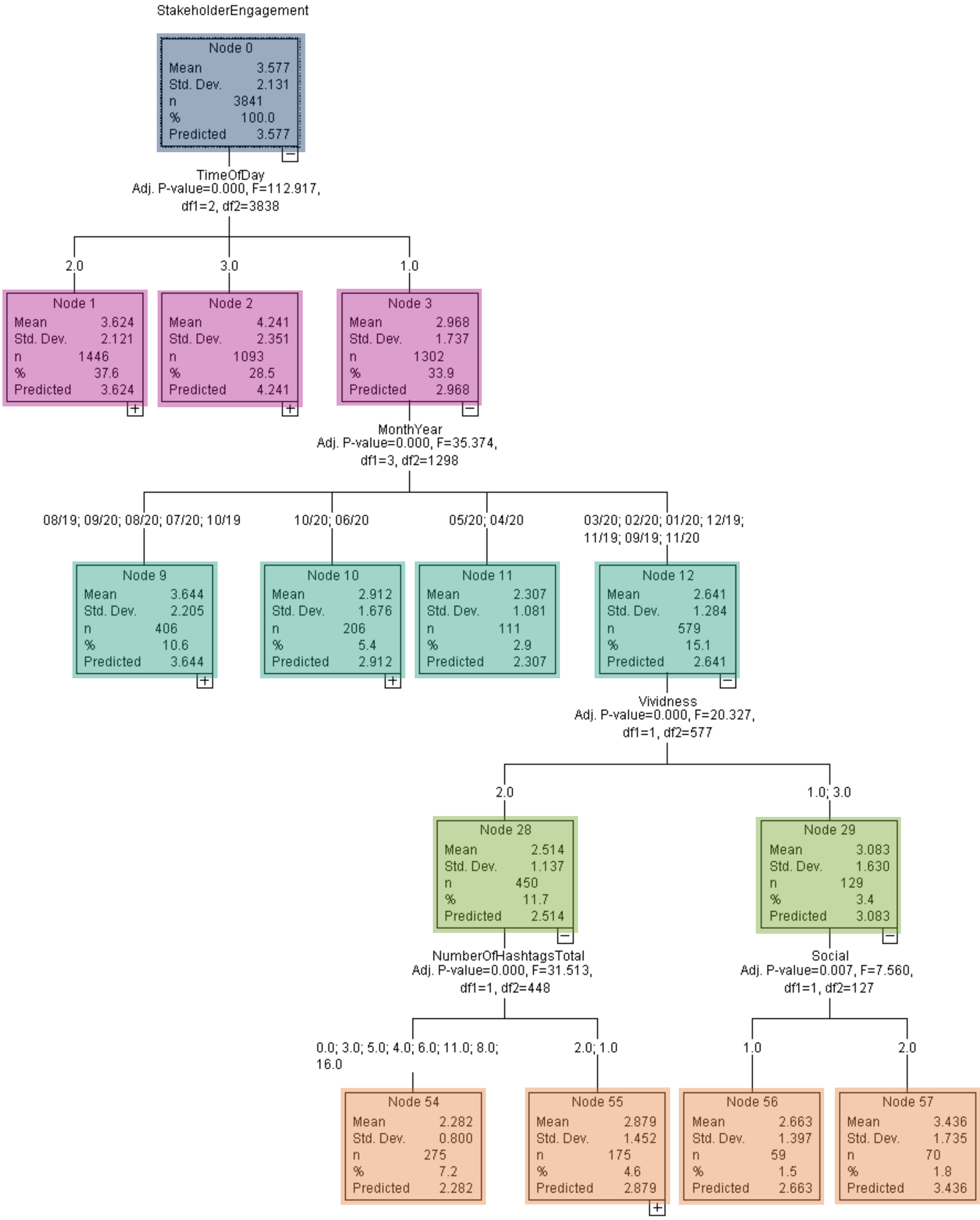
Source: Author's own data (SPSS output)

The third layer of determinants presented in Figure 8.10, finds that the stakeholder engagement rate for social media posts posted in the morning (node 3) in September 2019, November 2019, to March 2020, and November 2020 (node 12) was further influenced by the post's *level of vividness* (Adj. P-value=0.000, F20.327, df1=1, df2=577). Interestingly, social media posts with medium vividness' use of photos (node 28), are used approximately three and a half times more frequently (n=450), and receive a lower predicted average stakeholder engagement rate (2.514), than social media posts with a low level of vividness using only text, and high levels of vividness using videos (node 29; n=129; 3.083). Both low and high levels of vividness (node 29), similarly influence stakeholder engagement rates, in morning postings, during this period (node 12). The descriptive findings of the whole data set, Section 7.3.3.2 Figure 7.15, indicate that high vividness posts received the most engagement, and low vividness posts the lowest engagement. However, in node 29 they are paired together with a higher stakeholder engagement rate than medium vividness posts. Therefore, these findings suggest that for this subsample, variables such as the moment of participation, namely, time of day and month of year, could influence low vividness level social media posts to gain higher stakeholder engagement. Both nodes 28 and 29 had further statistically significant determinants, which are discussed in Figure 8.11.

The vividness level used in a social media post influences the engagement rate of stakeholders. Social media posts that have low and high vividness, posted during the mornings of specific months of the year (node 12), are likely to receive higher engagement from stakeholders.

Figure 8.11 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches of morning posts during the months of node 12 for all sports events (highlighted in orange).

Figure 8.11: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during morning posts in months of node 12 for all sports events



Source: Author's own data (SPSS output)

When the CHAID was expanded to the fourth layer of branches for postings during the mornings, over a certain period (node 12), and levels of vividness (medium and low/

high), two determinants emerged; the total number of hashtags and social content (see Figure 8.11).

The stakeholder engagement rate for social media postings in the mornings (node 3) in September 2019, November 2019 to March 2020 and November 2020 (node 12) with low and high vividness (node 29) was further influenced by the presence or absence of *social content* (Adj. P-value=0.007, F7.560, df1=1, df2=127). Social media posts containing social content (node 56) received a much lower average stakeholder engagement rate (2.663) than those posts that that did not (node 57; 3.436). Both nodes 56 and 57 are terminal nodes with no further statistically significant determinants. The findings within the descriptive Section, 7.3.7.4 Figure 7.33, graphically depict the whole data set's posts containing social content as receiving less engagement from stakeholders. The findings for this subsample, show variables such as the moment of participation, namely, time of day and month of year, and design, namely, vividness, result in lower stakeholder engagement of social media posts containing social content.

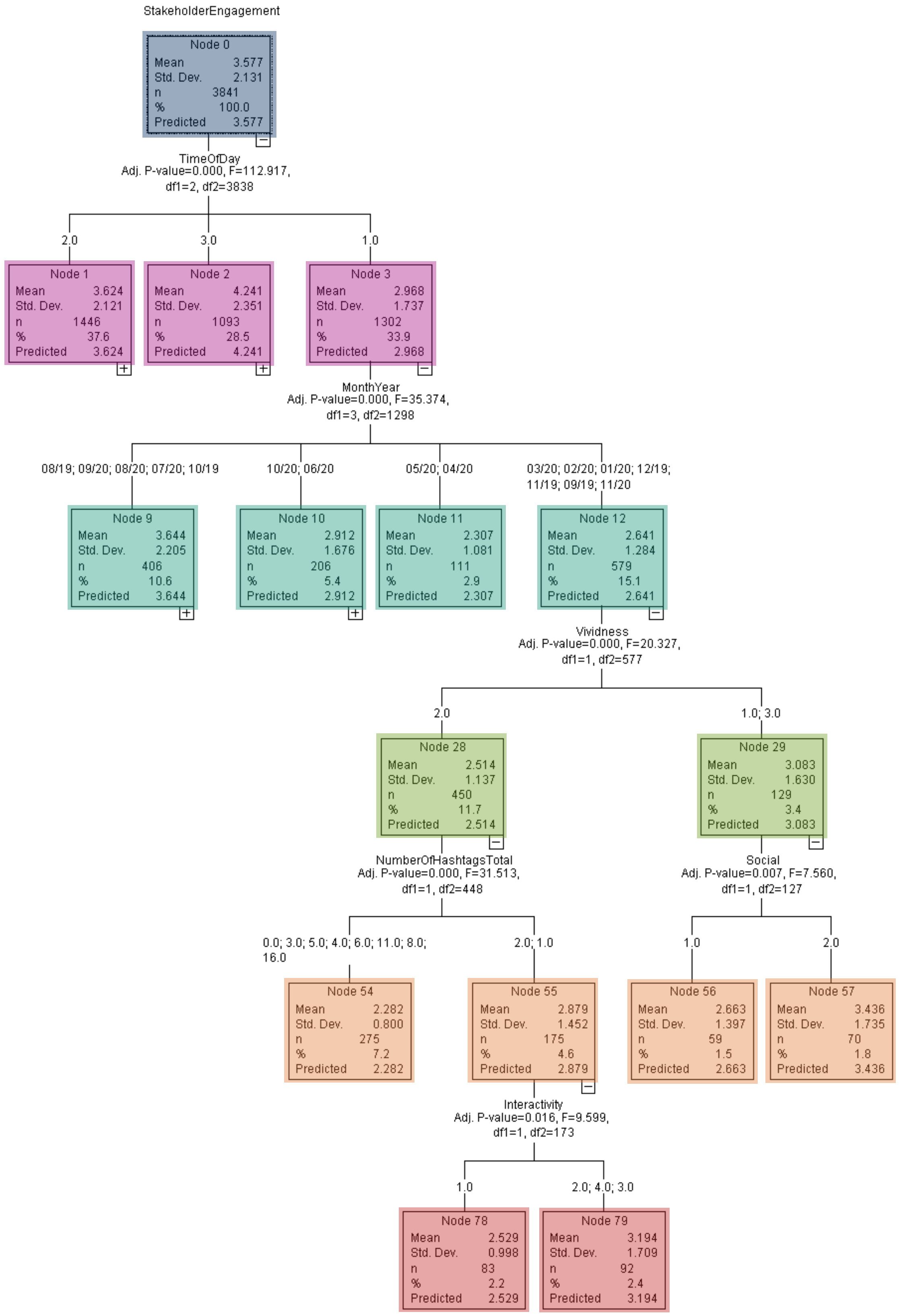
Social content in social media posts influences the engagement rate of stakeholders. Social media posts that exclude social content, are posted during the mornings of specific months of the year (node 12), with low or high vividness, are more likely to receive higher engagement from stakeholders.

Social media postings in the morning (node 3), in September 2019, November 2019 to March 2020 and November 2020 (node 12) with medium vividness are further influenced by the *total number of hashtags* used (Adj. P-value=0.000, F31.513, df1=1, df2=448). Social media posts containing fewer hashtags (node 55) received a higher average stakeholder engagement rate of 2.879 than those with no or multiple hashtags (node 54; 2.282). Nodes 54 is a terminal node with no other statistically significant determinants, however, node 55 branched into a fifth layer Figure 8.12. These results are similar to the descriptive findings of the whole data set, Section 7.3.4.2 Figure 7.17, which indicate that social media posts with one or two hashtags receive the most engagement from stakeholders. The findings indicate that for this subsample, variables such as the moment of participation, namely, time of day and month of year, and design, namely vividness, significantly affect the engagement rate of stakeholders on social media posts containing hashtags.

The total number of hashtags used in a social media post differs regarding their engagement rate of stakeholders. Social media posts that use only one or two hashtags, with medium vividness, posted during the mornings of specific months of the year (node 12), are more likely to receive higher engagement from stakeholders.

Figure 8.12 presents the stakeholder engagement rate CHAID algorithm with the fifth and last layer of branches of morning posts during the months of node 12 for all sports events (highlighted in red).

Figure 8.12: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during morning posts in months of node 12 for all sports events



Source: Author's own data (SPSS output)

When the CHAID was expanded to the fifth layer of branches for posts posted during the mornings, only one further determinant emerged, the level of interactivity (see Figure 8.12).

Social media postings in the mornings (node 3) in September 2019, November 2019 to March 2020 and November 2020 (node 12) with medium vividness (node 28) containing only one or two hashtags (node 55) are further influenced by the *level of interactivity* (Adj. P-value=0.016, F9.599, df1=1, df2=173). Social media posts with a low, medium and high level of interactivity (node 79) containing links, call-to-action phrases and questions, received a higher predicted average stakeholder engagement rate (3.194) than those that require no interactivity and contain only text (node 78; 2.529). There were no differences in posts with low, medium and high levels of interactivity (node 79), in terms of stakeholder engagement rates, for those posted during this period (node 12) in the mornings with medium vividness and containing only one or two hashtags. The descriptive findings discussed in Section 7.3.3.1 Figure 7.14 illustrate that social media posts, which require no interactivity, receive the most engagement from stakeholders. Therefore, the results for this subsegment could suggest that stakeholder engagement rates for social media posts requiring no interactivity, are influenced by the moment of participation variables, namely, time of day and month of the year, design variable, namely, vividness and the fluency variable, namely, total number of hashtags. Nodes 78 and 79 are terminal nodes at the fifth layer. No further statistically significant determinants can be found, thus concluding the decision tree for social media posts posted during mornings (node 3).

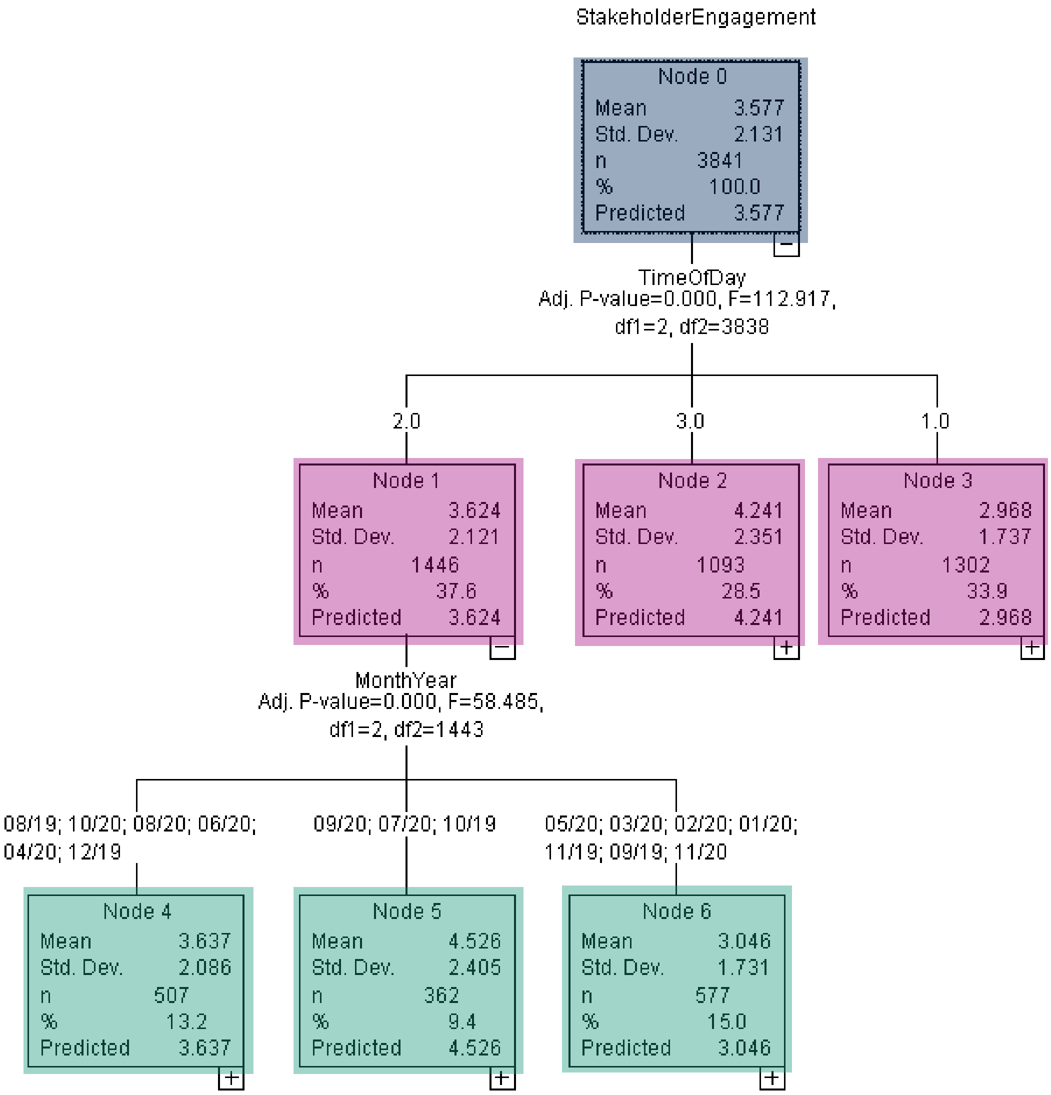
The level of interactivity used in a social media post influences the engagement rate of stakeholders. Social media posts that use links, call-to-action phrases and questions, together with photos (medium vividness), and one or two hashtags, posted during the mornings of specific months of the year (node 12), are more likely to receive higher engagement from stakeholders.

Figure 8.13 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for postings during afternoons, for all sports events (highlighted in dark green).

As shown in Figure 8.13 the second-best determinant for social media posts' stakeholder engagement rate (next layer of branches in dark green) depends on the time of day (the first layer in pink). The various layers of determinants for morning posts (node 3) have been discussed (Figures 8.4 to 8.12), and those for evening posts (node 2) are discussed separately (Figures 8.22 to 8.28) and are therefore closed in Figure 8.13 to ensure readability of the CHAID tree diagram.

The various layers of determinants for the social media posts posted during the afternoons (node 1) are discussed from Figures 8.13 to 8.21.

Figure 8.13: Stakeholder engagement rate CHAID algorithm with second layer of branches during afternoon posts for all sports events.



Source: Author’s own data (SPSS output)

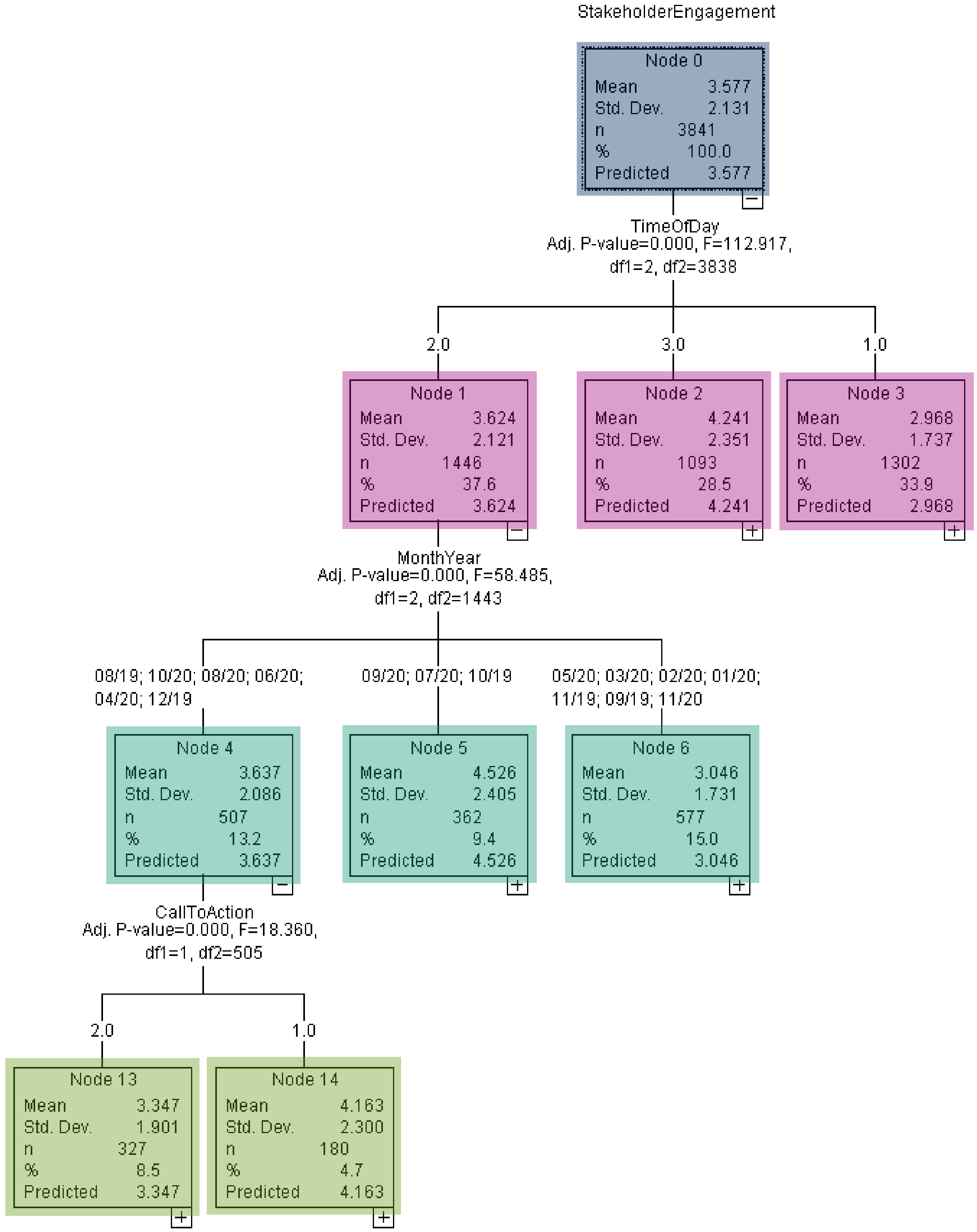
Similar to that of morning posts (node 3), afternoon posts (node 1), which had the second-highest predicted average stakeholder engagement rate of 3.624, the second-best determinant for stakeholder engagement was also the *month of the year* (Adj. P-value=0.000, F58.485, df1=2, df2=1443).

Node 6, representing postings in the afternoons during September and November 2019 and January through to March and May 2020, had the lowest predicted average stakeholder engagement rate of 3.046. Node 4 had a higher average stakeholder engagement rate of 3.637, representing postings in the afternoons during August and December 2019 and April, June, August and October 2020. Node 5, represents postings in the afternoons during October 2019 and July and September 2020, had the highest predicted average engagement rate of 4.526. This could be because three sports events took place in October 2019, and a further three were cancelled and held virtually in September 2020. September 2020 is also the month that preceded five other sports events. Nodes 4, 5 and 6 branched out to further statistically significant determinants, which are discussed separately (Figure 8.14).

The month of the year a social media post is posted influences the engagement rate of stakeholders. Social media postings in afternoons of the month before or during the sports events, are likely to receive higher engagement from stakeholders (node 5). This could be due to stakeholders, such as participants, looking for information regarding the arrangements of the sports event.

Figure 8.14 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for afternoon posts during the months of node 4, for all sports events (in light green).

Figure 8.14: Stakeholder engagement rate CHAID algorithm with third layer of branches during afternoon posts in months of node 4 for all sports events



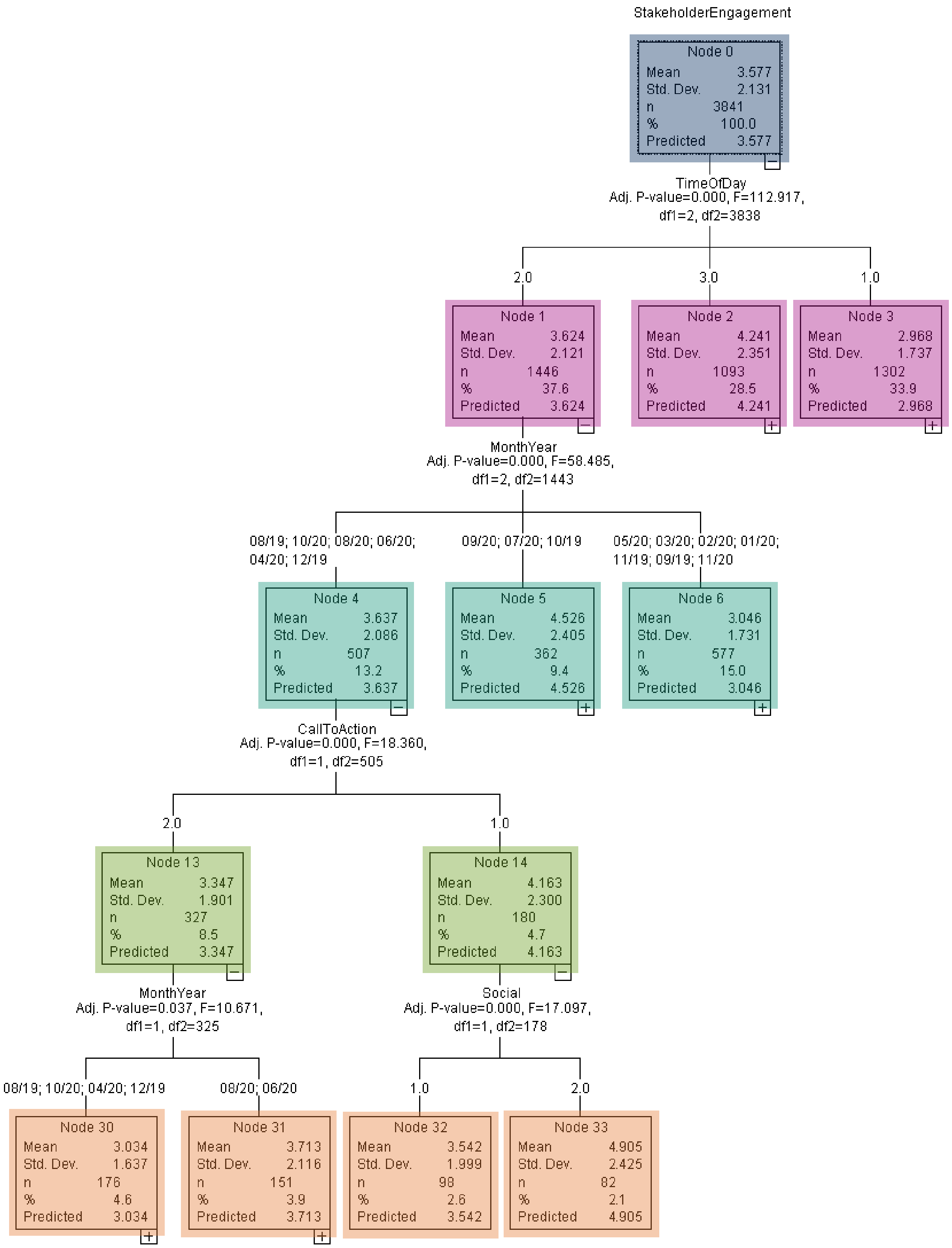
Source: Author’s own data (SPSS output)

Analysis of the third layer of determinants for postings in the afternoons (node 1) during August and December 2019 and April, June, August and October 2020 (node 4) presented in Figure 8.14, finds that *call-to-action phrases* had a further influence (Adj. P-value=0.000, F18.360, df1=1, df2=505). Social media posts containing call-to-action phrases (node 14) received a higher average stakeholder engagement rate (4.163) than those posts (node 13) that did not (3.347). Both nodes 13 and 14 branched out to further statistically significant determinants. The descriptive findings of the whole data set in Section 7.3.6.2 show that posts containing no call-to-action phrases received higher stakeholder engagement. Therefore, the results make it clear that the response to social media posts containing call-to-action phrases is highly dependent on the time of the day and the month in which it is posted.

Sharing call-to-action phrases in a social media post influences the engagement rate of stakeholders. Social media posts using call-to-action phrases, posted during afternoons of specific months of the year (node 4), are likely to receive higher engagements from stakeholders.

Figure 8.15 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches for afternoon posts, during the months of node 4, for all sports events (highlighted in orange).

Figure 8.15: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during afternoon posts in months of node 4 for all sports events



Source: Author’s own data (SPSS output)

When the CHAID was expanded to the fourth layer of branches for postings during afternoons (node 1), throughout August and December 2019 and April, June, August and October 2020 (node 4), two further determinants emerged, namely month of the year and social content (see Figure 8.15).

Social media postings in afternoons (node 1) during August and December 2019 and April, June, August and October 2020 (node 4), that did not contain call-to-action phrases (node 13) were once again further influenced by the *month of the year* (Adj. P-value=0.037, F10.671, df1=1, df2=325). Social media postings during June and August 2020 (node 31) received a higher predicted average stakeholder engagement (3.713) than those posted throughout August and December 2019 and April and October 2020 (node 30; 3.034). Node 31 contains June 2020, when the Comrades Marathon was cancelled, and August 2020, which preceded three other events held virtually. Node 30 contains August 2019, which preceded three events; April 2020, when three more events were cancelled or postponed, and October 2020, when seven events were held virtually.

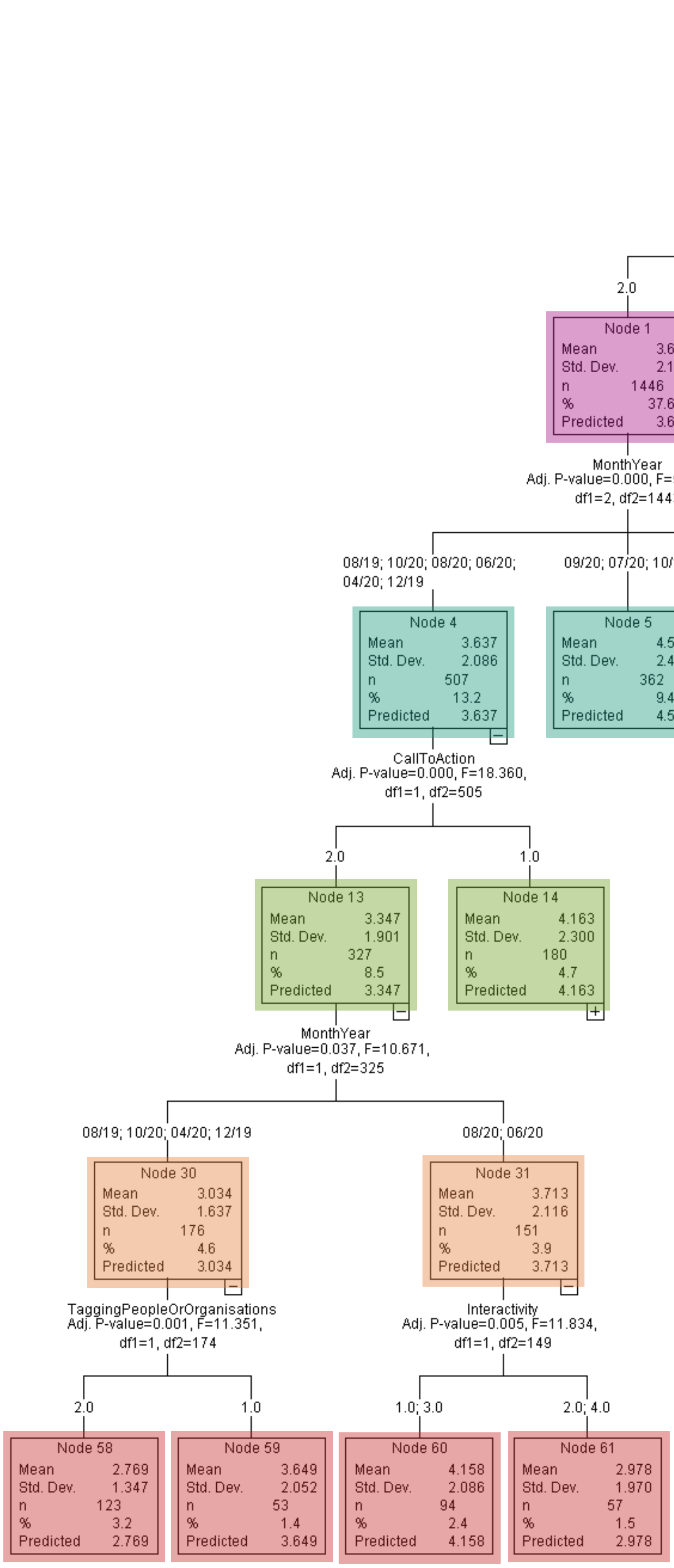
The month of the year a social media post is posted influences the engagement rate of stakeholders. Social media posts posted during the afternoons of the month before sports events (node 31) are more likely to receive higher engagement from stakeholders. This could be due to stakeholders, such as participants, looking for information regarding the arrangements of the sports event.

However, social media postings in afternoons (node 1) during August and December 2019 and April, June, August, and October 2020 (node 4) that made use of call-to-action phrases (node 14) were further influenced by the presence or absence of *social content* (Adj. P-value=0.000, F17.097, df1=1, df2=178). Posts containing social content (node 32) received a substantial lower average stakeholder engagement rate (3.542) than posts that that did not (node 33; 4.905). The descriptive findings in Section 7.3.7.4 Figure 7.33 graphically depict that posts containing social content received less engagement from stakeholders. Similar to those findings, these results indicate that even though variables such as the moment of participation, namely, time of day and month of year, and call-to-action phrases, influence stakeholder engagement on posts containing social content, it does not have a significant positive effect on it. Both nodes 32 and 33 are terminal nodes with no further statistically significant determinants.

Social content in a social media post influences the engagement rate of stakeholders. Afternoon postings during specific months (node 4) with call-to-action phrases, that do not include social content, are likely to receive higher engagement from stakeholders.

Figure 8.16 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches for afternoon posts during the months of node 4 for all sports events (highlighted in red).

Figure 8.16: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during afternoon posts in months of node 4 for all sports events



Source: Author’s own data (SPSS output)

The fifth and last layer of the CHAID decision tree reveals *tagging people or organisations* as the next determinant that influences the stakeholder engagement rate of social media postings in afternoons (node 1) during August and December 2019 and April, June, August and October 2020 (node 4) that did not contain call-to-action phrases (node 13) during the specific months of August and December 2019 and April and October 2020 (node 30) (Adj. P-value=0.001, F11.351, df1=1, df2=174). Social media posts tagging people or organisations (node 59), received a higher predicted average stakeholder engagement rate (3.649) than posts that did not (node 58; 2.769). The descriptive findings in Section 7.3.4.3 Figure 7.18, illustrate that social media posts that do not use tags generate more engagement amongst stakeholders. The results for this segment make it clear that engagements received for social media posts containing tags are influenced by the time of day, month of year, and the absence of call-to-action phrases.

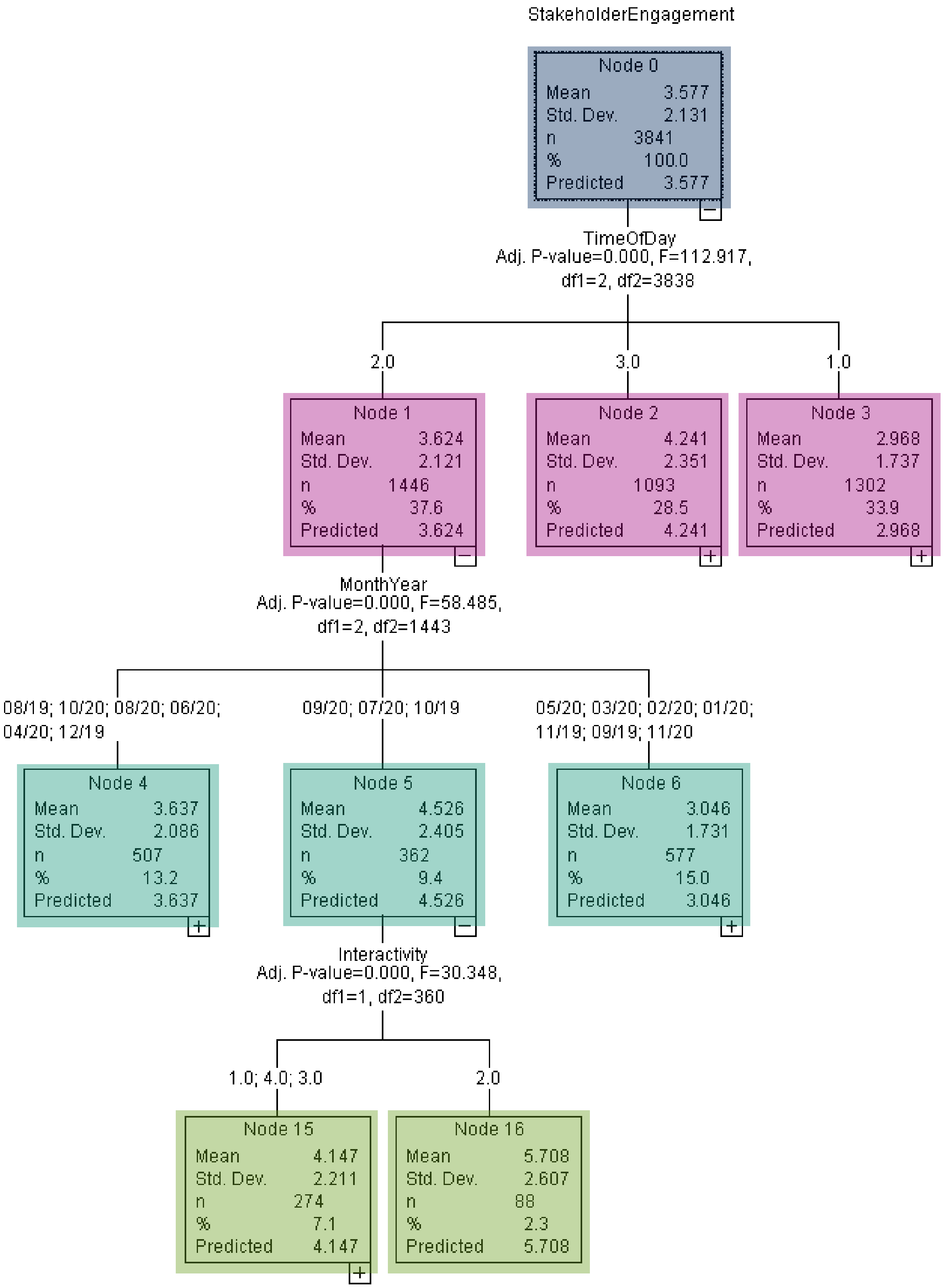
Making use of tags in social media posts influences the engagement rate of stakeholders. Social media posts tagging a person or an organisation, that does not include call-to-action phrases, are posted during afternoons of specific months of the year (node 30), are likely to receive higher engagement from stakeholders. This could be due to tagging people or organisations possibly leading to a wider audience being reached with the specific social media post.

Social media posts posted in the afternoons (node 1) during August and December 2019 and April, June, August and October 2020 (node 4) that did not contain call-to-action phrases (node 13) during the specific months of June and August 2020 (node 31) were further influenced by the *level of interactivity* (Adj. P-value=0.005, F11.834, df1=1, df2=149). Posts, which require either no interaction; only text (node 60), received a higher predicted average stakeholder engagement rate (4.158) than posts with either low or high levels of interactivity; links and questions (node 61; 2.978). There were no differences in posts with no and medium levels of interactivity (node 60), and low and high levels of interactivity (node 61) in terms of stakeholder engagement rates, for those posted during this period (node 4 and 31) in the afternoons containing no call-to-action phrases. Due to node 60 being a branch extension from node 13 which indicate no call-to-action phrases, it can be assumed node 60 is made up entirely of no interactive posts. The descriptive findings of the whole data set in Section 7.3.3.1 Figure 7.14 illustrate that social media posts, which require no interactivity receive the most engagement from stakeholders. However, the results for this segment indicate that variables such as the moment of participation, namely, time of day and month of year, and the absence of call-to-action phrases contribute to higher stakeholder engagement for social media posts that require no interactivity.

The level of interactivity used in a social media post influences the engagement rate of stakeholders. Social media posts that made use of only text that does not require interaction, as well as those with no call-to-action phrases, posted during afternoons of specific months of the year (node 31), are more likely to receive higher engagement from stakeholders.

Figure 8.17 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for afternoon posts during the months of node 5 for all sports events (highlighted in light green).

Figure 8.17: Stakeholder engagement rate CHAID algorithm with third layer of branches during afternoon posts in months of node 5 for all sports events



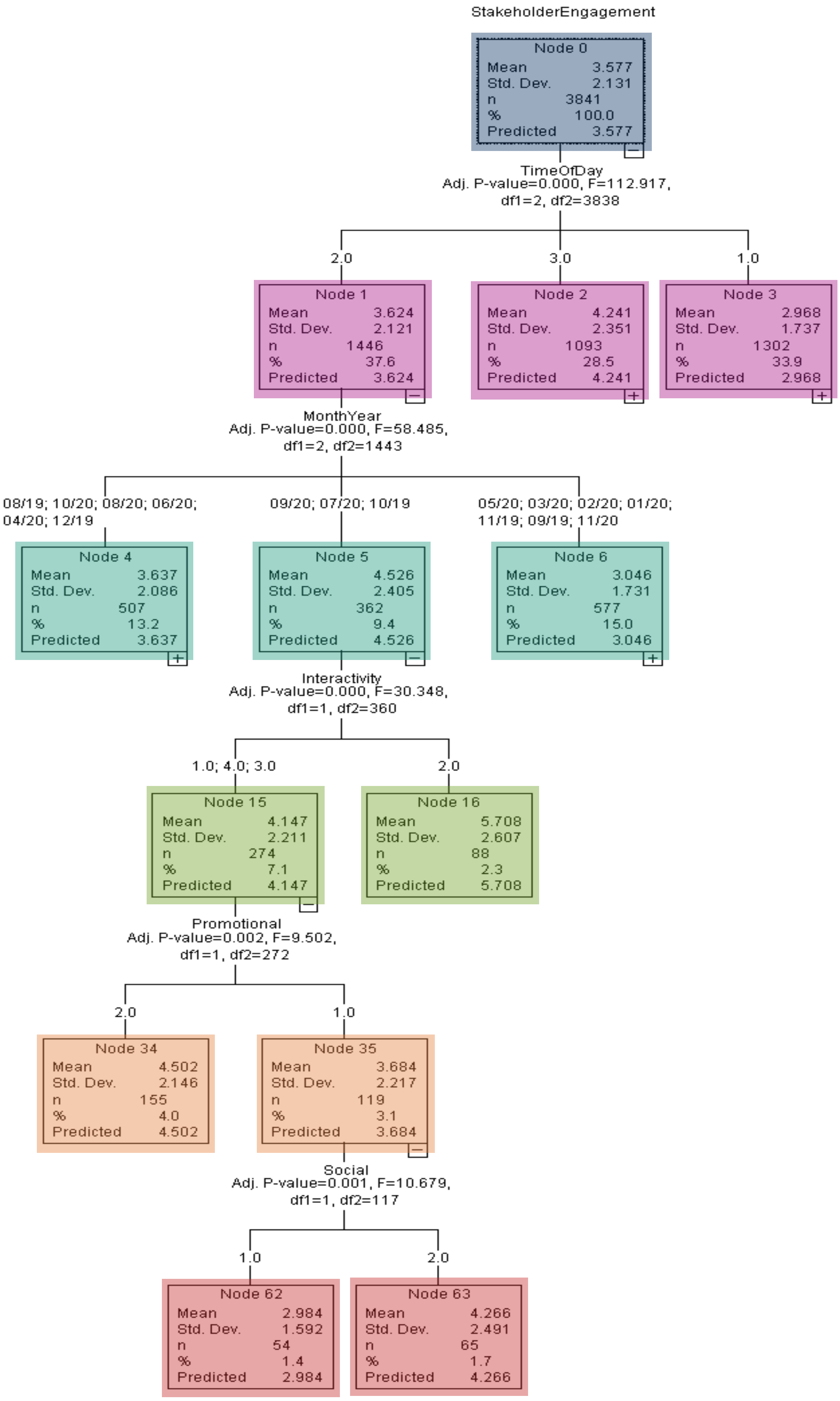
Source: Author’s own data (SPSS output)

Analysis of the third layer of determinants for postings in afternoons (node 1) during October 2019 and July and September 2020 (node 5) presented in Figure 8.17, finds that the *level of interactivity* had a further influence (Adj. P-value=0.000, F30.348, df1=1, df2=360). Interestingly, social media posts with a low level of interactivity; only links (node 16), received a higher predicted average stakeholder engagement rate (5.708) than those with no interactivity or with medium and high levels of interactivity containing call-to-action phrases or questions (node 15; 4.147). Therefore, for posts during this period, posted in afternoons, there was no difference with having no or medium and high levels of interactivity, in terms of stakeholder engagement rates. Node 16 is a terminal node, even though it has a higher stakeholder engagement rate, due to the low number of social media posts in this node. Node 15 branched out to further statistically significant determinants (Figure 8.18). The descriptive findings in Section 7.3.3.1 Figure 7.14 illustrate that low-level interactivity social media posts, containing links, received the lowest overall stakeholder engagement. The results for this segment show the stakeholder engagement rate for low-level interactivity social media posts is influenced by the moment of participation variables, namely, time of day and month of year.

The level of interactivity used in a social media post influences the engagement rate of stakeholders. Social media posts that use a low level of interactivity, containing only links, posted during the afternoons of specific months of the year (node 5) are more likely to receive higher engagement from stakeholders.

Figure 8.18 presents the stakeholder engagement rate CHAID algorithm with the fourth and fifth layer of branches for afternoon posts during the months of node 5 for all sports events (highlighted in orange and red).

Figure 8.18: Stakeholder engagement rate CHAID algorithm with fourth and fifth layer of branches during afternoon posts in months of node 5 for all sports events



Source: Author’s own data (SPSS output)

When the CHAID was expanded to the fourth and fifth layer of branches for postings during afternoons, two determinants emerged; promotional and social content. Analysis of the fourth layer of determinants in Figure 8.18, finds that stakeholder engagement rates for social media postings in the afternoon (node 1) during October 2019 and July and September 2020 (node 5) that had either no, medium, or a high level of interactivity (node 15) were further influenced by the absence or inclusion of *promotional content* (Adj. P-value=0.002, F9.502, df1=1, df2=272). Interestingly, social media posts containing promotional content (node 35) received a lower average stakeholder engagement rate (3.684) than those posts that that did not promote the event (node 34; 4.502). The descriptive results of the whole data set in Section 7.3.7.3 Figure 7.32, also indicate that promotional social media posts receive less engagement from stakeholders. Influencing variables such as the moment of participation, namely, time of day and month of year, and level of interactivity, result in a lower stakeholder engagement rate for this segment. Node 34 is a terminal node with no further statistically significant determinants even though it had the higher stakeholder engagement rate as well as the most posts. Node 35 branched into a statistically significant determinant.

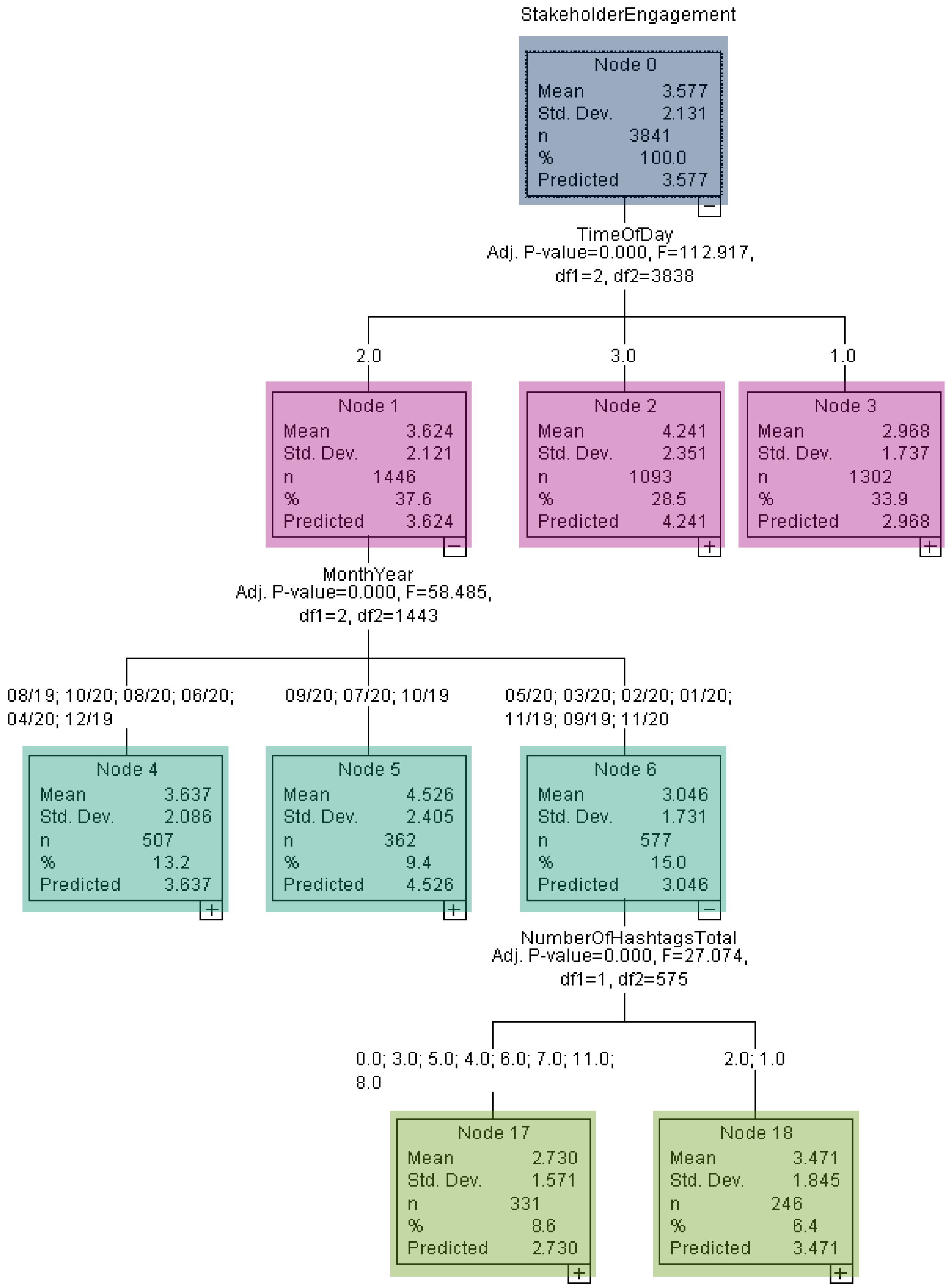
The sharing of promotional content in a social media post influences the engagement rate of stakeholders. Social media posts that do not promote the sports event but include call-to-action phrases and questions, or only text that does not require interaction, posted afternoons of specific months of the year, are more likely to receive higher engagement from stakeholders. This could be due to postings of more informative content regarding arrangements and possibly results of the sports event.

Analysis of the fifth and last layer of determinants presented in Figure 8.18, finds that the stakeholder engagement rate for social media postings in the afternoon (node 1) during October 2019 and July and September 2020 (node 5) with either no, medium or high levels of interactivity (node 15), containing promotional content (node 35) was further influenced by the presence or absence of *social content* (Adj. P-value=0.001, F10.679, df1=1, df2=117). Those social media posts containing social content (node 62), received a substantially lower average stakeholder engagement rate (2.984) than those posts that did not (node 63; 4.266). Both nodes 62 and 63 are terminal nodes; therefore, with no further determinants. The descriptive findings of the whole data set regarding social content in Section 7.3.7.4 Figure 7.33 showed similar results. In this segment, variables such as the moment of participation; time of day and month of year, and design; level of interactivity, and promotional content, resulted in lower stakeholder engagement received on social media posts containing social content.

Social content in posts, influences the engagement rate of stakeholders. Social media posts that exclude social content, posted in the afternoons of specific months of the year (node 5), with no, medium or high interactivity, containing promotional content, are more likely to receive higher engagement from stakeholders.

Figure 8.19 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for afternoon posts during the months of node 6, for all sports events (highlighted in light green).

Figure 8.19: Stakeholder engagement rate CHAID algorithm with third layer of branches during afternoon posts in months of node 6 for all sports events



Source: Author’s own data (SPSS output)

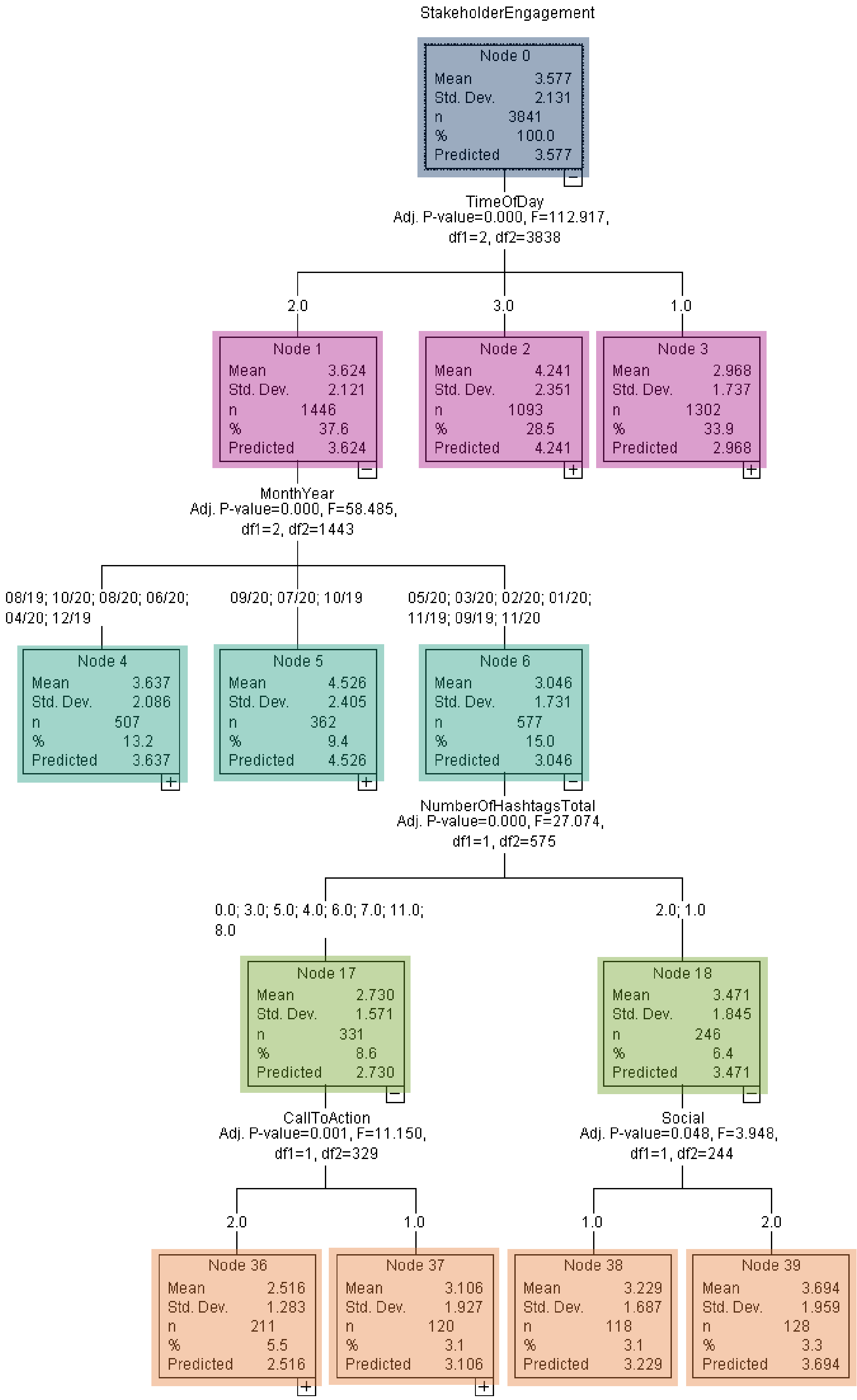
Analysis of the third layer of determinants for postings in afternoons (node 1) during September and November 2019 and January to March, May and November 2020 (node 6) in Figure 8.19, finds that the *total number of hashtags* had a further influence (Adj. P-value=0.000, F27.074, df1=1, df2=575). Social media posts containing fewer hashtags (between one and two) (node 18) received a higher average stakeholder engagement rate of 3.471 than those posts containing either no hashtags or multiple hashtags (three or more) (node 17; 2.730). The descriptive findings of the whole data set in Section 7.3.4.2 Figure 7.17, indicate that social media posts with one or two hashtags receive the most engagement from stakeholders. The findings for this segment indicate that variables such as the moment of participation, namely, time of day and month of year, can influence stakeholder engagement on social media posts with hashtags or with no hashtags. These variables have a significant positive effect on the engagement rate of social media posts that use one or two hashtags and a negative effect on posts containing no or multiple hashtags. Nodes 17 and 18 branched out into a fourth layer with statistically significant determinants (Figure 8.20).

The total number of hashtags used in a social media post influences the engagement rate of stakeholders. Social media posts that use only one or two hashtags, posted during the afternoons of specific months of the year (node 6), are likely to receive higher engagement from stakeholders.

Figure 8.20 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches for afternoon posts during the months of node 6 for all sports events (highlighted in orange).

When the CHAID was expanded to the fourth layer of branches for postings during afternoons (node 1), in September and November 2019 and January to March, May and November 2020 (node 6), two determinants emerged, namely, call-to-action and social content (see Figure 8.20).

Figure 8.20: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during afternoon posts in months of node 6 for all sports events



Source: Author's own data (SPSS output)

The stakeholder engagement rate for social media postings in the afternoon (node 1) during September and November 2019 and January through to March, May and November 2020 (node 6) that made use of one or two hashtags (node 18) was further influenced by the presence or absence of *social content* (Adj. P-value=0.048, F3.471, df1=1, df2=244). Posts containing social content (node 38) received a significantly lower average stakeholder engagement rate (3.229) than those that did not (node 39; 3.694). The descriptive findings of the whole data set regarding social content in Section 7.3.7.4 Figure 7.33, are consistent with these findings. In this segment influencing variables such as the moment of participation; time of day and month, and fluency; number of hashtags. Nodes 38 and 39 are terminal nodes with no statistically significant determinants.

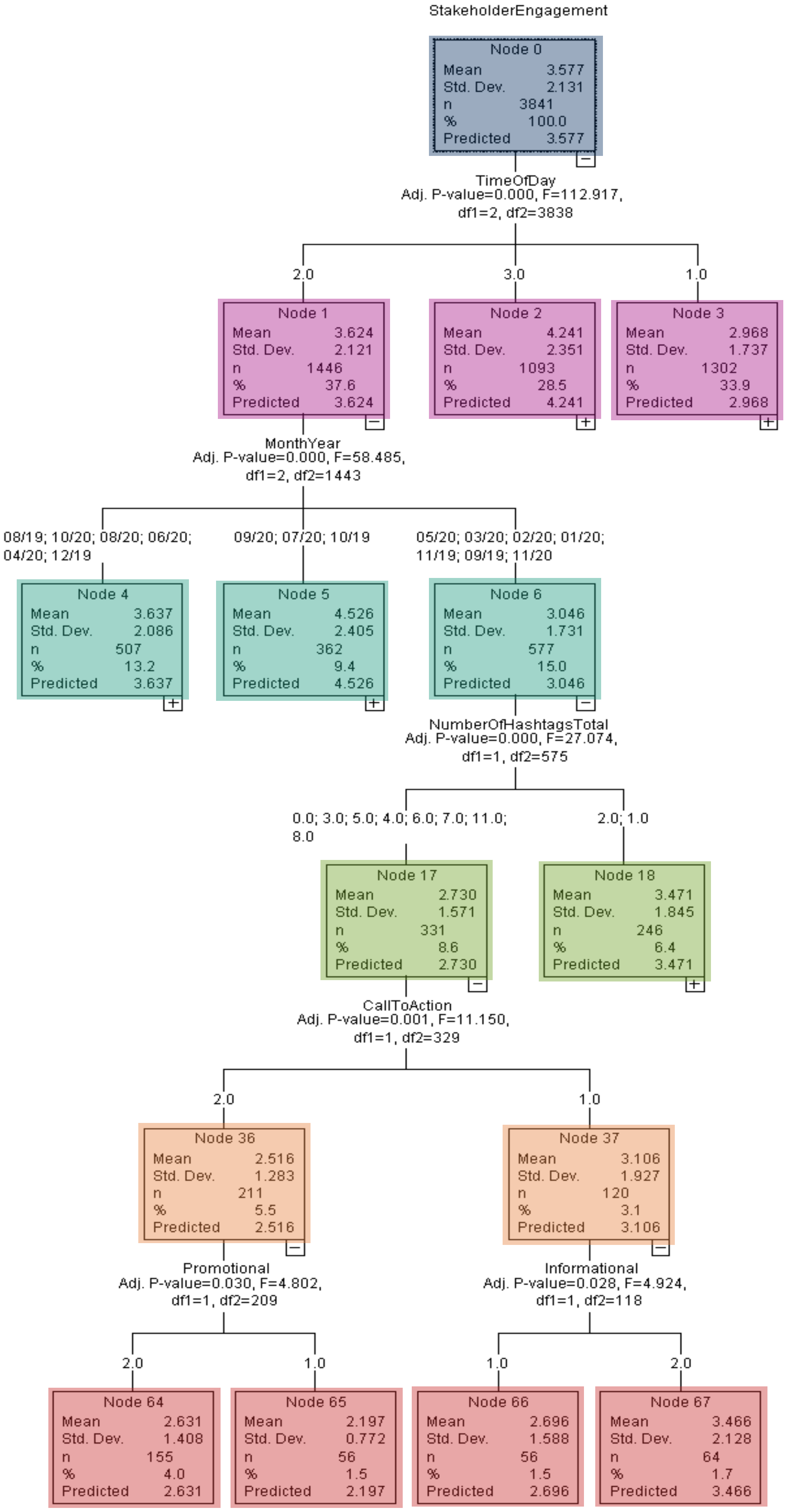
Social content in a social media post influences the engagement rate of stakeholders. Social media posts that exclude social content, posted during the afternoon of specific months of the year (node 6), with one or two hashtags, are likely to receive higher engagement from stakeholders.

The use of *call-to-action phrases* influence stakeholder engagement rates for social media postings in the afternoon (node 1) during September and November 2019 and January to March, May and November 2020 (node 6), that had either no or multiple hashtags (node 17) (Adj. P-value=0.001, F11.150, df1=1, df2=329). Social media posts containing call-to-action phrases (node 37), received a higher average stakeholder engagement rate (3.106) than posts that did not request a particular action from followers (node 36; 2.516). The descriptive findings for the whole data set in Section 7.3.6.2 Figure 7.26 show that the absence of call-to-action phrases in social media posts generates more stakeholder engagement. The findings for this segment clearly indicate that variables such as the moment of participation, namely, the time of day and month of the year, and fluency, namely, number of hashtags, contribute to higher stakeholder engagement received on social media posts containing call-to-action phrases. Nodes 36 and 37 branched into the fifth layer of statistically significant determinants (Figure 8.21).

Sharing call-to-action phrases in a social media post influences the engagement rate of stakeholders. Social media posts that use call-to-action phrases, with either no or multiple hashtags, posted during afternoons of specific months of the year (node 6) are likely to receive higher engagement from stakeholders.

Figure 8.21 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches for afternoon posts during the months of node 6 for all sports events (highlighted in red).

Figure 8.21: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during afternoon posts in months of node 6 for all sports events



Source: Author's own data (SPSS output)

The expansion of CHAID to the fifth layer of branches for postings during afternoons (node 1), in September and November 2019 and January to March, May and November 2020 (node 6) reveal two determinants, namely, promotional and social content (see Figure 8.21). Both nodes 38 and 39 are terminal nodes and do not branch into the fifth layer of statistically significant determinants.

Analysis of the fifth and last layer of determinants for social media postings in the afternoon (node 1) during September and November 2019 and January to March, May and November 2020 (node 6), that used either no or multiple hashtags (node 17) and did not contain call-to-action phrases (node 36), were further influenced by whether social media posts contained *promotional content* (Adj. P-value=0.030, F4.802, df1=1, df2=209). Social media posts with promotional content (node 65) received a lower predicted average stakeholder engagement rate (2.197) than social media posts that did not promote events (node 64; 2.631). The descriptive findings of the whole data set in Section 7.3.7.3 Figure 7.32 illustrate that posts promoting events do not receive more engagement from stakeholders. The findings for this segment indicate that variables such as the moment of participation, namely, the time of day and month, fluency; the total number of hashtags, and call-to-action phrases do not significantly affect the stakeholder engagement received on social media posts containing promotional messages content.

Promotional content in a social media post influences the engagement rate of stakeholders. Social media posts that do not promote the sports event, containing no call-to-action phrases, and no or multiple hashtags, posted during the afternoons of specific months of the year (node 6), are likely to receive higher engagement from stakeholders.

The use of *informational content* influenced the stakeholder engagement rate for social media postings in the afternoon (node 1), during September and November 2019 and January through to March, May and November 2020 (node 6), that used either no or multiple (more than two) hashtags (node 17), and contained call-to-action phrases (node 37) (Adj. P-value=0.028, F4.924, df1=1, df2=118). Social media posts that do not contain informational content received a higher predicted average stakeholder engagement rate (node 67; 3,466) than those providing information on the organisation or sports event (node 66; 2.696). The descriptive findings in Section

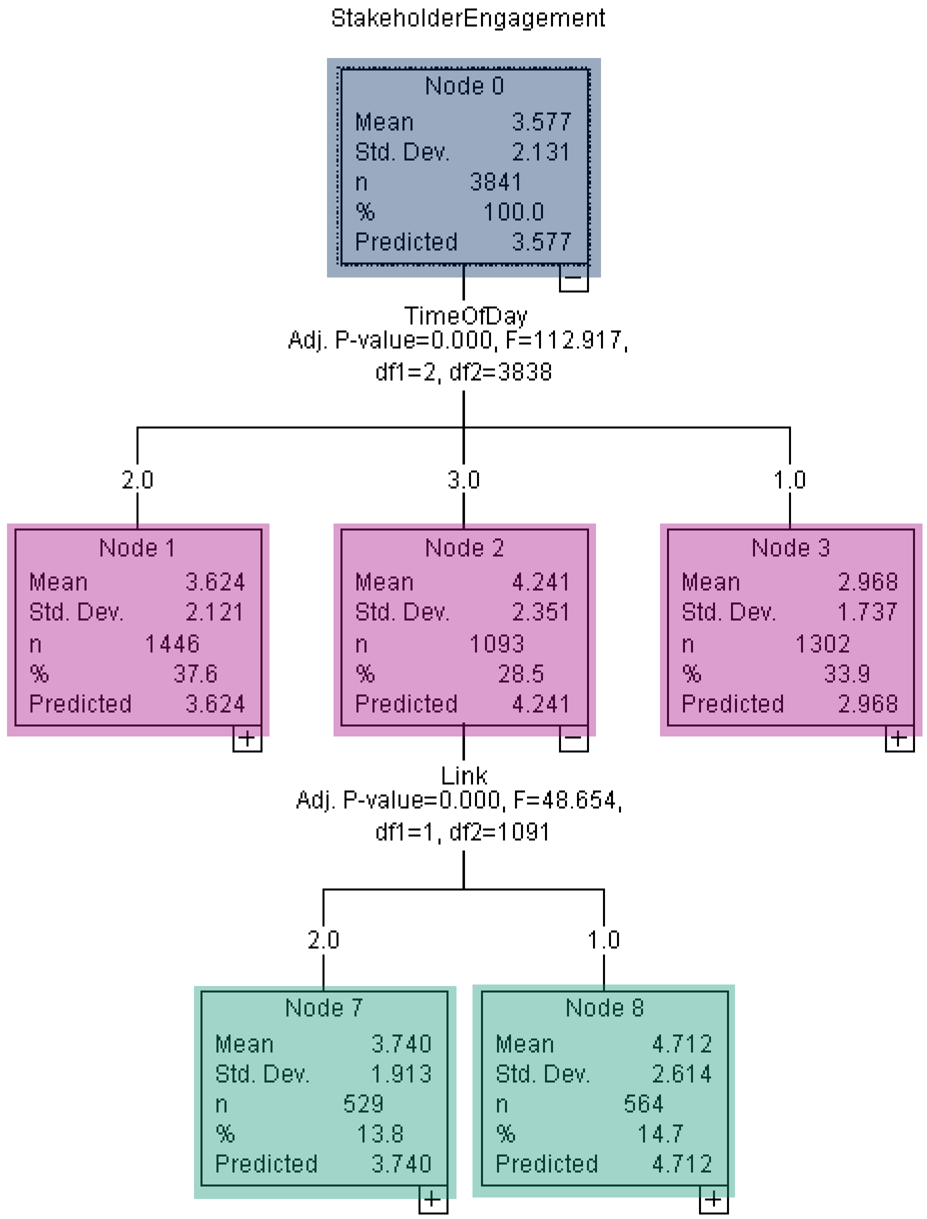
7.3.7.1 Figure 7.30 graphically depict the whole data set's posts containing informational content as receiving higher stakeholder engagement. The findings for this segment indicate that variables such as the moment of participation, namely, time of day and month, and fluency; the number of hashtags, and call-to-action phrases, negatively influence stakeholder engagement on social media posts containing informational content. Nodes 66 and 67 are terminal nodes at the fifth layer, thus concluding the decision tree for social media postings during afternoons (node 1).

The sharing of informational content in a social media post influences the engagement rate of stakeholders. Social media posts that do not share informational content but contain call-to-action phrases, with either no or multiple hashtags, and posted in the afternoon of specific months of the year (node 6), are likely to receive higher engagement from stakeholders.

Figure 8.22 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for postings during evenings for all sports events (highlighted in dark green).

The second-best determinants of stakeholder engagement rates on social media posts Figure 8.22 (in dark green) depends on the time of day (the first layer in pink). The various layers of determinants for morning posts (node 3; Figures 8.5 to 8.12) and afternoon posts (node 1; Figures 8.13 to 8.21) have been discussed. The various layers of determinants for the social media posts posted during the evenings (node 2) is now discussed, from Figure 8.22 to Figure 8.28.

Figure 8.22: Stakeholder engagement rate CHAID algorithm with second layer of branches during evening posts for all sports events



Source: Author’s own data (SPSS output)

For evening posts (node 2), which had the highest predicted average stakeholder engagement rate of 4.241, the second-best determinant of the social media posts’ stakeholder engagement rate was the presence or absence of an external *link* (Adj. P-value=0.000, F48.654, df1=1, df2=1091). Node 8, representing social media postings in the evenings containing an external link, received a substantially higher predicted average stakeholder engagement rate of 4.712 than those without links (node 7; 3.740). The descriptive findings in Section 7.3.5 Table 7.15 and Figure 7.21

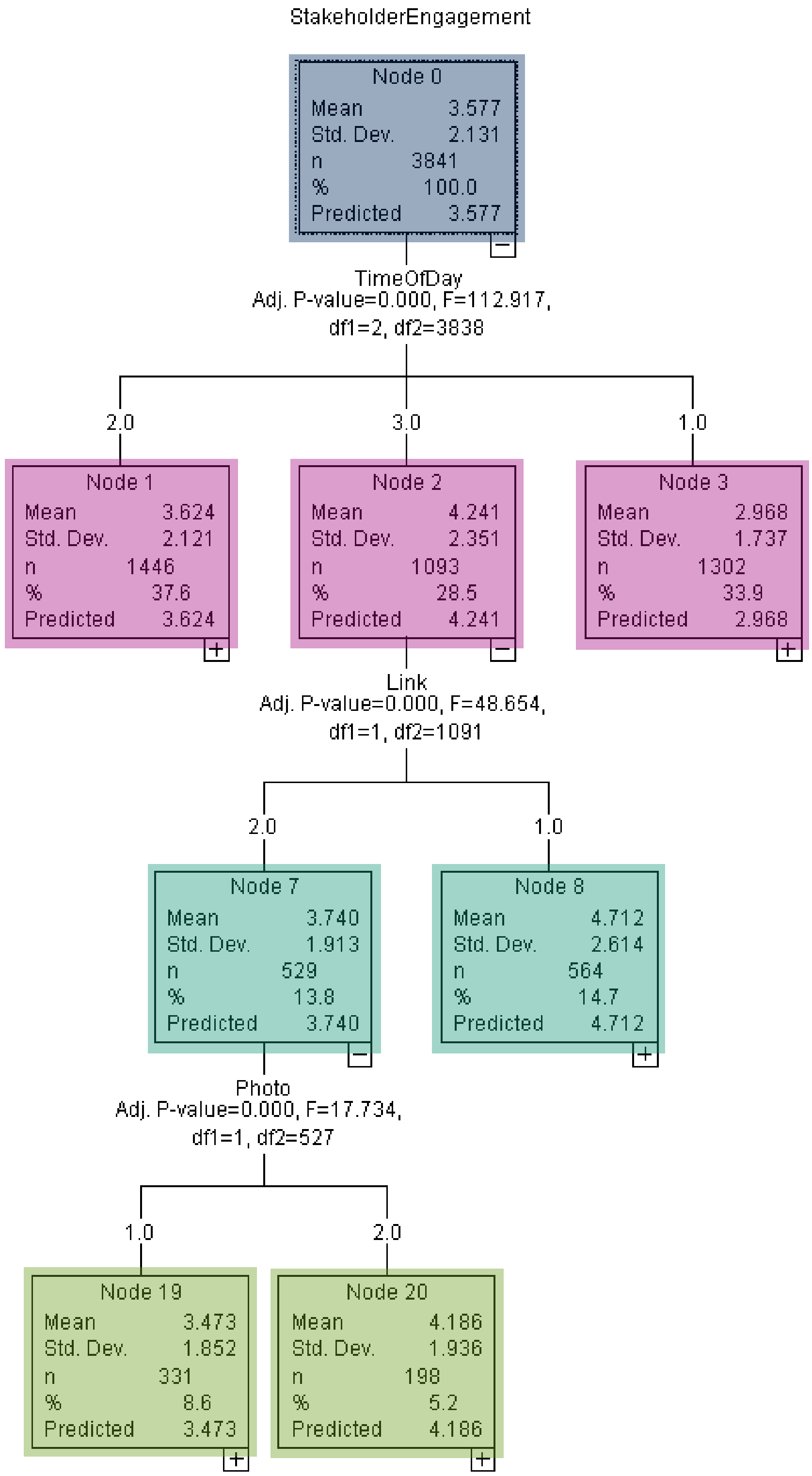
show the whole data set’s posts containing external links as receiving lower stakeholder engagement. These findings indicate, that for this segment, variables such as the moment of participation, namely, the time of day, contribute to higher stakeholder engagement received on social media posts containing external links.

The use of external links in a social media post influences the engagement rate of stakeholders. Social media posts that use external links, posted during the evenings are more likely to receive higher engagement from stakeholders. This could be an indication that the stakeholders are more inclined to engage with social media posts containing external links after working hours.

Both nodes 7 and 8 branch into a third layer of statistically significant determinants, however, Figures 8.23 to 8.25 will focus on the determinants from node 7 representing social media postings in the evenings, without external links.

Figure 8.23 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for posts posted during the evenings without external links, for all sports events (highlighted in light green).

Figure 8.23: Stakeholder engagement rate CHAID algorithm with third layer of branches during evening posts containing no links for all sports events



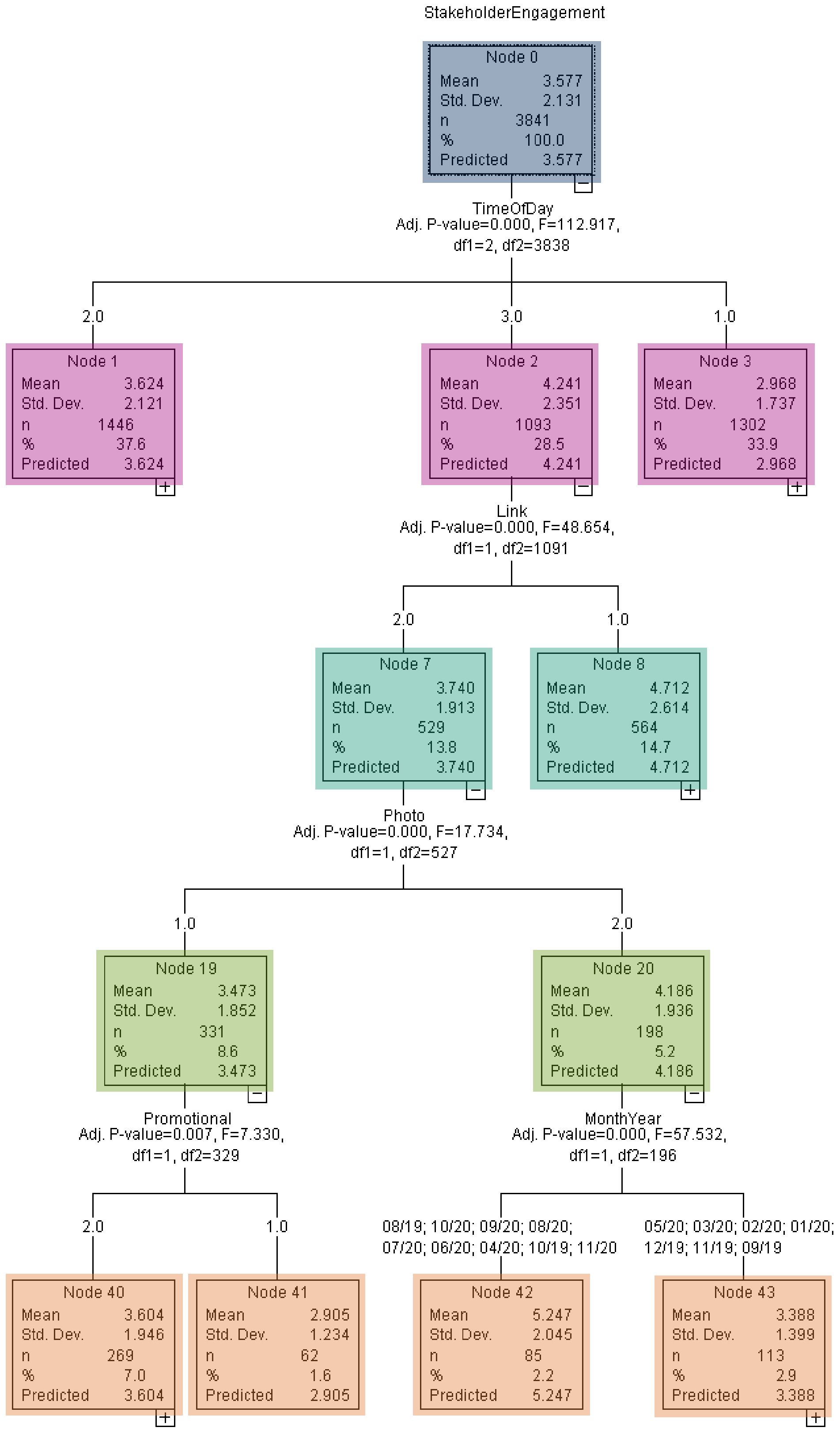
Source: Author's own data (SPSS output)

Analysis of the third layer of determinants for posts posted in the evenings (node 2) with no external links (node 7) in Figure 8.23, finds that the next best determinant was the use of *photos* in social media posts (Adj. P-value=0.000, F17.734, df1=1, df2=527). Interestingly, those social media posts that did not contain photos received a much higher average stakeholder engagement rate (node 20; 4.186) than posts that contained photos (node 19; 3.473). The reason for this finding is not known, however there could be various reasons for this finding. Evening posts containing no links or photos, possibly contained important information, therefore accounting for the higher average engagement rates, than posts with photos, which are more entertaining in nature. The descriptive results in Section 7.3.5.1, Figure 7.20 show the whole data set's posts containing photos, as receiving a lower average stakeholder engagement. The findings for this segment indicate that variables such as the moment of participation, namely, time of day and format type, namely links, do not substantially affect the stakeholder engagement on social media posts containing photos. Nodes 19 and 20 branched into the fourth layer of statistically significant determinants (Figure 8.24).

The use of photos in a social media post influences the engagement rate of stakeholders. Social media posts containing no external links or photos, posted during evenings, are likely to receive higher engagement from stakeholders.

Figure 8.24 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches for posts posted during the evenings without external links for all sports events (highlighted in orange).

Figure 8.24: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during evening posts containing no links for all sports events



Source: Author’s own data (SPSS output)

When CHAID was expanded to the fourth layer of branches for postings during evenings (node 2) with no external links (node 7), two determinants emerged, namely, promotional content and month of the year (Figure 8.24).

Postings in evenings (node 2), without external links (node 7), but with photos (node 19), were further influenced by whether the post contained *promotional content* (Adj. P-value=0.007, F7.330, df1=1, df2=329). Social media posts that did not contain promotional content received a much higher average stakeholder engagement rate (node 40; 3.604) than posts containing promotional content (node 41; 2.905). The results of the descriptive findings in Section 7.3.7.3 Figure 7.32 also illustrate, that promotional posts, do not lead to higher stakeholder engagement. The findings for this segment indicate that variables such as the moment of participation, namely, time of day, and format, namely, links and photos, do not significantly affect the stakeholder engagement on social media posts containing promotional content. Node 41 is a terminal node with no further determinants due to the small number of posts (n=62), however, node 40 branched into statistically significant determinant (Figure 8.25).

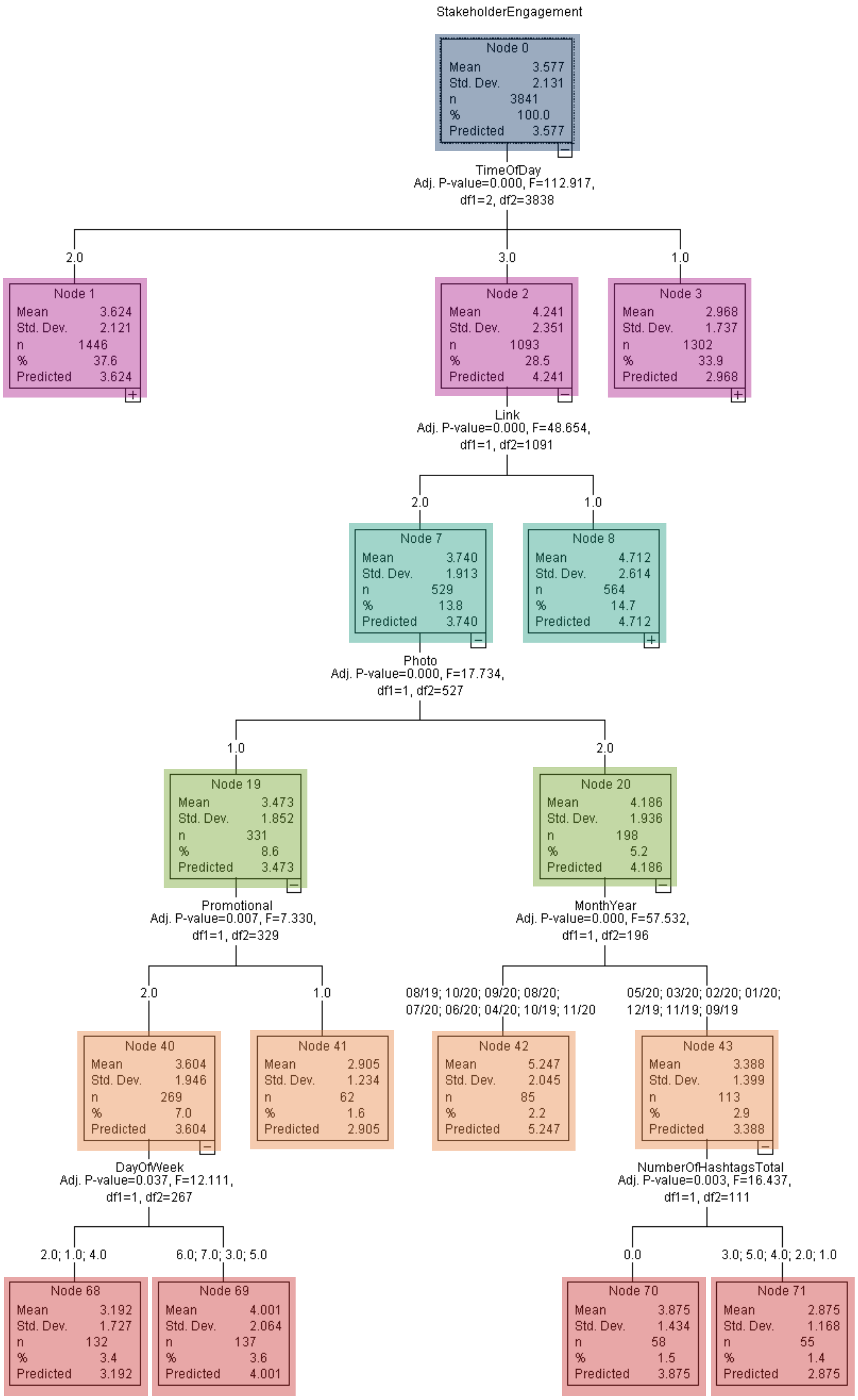
Promotional content in a social media post influences the engagement rate of stakeholders. Evening social media posts that do not promote the sports event or contain external links, but includes photos, are likely to receive higher engagement from stakeholders.

Postings in the evenings (node 2) that do not contain external links (node 7) or photos (node 20), were further influenced by the *month of the year* (Adj. P-value=0.000, F57.532, df1=1, df2=196). Node 42, representing the months of August and October 2019, April and June to November 2020, had a significantly higher predicted average stakeholder engagement rate of 5.247. Most of these occurred right before or during the months of seven sports events. September and November 2019 through to March 2020 and May 2020 (node 43), which had a lower stakeholder engagement rate of 3.388, included months before, during, and after five sports events, however, for many of these months, no sport events occurred. Node 42 is a terminal node with no further determinants due to the small number of posts (n=85); however, node 43 branched into a fifth layer with a statistically significant determinant (Figure 8.25).

The month of the year the social media post is posted influences the engagement rate of stakeholders. Evening social media postings in the months before or during sports events (node 42), that do not contain links or photos, are more likely to receive higher engagement from stakeholders.

Figure 8.25 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches for posts posted during the evenings without external links for all sports events (highlighted in red).

Figure 8.25: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during evening posts containing no links for all sports events



Source: Author’s own data (SPSS output)

When CHAID was expanded to the fifth and last layer of branches, two determinants emerged, namely, day of the week and the total number of hashtags (see Figure 8.25).

Postings in the evening (node 2) that do not contain external links (node 7) that made use of photos (node 19), and did not contain promotional content (node 40), were further influenced by the *day of the week* of the posting (Adj. P-value=0.037, F12.111, df1=1, df2=267). Social media posts posted on Mondays, Tuesdays and Thursdays (node 68) received a much lower predicted average stakeholder engagement (3.192) than those posted on Wednesdays, Fridays, Saturdays and Sundays (node 69; 4.001). The results of the descriptive findings of the whole data set in Section 7.3.2.2 Figure 7.10 and 7.11, indicated that postings on weekends (Saturdays and Sundays) receive higher stakeholder engagement than those posted on weekdays (Mondays to Fridays). However, the descriptive findings also indicated that Thursdays received the highest engagement from stakeholders. Therefore, the findings for this segment indicate that variables, such as the moment of participation, namely, time of day, as well as format, namely, links and photos, and content, namely, promotional do not have a significant effect on the stakeholder engagement on social media posts posted during weekends; however, these variables had a negative influence on stakeholder engagement of posts posted on weekdays, specifically Mondays, Tuesdays and Thursdays.

The day of the week a social media post is posted influences the engagement rate of stakeholders. Social media posts that do not use links or promotional content but include photos, and are posted during the evenings of Wednesdays, Fridays, Saturdays and Sundays, are likely to receive higher engagement from stakeholders.

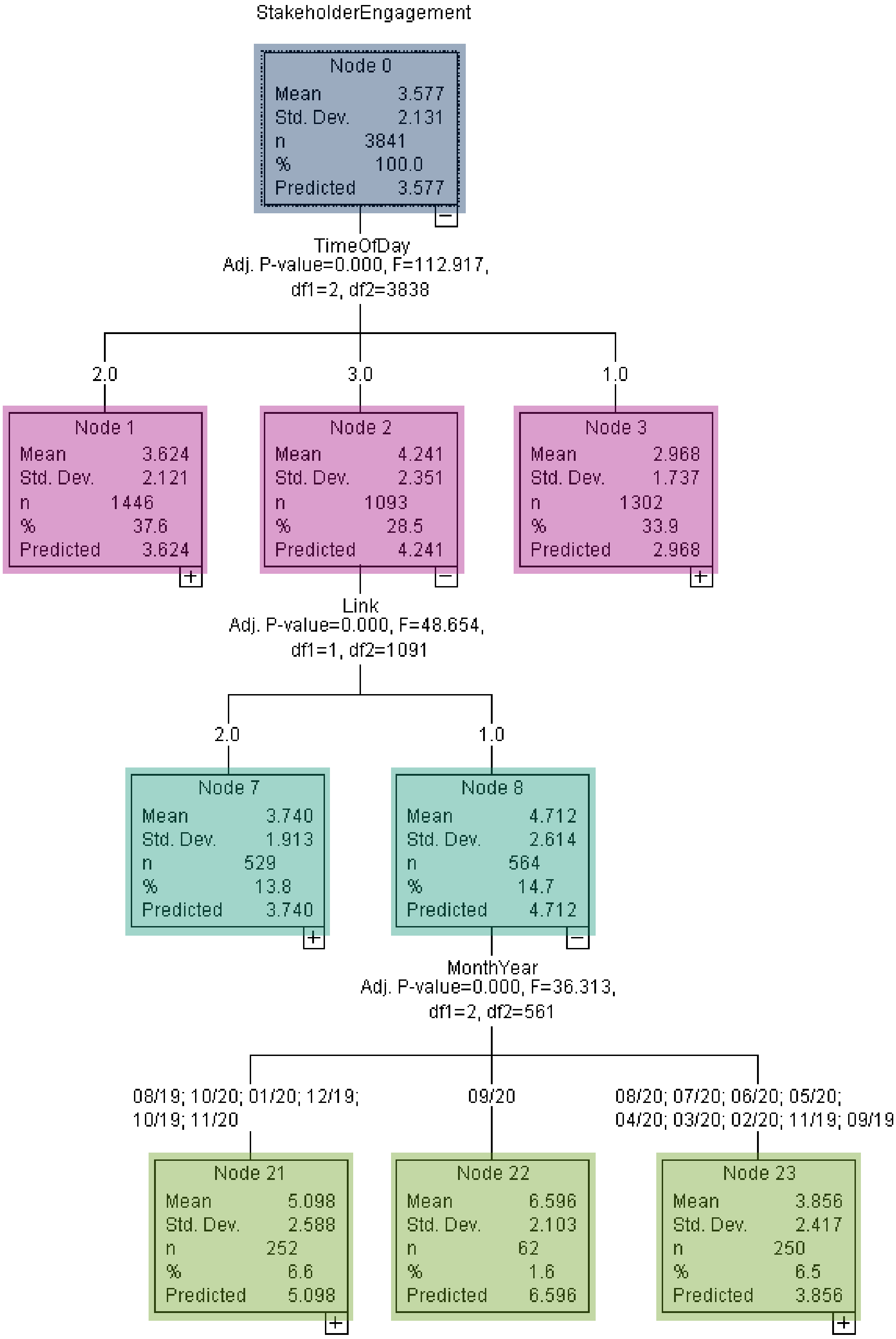
Postings in the evening (node 2) that do not contain external links (node 7) or photos (node 20), during September and November 2019 to March 2020, as well as May 2020, were further influenced by the *total number of hashtags* used (Adj. P-value=0.003, F16.437, df1=1, df2=111). Social media posts containing no hashtags (node 70) received a higher average stakeholder engagement rate of 3.875 than those containing one or more hashtags (node 71; 2.875). The descriptive findings of the whole data set in Section 7.3.4.2 Figure 7.17, indicate that social media posts with one or two hashtags received the most engagement from stakeholders as opposed to posts with no hashtags or three or more hashtags. The findings for this segment indicate that variables such as the moment of participation, namely, time of day and month of year, and format type, namely, links and photos, have a significant effect on stakeholder engagement on social media posts containing both hashtags and no hashtags. These variables have a significant positive effect on the engagement rate of social media posts that do not use hashtags and a negative effect on posts containing one or more hashtags. Both nodes 70 and 71 are terminal nodes at the fifth layer

The total number of hashtags used in a social media post influences the engagement rate of stakeholders. Social media posts that do not make use of any hashtags, links or photos, and are posted during the evenings of specific months of the year (node 43), are more likely to receive higher engagement from stakeholders.

This concludes the discussion (Figures 8.23 to 8.25) on those determinants for node 7 representing social media postings in the evening, without external links. Those determinants branching out of node 8, representing social media postings in the evenings with external links, are now discussed from Figure 8.26 to Figure 8.28.

Figure 8.26 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for posts posted during the evenings with external links for all sports events (highlighted in light green).

Figure 8.26: Stakeholder engagement rate CHAID algorithm with third layer of branches during evening posts containing links, for all sports events



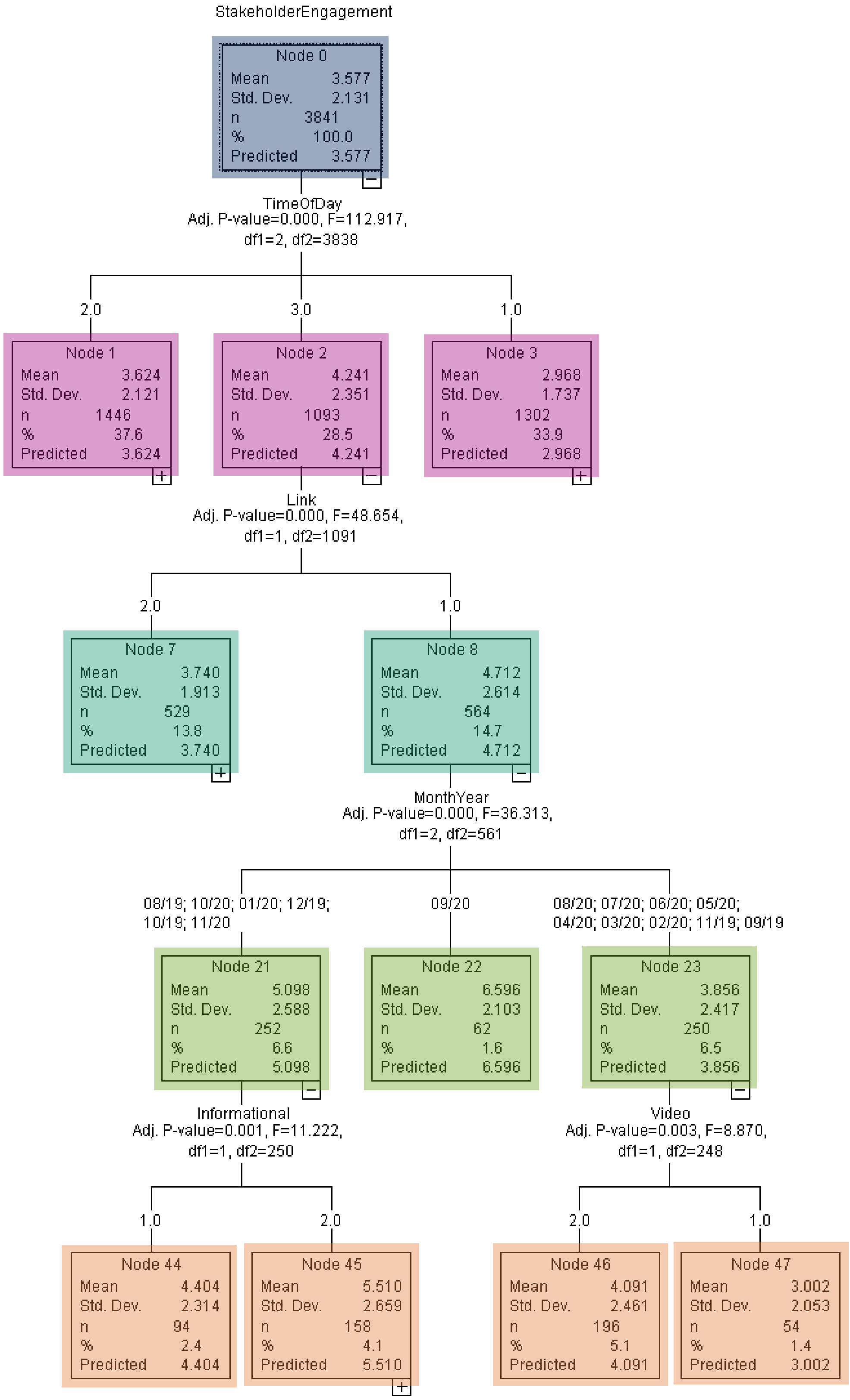
Source: Author's own data (SPSS output)

Analysis of the third layer of determinants for postings in the evenings (node 2) with external links (node 8) presented in Figure 8.26, finds that the next best determinant was the *month of the year* social media posts were posted (Adj. P-value=0.000, F36.313, df1=2, df2=561). Node 22, representing September 2020, has the highest predicted average stakeholder engagement rate of 6.596; however, node 22 is a terminal node and did not branch into the fourth layer of determinants due to the small number of posts (n=62). Node 21, representing the months of August, October and December 2019 and January, October and November 2020, received the second-highest predicted average stakeholder engagement rate of 5.098. Node 23, representing September and November 2019, and February to August 2020, had the lowest stakeholder engagement rate of 3.856. Nodes 21 and 23 branched into a fourth layer of statistically significant determinants (Figure 8.26)

The month of the year a social media post is posted influences the engagement rate of stakeholders. Social media posts containing links posted in the evenings of months before or during sports events (node 22), are likely to receive higher engagement from stakeholders.

Figure 8.27 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches for posts posted during the evenings with external links for all sports events (highlighted in orange).

Figure 8.27: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during evening posts containing links for all sports events



Source: Author’s own data (SPSS output)

When the CHAID was expanded to the fourth layer of branches for postings during evenings (node 2) with external links (node 8), two determinants emerged, namely informational content and videos (see Figure 8.27).

The use of *informational content* influenced the stakeholder engagement rate for social media posts posted in the evening (node 2) containing external links (node 8), posted during August, October and December 2019, and January, October and November 2020 (node 21) (Adj. P-value=0.001, F11.222, df1=1, df2=250). Social media posts that do not contain informational content received a significantly higher predicted average stakeholder engagement rate (node 45; 5.510) than those providing information on the organisation or sports event (node 44; 4.404). The descriptive findings in Section 7.3.7.1 Figure 7.30, graphically depict the whole data set's posts, containing informational content as receiving higher stakeholder engagement. Therefore, the findings for this segment indicate that variables such as the moment of participation, namely, time of day and month of year, and format, namely, links, negatively influence stakeholder engagement of social media posts containing informational content. Nodes 44 is a terminal node with no further statistically significant determinants due to the small number of posts (n=94). However, node 45 branched into the fifth layer with statistically significant determinants (Figure 8.28)

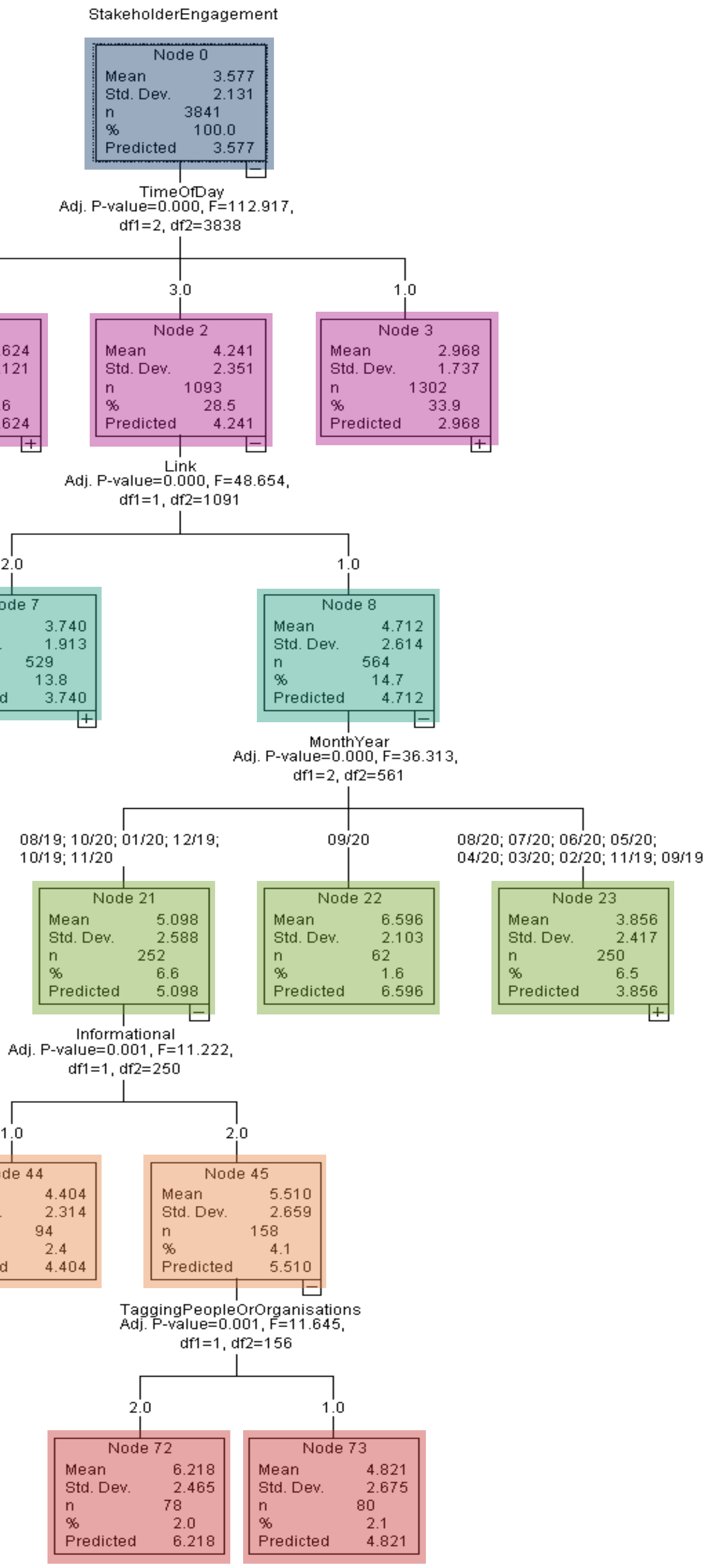
Informational content in a social media post influences the engagement rate of stakeholders. Social media posts that do not share informational content, but contain external links, and are posted during the evenings of specific months of the year (node 21), are likely to receive higher engagement from stakeholders

The stakeholder engagement rate of social media postings in evenings (node 2), that contained external links (node 8) and were posted during September and November 2019 as well as February to August 2020, was further influenced by the inclusion or exclusion of *videos* (Adj. P-value=0.003, F8.870, df1=1, df2=248). Social media posts that exclude videos received a substantially higher predicted average stakeholder engagement rate (node 46; 4.091) than those that included videos (node 47; 3.002). The descriptive findings in Section 7.3.5.4 Figure 7.23, graphically depict posts containing videos as receiving more engagement from stakeholders. The findings for this segment, therefore, indicate that variables such as the moment of participation, namely, time of day and month of year, and format, namely links, are associated with lower stakeholder engagement on social media posts containing videos. Both nodes 46 and 47 are terminal nodes and did not branch out to the fifth layer of statistically significant determinants and are closed in Figure 8.28, to ensure the readability of the CHAID tree diagram.

The sharing of videos in a social media post influences the engagement rate of stakeholders. Social media posts with external links, posted during the evenings of specific months of the year (node 23), and do not use videos, are likely to receive higher engagement from stakeholders.

Figure 8.28 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches for posts posted during the evenings with external links for all sports events (highlighted in red).

Figure 8.28: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during evening posts containing links for all sports events



Source: Author’s own data (SPSS output)

The fifth layer of the CHAID decision tree revealed *tagging people or organisations* as the final determinant influencing the stakeholder engagement rate of social media postings in evenings (node 2), containing external links (node 8), posted during August, October and December 2019 as well as January, October and November 2020 (node 21), that excluded informational content (node 45) (Adj. P-value=0.001, F11.645, df1=1, df2=156). Social media posts, which use tags (node 73), received a significantly lower predicted average stakeholder engagement rate (4.821) than those that did not tag a person or organisation (node 72; 6.218). The descriptive findings of the whole data set in Section 7.3.4.3 Figure 7.18 illustrate that social media posts that do not use tags, generate more engagement amongst stakeholders. The findings for this segment indicate that variables such as the moment of participation, namely, time of day and month of year, the format, namely links, and content, namely, information, does not have a significant effect on stakeholder engagement of social media posts that use tags. Nodes 72 and 73 are terminal nodes at the fifth layer, and there are no further statistically significant determinants, thus concluding the CHAID decision tree for all sports events.

Tagging people or organisations in a social media post influences the engagement rate of stakeholders. Social media posts, containing external links, that do not use tags or share informational content, and are posted during the evening of specific months of the year (node 21), are likely to receive higher engagement from stakeholders.

8.5.1.1 <u>Overview of the CHAID decision tree for all sports events</u>

Table 8.9 provides an overview of the spread of the CHAID decision tree in the form of a gains table, sorted from the highest mean stakeholder engagement rate to the lowest. Gain refers to the percentage of total posts in the target category in each node (IBM SPSS, 2021). The table includes the node number of all terminal nodes, number of cases, percentage gain, and the dependent variable’s mean value.

Table 8.9: Gain summary for nodes of the CHAID algorithm for all sports events

GAIN SUMMARY FOR NODES			
Node	**N**	**Percent**	**Mean**
22	62	1.6%	6.59550
72	78	2.0%	6.21805
16	88	2.3%	5.70810
42	85	2.2%	5.24653
33	82	2.1%	4.90530
73	80	2.1%	4.82063
49	72	1.9%	4.74201
75	62	1.6%	4.71092
77	54	1.4%	4.53265
34	155	4.0%	4.50217
44	94	2.4%	4.40370
63	65	1.7%	4.26623
60	94	2.4%	4.15806
46	196	5.1%	4.09082
69	137	3.6%	4.00147
53	50	1.3%	3.99418
70	58	1.5%	3.87547
39	128	3.3%	3.69449
59	53	1.4%	3.64928
32	98	2.6%	3.54195
67	64	1.7%	3.46558
57	70	1.8%	3.43580
38	118	3.1%	3.22944
79	92	2.4%	3.19407
68	132	3.4%	3.19224
76	50	1.3%	3.04812
47	54	1.4%	3.00165
74	99	2.6%	2.99835
62	54	1.4%	2.98372
61	57	1.5%	2.97805
41	62	1.6%	2.90461
71	55	1.4%	2.87460
52	72	1.9%	2.77408

58	123	3.2%	2.76860
66	56	1.5%	2.69588
56	59	1.5%	2.66337
64	155	4.0%	2.63106
78	83	2.2%	2.52933
27	84	2.2%	2.38642
11	111	2.9%	2.30740
54	275	7.2%	2.28161
51	69	1.8%	2.20039
65	56	1.5%	2.19663

Growing Method: CHAID

Dependent Variable: Stakeholder Engagement

Source: Author’s own data (SPSS output)

Node 22 (the highest mean stakeholder engagement rate of 6.59550, highlighted in pink), represents social media postings in the evening, which contained an external link, during September 2020. Social media posts that were posted in the afternoon, throughout September and November 2019 and January to March 2020, May and November 2020, containing no or multiple hashtags, no call-to-action phrases, with promotional content (node 65) had the lowest mean stakeholder engagement rate of 2.19663 (highlighted in green).

Node 54 represents the highest percentage of social media posts (7.2%) with the second-lowest predicted stakeholder engagement index of 2.28161. This node branched off from node 28 and represents social media postings in the mornings during September 2019; and November 2019 to March 2020 and November 2020, with medium vividness, containing no or multiple hashtags. Node 46 represents the second-highest percentage of social media posts (5.1%) with a predicted stakeholder engagement index of 4.09082. This node also branched off from node 23 and represented those social media posts posted in the evenings containing links during September and November 2019 and February to August 2020, with no videos.

Table 8.10 is the tree table of the CHAID algorithm for all sports events. As the name suggests, it offers most of the essential information included in the graphically depicted CHAID algorithm (Figure 8.3) in table format. The results in the tree table alone are challenging to interpret without using the CHAID algorithm diagram, therefore, the results were first graphically depicted in the form of a CHAID algorithm decision tree diagram and then discussed. As the total CHAID algorithm diagram is too large to present without sacrificing readability, Table 8.10 provides an overview result followed by an in-depth discussion, for greater clarification.

All 80 nodes are shown in the table, and for each node, the following information is provided: the number and percentage of cases in each category; the mean, predicted mean, and standard deviation for the dependent variable; the parent node for each node (Note that not all nodes are parent nodes, those missing in the parent node column are terminal nodes; therefore no child nodes); the independent variable used to split the node; the Chi-square value, the degrees of freedom (df1 and df2) and the level of significance for the division.

Table 8.10: Tree table of stakeholder engagement rate CHAID algorithm for all sports events

Node	Mean	Std. Deviation	N	Percent	Predicted Mean	Parent node	Primary Independent Variable					
							Variable	Sig.[a]	F	Df1	Df2	Split values
0	3.577	2.131	3841	100.0%	3.577							
1	3.624	2.121	1446	37.6%	3.624	0	Time of day	0.000	112.917	2	3838	Afternoons (2)
2	4.241	2.351	1093	28.5%	4.241	0	Time of day	0.000	112.917	2	3838	Evenings (3)
3	2.968	1.737	1302	33.9%	2.968	0	Time of day	0.000	112.917	2	3838	Mornings (1)
4	3.637	2.086	507	13.2%	3.637	1	Month of the year	0.000	58.485	2	1443	08/19; 10/20; 08/20; 06/20; 04/20; 12/19
5	4.526	2.405	362	9.4%	4.526	1	Month of the year	0.000	58.485	2	1443	09/20; 07/20; 10/19
6	3.046	1.731	577	15.0%	3.046	1	Month of the year	0.000	58.485	2	1443	05/20; 03/20; 02/20; 01/20; 11/19; 09/19; 11/20
7	3.740	1.913	529	13.8%	3.740	2	Link	0.000	48.654	1	1091	No (2)
8	4.712	2.614	564	14.7%	4.712	2	Link	0.000	48.654	1	1091	Yes (1)
9	3.644	2.205	406	10.6%	3.644	3	Month of the year	0.000	35.374	3	1298	08/19; 09/20; 08/20; 07/20; 10/19
10	2.912	1.676	206	5.4%	2.912	3	Month of the year	0.000	35.374	3	1298	10/20; 06/20
11	2.307	1.081	111	2.9%	2.307	3	Month of the year	0.000	35.374	3	1298	05/20; 04/20
12	2.641	1.284	579	15.1%	2.641	3	Month of the year	0.000	35.374	3	1298	03/20; 02/20; 01/20; 12/19; 11/19; 09/19; 11/20
13	3.347	1.901	327	8.5%	3.347	4	Call-to-action	0.000	18.360	1	505	No (2)
14	4.163	2.300	180	4.7%	4.163	4	Call-to-action	0.000	18.360	1	505	Yes (1)

15	4.147	2.211	274	7.1%	4.147	5	Interactivity	0.000	30.348	1	360	None (1); High (4); Medium (3)
16	5.708	2.607	88	2.3%	5.708	5	Interactivity	0.000	30.348	1	360	Low (2)
17	2.730	1.571	331	8.6%	2.730	6	Total number of hashtags	0.000	27.074	1	575	0; 3; 5; 4; 6; 7; 11; 8
18	3.471	1.845	246	6.4%	3.471	6	Total number of hashtags	0.000	27.074	1	575	1; 2
19	3.473	1.852	331	8.6%	3.473	7	Photo	0.000	17.734	1	527	Yes (1)
20	4.186	1.936	198	5.2%	4.186	7	Photo	0.000	17.734	1	527	No (2)
21	5.098	2.588	252	6.6%	5.098	8	Month of the year	0.000	36.313	2	561	08/19; 10/20; 01/20; 12/19; 10/19; 11/20
22	6.595	2.103	62	1.6%	6.595	8	Month of the year	0.000	36.313	2	561	09/20
23	3.856	2.417	250	6.5%	3.856	8	Month of the year	0.000	36.313	2	561	08/20; 07/20; 06/20; 05/20; 04/20; 03/20; 02/20; 11/19; 09/19
24	3.993	2.262	233	6.1%	3.993	9	Promotional	0.000	14.157	1	404	No (2)
25	3.173	2.040	173	4.5%	3.173		Promotional	0.000	14.157	1	404	Yes (1)
26	3.274	1.826	122	3.2%	3.274	10	Virtual race	0.000	14.896	1	204	No (2)
27	2.386	1.269	84	2.2%	2.386	10	Virtual race	0.000	14.896	1	204	Yes (1)
28	2.514	1.137	450	11.7%	2.514	12	Vividness	0.000	20.327	1	577	Medium (2)
29	3.083	1.630	129	3.4%	3.083	12	Vividness	0.000	20.327	1	577	Low (1); High (3)
30	3.034	1.637	176	4.6%	3.034	13	Month of the year	0.037	10.671	1	325	08/19; 10/20; 04/20; 12/19
31	3.713	2.116	151	3.9%	3.713	13	Month of the year	0.037	10.671	1	325	08/20; 06/20
32	3.541	1.999	98	2.6%	3.541	14	Social	0.000	17.097	1	178	Yes (1)
33	4.905		82	2.1%	4.905	14	Social	0.000	17.097	1	178	No (2)
34	4.502	2.146	155	4.0%	4.502	15	Promotional	0.002	9.502	1	272	No (2)

35	3.684	2.217	119	3.1%	3.684	15	Promotional	0.002	9.502	1	272	Yes (1)
36	2.516	1.283	211	5.5%	2.516	17	Call-to-action	0.001	11.150	1	329	No (2)
37	3.106	1.927	120	3.1%	3.106	17	Call-to-action	0.001	11.150	1	329	Yes (1)
38	3.229	1.687	118	3.1%	3.229	18	Social	0.048	3.948	1	244	Yes (1)
39	3.694	1.959	128	3.3%	3.694	18	Social	0.048	3.948	1	244	No (2)
40	3.604	1.946	269	7.0%	3.604	19	Promotional	0.007	7.330	1	329	No (2)
41	2.904	1.234	62	1.6%	2.904	19	Promotional	0.007	7.330	1	329	Yes (1)
42	5.246	2.045	85	2.2%	5.246	20	Month of the year	0.000	57.532	1	196	08/19; 10/20; 09/20; 08/20; 07/20; 06/20; 04/20; 10/19; 11/20
43	3.388	1.399	113	2.9%	3.388	20	Month of the year	0.000	57.532	1	196	05/20; 03/20; 02/20; 01/20; 12/19; 11/19; 09/19
44	4.403	2.314	94	2.4%	4.403	21	Informational	0.001	11.222	1	250	Yes (1)
45	5.510	2.659	158	4.1%	5.510	21	Informational	0.001	11.222	1	250	No (2)
46	4.090	2.461	196	5.1%	4.090	23	Video	0.003	8.870	1	248	No (2)
47	3.001	2.053	54	1.4%	3.001	23	Video	0.003	8.870	1	248	Yes (1)
48	3.658	2.010	161	4.2%	3.658	24	Link	0.001	11.969	1	231	No (2)
49	4.742	2.606	72	1.9%	4.742	24	Link	0.001	11.969	1	231	Yes (1)
50	3.819	2.212	104	2.7%	3.819	25	Entertainment	0.000	30.612	1	171	No (2)
51	2.200	1.232	69	1.8%	2.200	25	Entertainment	0.000	30.612	1	171	Yes (1)
52	2.774	1.526	72	1.9%	2.774	26	Tagging people or organisations	0.000	14.669	1	120	No (2)
53	3.994	1.990	50	1.3%	3.994	26	Tagging people or organisations	0.000	14.669	1	120	Yes (1)

54	2.281	0.800	275	7.2%	2.281	28	Total number of hashtags	0.000	31.513	1	448	0; 3; 5; 4; 6; 11; 8; 16
55	2.879	1.452	175	4.6%	2.879	28	Total number of hashtags	0.000	31.513	1	448	2; 1
56	2.663	1.397	59	1.5%	2.663	29	Social	0.007	7.560	1	127	Yes (1)
57	3.435	1.735	70	1.8%	3.435	29	Social	0.007	7.560	1	127	No (2)
58	2.768	1.347	123	3.2%	2.768	30	Tagging people or organisations	0.001	11.351	1	174	No (2)
59	3.649	2.052	53	1.4%	3.649	30	Tagging people or organisations	0.001	11.351	1	174	Yes (1)
60	4.158	2.086	94	2.4%	4.158	31	Interactivity	0.005	11.834	1	149	None (1); Medium (3)
61	2.978	1.970	57	1.5%	2.978	31	Interactivity	0.005	11.834	1	149	Low (2); High (4)
62	2.983	1.592	54	1.4%	2.983	35	Social	0.001	10.679	1	117	Yes (1)
63	4.266	2.491	65	1.7%	4.266	35	Social	0.001	10.679	1	117	No (2)
64	2.631	1.408	155	4.0%	2.631	36	Promotional	0.030	4.802	1	209	No (2)
65	2.196	0.772	56	1.5%	2.196	36	Promotional	0.030	4.802	1	209	Yes (1)
66	2.695	1.588	56	1.5%	2.695	37	Informational	0.028	4.924	1	118	Yes (1)
67	3.465	2.128	64	1.7%	3.465	37	Informational	0.028	4.924	1	118	No (2)
68	3.192	1.727	132	3.4%	3.192	40	Day of the week	0.037	12.111	1	267	2; 1; 4
69	4.001	2.064	137	3.6%	4.001	40	Day of the week	0.037	12.111	1	267	6; 7; 3; 5
70	3.875	1.434	58	1.5%	3.875	43	Total number of hashtags	0.003	16.437	1	111	0
71	2.874	1.168	55	1.4%	2.874	43	Total number of hashtags	0.003	16.437	1	111	3; 5; 4; 2; 1
72	6.218	2.465	78	2.0%	6.218	45	Tagging people or organisations	0.001	11.645	1	156	No (2)
73	4.820	2.675	80	2.1%	4.820	45	Tagging people or organisations	0.001	11.645	1	156	Yes (1)

74	2.998	1.802	99	2.6%	2.998	48	Month of the year	0.000	33.247	1	159	08/19; 09/20; 10/19
75	4.710	1.885	62	1.6%	4.710	48	Month of the year	0.000	33.247	1	159	08/20; 07/20
76	3.048	1.773	50	1.3%	3.048	50	Total post length	0.004	13.066	1	102	<=214
77	4.532	2.350	54	1.4%	4.532	50	Total post length	0.004	13.066	1	102	>214
78	2.529	0.998	83	2.2%	2.529	55	Interactivity	0.016	9.599	1	173	None (1)
79	3.194	1.709	92	2.4%	3.194	55	Interactivity	0.016	9.599	1	173	Low (2); High (4); Medium (3)

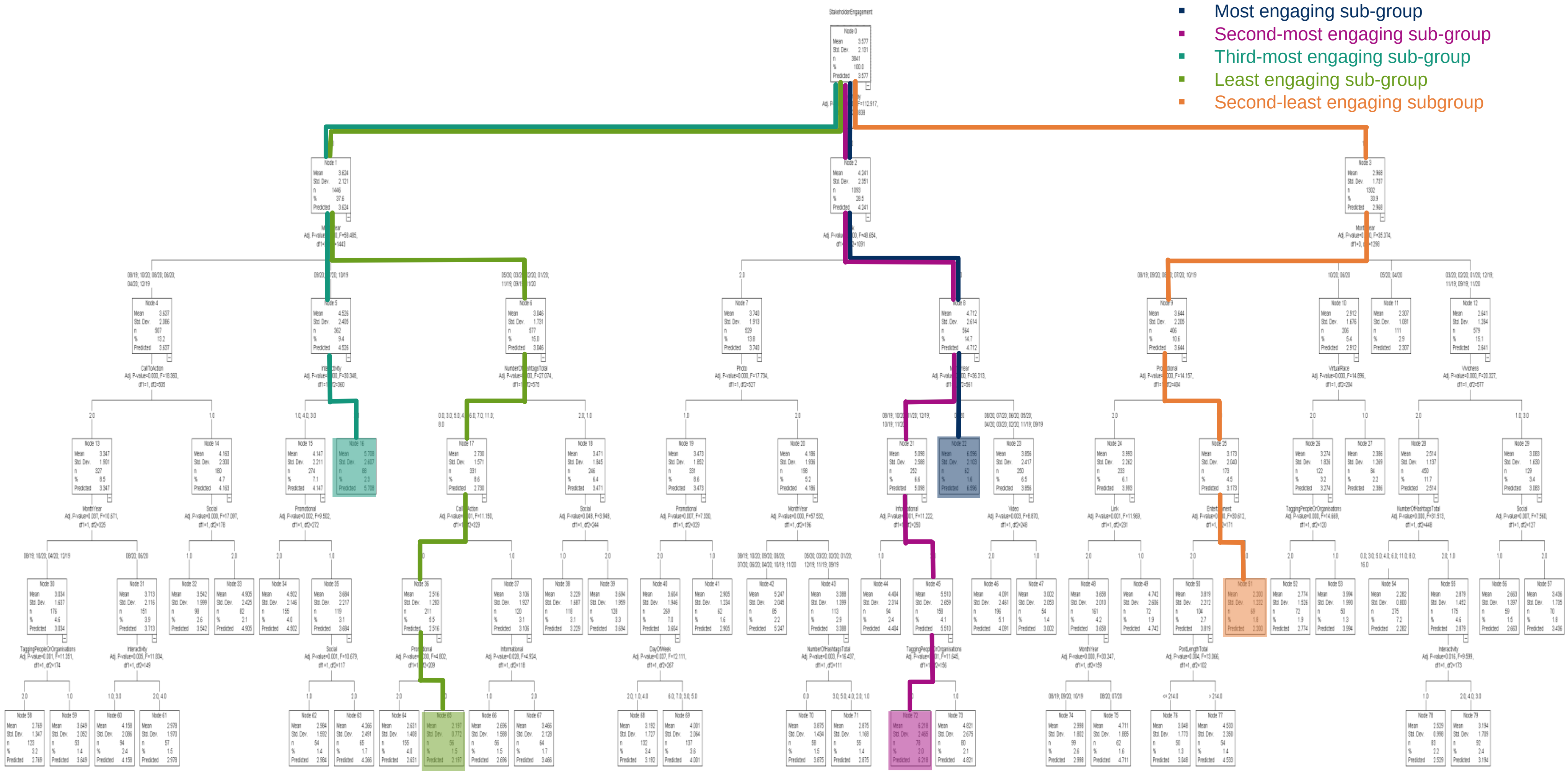
Source: Author’s own data (SPSS output)

The CHAID analysis produces sufficient empirical evidence to consider that overall sports events' social media posts, posted in the evening, that contained an external link during September 2020 led to the highest stakeholder engagement rate (node 22) (highlighted in dark blue, Figure 8.29). Node 72 is the second most engaging sub-group of social media posts, which resembles node 22 in terms of the time of day and external links. However, it differs with respect to the month of the year, which were posted during August, October and December 2019, and January, October and November 2020. Further, it consists of posts that exclude informational content and tags (in pink, Figure 8.29). The third most engaging sub-group of social media posts is node 16, which consists of postings in the afternoon during October 2019 and July and September 2020, with a low interactivity level (in dark green, Figure 8.29).

The least engaging subgroup of social media posts is node 65 with afternoon postings in September and November 2019 and January to March 2020, May and November 2020, with either no or multiple hashtags, and excluded call-to-action phrase, but contained promotional content (in light green, Figure 8.29). The second least engaging subgroup of social media posts is node 51, which consists of morning postings during August and October 2019, and July to September 2020, and contained promotional and entertaining content (in orange, Figure 8.29).

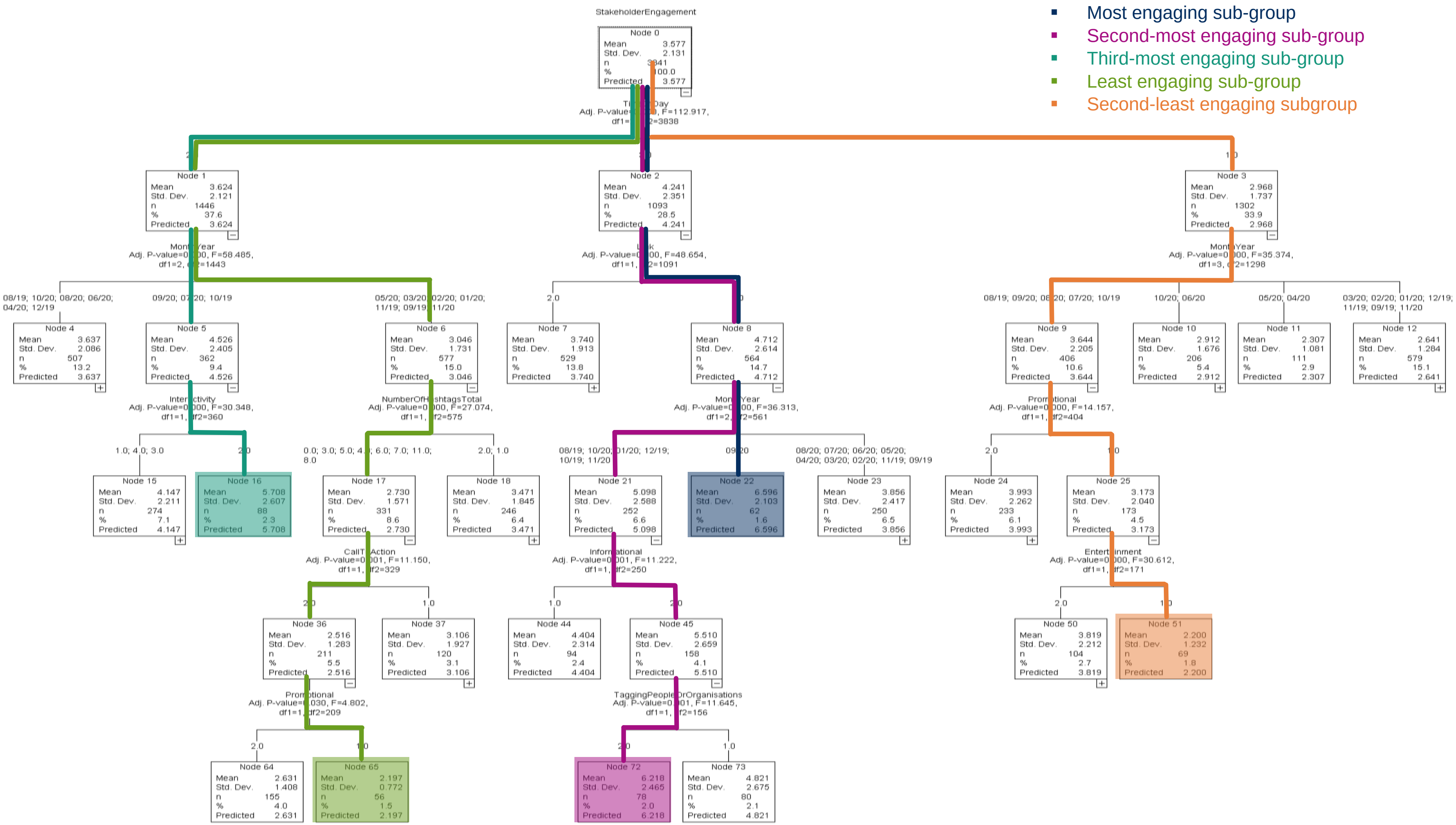
Figure 8.29 graphically displays the CHAID algorithm. Due to the large size of the CHAID algorithm for all sports events, and to improve readability, Figure 8.30 provides a close-up of the algorithm in Figure 8.29 with non-applicable branches closed. The following Section will discuss the CHAID algorithms for sports events according to their Facebook audience size.

Figure 8.29: Social media post stakeholder engagement rate CHAID decision tree for all sports events



Source: Author's own data (SPSS output)

Figure 8.30: Close up of the social media post stakeholder engagement rate CHAID decision tree for all sports events



Source: Author's own data (SPSS output)

8.5.2 CHAID RESULTS PER SPORTS EVENT SIZE

This section provides the results of the CHAID per audience size on Facebook of the sports events. The CHAID algorithm for small sports events is presented first, followed by medium-sized, and lastly, large sports events.

8.5.2.1 <u>CHAID results for small sports events</u>

This section will discuss the CHAID algorithm for sports events with a small Facebook audience. This section starts by explaining the specifications used in the model, then each layer of the tree will be graphically presented and discussed separately. This section is concluded with a discussion and explanation of the gains summary table (Table 8.12) and tree table (Table 8.13).

Table 8.11 is a model summary showing the main conditions used in calculating the algorithm in the model. The specification section in the table gives insights into the general details of the model. These values are the same for the medium and large sports events' CHAID models as well. The dependent and independent variables used in this model are the same as those specified in Figure 7.2, namely, the stakeholder engagement index as the dependent variable and the 21 independent variables (Table 8.11). The model predicts a maximum tree depth of five, with a minimum of 100 cases per parent node and 50 cases per child node. The default significance level for splitting nodes and merging categories is 0.05. The results section in the table is specific to the CHAID algorithm discussed for small sports events. The statistically significant independent variables in the model are the time of day, the month of the year, informational, social, promotional and entertainment content, the number of hashtags, link and virtual race. There are 36 nodes, 22 terminal nodes and the resulting depth of the tree is five, the specified maximum. Only nine variables are used in creating the decision tree, as the other variables do not contribute significantly to the model and are therefore automatically excluded.

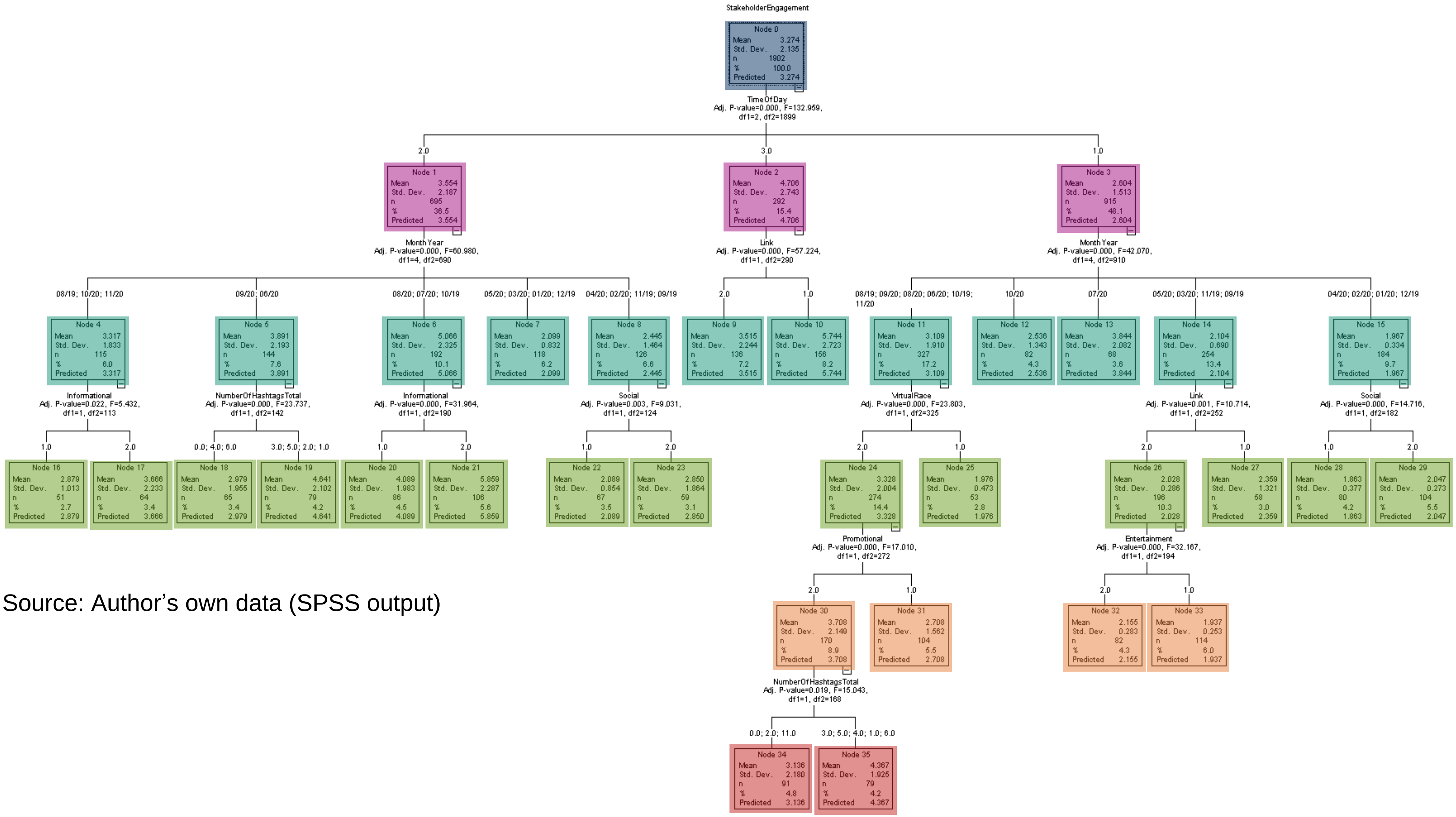
Table 8.11: CHAID Model Specifications summary for small sports events

MODEL SUMMARY		
Specifications	Growing Method	CHAID
	Dependent Variable	Stakeholder Engagement
	Independent Variables	Time of Day, Day of Week, Month Year, Vividness, Interactivity, Post Length, Number of Hashtags Total, Tagging People or Organisations, Photo, Link, Text, Video, Live Content, Call-to-Action, Covid19, Virtual Race, Informational, Entertainment, Promotional, Social, Remunerative
	Maximum Tree Depth	5
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
	Significance level	0.05
Results	Independent Variables Included	Time of Day, Month of the Year, Informational, Number of Hashtags Total, Social, Link, Virtual Race, Promotional, Entertainment
	Number of Nodes	36
	Number of Terminal Nodes	22
	Depth	5

Source: Author’s own data (SPSS output)

Figure 8.31 presents the stakeholder engagement rate CHAID algorithm decision tree for small sports events in its entirety. Due to its large size and complexity, each layer of the decision tree is addressed separately, to ensure the discussion is easier to follow, and the decision tree’s readability is enhanced. The list of all nodes and their related details can be found in the CHAID tree table, Table 8.13.

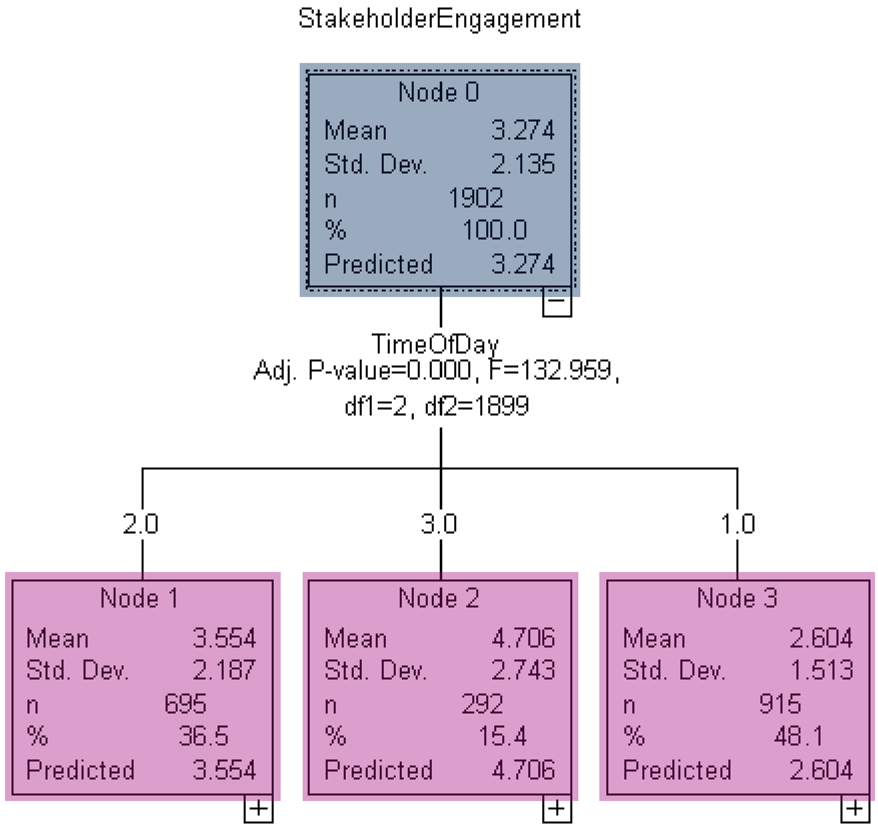
Figure 8.31: CHAID decision tree for small sports events



Source: Author’s own data (SPSS output)

Figure 8.32 presents the stakeholder engagement rate CHAID algorithm with the first layer of branches for small sports events (in pink). Node 0, the root node (in dark blue), indicates the actual mean, 3.274, of the stakeholder engagement rate of the 1902 social media posts for small sports events. Sports events with less than 100 000 Facebook audience members were classified as small sports events and include the Comrades Marathon, Sanlam Cape Town Marathon, Two Oceans Marathon, TCS Amsterdam Marathon, Blackmores Sydney Running Festival, Scotiabank Toronto Waterfront Marathon and Om Die Dam Marathon.

Figure 8.32: Stakeholder engagement rate CHAID algorithm with first layer of branches for small sports events



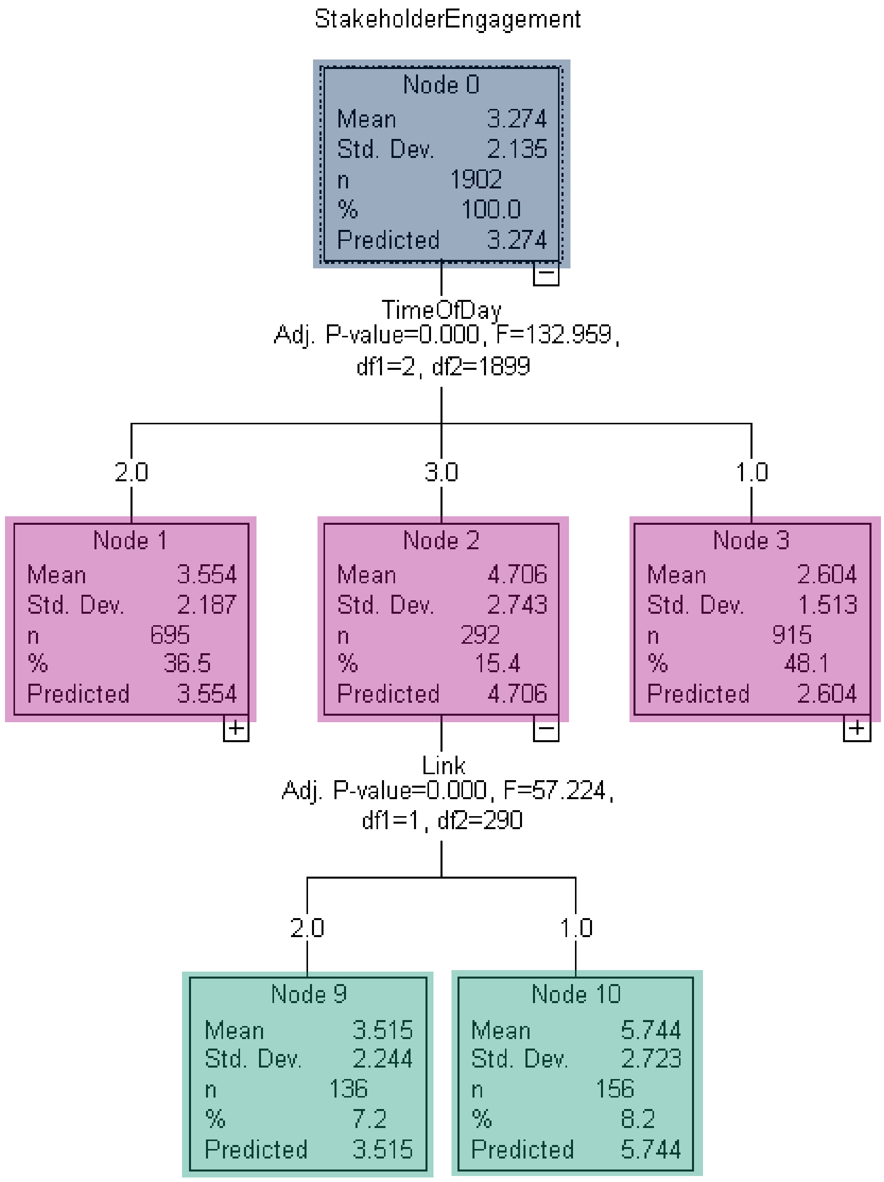
Source: Author’s own data (SPSS output)

For small sports events, it is clear from Figure 8.32, that, the best determinant of the social media posts stakeholder engagement rate was the *time of day*, indicated in the first layer of ‘branches’ (in pink) (Adj. P-value=0.000, F132.959, df1=2, df2=1899). Node 3, social media postings during mornings between 00:00 and 11:59, had the lowest predicted average stakeholder engagement rate of 2.604. This is interesting as most social media posts for small events are posted during the morning (48.1%). Node 2, representing social media postings during evenings between 18:00 and 23:59, and had the highest predicted average stakeholder engagement rate of 4.706. This is an interesting result as well, as small sports events postings occur least during evenings (15.4%). Node 1 had the second-highest predicted average stakeholder engagement rate of 3.554 and represents social media postings during afternoons between 12:00 and 17:59 (36.5%). The descriptive results, Section 7.3.2.3 Figure 7.13, are similar, in that, morning posts received the least amount of engagement, followed by afternoons and evenings received the most. Nodes 1, 2 and 3 had further statistically significant determinants that branched out to the second layer and are discussed separately.

The time of day a social media post is posted has an influence on the engagement rate of small sports events' stakeholders. Social media posts posted during evenings are more likely to receive higher engagement from stakeholders. This could be due to the fact that proper engagement is only possible after the workday when people can relax and participate in social activities on social media.

Figure 8.33 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for posts posted during the evenings for small sports events (highlighted in dark green).

Figure 8.33: Stakeholder engagement rate CHAID algorithm with second layer of branches during evening posts for small sports events



Source: Author's own data (SPSS output)

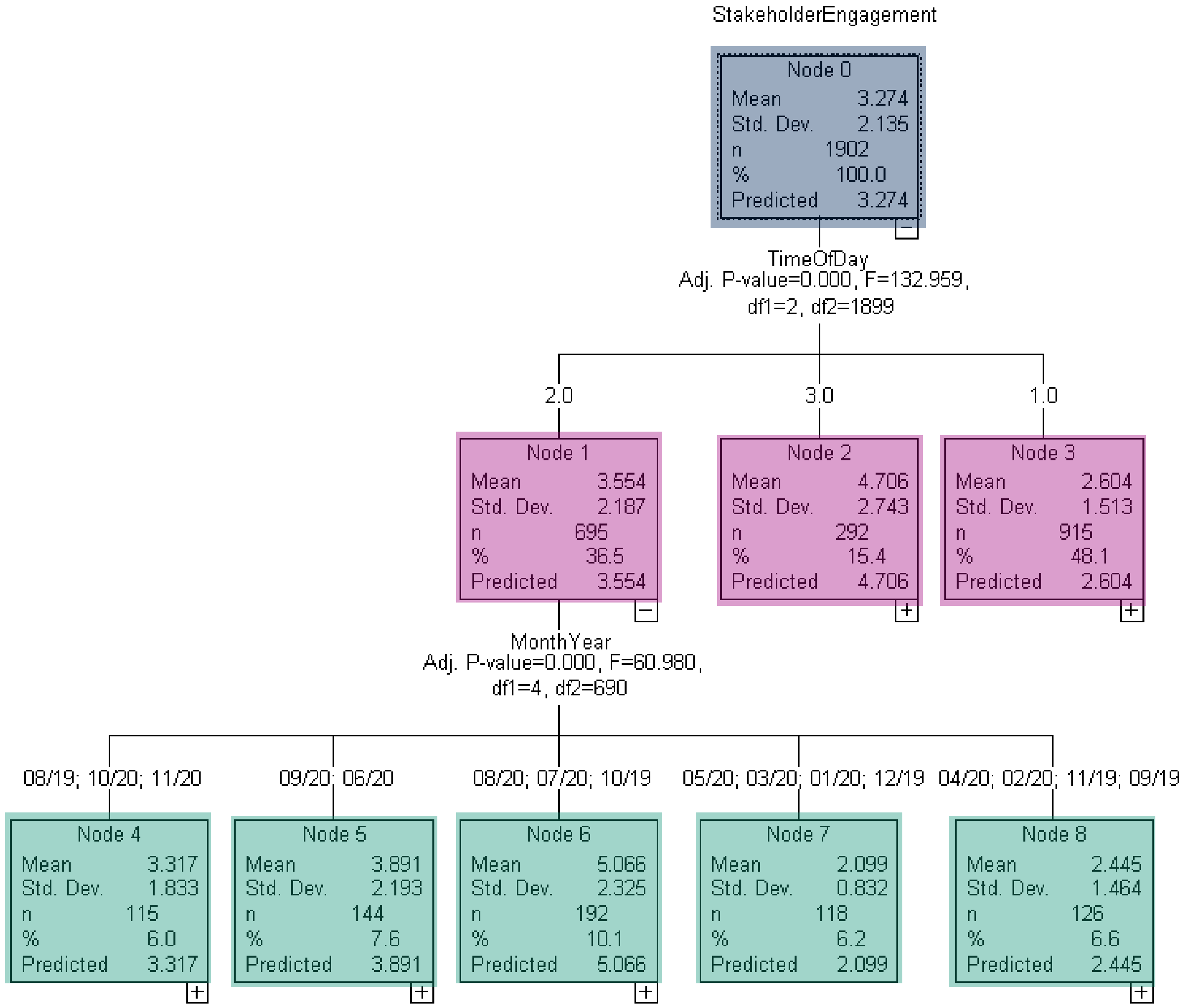
As shown in Figure 8.33, the second-best determinant for stakeholder engagement depended on the time of day (first branch layer). Further determinants for afternoon postings (node 1, Figure 8.34) and morning postings (node 3, Figures 8.36 to 8.39) are considered separately.

For evening posts (node 2), which had the highest predicted average stakeholder engagement rate of 4.706, the second-best determinant was whether a social media post contained *external links* (Adj. P-value=0.000, F57.224, df1=1, df2=290). Social media posts containing links (node 10) received a higher average stakeholder engagement rate (5.744) than those posts that did not contain links (node 9; 3.515). The descriptive findings in Section 7.3.5, Table 7.15 and Figure 7.21, show external links as receiving lower stakeholder engagement. However, for small Facebook audiences, variables, such as the moment of participation; time of day (evenings), contribute to higher stakeholder engagement received on social media posts containing external links. Evidently, for small sports events, including external links within their social media posts during the evenings, could potentially increase stakeholder engagement. Both nodes 9 and 10 are terminal nodes.

The use of external links by small sports events in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of external links, posted during the evenings by small sports events are more likely to receive higher engagement from stakeholders. This could be an indication that stakeholders are more inclined to engage with social media posts containing external links during evenings.

Figure 8.34 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for posts posted during the afternoon for small sports events (highlighted in dark green).

Figure 8.34: Stakeholder engagement rate CHAID algorithm with second layer of branches during afternoon posts for small sports events



Source: Author’s own data (SPSS output)

As shown in Figure 8.34, the second-best determinant of stakeholder engagement rate is depended on the time of day (first layer of branches). Further determinants for posts during the mornings (node 3) are considered separately (Figures 8.36 to 8.39).

For afternoon posts (node 1), which had the second-highest predicted average stakeholder engagement rate of 3.554, the second-best determinant for stakeholder engagement rate was the *month of the year* (Adj. P-value=0.000, F60.980, df1=4, df2=690). Node 7, representing afternoon postings during the months of December 2019, January, March and May 2020, had the lowest predicted average stakeholder engagement rate of 2.099 and did not branch out into any further statistically significant predictors. This is an interesting result as this node includes the month when Om Die Dam Marathon occurred, before the advent of the coronavirus pandemic in South Africa, and includes two months, one that preceded the Two Oceans Marathon, which was fully cancelled, and the other, that preceded the Comrades Marathon, which was cancelled and held virtually.

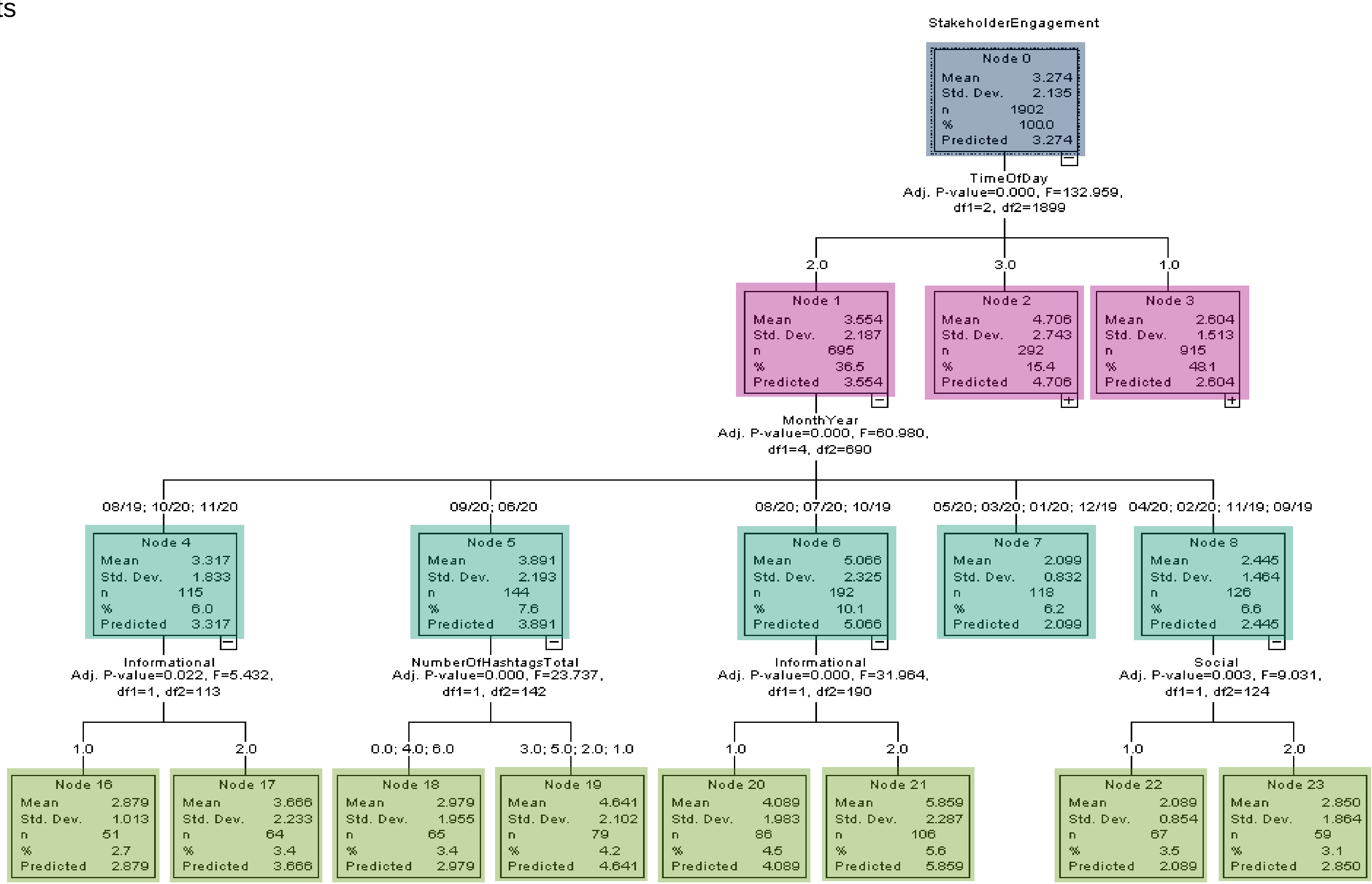
Node 6, representing afternoon postings during October 2019, July and August 2020, had the highest predicted average stakeholder engagement rate of 5.066. This is an interesting result as this node includes the month when two sports events occurred in 2019 before the coronavirus pandemic, namely, the TCS Amsterdam Marathon and the Scotiabank Toronto Waterfront Marathon. August 2020 was a month that preceded the Blackmores Sydney Running Festival, and July 2020 was the month after the Comrades Marathon took place virtually.

Node 5 had the second-highest predicted average stakeholder engagement rate of 3.891 and represents the months of June and September 2020, in which the Comrades Marathon and the Blackmores Sydney Running Festival were cancelled and held virtually. September 2020 was also the month that preceded three other sports events, namely the TCS Amsterdam Marathon, Sanlam Cape Town Marathon, and the Scotiabank Toronto Waterfront Marathon.

The month of the year a social media post is posted by small sports events has an influence on the engagement rate of stakeholders. Social media posts posted during the afternoons of the month before during and after the sports events (node 6) are more likely to receive higher engagement from stakeholders. This could be due to increased interest in the sports event during this these times. Stakeholders, such as participants, are looking for information regarding the arrangements of the sports event.

Figure 8.35 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for posts posted during the afternoon for small sports events (highlighted in light green).

Figure 8.35: Stakeholder engagement rate CHAID algorithm with third layer of branches during afternoon posts for small sports events



Source: Author’s own data (SPSS output)

Analysis of the third and last layer of determinants for postings in afternoons (node 1; Figure 8.35), finds that the next best determinant is *informational content* during August 2019 and October to November 2020 (node 4; Adj. P-value=0.022, F15.432, df1=1, df2=113) as well as October 2019 and July to August 2020 (node 6; Adj. P-value=0.000, F31.964, df1=1, df2=190). Posts that excluded informational content received a much higher average stakeholder engagement rate (node 17; 3.666 and node 21; 5.859) than posts that contained informational content (node 16; 2.879 and node 20; 4.089). The descriptive findings in Section 7.3.7.1 Figure 7.30 report that posts containing informational content received higher stakeholder engagement. Therefore, variables, such as the moment of participation, namely, time of day and month of year, negatively influence stakeholder engagement on social media posts containing informational content. Nodes 16, 17, 20 and 21 are terminal nodes.

The sharing of informational content in a social media post has an influence on the engagement rate of stakeholders. Social media posts that exclude informational content, posted during the afternoon of specific months of the year, for small sports events, are more likely to receive higher engagement from stakeholders.

For social postings in the afternoon during June and September 2020 (node 5), the next best determinant was the *total number of hashtags* used in a social media post (Adj. P-value=0.000, F23.737, df1=1, df2=142). Social media posts containing one, two, three or five hashtags (node 19) received a significantly higher average stakeholder engagement rate of 4.641 than those posts that contained either no hashtags or four and six hashtags (node 18; 2.979). Both nodes 18 and 19 are terminal nodes. The descriptive findings in Section 7.3.4.2 Figure 7.17 indicate that social media posts with one or two hashtags received more engagement from stakeholders than posts with no hashtags or three and more hashtags. Therefore, for small sports events, variables such as the moment of participation, namely, time of day and month of the year, can have a significant positive effect on the stakeholder engagement of posts containing three or five hashtags.

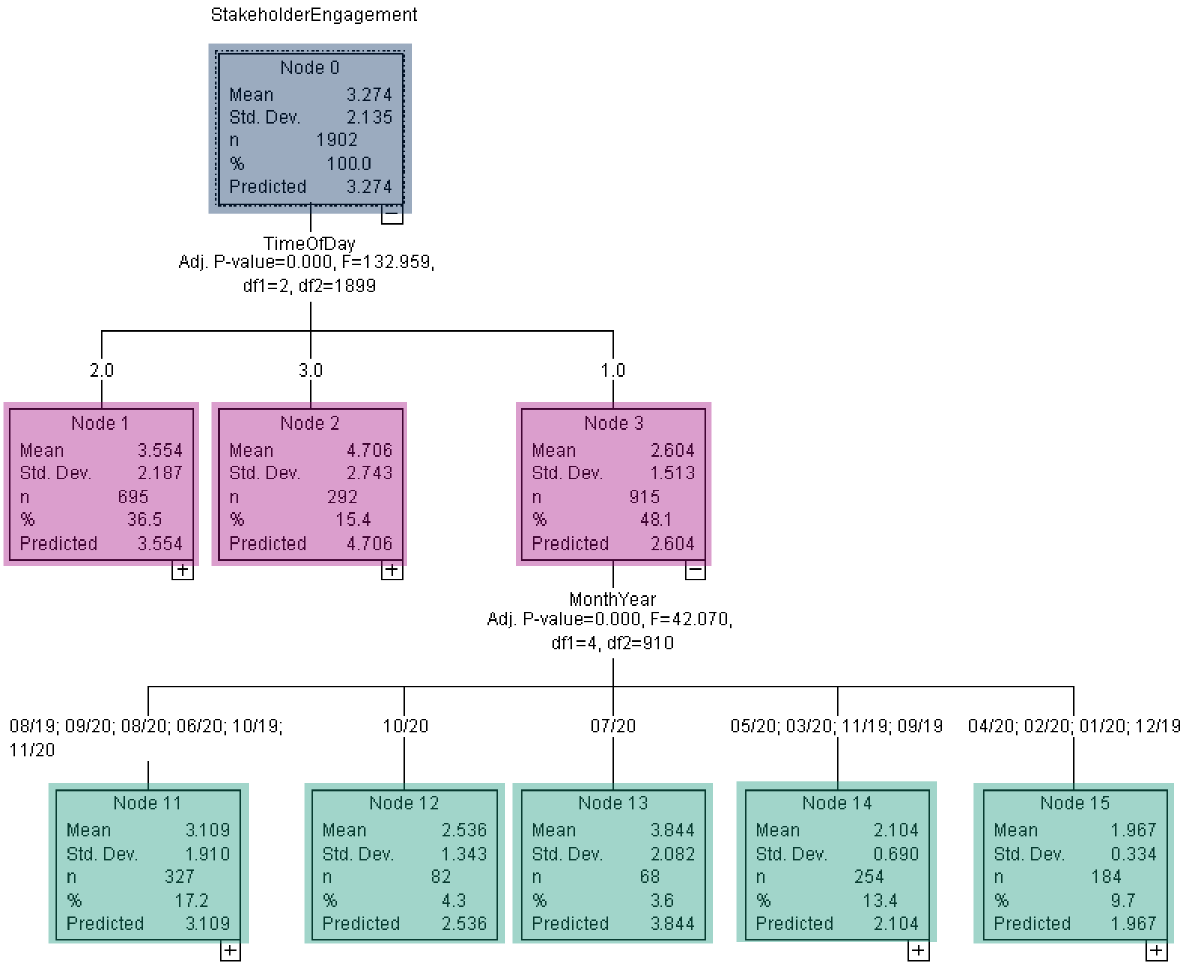
The total number of hashtags used in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of one, two, three or five hashtags, posted during the afternoons of specific months of the year (node 5) are more likely to receive higher engagement from stakeholders.

The stakeholder engagement rate for social media postings in the afternoon (node 1) during September and November 2019 and February and April 2020 (node 8) was further influenced by the presence or absence of *social content* (Adj. P-value=0.003, F9.031, df1=1, df2=124). Social media posts containing social content (node 22) received a lower average stakeholder engagement rate (2.089) than those posts that that did not (node 23; 2.850). Both nodes 22 and 23 are terminal nodes. Similarly, the descriptive findings, Section 7.3.7.4 Figure 7.33, indicate that posts containing social content received less engagement from stakeholders. Therefore, even though variables such as the moment of participation, namely time of day and month of the year, influence stakeholder engagement of posts containing social content, it does not significantly improve the stakeholder engagement received for social content.

Social content in a social media post has an influence on the engagement rate of small sports events' stakeholders. Social media posts that exclude social content, posted during the afternoons of specific months of the year are more likely to receive higher engagement from stakeholders.

Figure 8.36 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for posts posted during the mornings for small sports events (highlighted in dark green).

Figure 8.36: Stakeholder engagement rate CHAID algorithm with second layer of branches during morning posts for small sports events



Source: Author's own data (SPSS output)

As shown in Figure 8.36, the second-best determinant of the social media posts' stakeholder engagement rate depended on the time of day.

For morning posts (node 3), which had the lowest predicted average stakeholder engagement rate of 2.604, the second-best determinant of the social media posts' stakeholder engagement rate was the *month of the year* (Adj. P-value=0.000, F42.070, df1=4, df2=910). Node 15, representing morning postings during December 2019 to February 2020 and April 2020, had the lowest predicted average stakeholder engagement rate of 1.967. This is interesting as no sports events took place December 2019 to February 2020, and April 2020 is the month after Om Die Dam Marathon, and the month the Two Oceans Marathon were fully cancelled and much of the world went into lockdown due to the pandemic.

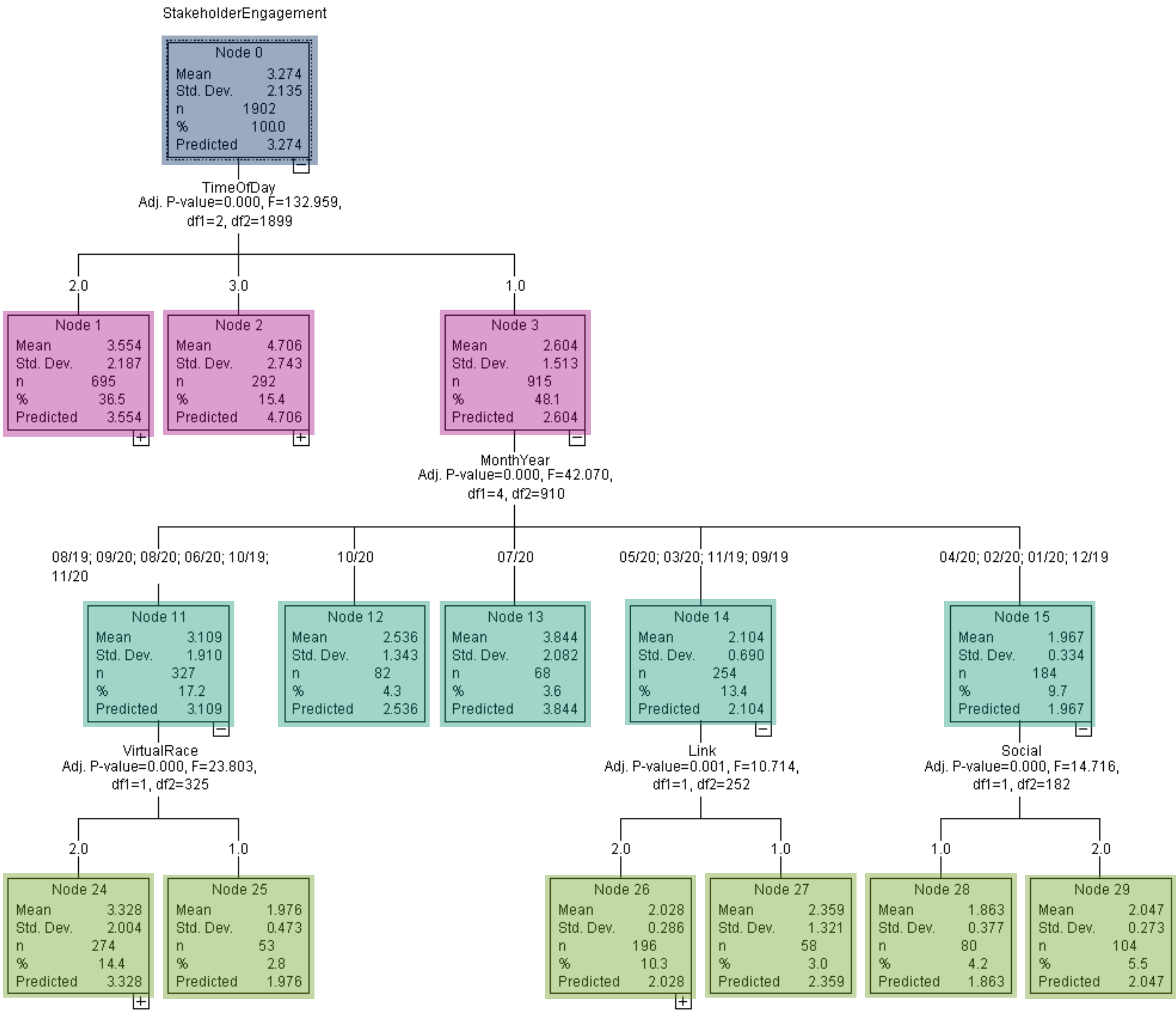
Node 13, representing the month of July 2020, had the highest predicted average stakeholder engagement rate of 3.844, however, it does not branch into any further statistically significant predictors owing to the small number of posts within this month (n=68/3.6%). July 2020 is the month after the Comrades Marathon took place virtually. Node 12, representing October 2020, in which three sports events were cancelled and held virtually, had the third-highest predicted average stakeholder engagement rate of 2.536 but did not branch into any further statistically significant predictors due to the small number of posts (n=82/4.3%).

Node 11, representing the months of August and October 2019, as well as June, August, September, and November 2020, had the second-highest predicted average stakeholder engagement rate of 3.109. Both TCS Amsterdam Marathon and Scotiabank Toronto Waterfront Marathon took place in October 2019 before the coronavirus pandemic. August 2019 is the preceding month to both the Sanlam Cape Town Marathon and Blackmores Sydney Running Festival. In June 2020, the Comrades Marathon was cancelled and held virtually; August, September, and November are months preceding an event, the month of a virtual event, and the month after an event.

The month of the year a social media post is posted by small sports events has an influence on the engagement rate of stakeholders. Social media posts posted during the mornings of the month of a virtual sports event (node 13) are more likely to receive higher engagement from stakeholders.

Figure 8.37 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for posts posted during the mornings for small sports events (highlighted in light green).

Figure 8.37: Stakeholder engagement rate CHAID algorithm with third layer of branches during morning posts for small sports events



Source: Author's own data (SPSS output)

When CHAID was expanded to the third layer of branches for postings during the mornings, three determinants emerged: virtual race, link, and social content (see Figure 8.37).

Analysis of the third layer of determinants presented in Figure 8.37, finds that the stakeholder engagement rate for social media postings in the morning (node 3) during October and November 20219 and June, August, September and November 2020 (node 11) were further influenced by whether the post included the subject of a *virtual race* (Adj. P-value=0.000, F23.803, df1=1, df2=325). Interestingly, social media posts about virtual races (node 25) had a significantly lower average stakeholder engagement rate (1.976) than posts excluding virtual races as a topic (node 24; 3.328). Similar, descriptive results, Section 7.3.6.4 Figure 7.28, indicate that virtual race references received less stakeholder engagement. These results indicate that even though variables such as the moment of participation; time of day and month of the year, influence stakeholder engagement on social media posts containing the subject of a virtual race, it does not have a significantly positive effect on it. This could be due to the negative association of a cancelled event. Node 25 is a terminal node, however, node 24 had a further determinant (Figure 8.38).

Virtual race content in a social media post has an influence on the engagement rate of stakeholders. Social media posts in the morning, that do not mention a virtual race, posted during specific months of the year (node 11), are more likely to receive higher engagement from stakeholders. This could be due to stakeholders not perceiving this content in a positive light as it accompanied the cancellation of the actual event.

The stakeholder engagement rate for social media postings in the morning (node 3) during September and November 2019 and March and May 2020 was further influenced by posts containing an *external link* (Adj. P-value=0.001, F10.714, df1=1, df2=252). Interestingly, social media posts containing links (node 27) had a higher average stakeholder engagement rate (2.359) than posts that did not (node 26; 2.028). However, node 27 is a terminal node, even though it had a higher average stakeholder engagement rate. Node 26 had a further determinant (Figure 8.38). The descriptive findings in Section 7.3.5 Table 7.15 and Figure 7.21 show external links receive lower stakeholder engagement. Therefore, variables such as the moment of participation, namely, time of day, and month of the year, contribute to higher stakeholder engagement received on social media posts containing external links.

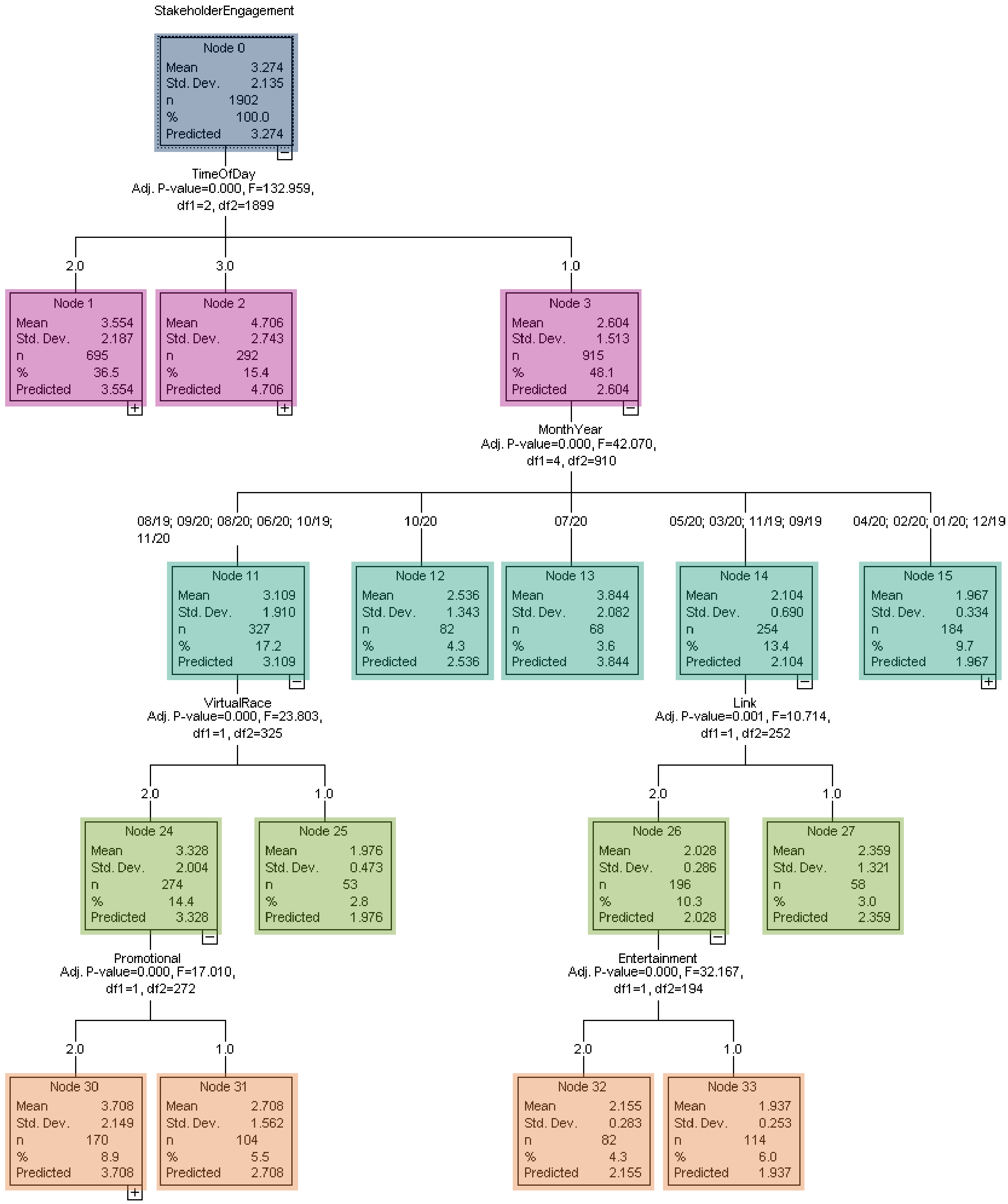
The use of external links by small sports events in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of external links, posted during the mornings during specific months of the year (node 14) by small sports events are more likely to receive higher engagement from stakeholders. This could be an indication that the stakeholders are more inclined to engage with social media posts containing external links during mornings.

The stakeholder engagement rate for social media postings in the morning (node 3) during December 2019 to February 2020 and April 2020 (node 15) was further influenced by the presence or absence of *social content* (Adj. P-value=0.000, F14.716, df1=1, df2=182). Social media posts containing social content (node 28) received a lower average stakeholder engagement rate (1.863) than posts that did not (node 29; 1.863). Both nodes 28 and 29 are terminal nodes. Similarly, the descriptive findings in Section 7.3.7.4 Figure 7.33 illustrate that posts containing social content receive less engagement from stakeholders. Therefore, variables such as the moment of participation, namely, time of day and month of the year, do not contribute to increased stakeholder engagement in posts containing social content.

Social content in a social media post has an influence on the engagement rate of small sports events' stakeholders. Social media posts that exclude social content, posted during the mornings of specific months of the year (node 15) are more likely to receive higher engagement from stakeholders.

Figure 8.38 presents the stakeholder engagement rate CHAID algorithm with the fourth layer of branches for posts posted during the mornings for small sports events (highlighted in orange).

Figure 8.38: Stakeholder engagement rate CHAID algorithm with fourth layer of branches during morning posts for small sports events



Source: Author’s own data (SPSS output)

When the CHAID tree was expanded to the fourth layer, two determinants emerge: promotional and entertainment content (Figure 8.38).

Analysis of the fourth layer of determinants presented in Figure 8.38, finds that the stakeholder engagement rate for social media postings in the morning (node 3) during October and November 20219 and June, August, September and November 2020 (node 11), that excludes virtual race references (node 24), was further influenced by *promotional content* (Adj. P-value=0.000, F17.10, df1=1, df2=272). Social media posts containing promotional content (node 31) received a lower average stakeholder engagement rate (2.708) than posts that did not promote the event (node 30; 3.708). The descriptive findings in Section 7.3.7.3 Figure 7.32 also illustrate that promotional posts do not increase stakeholder engagement. Therefore, variables such as the moment of participation, namely, time of day and month of the year, that exclude virtual race references, do not contribute to increased stakeholder engagement in posts containing promotional content. Node 31 is a terminal node and had no further statistically significant determinants. However, node 30 had a further determinant (Figure 8.39).

Promotional content in a social media post has an influence on the engagement rate of stakeholders. Social media posts that do not promote the sports event or contain virtual race content, posted during the mornings of specific months of the year are more likely to receive higher engagement from stakeholders.

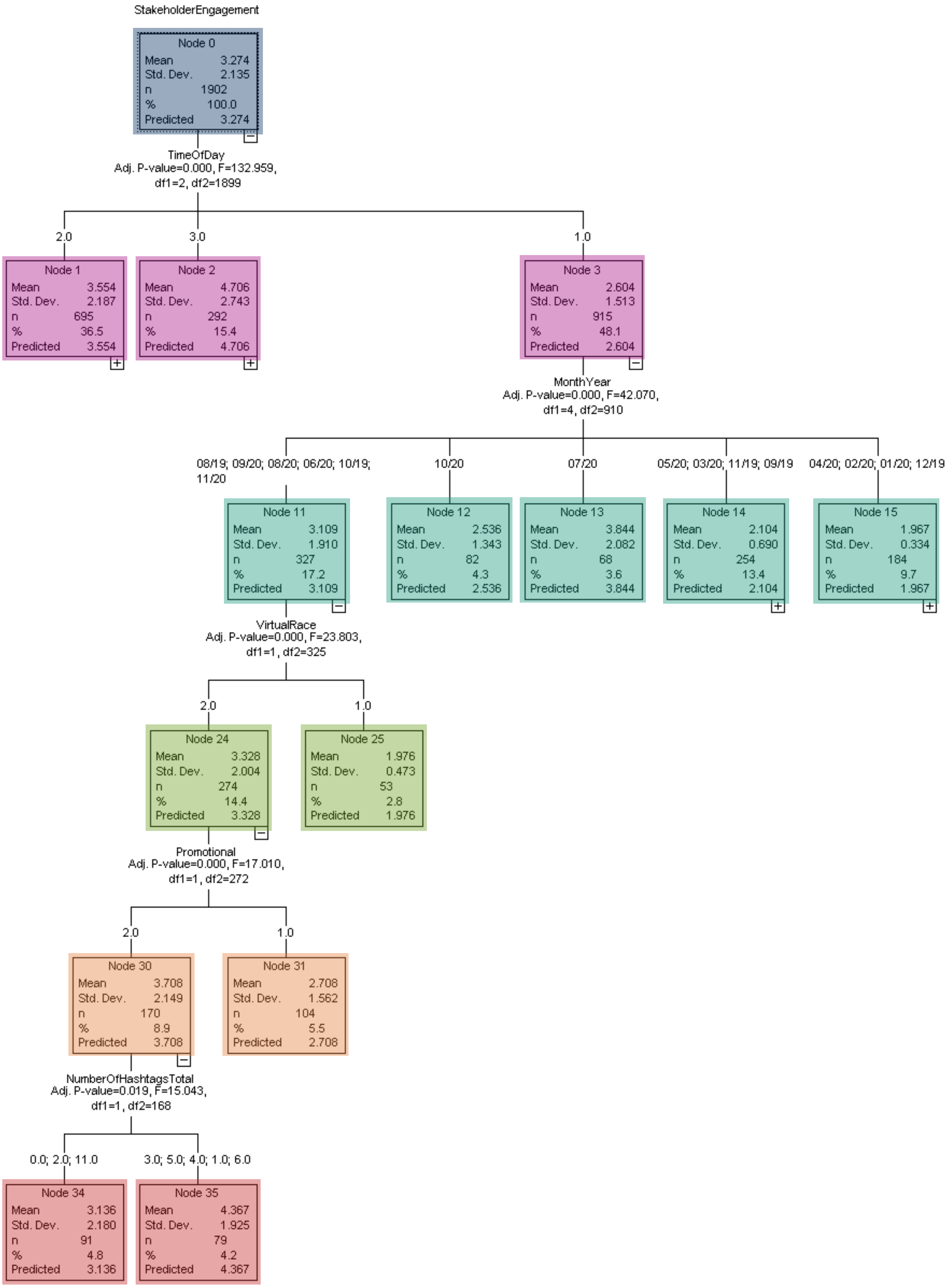
The stakeholder engagement rate for social media postings in the morning (node 3) during September and November 2019 and March and May 2020, that did not include links were further influenced by the absence or inclusion of *entertainment content* (Adj. P-value=0.000, F32.167, df1=1, df2=194). Social media posts containing entertaining content (node 33) received a lower average stakeholder engagement rate (1.937) than posts that did not (node 32; 2.155). Both nodes 32 and 33 are terminal nodes. This differs from the descriptive findings in Section 7.3.7.2 Figure 7.31, which shows that entertaining posts containing humorous or educational content receive more stakeholder engagement. Variables such as the moment of participation; time of day and month of year, and format, namely, link, influence small sports events social media posts containing entertainment content negatively.

Entertainment content in a social media post has an influence on the engagement rate of stakeholders. Social media posts that exclude entertaining content of a humorous or educational nature, posted during the mornings of specific months of the year, that do not contain external links are more likely to receive higher engagement from stakeholders.

Figure 8.39 presents the stakeholder engagement rate CHAID algorithm with the fifth layer of branches for postings during the morning for small sports events (highlighted in red).

When the CHAID three was expanded to the fifth layer, only one determinant emerged: the total number of hashtags (Figure 8.39). There was no further layer for posts with entertainment content, containing no links during September and November 2019 and March and May 2020, given the small number of posts for both nodes 32 and 33.

Figure 8.39: Stakeholder engagement rate CHAID algorithm with fifth layer of branches during morning posts for small sports events



Source: Author’s own data (SPSS output)

Analysis of the fifth and final layer of determinants presented in Figure 8.39, finds that the stakeholder engagement rate for social media posts posted in the morning during October and November 20219 and June, August, September and November 2020 (node 11) that exclude virtual race references (node 24) and promotional content (node 30), were further influenced by the *total number of hashtags* used (Adj. P-value=0.019, F15.043, df1=1, df2=168). Social media posts containing no, two or 11 hashtags (node 34), received a lower average stakeholder engagement rate (3.136) than those posts that contained one or three to six hashtags (node 35; 4.367). The descriptive findings in Section 7.3.4.2 Figure 7.17 indicate that social media posts with one or two hashtags receive the most engagement from stakeholders. Therefore, variables such as the moment of participation, namely, time of day and month of year, that exclude virtual race and promotional content, have a significantly positive effect on the stakeholder engagement on social media posts containing three to six hashtags. Therefore, for small events, using one or three to six hashtags could increase their stakeholder engagement rate; however, including too many hashtags (11) could have the opposite effect.

The total number of hashtags used in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of one or three to six hashtags that do not contain external links or promotional content, posted during the mornings of specific months of the year (node 11) are more likely to receive higher engagement from stakeholders.

8.5.2.1.1 Overview of the CHAID decision tree for small sports events

Table 8.12 provides an overview of the spread of the CHAID decision tree in the form of a gains table, sorted from the highest mean stakeholder engagement rate to the lowest. The table includes the node number of all terminal nodes, number of cases, percentage gain, and the dependent variable’s mean value.

Table 8.12: Gain summary for nodes of the CHAID algorithm for small sports events

GAIN SUMMARY FOR NODES			
Node	N	Percent	Mean
21	106	5.6%	5.85867
10	156	8.2%	5.74408
19	79	4.2%	4.64092
35	79	4.2%	4.36738
20	86	4.5%	4.08924
13	68	3.6%	3.84447
17	64	3.4%	3.66572
9	136	7.2%	3.51537
34	91	4.8%	3.13559
18	65	3.4%	2.97898
16	51	2.7%	2.87906
23	59	3.1%	2.84986
31	104	5.5%	2.70784
12	82	4.3%	2.53610
27	58	3.0%	2.35943
32	82	4.3%	2.15516
7	118	6.2%	2.09864
22	67	3.5%	2.08864
29	104	5.5%	2.04685
25	53	2.8%	1.97640
33	114	6.0%	1.93689
28	80	4.2%	1.86300

Growing Method: CHAID

Dependent Variable: Stakeholder Engagement

Source: Author’s own data (SPSS output)

Node 21 (the highest mean stakeholder engagement rate of 5.85867, in pink, Table 8.12), represents the social media postings in the afternoons, October 2019 and July, August 2020 exclude informational content. Social media postings in the mornings of December 2019 to February 2020, and April 2020, containing social content (node 28), had the lowest mean stakeholder engagement rate of 1.86300 (in green).

Node 10 represents the terminal node with the highest percentage of social media posts (8.2%) with the second-highest predicted stakeholder engagement index of 5.74408. This node branched off from node 2, representing social media postings during evenings containing links. Node 9 represents the terminal node with the second-highest percentage of social media posts (7.2%) with a predicted stakeholder engagement index of 3.51537. This node also branched off from node 2 and represented social media postings during evenings containing no links.

For greater clarity, Table 8.13 provides an overview of the results from CHAID algorithm (Figure 8.31). All 36 nodes are shown in the table, and for each node, the following information is displayed: the number and percentage of cases in each category; the mean, predicted mean, and standard deviation for the dependent variable; the parent node for each node (missing parent nodes are terminal); the independent variable used to split the node; the Chi-square value, the degrees of freedom (df1 and df2) and the level of significance for the division.

Table 8.13: Tree table of Stakeholder engagement rate CHAID algorithm for small sports events

Node	Mean	Std. Deviation	N	Percent	Predicted Mean	Parent node	Primary Independent Variable					
							Variable	Sig.[a]	F	Df1	Df2	Split values
0	3.274	2.135	1902	100%	3.274							
1	3.554	2.187	695	36.5%	3.554	0	Time of day	0.000	132.959	2	1899	Afternoons
2	4.706	2.743	292	15.4%	4.706	0	Time of day	0.000	132.959	2	1899	Evenings
3	2.604	1.513	915	48.1%	2.604	0	Time of day	0.000	132.959	2	1899	Mornings
4	3.317	1.833	115	6.0%	3.317	1	Month of the year	0.000	60.980	4	690	08/19, 10/20, 11/20
5	3.891	2.193	144	7.6%	3.891	1	Month of the year	0.000	60.980	4	690	09/20, 06/20
6	5.066	2.325	192	10.1%	5.066	1	Month of the year	0.000	60.980	4	690	08/20, 07/20, 10/19
7	2.099	0.832	118	6.2%	2.099	1	Month of the year	0.000	60.980	4	690	05/20, 03/20, 01/20, 12/19
8	2.445	1.464	126	6.6%	2.445	1	Month of the year	0.000	60.980	4	690	04/20; 02/20; 11/19, 09/19
9	3.515	2.244	136	7.2%	3.515	2	Link	0.000	57.224	1	290	No
10	5.744	2.723	156	8.2%	5.744	2	Link	0.000	57.224	1	290	Yes
11	3.109	1.910	327	17.2%	3.109	3	Month of the year	0.000	42.070	4	910	08/19, 09/20, 08/20, 06/20, 10/19, 11/20
12	2.536	1.343	82	4.3%	2.536	3	Month of the year	0.000	42.070	4	910	10/20
13	3.844	2.082	68	3.6%	3.844	3	Month of the year	0.000	42.070	4	910	07/20
14	2.104	0.690	254	13.4%	2.104	3	Month of the year	0.000	42.070	4	910	05/20, 03/20, 11/19, 09/19
15	1.967	0.334	184	9.7%	1.967	3	Month of the year	0.000	42.070	4	910	04/20, 02/20, 01/20, 12/19

16	2.879	1.013	51	2.7%	2.879	4	Informational	0.022	5.432	1	113	Yes
17	3.666	2.233	64	3.4%	3.666	4	Informational	0.022	5.432	1	113	No
18	2.979	1.955	65	3.4%	2.979	5	Number of Hashtags Total	0.000	23.737	1	142	0, 4, 6
19	4.641	2.102	79	4.2%	4.641	5	Number of Hashtags Total	0.000	23.737	1	142	3, 5, 2, 1
20	4.089	1.983	86	4.5%	4.089	6	Informational	0.000	31.964	1	190	Yes
21	5.859	2.287	106	5.6%	5.859	6	Informational	0.000	31.964	1	190	No
22	2.089	0.854	67	3.5%	2.089	8	Social	0.003	9.031	1	124	Yes
23	2.850	1.864	59	3.1%	2.850	8	Social	0.003	9.031	1	124	No
24	3.328	2.004	274	14.4%	3.328	11	Virtual Race	0.000	23.803	1	325	No
25	1.976	0.473	53	2.8%	1.976	11	Virtual Race	0.000	23.803	1	325	Yes
26	2.028	0.286	196	10.3%	2.028	14	Link	0.001	10.714	1	252	No
27	2.359	1.321	58	3.0%	2.359	14	Link	0.001	10.714	1	252	Yes
28	1.863	0.377	80	4.2%	1.863	15	Social	0.000	14.716	1	182	Yes
29	2.047	0.273	104	5.5%	2.047	15	Social	0.000	14.716	1	182	No
30	3.708	2.149	170	8.9%	3.708	24	Promotional	0.000	17.010	1	272	No
31	2.708	1.562	104	5.5%	2.708	24	Promotional	0.000	17.010	1	272	Yes
32	2.155	0.283	82	4.3%	2.155	26	Entertainment	0.000	32.167	1	194	No
33	1.937	0.253	114	6.0%	1.937	26	Entertainment	0.000	32.167	1	194	Yes
34	3.136	2.180	91	4.8%	3.136	30	Number of Hashtags Total	0.019	15.043	1	168	0, 2, 11
35	4.367	1.925	79	4.2%	4.367	30	Number of Hashtags Total	0.019	15.043	1	168	3, 5, 4, 1, 6

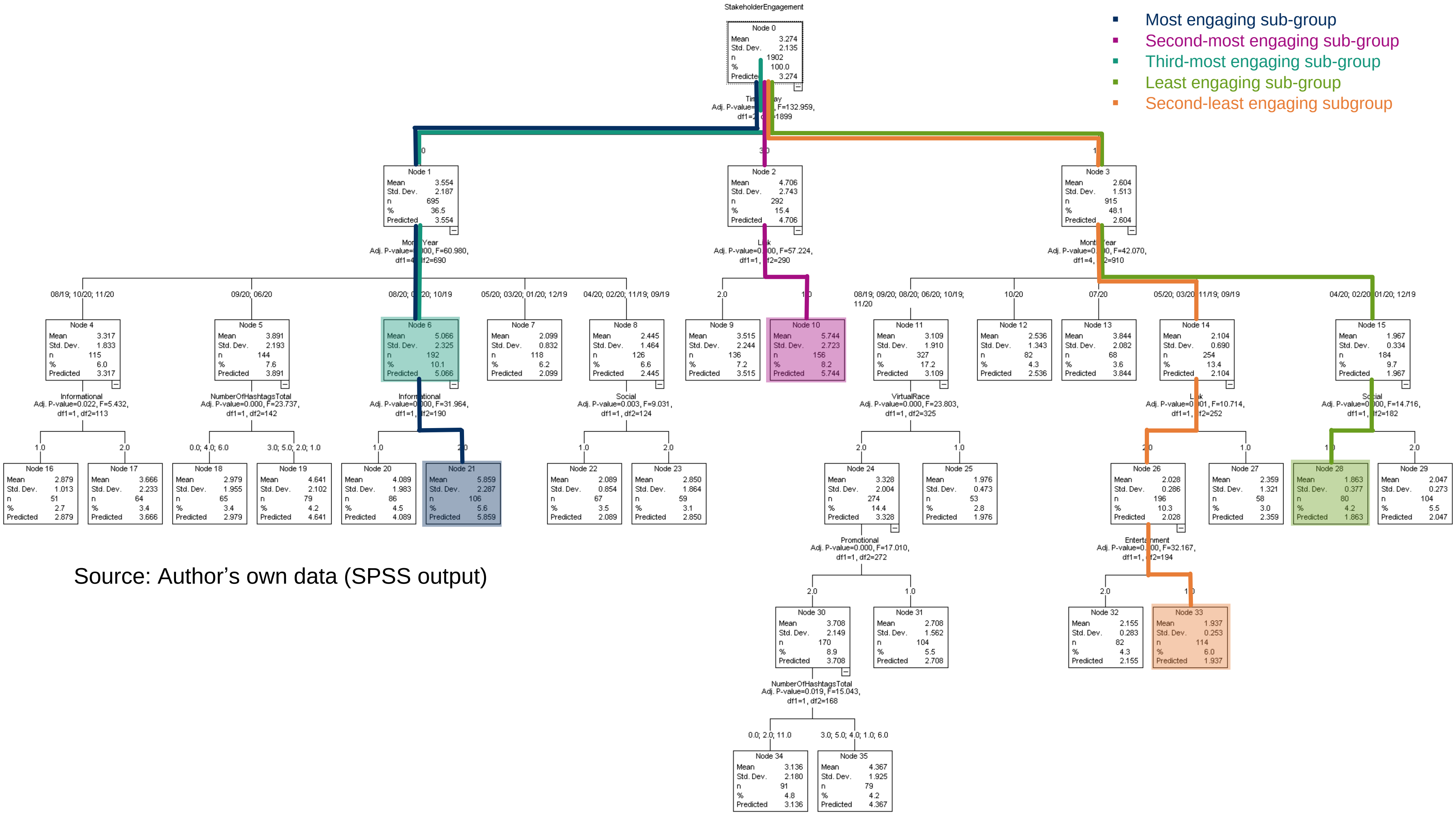
Source: Author’s own data (SPSS output)

The CHAID analysis produces sufficient empirical evidence that small sports events' social media postings during afternoons, in July and August 2020, and October 2019, that exclude informational content, leads to the highest stakeholder engagement rate (node 21; Figure 8.40 dark blue). Node 10, the second most engaging sub-group, included external links and posted during the evenings (in pink). The third most engaging sub-group is node 6, the parent of node 21 and resembles node 21 in terms of the time of day and month of the year posted (in dark green).

Regarding the least engaging subgroups of social media posts, node 28, were postings in the mornings during December 2019 to February 2020 and April 2020 that included social content (in light green). The second least engaging subgroup of social media posts is node 33, which consists of postings in the mornings during September and November 2019, March and May 2020, that excluded external links and contained entertaining content (in orange). Figure 8.40 graphically displays the CHAID algorithm.

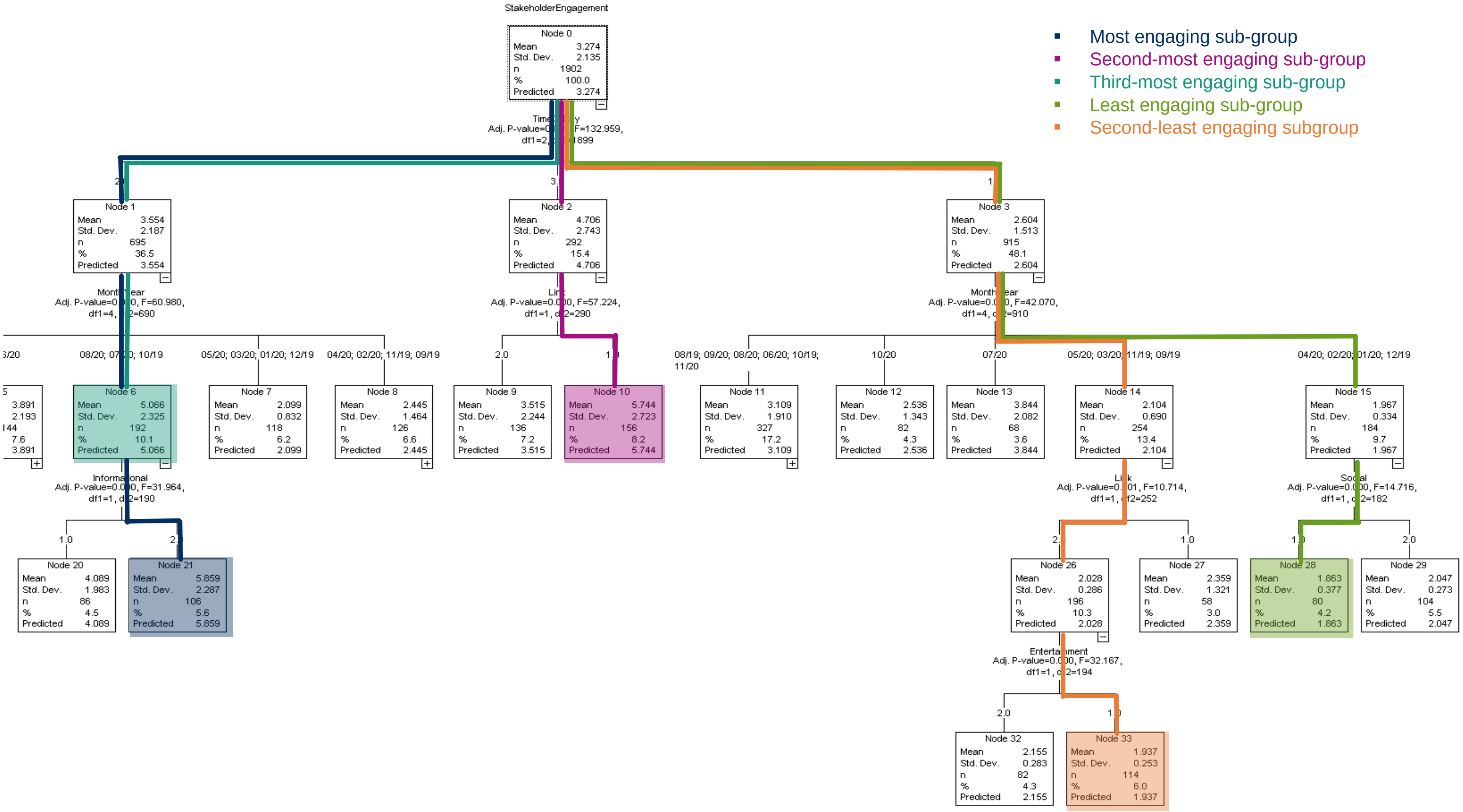
Due to the large size of the CHAID algorithm for small sports events, Figure 8.41 is a close up of the algorithm of Figure 8.40 with closed branches that are not applicable to increase readability.

Figure 8.40: Social media post stakeholder engagement rate CHAID decision tree for small sports events



Source: Author's own data (SPSS output)

Figure 8.41: Close up of the social media post stakeholder engagement rate CHAID decision tree for small sports events



Source: Author’s own data (SPSS output)

The following section will discuss the CHAID algorithm for medium sports events.

8.5.2.2 CHAID results for medium sports events

This section will discuss the CHAID algorithm for medium-sized sports events and explain the specifications used in the model. Each layer of the tree is graphically presented and discussed separately. This section concludes with a discussion and explanation of the gains summary table (Table 8.15) and tree table (Table 8.16).

Table 8.14 is a model summary showing the main conditions used in calculating the algorithm in the model. The specifications section in the table gives insights into the general details of the model. These values are the same for all models. The dependent and independent variables are specified in Table 8.14. The model predicts a maximum tree depth of five, with a minimum of 100 cases per parent node and 50 cases per child node. The default significance level for splitting nodes and merging categories is 0.05. The results section in the table is specific to the CHAID algorithm discussed for medium-sized sports events. The statistically significant independent variables in the model are the month of the year, call-to-action, number of hashtags total, social, link, and interactivity. There are 15 nodes, 9 terminal nodes and the resulting depth of the tree is three. There are only six variables used in creating the decision tree as the other variables do not contribute significantly to the model, and are therefore excluded.

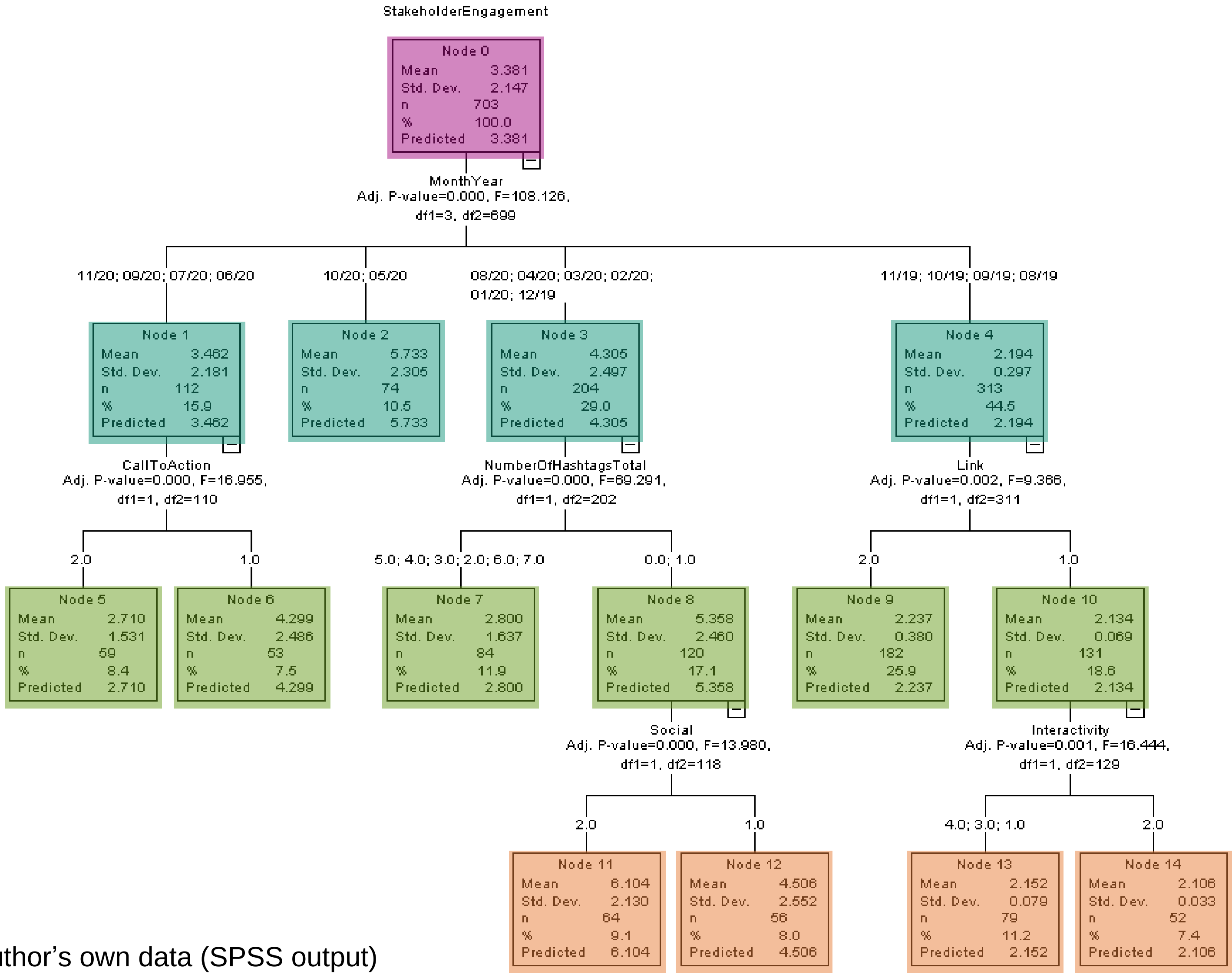
Table 8.14: CHAID Model Specifications summary for medium-sized sports events

MODEL SUMMARY		
Specifications	Growing Method	CHAID
	Dependent Variable	Stakeholder Engagement
	Independent Variables	Time of Day, Day of Week, Month of Year, Vividness, Interactivity, Post Length Total, Number of Hashtags Total, Tagging People or Organisations, Photo, Links, Text, Video, Live Content, Call-to-Action, Covid19, Virtual Race, Informational, Entertainment, Promotional, Social, Remunerative
	Maximum Tree Depth	5
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
	Significance level	0.05
Results	Independent Variables Included	Month Year, Call-To-Action, Number of Hashtags Total, Social, Links, Interactivity
	Number of Nodes	15
	Number of Terminal Nodes	9
	Depth	3

Source: Author's own data (SPSS output)

Figure 8.42 presents the stakeholder engagement rate CHAID algorithm decision tree for medium sports events in its entirety. Due to its large size and complexity, each layer is delt with separately, for easier discussion and clarity. The list of all nodes and their related details can be found in the CHAID tree table, Table 8.16.

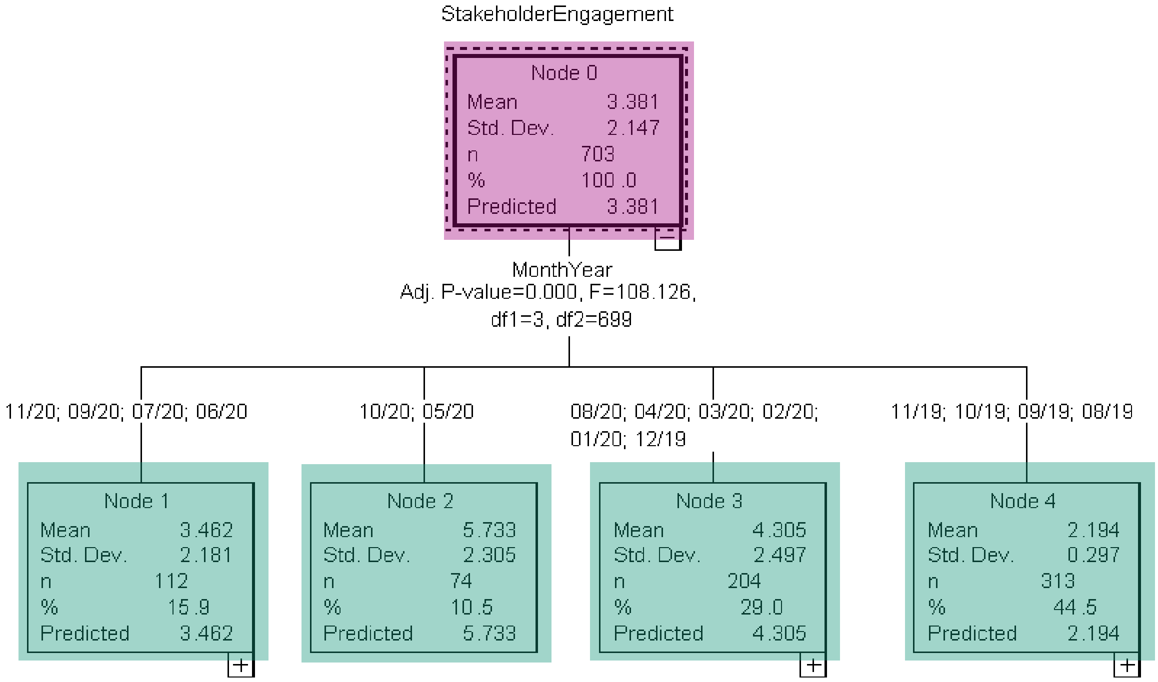
Figure 8.42: CHAID decision tree for medium sports events



Source: Author's own data (SPSS output)

Figure 8.43 presents the stakeholder engagement rate CHAID algorithm with the first layer of branches for medium sports events (in dark green). Node 0, the root node (in pink), indicates the mean, 3.381, of the stakeholder engagement rate of the 703 social media posts, for medium-sized sports events consisting of 150 000 to 250 000 Facebook audience members. The sport events include the Berlin Marathon, Bank of America Chicago Marathon and the Schneider Electric Marathon de Paris.

Figure 8.43: Stakeholder engagement rate CHAID algorithm with first layer of branches for medium sports events



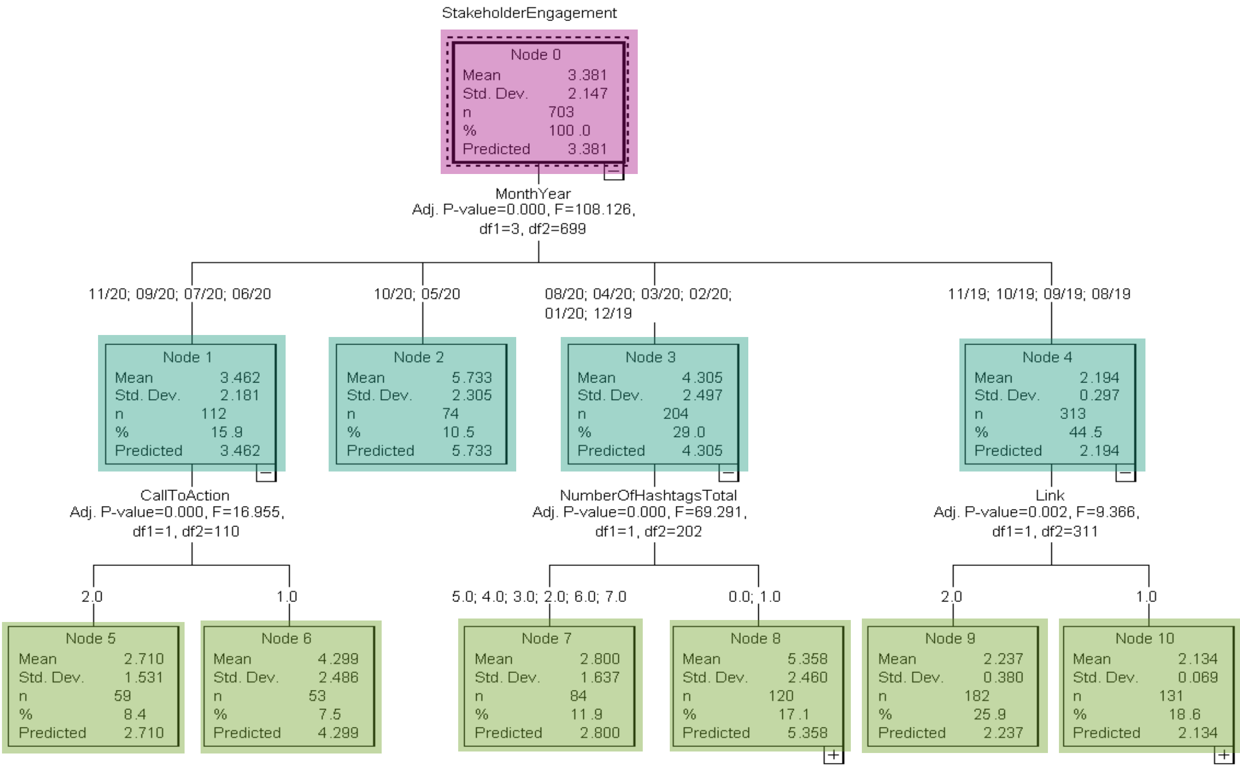
Source: Author’s own data (SPSS output)

Figure 8.43 indicates that for medium-sized sports events, the best determinant of the social media posts stakeholder engagement rate is the *month of the year*, (in dark green) (Adj. P-value=0.000, F108.126, df1=3, df2=699). Node 4, representing August to November 2019, had the lowest predicted average stakeholder engagement rate of 2.194. This is interesting as these are all months before the coronavirus pandemic, whereas nodes 1, 2 and 3 representing months in the year 2020 have higher stakeholder engagement rates. Node 2, representing May 2020 and October 2020, had the highest predicted average stakeholder engagement rate of 5.733 but does not branch into any further statistically significant predictors. This node includes the month of the cancellation of the Bank of America Chicago Marathon and the holding of its virtual race. Node 3, representing December 2019 to April 2020 and August 2020, had the second-highest predicted average stakeholder engagement rate of 4.305 and include the months of the worldwide first wave of the coronavirus pandemic. The higher engagements rates, in the 2020 months, could be attributed to social media as a key communication channel when social distancing was necessary, and high volumes of information was shared via social media.

The month of the year a social media post is posted by medium sports events has an influence on the engagement rate of stakeholders. Social media postings before the coronavirus pandemic (node 4) received the lowest engagement, and the findings suggest that interest and engagement increased in the months after the pandemic (nodes 1, 2 and 3). Social media postings during the month of sports events (node 2) are more likely to receive higher engagement from stakeholders. This could be due to increased interest in the sports event during this time as stakeholders, such as participants, look for information regarding the arrangements of the sports event.

The second layer of branches for medium sports events (in light green) is given in Figure 8.44.

Figure 8.44: Stakeholder engagement rate CHAID algorithm with second layer of branches for medium sports events



Source: Author’s own data (SPSS output)

As shown in Figure 8.44, the second-best determinant of stakeholder engagement rate, depended on the months of the year June, July, September and November 2020 (node 1), and whether social media posts contained *call-to-action* phrases (Adj. P-value=0.000, F16.955, df1=1, df2=110). Social media posts containing call-to-action phrases (node 6) received a higher average stakeholder engagement rate (4.299) than those that did not (node 5; 2.710). Both nodes 5 and 6 are terminal nodes. The descriptive findings in Section 7.3.6.2 Figure 7.26 show that posts containing no call-to-action phrases receive more stakeholder engagement. Therefore, for medium-sized sports events, a variable such as the moment of participation, namely, month of the year, can have a significant positive effect on the stakeholder engagement on social media posts containing call-to-action phrases.

Call-to-action phrases in a social media post has an influence on the engagement rate of stakeholders. Social media posts that use call-to-action phrases, posted during specific months of the year (node 1) are more likely to receive higher engagement from stakeholders.

For December 2019 to April 2020 and August 2020 (node 3), the next best determinant was the *total number of hashtags* used in a social media post (Adj. P-value=0.000, F69.291, df1=1, df2=202). Social media posts containing no or only one hashtag (node 8) received a much higher average stakeholder engagement rate (5.358) than those posts that contained two to seven hashtags (node 7; 2.800). Node 7 is a terminal node but node 8 has further determinants (Figure 8.45). The descriptive findings of the total number of hashtags in Section 7.3.4.2 Figure 7.17 indicate that social media posts with one or two hashtags received most engagement from stakeholders. Therefore, a variable such as the moment of participation namely, month of the year, can have a significant positive effect on stakeholder engagement on social media posts that contain no or only one hashtag.

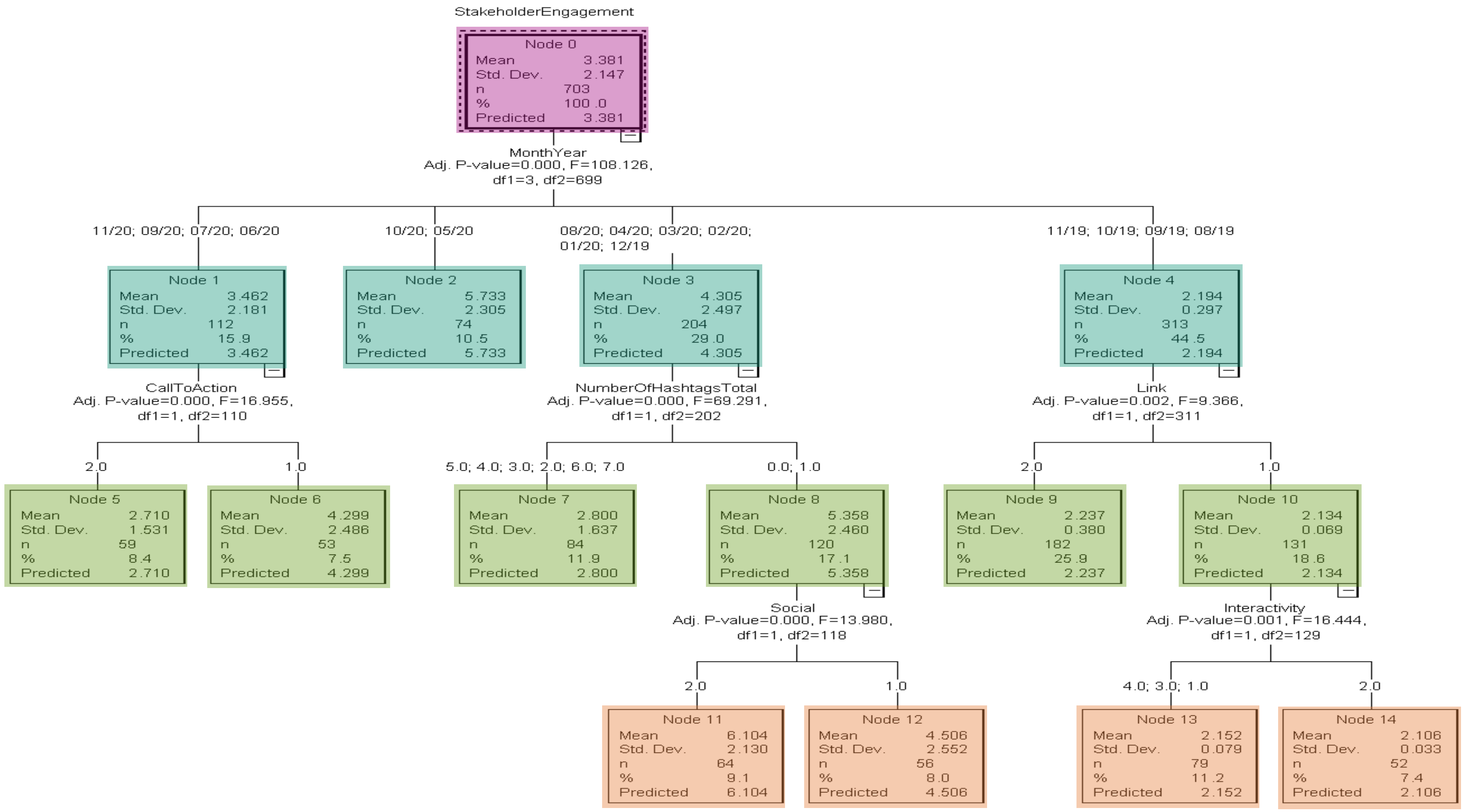
The total number of hashtags used in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of no or only one hashtag, posted during specific months of the year (node 3) are more likely to receive higher engagement from stakeholders.

For August 2019 to November 2019 (node 4), the second-best determinant was whether the post contained a *link* (Adj. P-value=0.002, F9.366, df1=1, df2=311). Interestingly, those social media posts containing links (node 10) had a lower average stakeholder engagement rate (2.134) than posts that did not use links (node 9; 2.237). Node 9 is a terminal node, even though it had a higher average stakeholder engagement rate. Node 10 had a further determinant (Figure 8.45). The descriptive findings in Section 7.3.5 Table 7.15 and Figure 7.21 also indicate that posts with external links received lower stakeholder engagement. Therefore, for medium-sized sports events, the variable of the moment of participation, namely, month of the year, does not significantly influence stakeholder engagement on social media posts containing external links.

The use of external links in a social media post has an influence on the engagement rate of stakeholders. Social media posts that do not make use of external links, posted during specific months of the year (node 4), are more likely to receive higher engagement from stakeholders.

Figure 8.45 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for medium sports events (highlighted in orange).

Figure 8.45: Stakeholder engagement rate CHAID algorithm with third layer of branches for medium sports events



Source: Author’s own data (SPSS output)

Analysis of the last layer of determinants presented in Figure 8.45, finds that the stakeholder engagement rate for social media postings in December 2019 to April 2020, and August 2020 (node 3), which contain no or only one hashtag (node 8), were further influenced by the presence or absence of *social content* (Adj. P-value=0.002, F13.980, df1=1, df2=118). Social media posts containing social content (node 12) received a lower average stakeholder engagement rate (4.506) than posts that did not (node 11; 6.104). Both nodes 11 and 12 are terminal nodes. The descriptive findings in Section 7.3.7.4 Figure 7.33 also indicate that posts, which exclude social content receive more engagement from stakeholders. Therefore, influencing variables such as the moment of participation, namely, the month of the year, and fluency variable; number of hashtags, do not increase stakeholder engagement on social media posts containing social content.

Social content in a social media post has an influence on the engagement rate of stakeholders. Social media posts containing no or only one hashtag, that excludes social content and are posted during specific months of the year (node 3), are likely to receive higher engagement from stakeholders.

The stakeholder engagement rate for social media postings from August 2019 to November 2019 (node 4) containing a link (node 10) was further influenced by the *level of interactivity* (Adj. P-value=0.001, F16.444, df1=1, df2=129). Interestingly, social media posts with a low level of interactivity, containing links (node 14), had a lower average stakeholder engagement rate (2.106), than posts with no interactivity containing only text, or posts with a medium level of interactivity containing call-to-action phrases, as well as high levels of interactivity asking questions (node 13; 2.152). The descriptive findings discussed in Section 7.3.3.1 Figure 7.14 show that low-level interactivity posts containing links receive the least engagement from stakeholders. In contrast, posts that require no interactivity received the highest stakeholder engagement. Therefore, influencing variables such as the moment of participation; the month of the year, and format; external links, can influence stakeholder engagement on social media posts with no, medium or high levels of interactivity. However, there is only a small difference in the stakeholder engagement rate for posts with a low-level of interactivity (node 14). Both nodes 13 and 14 are terminal nodes thus concluding the decision tree for medium-sized sports events.

The level of interactivity used in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of no, medium and high interactivity (texts, call-to-action phrases and questions) together with external links, posted during specific months of the year (node 4) are more likely to receive higher engagement from stakeholders.

8.5.2.2.1 Overview of the CHAID decision tree for medium sports events

Table 8.15 provides an overview of the spread of the CHAID decision tree in the form of a gains table, sorted from the highest mean stakeholder engagement rate to the lowest. The table includes the node number of all terminal nodes, number of cases, percentage gain, and the dependent variable's mean value.

Table 8.15: Gain summary for nodes of the CHAID algorithm for medium sports events

GAIN SUMMARY FOR NODES			
Node	N	Percent	Mean
11	64	9.1%	6.10398
2	74	10.5%	5.73273
12	56	8.0%	4.50564
6	53	7.5%	4.29940
7	84	11.9%	2.79987
5	59	8.4%	2.71037
9	182	25.9%	2.23672
13	79	11.2%	2.15248
14	52	7.4%	2.10550

Growing Method: CHAID

Dependent Variable: Stakeholder Engagement

Source: Author's own data (SPSS output)

Node 11 (the highest mean stakeholder engagement rate of 6.10398 in pink) represents social media postings in December 2019 to April 2020 and August 2020, containing one or no hashtags and no social content. Social media postings in August 2019 to November 2019, containing links and a low level of interactivity (node 14), had the lowest mean stakeholder engagement rate of 2.10550 (in green). Node 9 represents the highest percentage of social media posts (25.9%) with a predicted stakeholder engagement index of 2.23672. This node branched off from node 4 and represents social media postings in August 2019 to November 2019, with no links. Node 7 represents the second-highest percentage of social media posts (11.9%) with a predicted stakeholder engagement index of 2.79987. This node branched off from node 3 and represents social media posts from December 2019 to April 2020, and August 2020, containing two to seven hashtags.

Table 8.16 is the tree table of the CHAID algorithm for medium sports events. As the CHAID algorithm diagram (Figure 8.42) is too large to present it on its own without sacrificing its readability, Table 8.16 provides an overview and is followed by an in-depth discussion.

Table 8.16: Tree table of Stakeholder engagement rate CHAID algorithm for medium sports events

Node	Mean	Std. Deviation	N	Percent	Predicted Mean	Parent node	Primary Independent Variable					
							Variable	Sig.[a]	F	Df1	Df2	Split values
0	3.381	2.147	703	100%	3.381							
1	3.462	2.181	112	15.9%	3.462	0	Month of the year	0.000	108.126	3	699	06/20, 07/20, 09/20, 11/20
2	5.732	2.305	74	10.5%	5.732	0	Month of the year	0.000	108.126	3	699	05/20, 10/20
3	4.305	2.497	204	29.0%	4.305	0	Month of the year	0.000	108.126	3	699	12/19, 01/20, 02/20, 03/20, 04/20, 08/20
4	2.194	0.297	313	44.5%	2.194	0	Month of the year	0.000	108.126	3	699	08/19, 09/19, 10/19, 11/19
5	2.710	1.531	59	8.4%	2.710	1	Call-to-action	0.000	16.955	1	110	No
6	4.299	2.486	53	7.5%	4.299	1	Call-to-action	0.000	16.955	1	110	Yes
7	2.799	1.637	84	11.9%	2.799	3	Number of total hashtags	0.000	69.291	1	202	2, 3, 4, 5, 6, 7
8	5.358	2.460	120	17.1%	5.358	3	Number of total hashtags	0.000	69.291	1	202	0, 1
9	2.236	0.380	182	25.9%	2.236	4	Link	0.002	9.366	1	311	No
10	2.134	0.069	131	18.6%	2.134	4	Link	0.002	9.366	1	311	Yes
11	6.103	2.130	64	9.1%	6.103	8	Social content	0.000	13.980	1	118	No
12	4.505	2.552	56	8.0%	4.505	8	Social content	0.000	13.980	1	118	Yes
13	2.152	0.079	79	11.2%	2.152	10	Interactivity	0.001	16.444	1	129	None, Medium and High
14	2.105	0.033	52	7.4%	2.105	10	Interactivity	0.001	16.444	1	129	Low

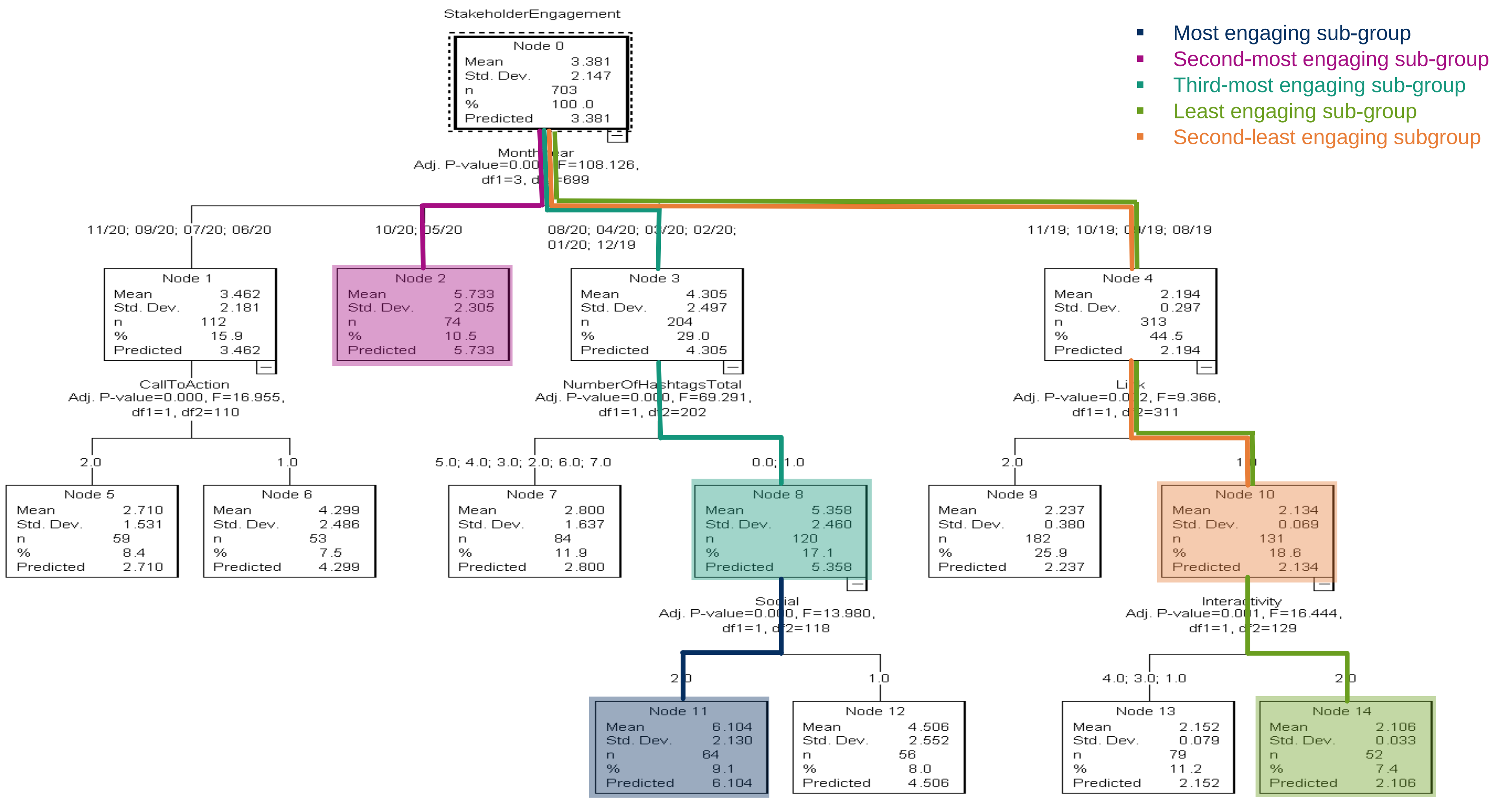
Source: Author's own data (SPSS output)

All 15 nodes are shown in the table, and for each node, the following information is displayed: the number and percentage of cases in each category; the mean, predicted mean, and standard deviation for the dependent variable; the parent node for each node (missing parent nodes are terminal nodes); the independent variable used to split the node; the Chi-square value, the degrees of freedom (df1 and df2) and the level of significance for the division.

The CHAID analysis produces sufficient empirical evidence that medium-sized sports events' social media postings during December 2019 to April 2020 and August 2020, containing no or only one hashtag and excludes social content, leads to the highest stakeholder engagement rate (node 11) (in dark blue; Figure 8.46). Node 2 is the second most engaging sub-group of social media posts posted May and October 2020 (in pink). The third most engaging sub-group is node 8, which is the same as node 11 in terms of the month of year and number of hashtags (in dark green).

The least engaging subgroup of social media posts, node 14, posted August to November 2019 and included external links with a low level of interactivity (in light green). The second least engaging subgroup is node 10, the parent node of node 14, with posts August to November 2019 that included external links (in orange). Figure 8.46 graphically displays the CHAID algorithm.

Figure 8.46: Social media post stakeholder engagement rate CHAID decision tree for medium-sized sports events



Source: Author’s own data (SPSS output)

The following section will discuss the CHAID algorithm for large sports events.

8.5.2.3 CHAID results for large sports events

This section will discuss the CHAID algorithm for large sports events. This section starts by explaining the specifications used in the model, then each layer of the tree is graphically presented and discussed separately. This section concludes with a discussion and explanation of the gains summary table (Table 8.18) and tree table (Table 8.19).

Table 8.17 is a summary showing the main conditions used in calculating the algorithm in the model. The specifications section in the table gives insights into the general details of the model. The results in the table are specific to the CHAID algorithm for large sports events. The statistically significant independent variables in the model are the month of the year, call-to-action, informational content, social content, link, and interactivity. There are 23 nodes, 14 terminal nodes and the resulting depth of the tree is three. There are six variables used in creating the decision tree. Variables that do not significantly contribute to the model were automatically excluded.

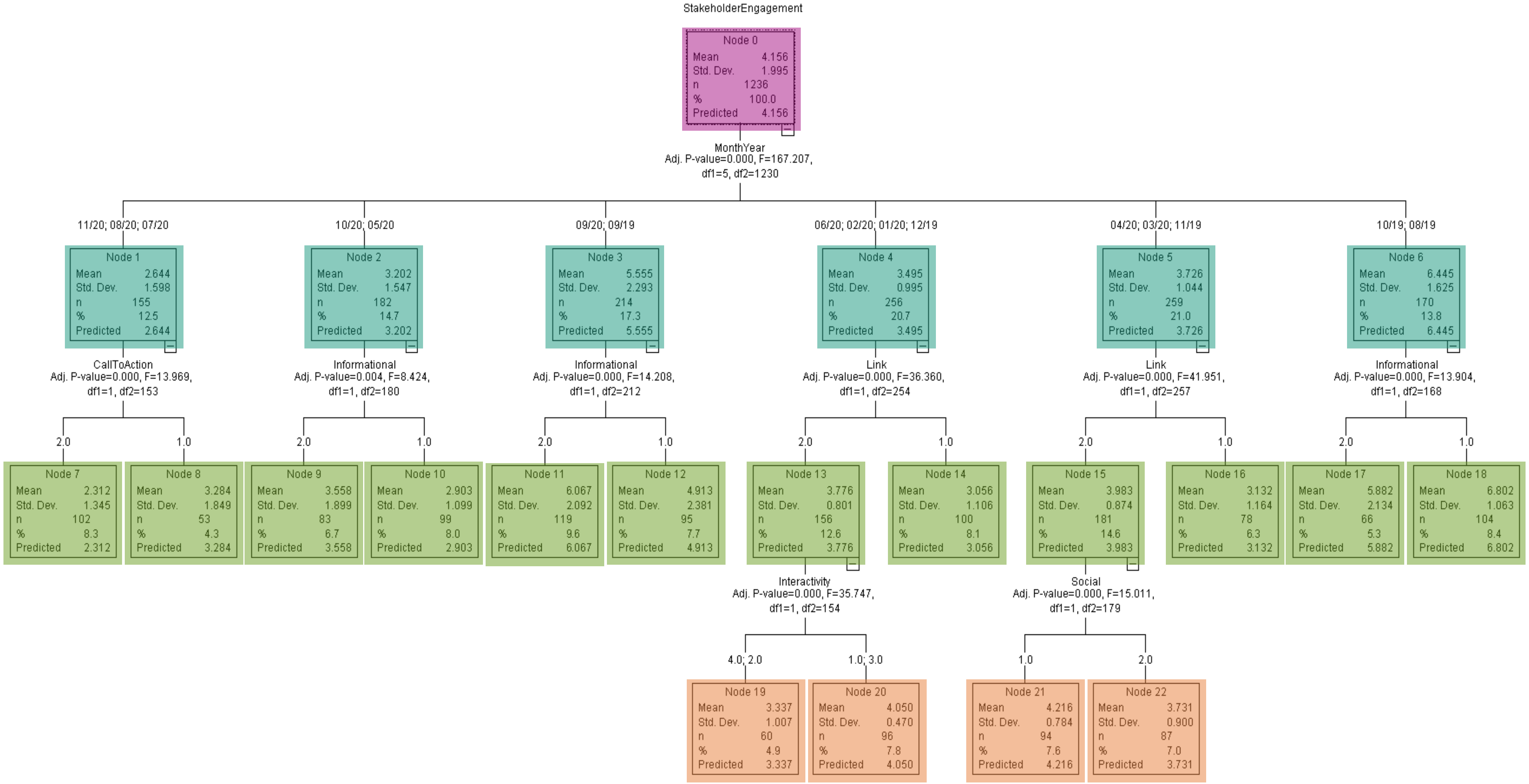
Table 8.17: CHAID Model Specifications summary for large-sized sports events

MODEL SUMMARY		
Specifications	Growing Method	CHAID
	Dependent Variable	Stakeholder Engagement
	Independent Variables	Time of Day, Day of Week, Month Year, Vividness, Interactivity, Post Length Total, Number of Hashtags Total, Tagging People or Organisations, Photo, Link, Text, Video, Live Content, Call-to-Action, Covid19, Virtual Race, Informational, Entertainment, Promotional, Social, Remunerative
	Maximum Tree Depth	5
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
	Significance level	0.05
Results	Independent Variables Included	Month Year, Call-to-Action, Informational content, Link, Interactivity, Social.
	Number of Nodes	23
	Number of Terminal Nodes	14
	Depth	3

Source: Author’s own data (SPSS output)

Figure 8.47 presents the stakeholder engagement rate CHAID algorithm decision tree for large sports events in its entirety. Due to its large size and complexity, each layer is delt with separately, for greater clarity and easier discussion. The list of all nodes and their related details can be found in the CHAID tree table, Table 8.19.

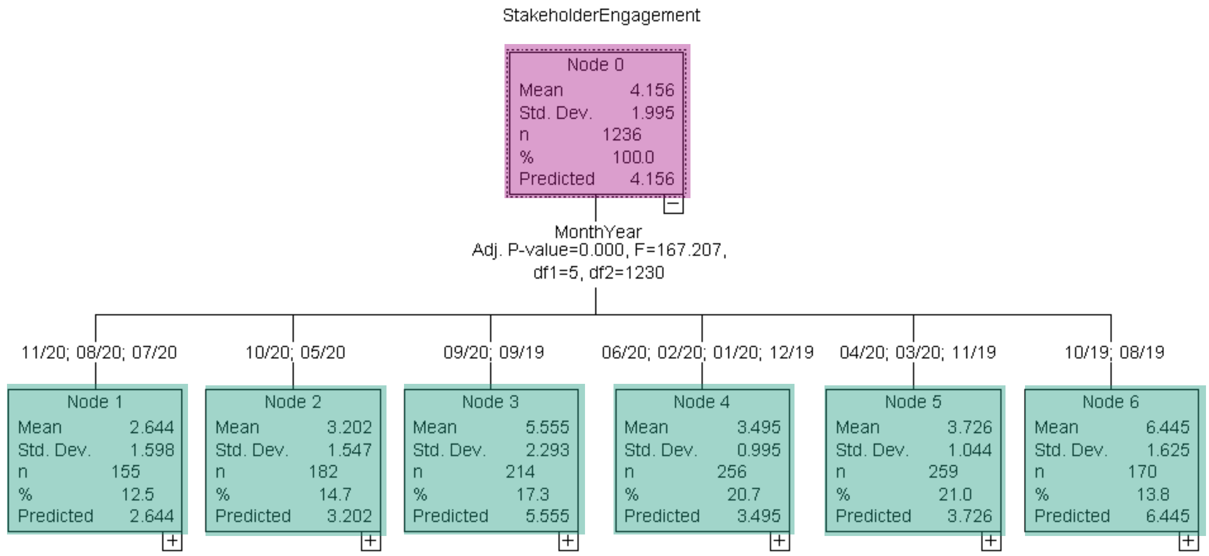
Figure 8.47: CHAID decision tree for large sports events



Source: Author’s own data (SPSS output)

Figure 8.48 presents the stakeholder engagement rate CHAID algorithm for the first layer of branches for large sports events (in dark green). Node 0, the root node (in pink), indicates the mean, 4.156, and the stakeholder engagement rate for social media posts of large sports events (1236). A Facebook audience of more than 300 000 is classified as a large sports event and include the Virgin Money London Marathon, TCS New York City Marathon, and the Boston Marathon.

Figure 8.48: Stakeholder engagement rate CHAID algorithm with first layer of branches for large sports events



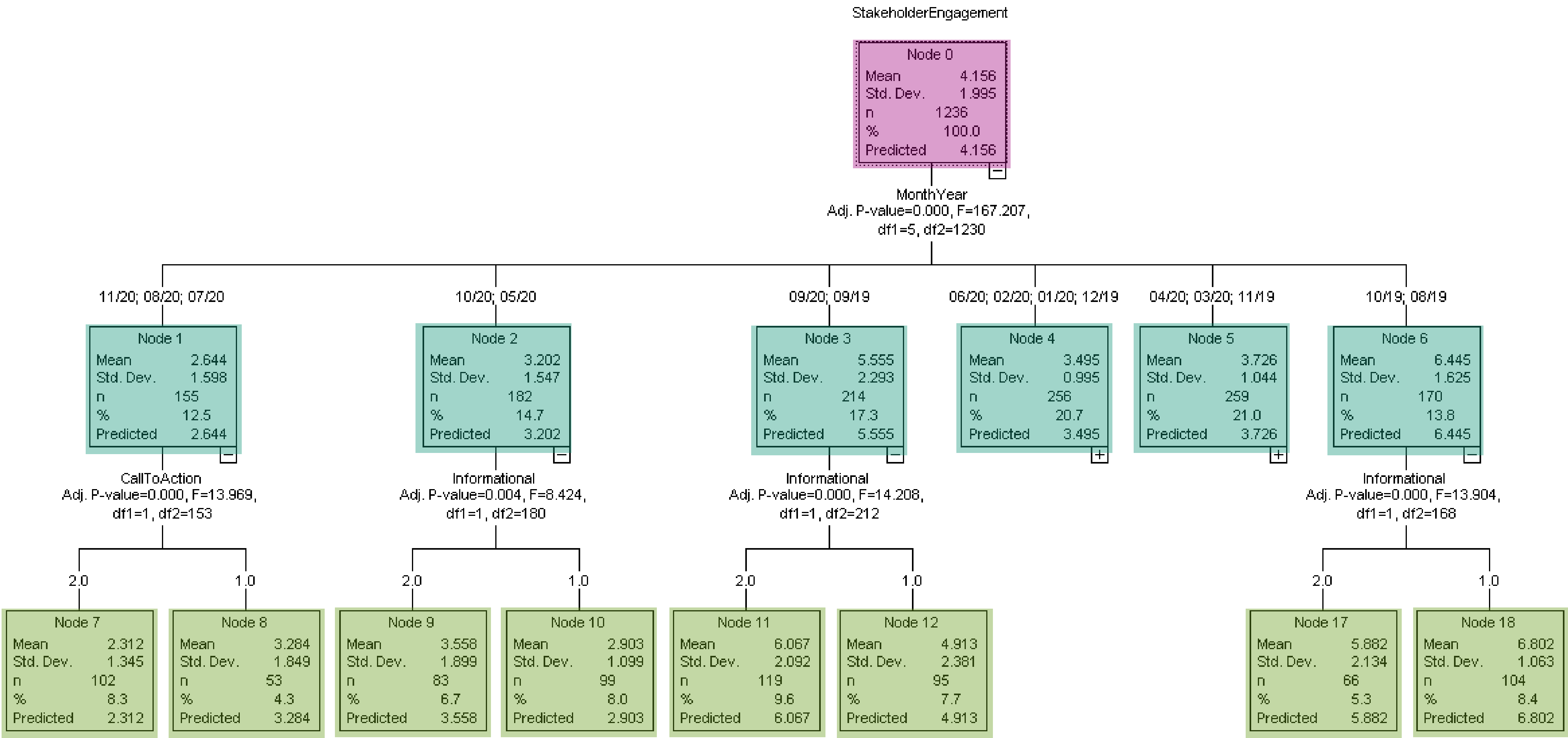
Source: Author's own data (SPSS output)

Figure 8.48, demonstrates that for large sports events, the best determinant of the stakeholder engagement rate, is the *month of the year*, (in dark green) (Adj. P-value=0.000, F167.207, df1=5, df2=1230), which branched into six nodes. The further statistically significant predictors are discussed under Figures 8.49 and 8.51. Node 1, representing July, August and November 2020, had the lowest predicted average stakeholder engagement rate of 2.644. This could be because these months were either long before, or after, the three large sports events were scheduled to take place. Node 6, representing the months of August and October 2019, had the highest predicted average stakeholder engagement rate of 6.445. This is interesting because this was before the coronavirus pandemic and the month before the TCS New York City Marathon, which took place on 3 November 2019. Node 3, representing September 2019 and 2020, had the second-highest predicted average stakeholder engagement rate of 5.555. This node included the Boston Marathon’s virtual race in 2020 and the month before the Virgin Money London Marathon 2020 was held.

The month of the year a social media post is posted by large sports events has an influence on the engagement rate of stakeholders. Social media postings during the month before the sports events (node 6), are likely to receive higher engagement from stakeholders. This could be due stakeholders such as participants looking for information regarding the arrangements of the sports event.

Figure 8.49 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for large sports events (highlighted in light green).

Figure 8.49: Stakeholder engagement rate CHAID algorithm with second layer of branches for large sports events



Source: Author’s own data (SPSS output)

Figure 8.49 demonstrates that the second-best determinant of the social media posts' stakeholder engagement rate (next branch layer) depended on the month of the year. Further determinants for the social media postings December 2019 to February 2020 and June 2020 (node 4), November 2019, March and April 2020 (node 5), are considered separately (Figure 8.50).

For July, August and November 2020 (node 1), which had the lowest predicted average stakeholder engagement rate of 2.644, the second-best determinant was whether social media posts contained *call-to-action* phrases (Adj. P-value=0.000, F13.969, df1=1, df2=153). Social media posts containing call-to-action phrases (node 8) received a higher average stakeholder engagement rate (3.284) than those posts that did not (node 7; 2.312). The descriptive findings in Section 7.3.6.2 Figure 7.26 depicts social media posts containing call-to-action phrases as receiving less stakeholder engagement. Therefore, for large sports events, a variable such as the moment of participation, namely, the month of year, has a significant positive effect on the stakeholder engagement on social media posts containing call-to-action phrases. Both nodes 7 and 8 are terminal nodes.

Call-to-action phrases in a social media post has an influence on the engagement rate of stakeholders. Social media posts that use call-to-action phrases, posted during specific months of the year (node 1) are more likely to receive higher engagement from stakeholders.

The next best determinant was *informational content* used in a social media post for the months of May and October 2020 (node 2; Adj. P-value=0.004, F8.424, df1=1, df2=180); September 2019 and 2020 (node 3; Adj. P-value=0.000, F14.208, df1=1, df2=212) as well as August and October 2019 (node 6: Adj. P-value=0.000, F13.904, df1=1, df2=168). For social media postings during May and October 2020 (node 2) and September 2019 and 2020 (node 3) that did not contain informational content received a higher average stakeholder engagement rate than posts that did (node 9 with 3.558 verses node 10 with 2.903; and node 11 with 6.067 versus node 12 with 4.913), respectively. The descriptive findings in Section 7.3.7.1 Figure 7.30 depict posts containing informational content as receiving higher stakeholder engagement. The findings therefore indicate that variables such as the moment of participation;

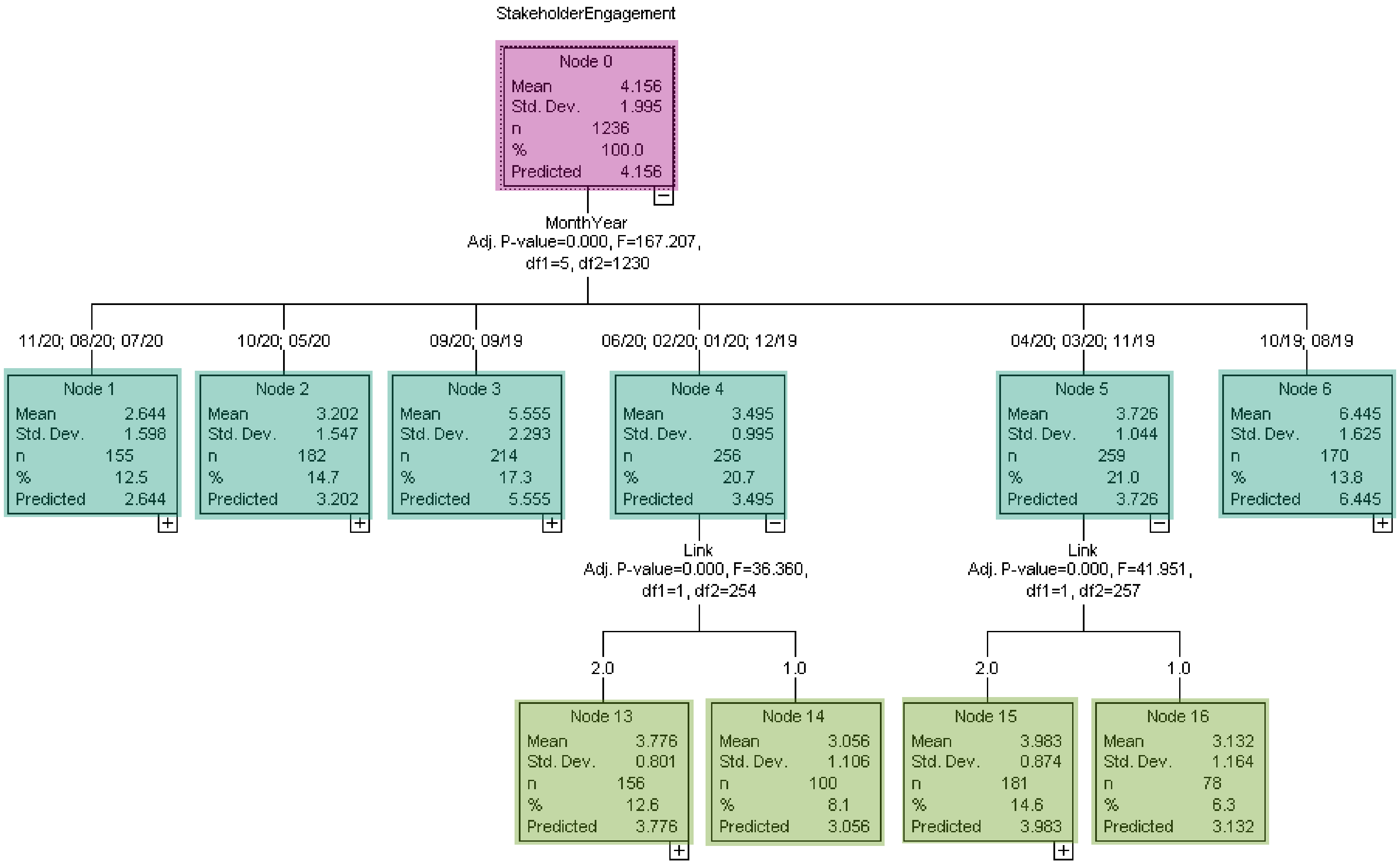
month of the year, can negatively influence stakeholder engagement on social media posts containing informational content. Nodes 9, 10, 11 and 12 are terminal nodes.

During August and October 2019 (node 6), social media posts containing informational content received a much higher average stakeholder engagement rate (node18; 6.802) than those without informational content (node 17; 5.882). These findings correspond with the descriptive findings regarding informational content in social media posts in Section 7.3.7.1 Figure 7.30. This node included the month before the TCS New York City Marathon was held in 2019. It can therefore be concluded that stakeholders engage more with informational content the month before an event as they find the information during this time to be relevant to them. These findings therefore reinforce the variable, of the moment of participation, namely, month of the year, specifically the month before a sports event, contributes to higher stakeholder engagement on social media posts containing informational content. Both nodes 17 and 18 are terminal nodes.

Informational content in a social media post has an influence on the engagement rate of stakeholders. Both social media posts that include or do not include informational content, dependent on the specific months of the year posted (nodes 2, 3 and 6) can receive higher engagement from stakeholders.

Figure 8.50 presents the stakeholder engagement rate CHAID algorithm with the second layer of branches for large sports events (in light green) of nodes 4 and 5.

Figure 8.50: Stakeholder engagement rate CHAID algorithm with second layer of branches for large sports events



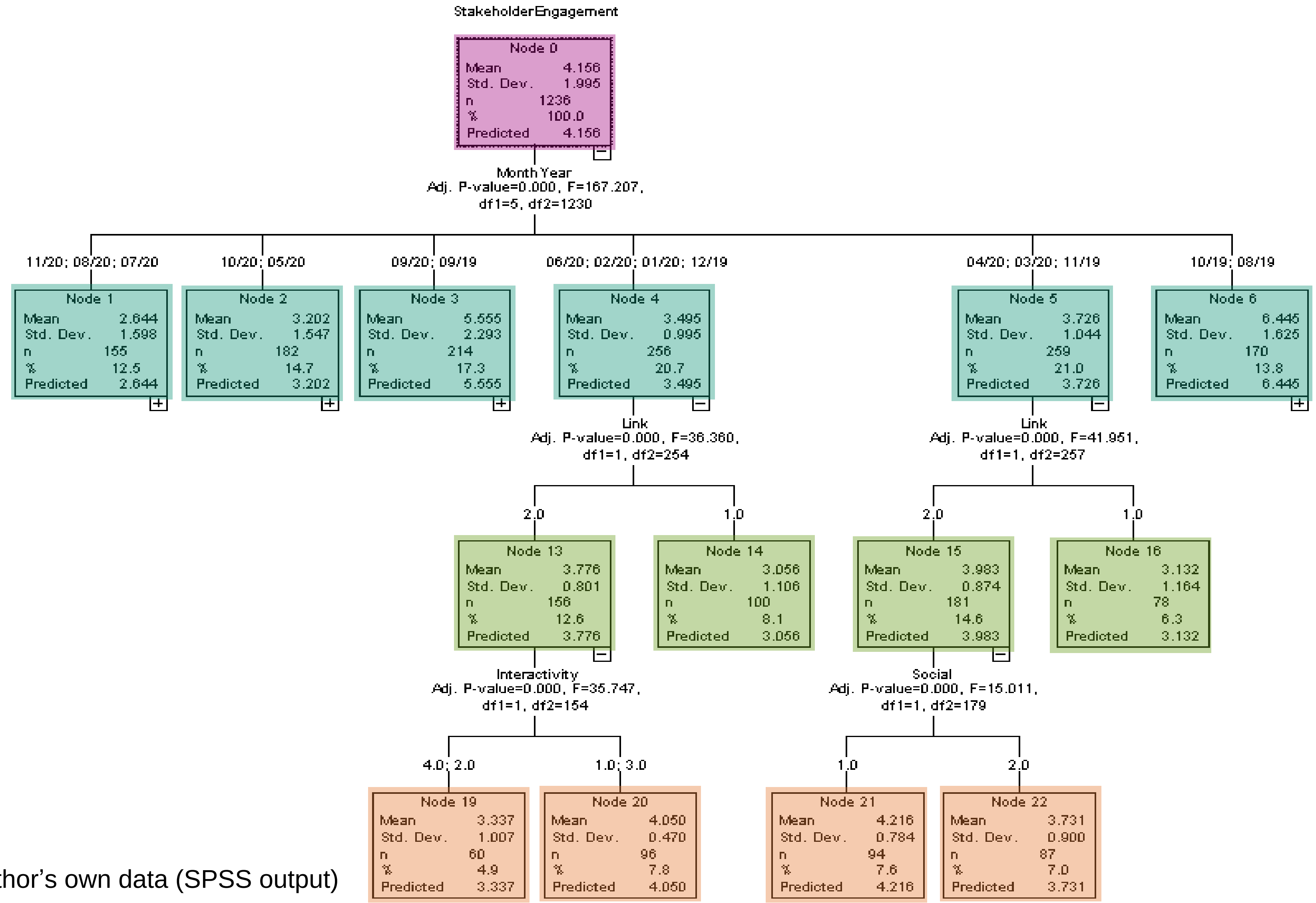
Source: Author’s own data (SPSS output)

The next best determinant was whether a social media post contained a *link* for December 2019 to February 2020 and June 2020 (node 4; Adj. P-value=0.000, F36.360, df1=1, df2=254) as well as November 2019 and March and April 2020 (node 5; Adj. P-value=0.000, F41.951, df1=1, df2=257). Social media postings from December to February 2020 and June 2020 (node 4) as well as November 2019 and March and April 2020 (node 5), that did not contain a link, received a higher average stakeholder engagement rate (node 13; 3.776 and node 15; 3.983) than posts that contained links (node 14; 3.056 and node 16; 3.132). Both nodes 14 and 16 are terminal nodes. These results reflect the descriptive findings in Section 7.3.5.2 Figure 7.21, which indicate that links received the lowest stakeholder engagement compared to no links. Node 4 includes months leading up to the sports event, and node 5 includes the months an event took place, and a month when two events were scheduled to occur but were forced to postpone or cancel, due to the coronavirus pandemic. These findings indicate, that for large sports events, even influencing variables such as the moment of participation, namely, month of the year, do not cause a positive effect on engagement rates for posts containing external links.

The use of external links in a social media post has an influence on the engagement rate of stakeholders. Social media posts that do not make use of external links, posted during specific months of the year (nodes 4 and 5) are more likely to receive higher engagement from stakeholders.

Figure 8.51 presents the stakeholder engagement rate CHAID algorithm with the third layer of branches for large sports events (in orange).

Figure 8.51: Stakeholder engagement rate CHAID algorithm with third layer of branches for large sports events



Source: Author’s own data (SPSS output)

Analysis of the last layer of determinants presented in Figure 8.51, finds that the stakeholder engagement rate for social media postings in December 2019 to February 2020 and June 2020 (node 4) that do not contain links (node 13) was further influenced by the *level of interactivity* (Adj. P-value=0.000, F35.747, df1=1, df2=154). Social media posts with high levels of interactivity, containing questions (node 19), had a lower average stakeholder engagement rate (3.337) than posts with no interactivity containing only text, and posts with a medium level of interactivity containing call-to-action phrases (node 20; 4.050). The descriptive findings in Section 7.3.3.1 Figure 7.14 illustrate that social media posts, which require no interactivity received the most engagement from stakeholders. These findings indicate that for large sports events, influencing variables such as the moment of participation, namely, month of the year, as well as format; no external links, play a positive role in the stakeholder engagement on social media posts that require no interactivity or have a medium level of interactivity containing call-to-action phrases. Both nodes 19 and 20 are terminal nodes

The level of interactivity used in a social media post has an influence on the engagement rate of stakeholders. Social media posts that make use of no, or medium interactivity (text and call-to-action phrases) with no external links, posted during specific months of the year, are more likely to receive higher engagement from stakeholders.

The stakeholder engagement rate for social media postings in November 2019 and March and April 2020 (node 5) that did not contain links (node 15) was further influenced by *social content* (Adj. P-value=0.000, F15.011, df1=1, df2=179). Posts containing social content (node 21) received a higher average stakeholder engagement rate (4.216) than posts that did not (node 22; 3.731). The descriptive findings in Section 7.3.7.4 Figure 7.33 indicate posts that did not contain social content received higher stakeholder engagement. Therefore, the findings here indicate, that for large sports events, variables such as the moment of participation, namely, month of the year and format, namely, no external links, influence the stakeholder engagement on social media posts containing social content. Both nodes 21 and 22 are terminal nodes.

Social content in a social media post has an influence on the engagement rate of stakeholders. Social media posts containing social content with no external links, posted during specific months of the year are more likely to receive higher engagement from stakeholders.

8.5.2.3.1 Overview of the CHAID decision tree for large sports events

Table 8.18 provides an overview of the spread of the CHAID decision tree in the form of a gains table, sorted from the highest mean stakeholder engagement rate to the lowest. The table includes the node number of all terminal nodes, number of cases, percentage gain, and the dependent variable's mean value.

Table 8.18: Gain summary for nodes of the CHAID algorithm for large sports events

GAIN SUMMARY FOR NODES			
Node	N	Percent	Mean
18	104	8.4%	6.80184
11	119	9.6%	6.06692
17	66	5.3%	5.88244
12	95	7.7%	4.91323
21	94	7.6%	4.21604
20	96	7.8%	4.04998
22	87	7.0%	3.73071
9	83	6.7%	3.55798
19	60	4.9%	3.33737
8	53	4.3%	3.28364
16	78	6.3%	3.13174
14	100	8.1%	3.05593
10	99	8.0%	2.90285
7	102	8.3%	2.31234

Growing Method: CHAID

Dependent Variable: Stakeholder Engagement

Source: Author's own data (SPSS output)

Node 18 (the highest mean stakeholder engagement rate of 6.80184 in pink) represents social media postings during August 2019 and October 2020 containing informational content. Social media postings July to August 2020 and November 2020, that do not contain call-to-action phrases (node 7), had the lowest mean stakeholder engagement rate of 2.31234 (in green). Node 11 represents the highest percentage of social media posts (9.6%) with a predicted stakeholder engagement index of 6.06692. This node branched off from node 3 and represents social media postings for September 2019 and 2020, containing no informational content. Node 18 also represents the second-highest percentage of social media posts (8.4%).

Table 8.19 is the tree table of the CHAID algorithm for large sports events with an overview of the essential information consolidated in a table format, and followed by a discussion, for greater clarity.

Table 8.19: Tree table of Stakeholder engagement rate CHAID algorithm for large sports events

Node	Mean	Std. Deviation	N	Percent	Predicted Mean	Parent node	Primary Independent Variable					
							Variable	Sig.[a]	F	Df1	Df2	Split values
0	4.156	1.995	1236	100%	4.156							
1	2.644	1.598	155	12.5%	4.156	0	Month of the year	0.000	167.207	5	1230	11/20; 08/20; 07/20
2	3.202	1.547	182	14.7%	2.644	0	Month of the year	0.000	167.207	5	1230	10/20; 5/20
3	5.555	2.293	214	17.3%	3.202	0	Month of the year	0.000	167.207	5	1230	09/20/ 09/19
4	3.495	0.995	256	20.7%	5.555	0	Month of the year	0.000	167.207	5	1230	06/20; 02/20; 01/20; 12/19
5	3.726	1.044	259	21.0%	3.495	0	Month of the year	0.000	167.207	5	1230	04/20; 03;/0; 11/19
6	6.445	1.625	170	13.8%	3.726	0	Month of the year	0.000	167.207	5	1230	10/19/ 08/19
7	2.312	1.345	102	8.3%	2.312	1	Call-to-action	0.000	13.969	1	153	No
8	3.283	1.849	53	4.3%	3.283	1	Call-to-action	0.000	13.969	1	153	Yes
9	3.557	1.899	83	6.7%	3.557	2	Informational content	0.004	8.424	1	180	No
10	2.902	1.099	99	8.0%	2.902	2	Informational content	0.004	8.424	1	180	Yes
11	6.066	2.092	119	9.6%	6.066	3	Informational content	0.000	14.208	1	212	No
12	4.913	2.381	95	7.7%	4.913	3	Informational content	0.000	14.208	1	212	Yes
13	3.776	0.801	156	12.6%	3.776	4	Link	0.000	36.360	1	254	No
14	3.055	1.106	100	8.1%	3.055	4	Link	0.000	36.360	1	254	Yes

15	3.983	0.874	181	14.6%	3.983	5	Link	0.000	41.951	1	257	No
16	3.132	1.164	78	6.3%	3.132	5	Link	0.000	36.360	1	257	Yes
17	5.882	2.134	66	5.3%	5.882	6	Informational content	0.000	13.904	1	168	No
18	6.801	1.063	104	8.4%	6.801	6	Informational content	0.000	13.904	1	168	Yes
19	3.337	1.007	60	4.9%	3.337	13	Interactivity	0.000	35.747	1	154	4 High; 2 Low
20	4.049	0.470	96	7.8%	4.049	13	Interactivity	0.000	35.747	1	154	1 None; 3 Medium
21	4.216	0.784	94	7.6%	4.216	15	Social content	0.000	15.011	1	179	No
22	3.730	0.900	87	7.0%	3.730	15	Social content	0.000	15.011	1	179	Yes

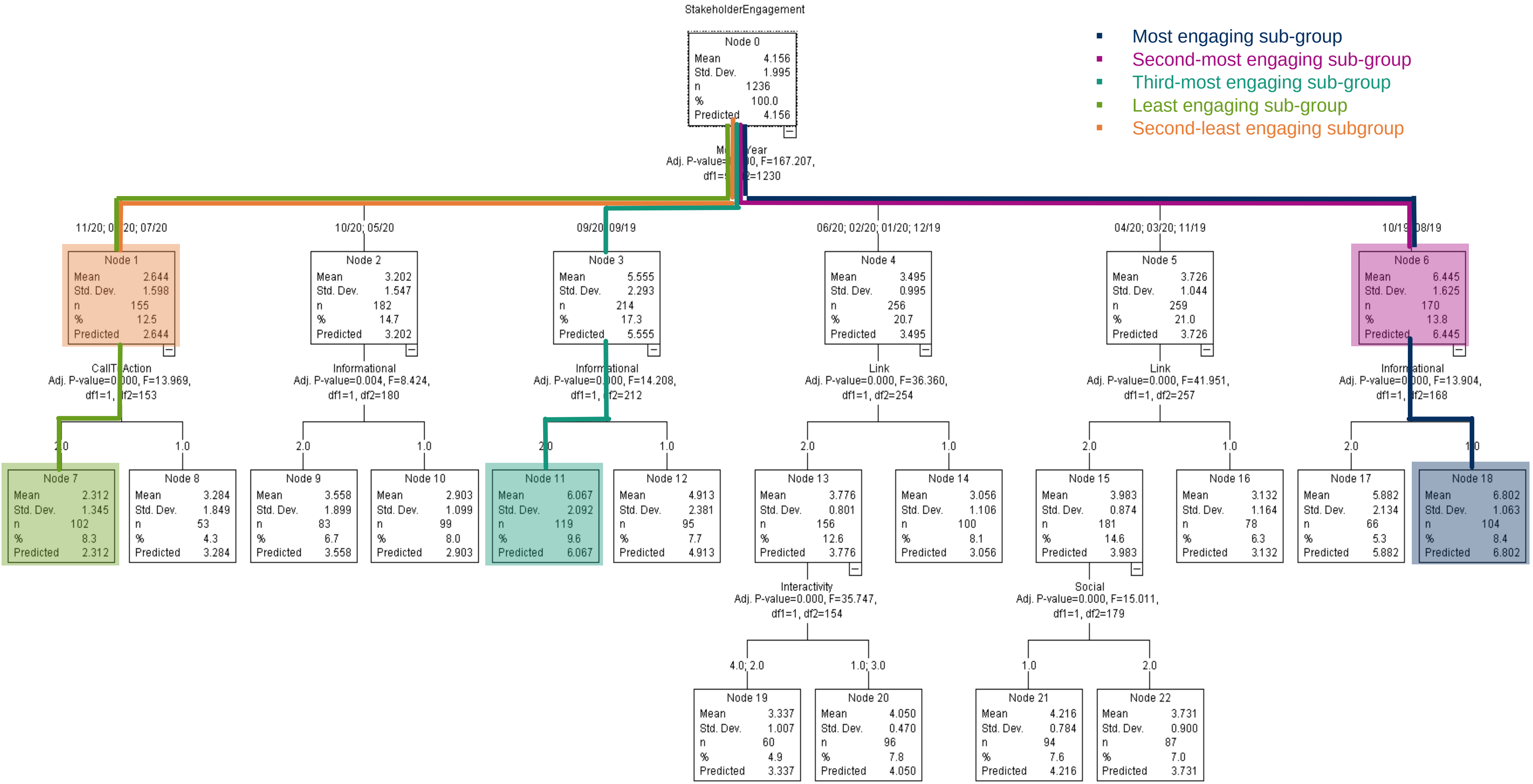
Source: Author’s own data (SPSS output)

All 23 nodes are shown in the table, and for each node, the following information is displayed: the number and percentage of cases in each category, the mean, predicted mean, standard deviation of the dependent variable; parent and child nodes where applicable, the independent variable used to split the node, the Chi-square value, the degrees of freedom (df1 and df2) and the level of significance for the division.

The CHAID analysis produces sufficient empirical evidence that large sports events social media posts posted during the months of August 2019 and October 2019, containing informational content (node 18), led to the highest stakeholder engagement rate (Figure 8.52 in dark blue). Node 6 is the second most engaging sub-group with postings during August 2019 and October 2019 (in pink). The third most engaging sub-group is node 11, with postings during September 2019 and 2020 that excluded informational content (in dark green).

The least engaging subgroup, node 7, posted during July, August, and November 2020 and exclude call-to-action phrases (in light green). The second least engaging subgroup is node 1, the parent node of 7, which consists of postings during July, August, and November 2020 (in orange). Figure 8.52 graphically displays the CHAID algorithm.

Figure 8.53: Social media post stakeholder engagement rate CHAID decision tree for large sports events



Source: Author’s own data (SPSS output)

8.5.3 SUMMARY OF THE CHAID ANALYSES

Based on the CHAID tree diagram for all sports events (Figure 8.3), the moment of participation variable, *time of day* (first branch), was found to be the best determinant as the independent variables with the strongest association or influence on the stakeholder engagement index. The moment of participation variable, *month of the year,* and format variable, *external link,* were the second-best determinants (second layer). The third best determinants were the moment of participation variable *month of the year*; the design variables *vividness* and *interactivity*; the fluency variable *number of hashtags*; the format variable *photo*; the content variable *promotional content*; and the variables *call-to-action* and *virtual race*. The determinants found at the fourth layer of the CHAID tree were the moment of participation variable *month of the year*; the fluency variables *tagging people or organisations* and *number of hashtags*; the format variables *videos* and *links*; the content variables *informational*, *entertainment*, *social*, and promotional content; as well as the variable *call-to-action phrases*. The fifth and last layer of determinants were moment of participation variables, *month of the year* and *day of the week*; the design variable *interactivity*; the fluency variables *tagging people or organisations*, *number of hashtags* and *post length*; and the content variables *social*, *promotion*, and *information.* All these variables mentioned were found to be statistically significant. The format variable, text, the content variable, remunerative, and the variables live content and COVID-19, did not emerge as determinants of stakeholder engagement within the context of the CHAID analysis (Figure 8.53).

After splitting the sample of sports events into three groups of audience size, classified as small, medium and large sports events, the results of the various statistically significant variables were different. The trees were smaller, and fewer independent variables tested statistically significant, indicating differences among the various sizes of sports events. Based on the CHAID tree diagram for small sports events (Figure 8.31), the moment of participation variable, *time of day,* was also the best determinant (first layer) of the stakeholder engagement index. The moment of participation variable *month of the year* and format variable *external link* were the second-best determinants (second layer) for stakeholder engagement. The third best determinants were the fluency variable, *number of hashtags*, format variable *link*; content variables, *social* *and informational content*, and variable *virtual race*. The determinants found in the fourth layer were the content variables *entertainment* and *promotional*. The fifth and last layer of determinants, the fluency variable *number of hashtags* was statistically significant. Variables excluded from the tree were either not statistically significant or had a weaker relationship with the dependent variable.

Based on the CHAID tree diagram for medium sports events (Figure 8.42), the moment of participation variable, *month of the year,* was the best determinant (first layer) of the stakeholder engagement index. The fluency variable, *number of hashtags*, format variable, *external link* and *call-to-action phrases* were the second-best determinants (second layer). The third and last determinants were the design variable, *interactivity,* and the variable *social content*.

The CHAID tree diagram for large sports events (Figure 8.47) is similar to medium size sports events, in that the moment of participation variable, *month of the year,* is the best determinant (first layer) of the stakeholder engagement index. The format variable *external link, informational* content variable and *call-to-action phrase* variable were the second-best determinants (second layer) of the stakeholder engagement index. The third and last determinants were the design variable, *interactivity,* and *social content* variable.

8.6 SUMMATION OF THE MAIN FINDINGS OF THE INFERENTIAL STATISTICAL ANALYSIS

The main findings in terms of the stated objectives of the study's inferential statistical analyses are presented in Table 8.20.

Table 8.20: Summary of the main findings of the inferential statistical analysis

INFERENTIAL STATISTIC SECTIONS	FINDINGS
1. Describe the current utilisation of social media by sports events.	
1.2 Test whether there is a relationship between channel activity and stakeholder engagement.	
Section 8.3	A weak negative, not statistically significant correlation between channel activity (the number of posts posted) and stakeholder engagement (r_s=-.275; n=13; p=.364) was found. Sports events would not gain an increased stakeholder engagement rate by posting more frequently on their social media page.
1.4 Test whether there is a relationship between audience size and stakeholder engagement.	
Section 8.3	A weak positive not statistically significant correlation between Facebook audience size and stakeholder engagement (r_s=0.154; n=13; p=.616) was found. Sports events are not likely to achieve higher stakeholder engagement rates if they have greater Facebook audience.
3. Identify the main social media post characteristics that lead to higher stakeholder engagement.	
3.1 Test whether the various characteristics influences the engagement rate of stakeholders.	
Section 8.5.1 Table 8.7	The following independent variables were found to be statistically significantly positively or negatively associated with the stakeholder engagement index in the multiple linear regression model, for all sports events:

<table>
<tr><td></td><td>
<table>
<tr><th>NEGATIVE RELATIONSHIP</th><th>POSITIVE RELATIONSHIP</th></tr>
<tr><td>

Moment of participation
Time of day
Month of the year
Day of the week
Fluency
Total number of hashtags
Design
Level of interactivity
Format
Link
Text
Call-to-action

</td><td>

Content
Social
Promotional
Informational
Entertainment
Remunerative
Virtual race
Live content

</td></tr>
</table>
</td></tr>
<tr><td colspan="2">4. Categorise social media post characteristics based on engagement levels.</td></tr>
<tr><td colspan="2">4.1 Identify which social media post characteristics significantly partitioned the total data set in relation with the stakeholder engagement rate.</td></tr>
<tr><td>Section 8.5.1; Table 8.8</td><td>
The following independent variables were found to significantly partition the total data set in relation with the stakeholder engagement rate in the CHAID model for all sports events:

Moment of participation
Time of day
Month of the year
Day of the week
Fluency
Post length total
Tagging people or organisations
Total number of hashtags
Design
Level of interactivity
Vividness level
Format
Link
Photo
Video
Content
Social
Promotional
Informational

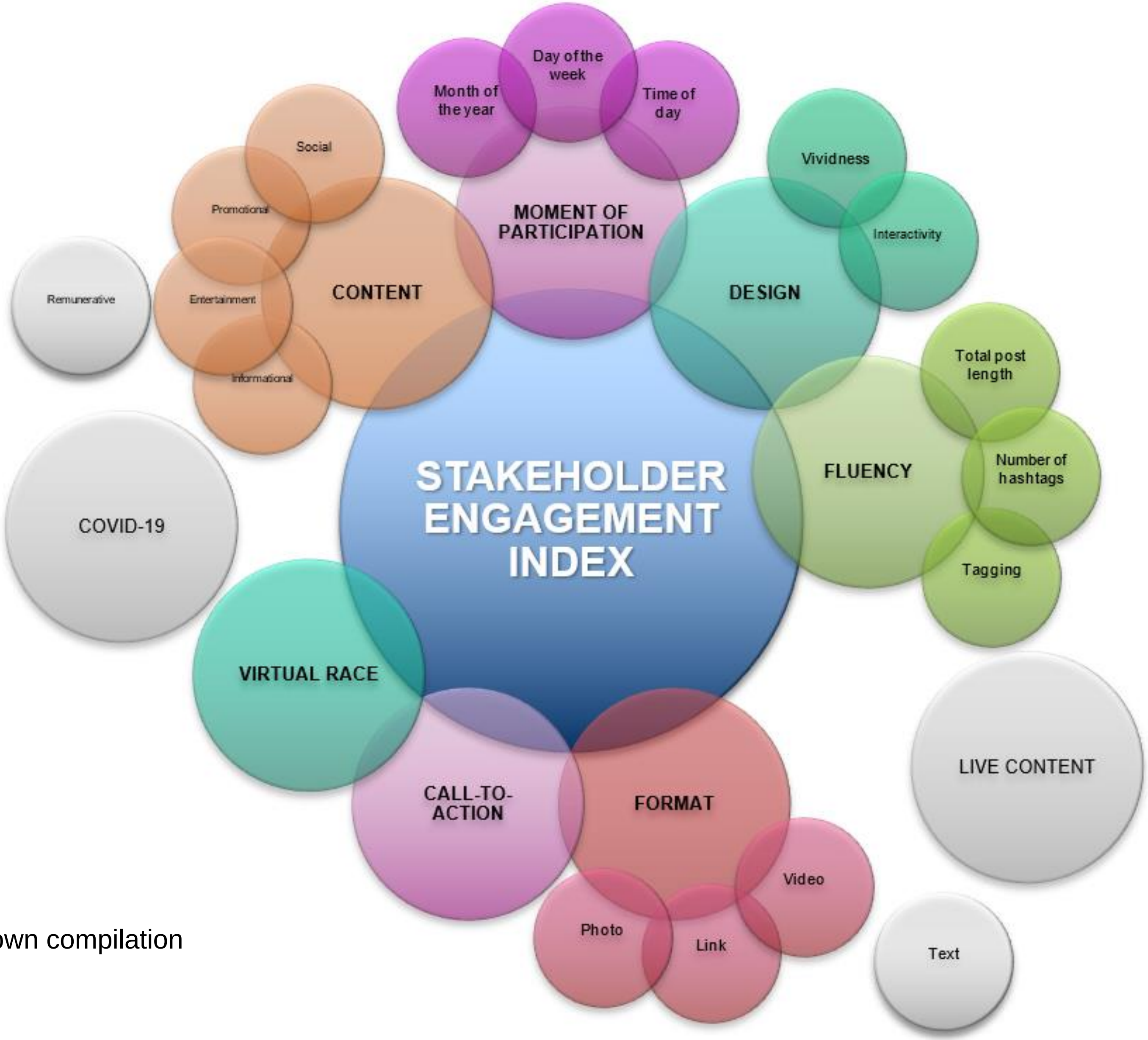
</td></tr>
</table>

	◦ Entertainment • Call-to-action • Virtual race
PRIMARY OBJECTIVE	
Determine the composition of social media posting characteristics that would lead to higher stakeholder engagement.	
Section 8.5.1.1, Figure 8.29 and Figure 8.30	The results indicate that the best possible post composition for all sporting events is to post in the evenings, using external links during the month before and of the actual or virtual event.
Section 8.5.2.1.1, Figure 8.40 and Figure 8.41	The results indicate that the best possible post composition for small sporting events is to post in the afternoons during months before, of and after the event, with content other than informational content.
Section 8.5.2.2.1, Figure 8.46	For medium sports events, the results indicate that the best possible post composition is to post during the months leading up to the event and the month of the event, with no or only one hashtag and content other than social content.
Section 8.5.2.3.1, Figure 8.52	The results indicate that the best possible post composition for large sporting events is to post during the months leading up to the event with informational content regarding the organisation and the event itself.

Source: Author's own compilation

Figure 8.53 gives a graphical presentation of the findings, explicitly displaying sports events' social media posts characteristics that influence stakeholder engagement. The characteristics shown in Figure 8.53 are divided into the different independent variables together with their different categories and corresponding options. The variables and options portrayed in grey did not emerge as determinants in the five layers of the CHAID discission trees.

Figure 8.54: Sports events social media post characteristics influencing the stakeholder engagement achieved



Source: Author's own compilation

8.7 CHAPTER SUMMARY

Chapter 8 served as the inferential statistical analysis chapter of this study. This chapter intended to draw conclusions from the sample of sports events and generalise them to the population. This chapter commenced by recapitulating the primary and secondary objectives stating the order in which the remaining objectives were addressed. After that, the results and findings of the CHAID analyses were discussed, with subsections representing the whole data set of all sports events and the three audience sizes, namely, small, medium and large. Presenting the CHAID analyses visually with the aid of tree diagrams ensured easier interpretation of the results. This section concluded by summarising the CHAID decision tree results.

This chapter concludes with a summation table of the main findings of the inferential statistical analysis against the related research objectives, thereby meeting the third and fourth secondary objectives and the primary objective, to determine the composition of social media posting characteristics that leads to higher stakeholder engagement. Chapter 9, will conclude the study by summarising the key findings, reflecting on the contribution of the study and its limitations, and making recommendations for future research.

CHAPTER 9

CONCLUSION AND RECOMMENDATIONS

"All endings are a chance to rest, to breathe, to reflect on the conclusion of a journey in preparation for a new one."

- Amy Larson (The Board Report, 2018)

9.1 INTRODUCTION

The study assessed the stakeholder engagement rates of social media posts on Facebook pages of recurring participative sports events, specifically marathons and ultramarathons, and determined social media post compositions that lead to higher stakeholder engagement rates. Previous chapters focused on the background to the study, a review of related literature, research methodology, and the descriptive and inferential findings. This chapter concludes the study, for which the primary objective was to determine social media post compositions for higher stakeholder engagement of recurring participative sports events. The findings are summarised and justified in relation to the objectives of the study. The original contribution to the body of knowledge in the field of social media in general, and sports events in particular, is demonstrated. To achieve this, the chapter commences with a chapter-by-chapter overview of the study (Section 9.2), which is followed by a summary of the key descriptive and inferential findings, in relation to the primary, secondary, and tertiary research objectives of the study (Section 9.3). Thereafter, the theoretical, methodological and practical contributions of this study are highlighted (Section 9.4). Lastly, the limitations of the study are presented (Section 9.5), as well as recommendations for future research (Section 9.6) before concluding remarks are offered (Section 9.7).

9.2 OVERVIEW OF THE RESEARCH STUDY

Before providing conclusions to the descriptive and inferential statistical analysis, it is essential to provide an overview of the study to determine the focus and structure of this chapter. The following subsections focus on summarising the study regarding the research issue and design, the research statement and the knowledge gap, the research question and objectives, and an outline of the previous chapters.

9.2.1. THE RESEARCH ISSUE AND RESEARCH DESIGN

The central research issue in this study is stakeholder engagement on social media platforms such as Facebook. A social media presence is becoming an integral part of many organisations due to the various benefits that can be gained (Meratian Esfahani and Johnson, 2018). Today, sports organisations realise social media's benefits and seek ways to use it effectively (Coyle, 2010). However, with organisations not having consistent strategies for managing social media, they find it difficult to manage them strategically and engage their stakeholders effectively (Meratian Esfahani and Johnson, 2018). Adding to an already difficult situation, not all social media posts are created equal. The effect of social media posts on engagement rates varies widely. Some posts generate a higher engagement rate than others, depending on several factors, such as content type and media type (Pletikosa Cvijikj and Michahelles, 2014; Denktaş-Şakar and Sürücü, 2020).

The research design was a cross-sectional quantitative content analysis of social media posts on Facebook for 13 recurring participative sports events. The data represents a specific point in time, in a pragmatic worldview approach, focused on practical solutions and outcomes to the research problem. Using an archival documentary research strategy, data were gathered from the Facebook pages of included sports events between 12 August 2019 and 30 November 2020 using Keyhole Automated Social Media Analytics. The reliability and validity of the secondary data was evaluated and deemed appropriate to use for this study's research objectives. Therefore, internal empirical consistency exists within this research study as the boundaries and focus of the research issue is apparent in how the research was designed, as the data gathered focused on the issue at hand.

Section 9.2.2 addresses how the central research issue relates to the research statement and the identified research gap.

9.2.2. THE GAP IN KNOWLEDGE AND RESEARCH STATEMENT

The organisational benefits of being active on social media platforms are well documented in the literature and known in practice. Increasing Facebook engagement has numerous advantages such as increased brand awareness, brand loyalty, trust and social media marketing reach (Hernandes, 2019; Business Australia, 2020; Polner, 2020), which reinforces the relationship between the stakeholders and the sports event organisations' brand (Business Australia, 2020). However, social media engagement is a complicated issue that requires specific investigation. Sports events must identify the factors that lead to higher stakeholder engagement rates, which can result in strategies and policies for more effective social media management.

The engagement of stakeholders on social media networking sites has only become an area of research interest in recent years and still needs much exploration. Regardless of social media studies in sports (Abeza *et al.*, 2015), the researcher was unable to find any studies investigating social media engagement rates in recurring participative sports events (Section 4.2.6.1). At the tactical or operational level, there is minimal knowledge about how a social media post should be structured and presented to engage stakeholders optimally. Consequently, there is a need to investigate the issue in-depth. This study filled the gap in understanding how social media can be used as a new digital tool to engage stakeholders optimally by providing a framework of compositions for managing social media post content.

The research issue and the identified research gap therefore links to the research statement of: This research study is a quantitative content analysis of international recurring participative sports events' social media posts on Facebook, examining specifically the features that influence the rate of the stakeholder engagement achieved by means of a CHAID decision tree.

Section 9.2.3 addresses this study's research question and objectives that arose from the research issue and the knowledge gap.

9.2.3. RESEARCH QUESTION AND OBJECTIVES REVISITED

The research question and the primary, secondary and tertiary research objectives are revisited and presented below.

9.2.3.1. Research question

The research aimed to answer the research question:

How should sports event organisations compose social media posts on the platform Facebook to optimally engage stakeholders?

The overarching research question of this study was answered by pursuing the primary, secondary and tertiary research objectives recapitulated below.

9.2.3.2. Primary objective

The primary research objective of the study was to determine the composition of social media post characteristics that would lead to higher stakeholder engagement.

This was achieved by determining the social media post compositions that lead to higher stakeholder engagement, taking the various social media post characteristics' relationships with stakeholder engagement rates into consideration, using a CHAID decision tree analysis.

9.2.3.3. Secondary and tertiary objectives

To realise the primary objective, secondary and tertiary objectives were formulated. The following are the study's four secondary objectives and their tertiary objectives:

SO1: Describe the current utilisation of social media by sports events (Section 9.3.1.1).

- TO1.1: Determine how active sports events are on social media.
- TO1.2: Test whether there is a relationship between channel activity and stakeholder engagement.
- TO1.3: Determine the Facebook audience size of the sports events.
- TO1.4: Test whether there is a relationship between audience size and stakeholder engagement.
- TO1.5: Identify the most frequently used social media post characteristics.

SO2: Analyse the different levels of online engagement achieved (Section 9.3.1.2).

- TO2.1: Determine how engaged stakeholders are through the social media platform Facebook.

SO3: Identify the main social media post characteristics that lead to higher stakeholder engagement (Section 9.3.1.3).

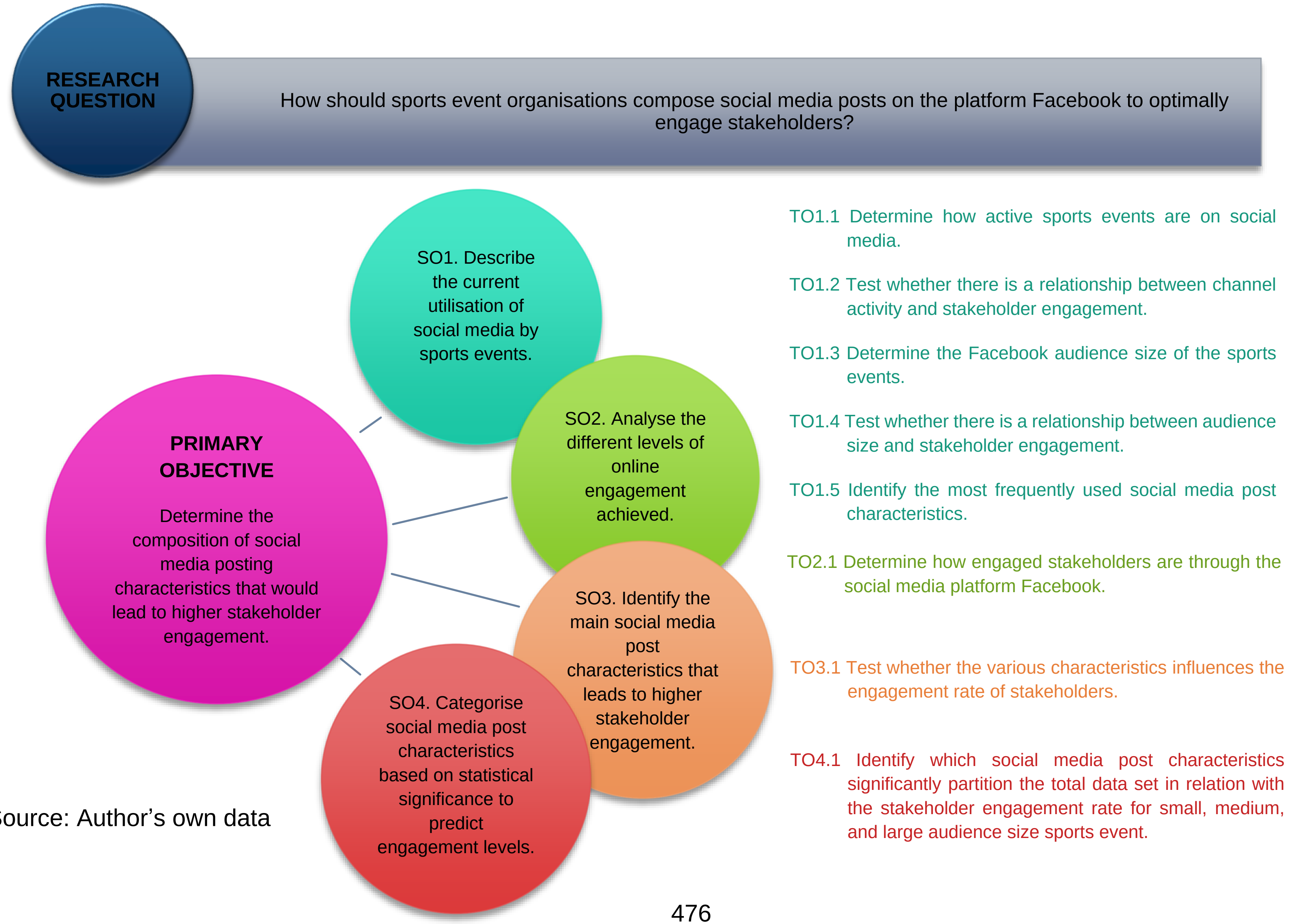
- TO3.1: Test whether the various characteristics influence the engagement rate of stakeholders.

SO4: Categorise social media post characteristics based on statistical significance to predict engagement levels (Section 9.3.1.4).

- TO4.1: Identify which social media post characteristics significantly partition the total data set in relation to the stakeholder engagement rate for small, medium and large audience size sports events.

Figure 9.1 presents a visual representation of the overarching research question, and the primary secondary and tertiary research objectives. The secondary and tertiary objectives are displayed in the order of accomplishment within the descriptive and inferential statistical analysis and are addressed in this chapter in the same order.

Figure 9.1: Research problem and objectives of the study



Source: Author’s own data

9.2.4. REVIEW OF THE PREVIOUS CHAPTERS

This study comprised nine chapters, each dealing with a specific concept related to this study. A brief overview of Chapters One to Eight is discussed in Figure 9.2.

Figure 9.2: Review of previous chapters

CHAPTER 1 INTRODUCTION TO THE STUDY

- Chapter 1 serves as a roadmap for the research study. An overall introduction and background to the research question and study objectives, are given. The chapter concludes with an outline of the chapters for the rest of the thesis.

CHAPTER 2 SPORTS EVENTS - MARATHONS AND ULTRAMARATHONS

- Chapter 2 provides the context of the sample sports events of this study. A broad background is given on the history of sport, and how sport became a business. The focus is then placed on the types of sports events, the history of Abbott Word Marathon Majors, IAAF and IAU, of which, the sample sports events form part, the current state of marathon and ultramarathon events, and concludes with the lifecycle stages of a sports event.

CHAPTER 3 SPORT EVENT STAKEHOLDERS

- Chapter 3 contextualises the origin and development of the concept of stakeholder. The numerous classifications of stakeholders follows and concludes with the identification of the numerous possible types of stakeholders a sporting event, such as a marathon and ultramarathon, can have.

CHAPTER 4 SOCIAL MEDIA AND FACEBOOK USAGE IN A SPORT CONTEXT

- Chapter 4 contextualises social media and how it developed throughout history. The discussion includes the various social media channels and social networking sites, global social media statistics with a specific focus on organisations and non-profit organisations use of social media. The focus then shifts to the specific social networking site Facebook. This chapter concludes with a discussion of social media in a sports context, indicating that Facebook can be used as a tool for creating long-term relationships with stakeholders.

CHAPTER 5

DIGITAL STAKEHOLDER ENGAGEMENT ON SOCIAL MEDIA - FACEBOOK

- Chapter 5 includes a discussion of the concept of digital stakeholder engagement, its definition, stakeholder engagement generations, transformation to digital platforms, drivers of change and the future of stakeholder engagement. The advantages, disadvantages and the various tools and channels available to organisations to engage digitally are mentioned, specifically the social media platform Facebook; concluding with measures to evaluate stakeholder engagement on Facebook, which informed the methodology of the study.

CHAPTER 6

THE RESEARCH PROCESS AND RESEARCH METHODOLOGY

- Within Chapter 6, the research design and methodological considerations adopted in this study are described and reviewed, highlighting the methodology deemed most suitable to gain insight into research question. The research process followed was explained. A post positivist worldview was adopted. In the context of this study, the use of nonprobability purposive judgement sampling, content analysis of secondary data, and appropriate analysis methods was comprehensively discussed and justified.

CHAPTER 7

DATA ANALYSIS: DISCUSSIONS AND INTERPRETATIONS OF THE DESCRIPTIVE STATISTICS

- In Chapter 7, the descriptive statistical analysis of the data's basic characteristics summarised in a straightforward and understandable manner. The results and findings of the descriptive analysis, with subsections representing the various variables of this study, are discussed by means of frequency tables and column charts. This chapter concludes with a summary of the main findings of the descriptive statistical analysis in terms of the relevant research objectives.

CHAPTER 8

DATA ANALYSIS: DISCUSSIONS AND INTERPRETATIONS OF THE INFERENTIAL STATISTICS

- Chapter 8 serves as the inferential statistical analysis chapter. The results and findings of Spearman's Rho, multiple linear regression, and CHAID analyses are discussed with subsections representing the whole data set of all sports events and the three audience sizes, namely, small, medium and large. The CHAID analyses were presented visually with the aid of tree diagrams for easier interpretation of the results. This chapter concludes with the main findings of the inferential statistical analysis in terms of the relevant research objectives.

Source: Author's own compilation

The following section addresses the conclusions and recommendations of the study in terms of the objectives.

9.3 SUMMARY OF FINDINGS: REFLECTIONS, CONCLUSIONS AND RECOMMENDATIONS IN RELATION TO EACH RESEARCH OBJECTIVE

The summary of findings is divided into subsections according to the various objectives achieved in this study. The first subsection focuses on the results of the four secondary and their tertiary objectives. The second subsection addresses the primary objective of this study, and the last subsection answers the overarching research question of the study.

9.3.1. SECONDARY AND TERTIARY RESEARCH OBJECTIVES ANSWERED

This section reflects the secondary research objectives and their corresponding tertiary objectives. The main findings are given, conclusions drawn, and recommendations made.

9.3.1.1. SO1: Describe the current utilisation of social media by sports events

Table 9.1 provides an overview of the findings relating to the use and performance of the sports events Facebook pages.

Table 9.1: Reflections on secondary research objective 1

SECONDARY RESEARCH OBJECTIVE	
1. Describe the current utilisation of social media by sports events.	
The first secondary research objective was to determine precisely what sports events were doing on their social media platform, Facebook. Five tertiary research objectives were developed to help answer this objective:	
TERTIARY RESEARCH OBJECTIVES	
1.1 Determine how active sports events are on social media.	
Statistical method	This objective was to determine how active sports events are on their Facebook pages, how many posts were posted during the researched period, and whether they were posting daily, weekly, monthly, or only during the actual event. This tertiary objective was met using descriptive statistical analyses such as frequency tables for nominal and ordinal variables and means for continuous data.
Main findings	Within the selected period under study of nearly 16 months, some sport events posted as little as 58 times, only 3-10 times a month. Another very active sports event posted as many as 738 posts, posting more than once daily. Most sports events were active on Facebook throughout the year (12 of the 13 sports events), however, sports event's postings increased slightly during the months sport events occurred. Sports event posts occurred on all days of the week and during all hours of the day and night. There was one sports event that posted only the month before and during the actual event and was inactive throughout the rest of the year.
Conclusions	The activity level of sports events varied widely. Four of the sports events had low activity levels on social media, posting once or twice a week or less frequently. Seven of the sports events maintained a medium level of activity on social media, posting three to five times a week. Only two sports events had a high activity level, posting more than once a day.

Recommendations	Sports events should not only post during the months of the actual sports events, as it leaves an inactive social media presence for the rest of the year. It is recommended that sports events maintain a planned active presence on social media throughout the year.
1.2 Test whether there is a relationship between channel activity and stakeholder engagement.	
Statistical method	This objective was to determine whether channel activity influenced stakeholder engagement rates, thus whether events with an active Facebook page and many posts, receive more engagement than those with a less active presence on Facebook. This tertiary objective was met utilising Spearman's Rho correlation analysis.
Main findings	The inferential results indicate a weak negative, not statistically significant correlation between channel activity (the number of posts posted) and stakeholder engagement. The descriptive findings indicated similar results in that the two sports events with the highest channel activity received the lowest stakeholder engagement scores.
Conclusions	A higher stakeholder engagement rate is therefore not related to increased levels of channel activity, findings that concur with those of Bonsón Ponte and Carvajal-trujillo (2015). Sports events will not increase stakeholder engagement rate by posting more frequently on their social media page.
Recommendations	As stated in 1.1, sports events should not only post during the actual sports events, as it leaves an inactive social media presence for the rest of the year. It is recommended that sports events keep an active presence on social media but not bombard followers with frequent posts. A medium level of activity should be upheld on Facebook, posting 3-5 times a week.
1.3 Determine the Facebook audience size of the sports events.	
Statistical method	This objective was to establish the number of Facebook followers for each sports event to determine and compare audience size. This tertiary objective was met through descriptive statistical analyses using frequency tables for nominal and ordinal variables and means for continuous data.

Main findings	The audience size of the sports events varied substantially, finding that some sports events have small audiences (12 714) and others with large audiences (354 286). The total audience size of the grouped sports events also varied substantially. Small sports events had the least number of audience members (358 039). Medium sports events had a total of 631 127 audience members. Large sports events had the highest total number of audience members (1 043 279) (Table 7.5).
Conclusions	Some sports events attract an international audience and have large fan bases on Facebook. Local based sports events attract a more local audience with a limited fan base.
Recommendations	An increased Facebook audience has various advantages. It is advised that sports events should focus on increasing their Facebook audience size, especially smaller sports events, to make the event known to more people, locally and internationally. Future studies could explore ways to increase sports event audience size. Knowing the size of the fan base is crucial in strategies to increase stakeholder engagement.
1.4 Test whether there is a relationship between audience size and stakeholder engagement.	
Statistical method	This objective was to establish whether a Facebook audience size influences the stakeholder engagement rate, thus whether sports events with larger audience sizes receive more engagement from their stakeholders. This tertiary objective was met utilising Spearman’s Rho correlation analysis.
Main findings	The inferential results indicate a weak positive, not statistically significant correlation between Facebook audience size and stakeholder engagement. The descriptive findings indicate similar results.
Conclusions	There is no linear correlation between achieving a higher stakeholder engagement rate and having more fans on the social media page. Therefore, a higher stakeholder engagement rate is not related to a larger audience size, which supports the findings of Bonsón Ponte and Carvajal-trujillo’s (2015).
Recommendations	It is recommended that sports events focus on post content that engages their current stakeholders optimally, due to the weak positive, not statistically significant correlation between a more extensive fan base and engagement. Future studies

	could explore whether the size, in terms of participation in the event, is a possible indicator of increased stakeholder engagement.
1.5 Identify the most frequently used social media post characteristics.	
Statistical method	The objective was to discover which social media post characteristics are used most often in the Facebook pages of sports events. This tertiary objective was met using descriptive statistical analyses such as frequency tables and means.
Main findings	See summary in Table 9.2. Most sports event posts were posted weekdays in the afternoon. Most posts contained text, between 141 and 280 characters, that does not require any form of interactivity, and a medium level of vividness containing photos. The number of hashtags most used was one or two and most posts contained no tags. The format type most used by the sports events is text. The sports events made little use of live content, call-to-action phrases, coronavirus, and virtual race updates. Entertainment content made up the most significant proportion of content types used by sports events.
Conclusions	Sports events are primarily active on social media during the working week and working hours. Most of the posts were vivid, containing photos. However, they offer messages that do not require interactivity and are not aimed at engaging stakeholders. Sports events kept social media posts relatively short and for the most part, did not tag a person or organisation and kept the number of hashtags to a minimum. Sports events kept updates regarding current issues such as the coronavirus and virtual events to a minimum. Sports events included little live content and call-to-action phrases. The majority of posts were entertaining, with humorous or educational content.
Recommendations	Sports events can focus on utilising social media over weekends and after hours as well, and ensure posting is spread over more days, as most engagements occur then. If this is a difficulty, sports events can make use of a social media posting schedule that ensures messages are posted at times when their audiences are online. Sports events can post more videos, have longer length posts, and use live content on their social media pages (see Table 9.2). Posts can add more informative content regarding the organisation and the sports events itself. Updates can be shared regarding how all kinds of force majeure events such as COVID-19, weather, and physical threats affect sports events.

Table 9.2 summarises the main findings of tertiary research objective 1.5, visually displaying the current utilisation of social media post characteristics by the sports events versus the characteristics, which received the most engagement (total likes, shares and comments, not to be mistaken for the stakeholder engagement rate, see Table 7.18). These results are derived from the findings of the descriptive statistics. Those characteristics with the highest frequency count are indicated under most used by sports events in Table 9.2.

Table 9.2: Current utilisation of social media by sports events versus engagement received

INDEPENDENT VARIABLE	**CATEGORIES**	**MOST USED BY SPORTS EVENTS**	**MOST ENGAGEMENTS RECEIVED** (Total likes, comments, and shares)
	CONTENT		
Content type	Informational		**X**
	Yes		**X**
	No	**X**	
	Entertainment	**X**	
	Yes		**X**
	No	**X**	
	Promotional		
	Yes		
	No	**X**	**X**
	Social		
	Yes		
	No	**X**	**X**
	Remunerative		
	Yes		
	No	**X**	**X**
	DESIGN		
Vividness	Low (Texts and links)		
	Medium (Photos)	**X**	
	High (Videos)		**X**
Interactivity	None (Texts)	**X**	**X**
	Low (Links)		
	Medium (Call-to-action)		
	High (Questions)		
	FLUENCY		
Post length	0-140		
	141-280	**X**	
	281-560		
	561-1120		

	1121+		X
Number of # hashtags	0		
	1-2	X	X
	3-5		
Tagging people or organisations	Yes		
	No	X	X
FORMAT			
Media type	Photo		
	Yes	X	
	No		X
	Link		
	Yes		
	No	X	X
	Text	X	
	Yes	X	X
	No		
	Video		X
	Yes		X
	No	X	
MOMENT OF PARTICIPATION			
Post days	Monday		
	Tuesday		
	Wednesday		
	Thursday		X
	Friday	X	
	Saturday		
	Sunday		
Time of week	Weekdays	X	
	Weekends		X
Post times	Mornings		
	Afternoons	X	
	Evenings		X
LIVE CONTENT			
Real-time updates and live content	Yes		X
	No	X	
CALL-TO-ACTION			
Call-to-action	Yes		
	No	X	X
COVID-19			
COVID-19 update	Yes		X
	No	X	
VIRTUAL RACE			
Virtual race update	Yes		
	No	X	X

Source: Author’s own compilation (own data)

The following subsection focuses on the second secondary research objective.

9.3.1.2. SO2: Analyse the different levels of online engagement achieved by sports events

Table 9.3 provides an overview of the findings relating to the different levels of online engagement achieved by the sports events Facebook posts.

Table 9.3: Reflections on secondary research objective 2

SECONDARY RESEARCH OBJECTIVE 2. Analyse the different levels of online engagement achieved.	
The second secondary research objective was to discover how stakeholders engage with the current social media post compositions of sports events. The following sub-tertiary objective was formulated to help provide the answer:	
TERTIARY RESEARCH OBJECTIVE 2.1 Determine how engaged stakeholders are through the social media platform Facebook.	
Statistical method	This objective was to determine stakeholders' preferred method to engage with sports event social media posts and to measure each sports event's stakeholder engagement index. This tertiary objective was met using descriptive statistical analyses using frequency tables and means, and the formula developed by Bonsón and Ratkai (2013) and Bonsón, Royo and Ratkai's (2015) to calculate the stakeholder engagement rate for each sports event.
Main findings	Of all the posts collected, all were liked (100%), 90% were shared, and 87% received comments (Table 7.3). The highest level of participation in Facebook is achieved through popularity measures (number of likes), followed by virality (number of shares), and then commitment (number of comments), representing the lowest level of participation. The stakeholder engagement index levels differed considerably across the various sports events, ranging from a minimum score of 1.66 for the TCS New York City Marathon and a maximum of 7.79 for the Berlin Marathon (Section 7.3.1.2, Table 7.2 and 7.3 and Figure 7.5.).

Berlin Marathon	7.79	Schneider Electric Marathon De Paris	3.78	Comrades Marathon	2.10
London Marathon	7.22	Cape Town Marathon	3.56	Blackmores Sydney Running Festival	1.86

Om Die Dam Marathon	6.53	Two Oceans Marathon	2.94	TCS New York City Marathon	1.66
TCS Amsterdam Marathon	5.71	Boston Marathon	2.27		
Bank Of America Chicago Marathon	4.50	Toronto Waterfront Marathon	2.21		

Conclusions

The ‘like’ is the most used interaction by stakeholders, as it does not involve much effort or time. Stakeholders ‘share’ many posts, which indicates that they like the sports event and wants to share the information among their respective Facebook friends. Commenting occurs less frequently as it requires the most effort and time. Four sports event Facebook posts achieved a high stakeholder engagement index score of above five. Three sports event Facebook posts achieved a stakeholder engagement index score higher than three but below five. Four sports event Facebook posts achieved a stakeholder engagement index score of above two but below three. Two sports event Facebook posts achieved a relatively low stakeholder engagement index score of below two.

Recommendations

Sports events should increasingly attempt to post impactful content that are worth sharing, to increase the viral effect of the information. As the information is circulated not only among sports event followers, but also among their friends, the possibility to increase the audience of the sports event grows. Sports events should increasingly attempt to maintain direct contact with their stakeholders via the conversations in the various Facebook posts to ensure stakeholders feel welcome, heard, and empowered. When considering the large difference in stakeholder engagement index scores, sports events can better their efforts on social media to ensure their stakeholders are being engaged optimally. Each sports event should look at their Facebook analytics and adjust their posting compositions accordingly.

The following subsection focuses on the third secondary research objective.

9.3.1.3. SO3: Identify the main social media post characteristics that lead to stakeholder engagement

To answer tertiary research objective 3.1, various research hypotheses were developed and tested. Therefore, the first subsection will focus on whether the research hypotheses were supported or not, and after that, conclusions and recommendations are offered for the tertiary research objective.

9.3.1.3.1. Summary of results relating to tested hypotheses

The following overarching research hypotheses (RH) and their associated statistical hypotheses were developed to achieve tertiary objective 3.1, regarding which social media post characteristics can influence the engagement rate of stakeholders. Table 9.4 provides an overview of the findings relating to the tested hypotheses and whether they are supported or not supported. Out of the 21 hypotheses statistically tested, 14 were rejected, and seven were not rejected. The hypotheses were tested using multiple linear regression analysis. Results from the empirical testing are used to either accept or reject the hypotheses set out in Table 9.4.

Table 9.4: Reflections on hypotheses results

RESEARCH AND STATISTICAL HYPOTHESES		SUPPORTED/ NOT SUPPORTED AND REJECTED OR NOT REJECTED
RH 1: The *moment of participation* of sports events' Facebook posts influences the engagement rate of their stakeholders.		**Not supported**
$RH1a_1$	The *month of the year* a social media post is posted has a relationship with the engagement rate of stakeholders.	Not supported
$H1a_{1a}$	The month of the year, *09/2019* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1b}$	The month of the year, *10/2019* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1a_{1c}$	The month of the year, *11/2019* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1d}$	The month of the year, *12/2019* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1e}$	The month of the year, *01/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1f}$	The month of the year, *02/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1g}$	The month of the year, *03/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected

$H1a_{1h}$	The month of the year, *04/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1i}$	The month of the year, *05/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1j}$	The month of the year, *06/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1k}$	The month of the year, *07/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1a_{1l}$	The month of the year, *08/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1m}$	The month of the year, *09/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1a_{1n}$	The month of the year, *10/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1a_{1o}$	The month of the year, *11/2020* in reference to *08/2019*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$RH1b_1$	The *day of the week* a social media post is posted has a relationship with the engagement rate of stakeholders.	Not supported
$H1b_{1a}$:	The day of the week, *Tuesdays* in reference to *Mondays*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1b_{1b}$:	The day of the week, *Wednesdays* in reference to *Mondays*, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected

$H1b_{1c}$:	The day of the week, *Thursdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1b_{1d}$:	The day of the week, *Fridays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H1b_{1e}$:	The day of the week, *Saturdays* in reference to *Mondays,* a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1b_{1f}$:	The day of the week, Sundays in reference to Mondays, a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$RH1c_1$	The *time of day* a social media post is posted has a relationship with the engagement rate of stakeholders.	Supported
$H1c_{1a}$	The time of day, *mornings* in reference to *evenings,* a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H1c_{1b}$	The time of day, *afternoons* in reference to *evenings,* a social media post is posted has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
RH 2: The design of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Not supported**
$RH2a_1$	The social media posts' *vividness level* has a relationship with the engagement rate of stakeholders.	Not supported
$H2a_{1a}$	The social media posts' vividness level, *high* in reference to *low*, has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$RH2b_1$	The social media posts' *level of interactivity* has a relationship with the engagement rate of stakeholders.	Not supported

$H2b_{1a}$	The social media posts' level of interactivity, *low* in reference to *none*, has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H2b_{1b}$	The social media posts' level of interactivity, *medium* in reference to *none*, has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H2b_{1c}$	The social media posts' level of interactivity, *high* in reference to *none*, has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
RH 3: The *fluency* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Not supported**
$H3a_1$	The *length* of a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H3b_1$	The *total number of hashtags* used in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H3c_1$	*Tagging people or organisations* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
RH 4: The *format* of the content of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Not supported**
$H4a_1$	The use of *photos* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
$H4b_1$	The use of *external links* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H4c_1$	The use of *text* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H4d_1$	The use of *videos* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected

RH 5: *Live content* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Supported**
$H5_1$	Using *live content* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
RH 6: The existence of a *call-to-action* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Supported**
$H6_1$	The inclusion of a *call-to-action* phrase in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
RH 7: *COVID-19 updates* in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Not supported**
$H7_1$	A *COVID-19 update* in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis not rejected
RH 8: *Virtual race* content in sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Supported**
$H8_1$	*Virtual race* content in a social media post has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
RH 9: The *content type* of sports events' Facebook posts has a relationship with the engagement rate of their stakeholders.		**Supported**
$H9a_1$	A social media post sharing *informational content* has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H9b_1$	A social media post sharing *entertainment content* has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected

$H9c_1$	A social media post sharing *promotional content* has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H9d_1$	A social media post sharing *social content* has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected
$H9e_1$	A social media post sharing *remunerative content* has a relationship with the engagement rate of stakeholders.	Null hypothesis rejected

Source: Author's own compilation

The results reported in Table 9.4 provide the outcome of tertiary research objective 3.1, addressed in the following subsection.

9.3.1.4. Addressing secondary research objective 3

Table 9.5 provides an overview of the findings relating to the social media post characteristics that lead to higher stakeholder engagement.

Table 9.5: Reflections on secondary research objective 3

SECONDARY RESEARCH OBJECTIVE	
3. Identify the main social media post characteristics that lead to higher stakeholder engagement.	
The third secondary research objective was to discover the main social media post characteristics that led to increased stakeholder engagement. The following tertiary objective was formulated to help answer this.	
TERTIARY RESEARCH OBJECTIVE	
3.1 Test whether the various characteristics influences the engagement rate of stakeholders.	
Statistical method	The objective was to determine which social media post characteristics influence the stakeholder engagement rate positively or negatively. This tertiary objective was met by testing whether there is a relationship between the various social media post characteristics and the stakeholder engagement rate in RH1 to RH9 employing a multiple linear regression analysis.
Main findings	The following independent variables were found to be statistically significantly associated with the stakeholder engagement index, in the multiple linear regression model, for all sports events (Section 8.5.1, Table 8.7):

NEGATIVE	POSITIVE
• Moment of participation ○ Time of day - Mornings and afternoons ○ Month of the year ○ Day of the week – Saturday • Fluency ○ Total number of hashtags • Design ○ Level of interactivity - High • Format ○ Link	• Content ○ Social ○ Promotional ○ Informational ○ Entertainment ○ Remunerative • Virtual race • Live content

- Text
- Call-to-action

Conclusions	All types of content posted, namely, social, informational, promotional, entertainment and remunerative, positively impacted the rate of engagement. Posts containing information regarding virtual race sports events positively impacted stakeholders' engagement rates, as were sports events posting live content or real-time updates. All three participation variables, time of day, day of week and month of the year, were statistically significant and had a negative impact on the stakeholder engagement index. The stakeholder engagement index is lower for postings during mornings and afternoons as opposed to postings in evenings. The stakeholder engagement index is lower for postings on Saturdays as opposed to postings on Mondays. Most of the months of the year were statistically significant and had a negative impact on the engagement rate opposed to postings during the month of August 2019. The only fluency variable that tested significantly was the number of hashtags sports events included in their social media posts, which had a negative impact on the stakeholder engagement index when hashtags were excluded. The length of the post, tagging a person or organisation, and vividness design variable did not impact stakeholder engagement rate significantly. However, a higher level of interactivity included in a social media post, negatively impacts how stakeholders engage with a post. Format variables, text and external links, negatively impacted stakeholder engagement as opposed to postings containing videos. The inclusion of call-to-action phrases negatively impacts how stakeholders engage. Posts containing information regarding virtual races or included live content, positively impacted the stakeholders' rate of engagement. The type of content sports events shares with stakeholders impacts stakeholders' engagement positively.
Recommendations	Sports events should focus on the content types they provide for their stakeholders and include a wide variety of content, from social to informative. Each sports event should determine which content type works best for them and ensure a higher concentration of posts with these types of content. Virtual races were offered as a 'no alternative' option during the COVID-19 pandemic. However, even as the situation begins to normalise, virtual race events offer an excellent method of including a wider audience and could continue and be included with actual physical sports events, thereby

building on, and not discarding previous efforts in this area. In general, sports events should investigate alternative ways to circumvent external force majeure events and utilise their social media accordingly. Live content and real-time updates should be included more often on the sports events' social media platforms.

Sports events can focus on when (time-frame) they post messages on social media, as certain days of the week (Saturdays), times during the day (morning and afternoons) and months of the year can have a negative impact on the rate stakeholders engage with posts. Deciding on which day of the week to post is not as important as no day was statistically significant in influencing stakeholder engagement rates, except Saturdays which negatively impacted stakeholder engagement as opposed to postings on Mondays. The stakeholder engagement index is lower for posts posted during mornings and afternoons than for postings in the evenings, therefore sports events could post more during evenings. However, each sports event should determine these times for themselves and use them to fit their communication objectives. The number of hashtags can influence the fluency of the social media post and can negatively impact the rate stakeholders engage with posts. The number of hashtags to include in a post should be carefully considered, and the term 'less is more' is applicable. Therefore, sports events should use only one or two appropriate hashtags for each post. Purposefully designing social media posts to encourage stakeholder engagement at different levels is important but events should avoid posts containing high interactivity levels such as asking questions, which reduce engagement. Carefully consideration is required when deciding to include external links and call-to-action phrases, as they demonstrated lower stakeholder engagement rates. The stakeholder engagement rates are lower for posts containing external links and text, than for posts containing videos. Therefore, sports events should make more use of videos. The stakeholder engagement index is lower for posts containing call-to-action phrases and therefore, carefully consideration is required before including call-to-action phrases that invite specific actions from stakeholders such as register, click the link, join, etc., as it leads to lower stakeholder engagement rates.

The following subsection focuses on the fourth and final secondary research objective.

9.3.1.5. <u>SO4: Categorise social media post characteristics based on significance and engagement levels</u>

Table 9.6 provides an overview of the findings relating to categorising social media post characteristics, using a decision tree approach to predict stakeholder engagement levels.

Table 9.6: Reflections on secondary research objective 4

SECONDARY RESEARCH OBJECTIVE 4. Categorise social media post characteristics based on engagement levels.	
The fourth secondary research objective was to categorise the main social media post characteristics that lead to increased stakeholder engagement. After the competition of the multiple linear regression modelling, the CHAID decision tree modelling technique was used to ascertain the determinants for stakeholder engagement rates of sports event posts. In addition to establishing the determinants of the stakeholder engagement index, this technique also classifies social media post categories into specific groups, according to statistically significant determinants that predict the dependent variable, thus, creating a better understanding of the influence of the independent variables on the stakeholder engagement index. The CHAID analysis, therefore, provides further insight and usability of the results that is not possible with multiple linear regression analysis alone. The following tertiary objective was formulated to answer this.	
TERTIARY RESEARCH OBJECTIVE 4.1 Identify which social media post characteristics significantly partition the total data set in relation to the stakeholder engagement rate.	
Statistical method	The objective was to identify the social media post characteristics that significantly partitioned the total data set in relation to the stakeholder engagement rate using a CHAID analysis. CHAID is a decision tree methodology which was applied to classify social media posts and predict the stakeholder engagement rate (Surucu-Balci, Balci and Yuen, 2020).
Main findings	The following independent variables were found to partition the total data set statistically significantly in relation to the stakeholder engagement rate in the CHAID model for all sports events (Section 8.5.1; Table 8.8):

- Moment of participation
    - Time of day
    - Month of the year
    - Day of the week
- Fluency
    - Post length total
    - Tagging people or organisations
    - Total number of hashtags
- Design
    - Level of interactivity
    - Vividness level
- Format
    - Link
    - Photo
    - Video
- Content
    - Social
    - Promotional
    - Informational
    - Entertainment
- Call-to-action
- Virtual race

The following independent variables were found to partition the total data set of *small audience size sports events* statistically significantly in relation to the stakeholder engagement rate in the CHAID model for small sports events (Section 8.5.3, Table 8.11):

- Moment of participation
    - Time of day
    - Month of the year
- Fluency
    - Total number of hashtags
- Format
    - Link
- Content
    - Social
    - Promotional
    - Informational
    - Entertainment
- Virtual race

The following independent variables were found to partition the total data set of *medium audience size sports events* statistically significantly in relation to the stakeholder engagement rate in the CHAID model for medium sports events (Section 8.5.3, Table 8.14):

- Moment of participation
    - Month of the year
- Fluency
    - Total number of hashtags
- Design
    - Level of interactivity
- Format
    - Link
- Content
    - Social
- Call-to-action

The following independent variables were found to partition the total data set of *large audience size sports events* statistically significantly in relation to the stakeholder engagement rate in the CHAID model for large sports events (Section 8.5.3, Table 8.17):

- Moment of participation
    - Month of the year
- Design
    - Level of interactivity
- Content

	• Call-to-action • Format ○ Link ○ Information ○ Social
Conclusions	According to the CHAID results, the above-mentioned social media post characteristics were ascertained to be determinants of stakeholder engagement. A total of 17 of 21 independent variables were statistically significant for all sports events, namely, time of day, month of the year, call-to-action, tagging people or organisations, interactivity, social content, promotional content, number of hashtags total, informational content, link, photo, day of the week, video, entertainment content, post length total, virtual race, vividness. The results show the 'best' determinants based on the independent variables with the strongest association with the stakeholder engagement index, and their effect on the stakeholder engagement index. This finds that time of day as the best determinant of stakeholder engagement overall, and for small sports events, with postings in the evenings having a higher stakeholder engagement index than postings in the mornings and afternoons. The month of the year is the best determinants of stakeholder engagement for medium and large sports events, with postings a month before and during the scheduled sports event, having a higher stakeholder engagement index than posts posted during other months of the year.
Recommendations	Additional identified characteristics suggest that sports events should consider the length of posts, as stakeholders tend to engage more with longer posts (>214), which possibly provide more information. Each sports event, however, must investigate what the ideal length of their social media communications are. Sports events can tag people or organisations in their posts to reach a wider audience and increase engagement. Sports events can enhance their social media posts by increasing the level of vividness with more photos and videos.

9.3.2. ADDRESSING THE PRIMARY RESEARCH OBJECTIVE

Table 9.7 provides an overview of the findings relating to the primary research objective of determining compositions of social media posting characteristics that lead to higher stakeholder engagement.

Table 9.7: Reflections on the primary research objective

PRIMARY OBJECTIVE	
Determine the compositions of social media posting characteristics that would lead to higher stakeholder engagement.	
Not one but four decision trees of social media posting compositions were developed. A decision tree was developed for sports events in the sample as a whole and three additional decision trees developed for the three Facebook audience sizes, *small*, *medium* and *large*.	
Findings and compositions	A total of 17 variables were found to be statistically significant across all events. Time of Day, Month of the Year, Call-to-Action, Tagging people or organisations, Interactivity, Social, Promotional, Number of Hashtags, Informational, Link, Photo, Day of the week, Video, Entertainment, Post length, Virtual Race and Vividness. The results indicate that the best possible composition for *all sporting events* is to post in the evenings, using external links in the month before and during the actual or virtual event. The next best composition is to post in the evenings using external links in the month before during and after the actual or virtual event, and to exclude informational content or tags. Another composition is for social media posts to be posted in the afternoons with a low interactivity level (links), in the month before and during the actual or virtual event. (Section 8.5.1, Figure 8.29 and Figure 8.30) A total of 9 variables were found to be statistically significant for *small sports events*. Time of Day, Month of the Year, Informational, Number of Hashtags, Social, Link, Virtual Race, Promotional and Entertainment. The results indicate that the best possible composition for small sporting events is to post content other that just informational content in the month before, during and after events in the afternoon hours. The next best composition is to post in the evenings and include external links in the posts. Another composition is to post in the afternoons in the months directly before, during, and after the actual sports event is scheduled to take place. (Section 8.5.2.1, Figure 8.40 and Figure 8.41)

A total of 6 variables were found to be statistically significant for *medium sports events*. Month, Call-to-Action, Number of Hashtags, Social, Link and Interactivity. For medium sports events, the results indicate that the best possible composition is to post in the months (1-3 months) leading up to the event and the month of the event, with either no, or only one hashtag, and excludes social content. The next best composition is to post during the month of the actual or virtual event. Another composition is to post throughout other months of the year with no or only one hashtag. (Section 8.5.2.2, Figure 8.46)

A total of 6 variables were found to be statistically significant for *large sports events*. Month, Call-to-Action, Informational content, Link, Interactivity, Social. The results indicate that the best possible composition for large sporting events is to post in the month leading up to the event, with informational content regarding the organisation and event itself. The next best composition is to post during the month leading up to the event. Another composition is to post in the month before and during the actual or virtual event with posts excluding informational content on the organisation or the event. (Section 8.5.2.3, Figure 8.53:)

Conclusions

The results of splitting of the sample of sports events into three groups of audience size, small, medium and large, indicate the various statistically significant variables are different and the trees are smaller with fewer statistically significant independent variables, and there are differences for the various audience sizes.

Small sports events' three best post compositions that lead to higher stakeholder engagement are postings, firstly in the evenings and then afternoons, in the month directly before and after the actual event and the month during the scheduled event. During these times, stakeholders engage more with posts that do not include informational content and include external links.

Medium sports events' post compositions that lead to higher stakeholder engagement is posting in the three months leading up to the event and the month of the event, using either no, or only one hashtag, and excluding social content. Postings during the month of the physical or virtual event receive the second highest stakeholder engagement.

	Large sports events' best post composition that leads to higher stakeholder engagement indicate that their content strategies should change from month to month as stakeholders seek informational content regarding the organisation and the event during the month before the event. During other months stakeholders are looking for other types of content.
Recommendations	For optimal results, a social media stakeholder engagement post composition needs to be developed for each sports event size based on the unique stakeholder engagement behaviours. Each sports event needs an in-depth analysis and assessment of their social media platform to develop a posting composition plan, which is adaptive during the months of the year. As the sport event comes closer, the post compositions used will likely change. However, no matter the size of the sports events, it is evident that the moment of participation variable, time of day and month of year are the best determinants of stakeholder engagement, and all sporting events should increase their posts in the evenings, especially during the months before and during the actual or virtual event.

In Table 9.7, the primary research objective is addressed, and conclusions and recommendations indicated. Through the primary objective outcomes, the research question is answered.

9.3.3. ANSWERING THE RESEARCH QUESTION

The research study is encapsulated in the overarching research question, namely:

How should sports event organisations compose social media posts on the platform Facebook to optimally engage their stakeholders?

Section 9.3.1 and 9.3.2 cover how sports event organisations currently utilise the social media platform Facebook and how stakeholders engage with their social media postings. The best social media post characteristics, with the highest associated stakeholder engagement rates are determined and categorised. However, the focus of the research question is for sports event organisations to determine the optimal compositions for stakeholder engagement on Facebook. Taking Table 9.7 into consideration, the following social media post characteristics, listed in Table 9.8, were statistically significant in influencing engagements received on sports event organisations' Facebook social media postings.

Table 9.8: Social media posts characteristics found to significantly influence stakeholder engagement

VARIABLE	CHARACTERISTIC	SIGNIFICANTLY INFLUENCE STAKEHOLDER ENGAGEMENT	
		YES	NO
MOMENT OF PARTICIPATION	Month of the year	X	
	Day of the week	X	
	Time of day	X	
FLUENCY	Post length	X	
	Number of total hashtags	X	
	Tagging people or organisations	X	
DESIGN	Level of interactivity	X	
	Vividness level	X	
FORMAT	Photo	X	
	Text		X
	Link	X	
	Video	X	
CONTENT	Information	X	
	Entertainment	X	
	Promotion	X	
	Social	X	
	Remuneration		X
CALL-TO-ACTION	Call-to-action	X	
VIRTUAL EVENT	Virtual event	X	
COVID-19	COVID-19		X
LIVE CONTENT	Live content		X

This section concludes the findings of this study. In the following sections the contribution to knowledge, study limitations, and recommendations for possible future research focus areas, is considered.

9.4 CONTRIBUTION TO KNOWLEDGE

Sports organisations are seeking ways to effectively make use of social media. By not having a well-planned and consistent strategy for managing social media, organisations have difficulties managing social media strategically and engaging with numerous stakeholders effectively. Adding to the difficulties, not all social media posts generate the same amount of engagement. As there is a lack of scientifically driven knowledge on how a social media post should be structured and presented to engage stakeholders optimally and the need to investigate the issue in-depth, was identified. By conducting a cross-sectional quantitative content analysis of social media Facebook posts of 13 international recurring participative marathon and ultramarathon sports events for the characteristics that influence the rate of the stakeholder engagement, a modest contribution to the body of knowledge has been made. This study provides valuable insights into the research area, methods used, and existing and trending issues.

This research study contributes to the literature in the research area in several ways. Firstly, the study adds to stakeholder engagement information by examining social media as a stakeholder engagement channel. Stakeholder engagement is a process of several steps, including stakeholder map, engagement model, stakeholder issues, risks and opportunities, and action plan. This study provides insights into the engagement model step in the stakeholder engagement process. Specifically, the results of this study indicate how social media post content could be structured and designed to improve stakeholder engagement.

This research study expands the literature on stakeholder engagement in the sports industry, specifically for marathons and ultramarathons. Within the sports industry as a whole, events are varied and diverse, and social media presents several benefits for stakeholder engagement. There is minimal information available regarding how a social media post should be structured and presented to engage stakeholders optimally, especially in a sports event context. While the findings of this study cannot be extrapolated to all types of recurring sports events, it can form a strong foundation for future research in these areas.

This research is among the first to employ a decision tree methodology to determine social media post classes based on the interaction between post characteristics and the stakeholder engagement rates achieved. Previous literature reviewed, identified the determinants of social media engagement rates by performing aggregated analyses of social media posts and derived generic conclusions. Investigating subgroups of social media posts refines the results, which enhances the perception of researchers and practitioners on social media stakeholders' behaviour, towards social media posts.

This research is also the first to examine social media stakeholder engagement post compositions in participation sports events and apply a decision tree analysis in participation sports events. The decision tree method CHAID has been used in a broad sports context, but has not been applied in participation sports events such as marathons and ultramarathons, nor in a social media stakeholder engagement of sports events context. The study can motivate sports event researchers, specifically in the recurring participation sports event area, to use the decision tree method for classification and prediction. This is essential considering the heterogeneous characteristics of participation sports events.

Another methodological contribution associated with applying the CHAID decision tree modelling technique is it is highly visual and easy to interpret (Bhardwaj, 2018; Surucu-Balci, Balci and Yuen, 2020). The CHAID outcomes ascertained the determinants, as did the regression analysis, however, the technique also determined which combinations of social media post characteristics led to the greatest stakeholder engagement, according to the determinants that statistically significantly predicted the dependent variable, i.e., the stakeholder engagement index. This enabled a better understanding of the influence of specific social media post characteristics' categories on the stakeholder engagement index. The CHAID analysis provides an additional level of insight and usability, which is not possible with regression analysis alone.

Another significant contribution of this study is assessing a large variety of determinants of stakeholder engagement in social media. A total of seventeen determinants were found to significantly influence the stakeholder engagement rate in the sample. Furthermore, live content, COVID-19 and virtual race were assessed for the first time as determinants of stakeholder engagement. Due to the changing nature of social media, future studies can identify more determinants of social media posts when stakeholder engagement rates are investigated.

This research also offers managerial implications for marathons and ultramarathons, and other participation sports events (Section 9.6.2). The study serves as a guideline for sports events to use social media as an effective channel for stakeholder engagement by assisting them in understanding the types of social media posts that engage stakeholders, thereby strengthening the relationship between sport event organisers and their stakeholders.

The following section will briefly discuss the limitations of this study.

9.5 LIMITATIONS OF THE STUDY

This research was conducted with due consideration of the requirements for quality and rigour in the research design and methodologies used in addressing the research objectives. However, this research brought inevitable limitations that need to be considered for their potential impact on the research findings.

- The study's findings cannot be generalised to the entire sports event sector as the focus was on recurring participation sports events, specifically marathons and ultramarathons.
- This research was conducted in a single context (cross-sectional); therefore, the study's results cannot necessarily be generalised to other contexts.
- There are many more marathons and ultramarathons in the world than the ones used in this study. Only those listed on Abbott World Marathon Majors, World Athletics (or the former IAAF) and the International Association of Ultrarunners (IAU) with platinum and gold label status were included in the study, which may be seen as a limitation.

- The results are limited to a single social media platform, namely, Facebook. The literature review of the determinants of stakeholder engagement shows some misalignments between certain findings because different social media platforms were investigated. Therefore, results are restricted to the Facebook platform and cannot be generalised to other social media platforms.
- The omission of other important stakeholder engagement determinant variables such as, the Facebook events feature, or the like emoji reactions.
- Data collection took place during the COVID-19 pandemic which impaired the hosting of physical sports events which ultimately impacted their social media messages and engagements, thereby influencing the results of this research study.

This section outlined some of the limitations experienced by the researcher in this study. Acknowledging any shortcomings in research is beneficial as it can provide possibilities for future research improvements and directions. Therefore, the next section will discuss possible future research directions.

9.6 RECOMMENDATIONS

In answering this study's research question and objectives, potential research areas for future research were identified, and suggestions for social media managers for sports events can be made.

9.6.1. RECOMMENDATIONS FOR FUTURE RESEARCH

During the development and conduct of this research study, each objective was achieved, and the research question was answered. However, as outlined below, further research is necessary in this area to progress to fruition. The following potential research areas for future research are identified:

- Further research to determine if there are any distinct differences or similarities between the following:
    - Small, medium and large sports events (in more detail)

- Recurring sports events and once-off sports events
- Different types of sports events
- Different social media platforms

- To determine whether social media posting characteristics, found to have a relationship with stakeholder engagement, could be applied to other types of sporting events. This can be done to determine which characteristics are only suitable to marathon type sports events and which are commonly shared by all participation sports events, recurring and once-off.
- A future study could receive more refined results if stakeholders are identified and segmented, and social media posts analysed according to specific stakeholders' needs.
- A study with a greater focus on the comparison between each individual sports events' compositions and stakeholder engagement.
- Social media platforms are ever-changing, and new features are added regularly. It is recommended that future research studies include additional social media post characteristics (including those omitted in this study) as it would be valuable to determine if these contribute to higher stakeholder engagement.
- A longitudinal study involving more sports events to get a holistic view of the post composition strategies followed and stakeholder engagement rate outcomes from year to year.
- Qualitative content analysis can be done to identify the social media posting themes that are more applicable to sporting events and look at the content of a social media post more in-depth.
- More research, both qualitative and quantitative, should be undertaken to understand why stakeholders engage or do not engage with specific social media posts.
- The CHAID decision tree in this study can be tested with Structural Equation Modelling (SEM).
- A qualitative research design could include interviews with sports events organising committees regarding their social media post compositions; what they entail and how they are implemented.

- It is suggested that the study be repeated when sport events have fully normalised to assess possible similarities and differences the COVID-19 pandemic had on engagements.

The above discussion made specific recommendations for future research endeavours. The final section of this study focuses on summarising recommendations made to sports event organising committees before concluding the research study.

9.6.2 RECOMMENDATIONS FOR SPORTS EVENTS

This study has managerial implications for marathons and ultramarathons as well as for other participation sports events. The literature review reveals the many advantages social media offers organisations, including sports event organisations (Section 5.2.3). However, for these benefits to be realised, the organisation's stakeholders must be successfully engaged. It is therefore crucial for sports events to effectively manage their social media posts. This research assists in understanding the types of social media posts that engage stakeholders and using the Facebook social media channel more effectively.

The results suggest that sports events lack a social media post composition strategy as utilisation of the social media platform Facebook is not aligned with achieving the highest stakeholder engagement possible. There are good reasons for sport events, with a presence on social media, to appoint a social media manager and adopt a social media posting strategy that ensures the social media platform is optimally used and stakeholders are engaged thoroughly. This would involve using the social media analytics provided by Facebook, and the progress on the post composition strategies implemented can be tested, and the social media action plan can be adjusted accordingly.

9.7 RESEARCH CONCLUSION

The rationale for choosing the current research topic was two-fold. Firstly, to develop theory on how stakeholders are engaged through the social media platform, Facebook, within a sports event context and secondly, to contribute to practical, relevant research by gathering data from the social media platform Facebook, that led to greater stakeholder engagement. This research set out to expand the body of knowledge about social media practices in the stakeholder engagement process in general. It made a modest contribution to the frontiers of sports event social media managers' activity in an international context. This research fell within the not-for-profit sports event sector. A quantitative research approach was used to investigate whether social media post characteristics have a relationship with stakeholder engagement and identified social media post characteristics that lead to greater online engagement by sports event stakeholders. This research confirmed a relationship between the social media post characteristics and stakeholder engagement. The results demonstrate that social media posts of sports events have varying effects on the stakeholder engagement level. The CHAID analysis demonstrated that a total of seven variables and 17 characteristics of Facebook posts, significantly influences the engagement rate of stakeholders, and found that the moment of participation (month of the year, day of the week, time of day), fluency of Facebook posts (post length, number of total hashtags, tagging people or organisations), the design of the Facebook post (level of interactivity and vividness level), the format used in a Facebook post (photos, external links, videos), the content type used in a Facebook post (informational, promotional, social, entertainment), the existence of a call-to-action and the mention of a virtual event, significantly influences the sports events' stakeholder engagement rate. It is clear that this research study's primary, secondary, and tertiary objectives are met.

Figure 9.3 depicts the research conducted from Chapters 1 to 9.

Figure 9.3: Summary of the research conducted in this study

RESEARCH QUESTION

How should sport event organisations compose social media posts on the platform Facebook to optimally engage stakeholders?

PRIMARY OBJECTIVE

Determine the composition of social media posting characteristics that would lead to higher stakeholder engagement

1. Describe the current utilisation of social media by sports events	2. Analyse the different levels of online engagement achieved	3. Identify the main social media post characteristics that leads to higher stakeholder engagement	4. Categorise social media post characteristics based on engagement levels

THEORETICAL FRAMEWORK

Sports Events	Stakeholders	Social Media	Digital Stakeholder Engagement

RESEARCH CONTEXT

Recurring participative sports events context (Marathons and Ultramarathons)

RESEARCH DESIGN

A formal study using a quantitative research design.

DATA COLLECTION

Archival / Documentary research - Secondary data - Facebook posts

DATA ANALYSIS

Quantitative content analysis

Descriptive analysis - frequency tables

Inferential analysis - Chi Squared Automatic Interaction Detection (CHAID)

FINDINGS IN TERMS OF RESEARCH OBJECTIVES

RESEARCH QUESTION	PRIMARY OBJECTIVE	SECONDARY OBJECTIVES			
How should sport event organisations compose social media posts on the platform Facebook to optimally engage stakeholders?	What social media posting compositions would lead to higher stakeholder engagement.	How do sports events currently utilise social media?	What are the different levels of online engagement achieved?	Which social media post characteristics lead to higher stakeholder engagement?	How can social media post characteristics be categorised based on significance and engagement levels?
Various social media posting compositions exists for small, medium and large sports events to optimally engage their stakeholders.	Various compositions exists, however the best possible composition for all sporting events is to post in the evenings, using external links during the month before and of the actual or virtual event.	Sports events posts during mornings, containing content which requires no interactivity, with medium vividness. Makes use of text mostly, keeping it reletavely short, including 1 to 2 hashtags and do not include tags. And makes mostly use of entertainment content and very little use of live content, call-to-action phrases, Coronavirus and virtual race updates.	Stakeholders of sports events' engage with social media posts firstly through liking (popularity), then sharing (virality) and lastly commenting (commitment).	Social media post characteristics that positively influences stakeholder engagement is all content types, mention of virtual race and sharing live content.	Moment of participation characteristics are most important in influencing stakeholder engagement achieved, together with the format variable link characteristic. Types of content and fluency characteristics are less important.

Source: Author's own compilation

9.8 CHAPTER SUMMARY

Chapter 9 served as the concluding chapter of this study representing the closing of the research circle. This chapter's purpose was to summarise and provide an overarching conclusion to the study. This chapter commenced with an overview of the research, recapitulating the primary, secondary and tertiary objectives. The findings were then summarised by providing reflections, conclusions, and recommendations for each secondary research objective together with their corresponding tertiary research objectives. The primary research objective, namely, the determination of social media post composition characteristics leading to higher stakeholder engagement as well as the research question, namely, "How should sports event organisations compose social media posts on the platform Facebook to optimally engage stakeholders?" was also addressed. This chapter concludes with a reflection on the contribution made, an indication of the limitations of this study, and recommendations for future research possibilities and sports events. Lastly, an overarching research conclusion ends this research thesis. What is certain is there is a need for an integrated strategy in the management of social media for sports events as sports events' current utilisation of the social media platform has considerable room for improvement.

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APPENDIX A

ETHICAL CLEARANCE CERTIFICATE

COLLEGE OF ECONOMIC AND MANAGEMENT SCIENCE RESEARCH ETHICS REVIEW COMMITTEE

Date: 24 April 2019

NHREC Registration # : (if applicable)
ERC Reference # : 2019_CRERC_022(SD)
Name : Ms. Adele van Lille
Staff #: 90180445

Dear Ms Adele van Lille

Decision: Ethics Approval from 2019 to 2021

Researcher(s): Ms Adele van Lille, vlilla@unisa.ac.za , (012)429 4599
Department of Business Management
College of Economic and Management Sciences

"Social media usage to build relationships for ultramarathons: A stakeholder viewpoint."

Qualification:

Thank you for the application for research ethics clearance by the Unisa College of Economic and Management Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for 2 years (**24 April 2019 until 23 April 2021**).

*The **low risk application** was **reviewed** by the College of Economic and Management Sciences Research Ethics Review Committee on **24 April 2019** 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.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Economic and Management Sciences Research Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.

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Open Rubric

4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date (**23 April 2021**). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.
8. Permission is to be obtained from the university from which the participants are to be drawn (the Unisa Senate Research, Innovation and Higher Degrees Committee) to ensure that the relevant authorities are aware of the scope of the research, and all conditions and procedures regarding access to staff/students for research purposes that may be required by the institution must be met.
9. If further counselling is required in some cases, the participants will be referred to appropriate support services.

Note:

*The reference number **2019_CRERC_022 (SD)** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Mutezo

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APPENDIX B

PROFESSIONAL EDITING CERTIFICATE

Language and Academic Editing Certificate

For

ADELE VAN LILLE

For the study

STRATEGIES FOR SOCIAL MEDIA STAKEHOLDER ENGAGEMENT OF PARTICIPATION SPORTS EVENTS: A CHAID DECISION TREE APPROACH

for the Degree:

DOCTOR OF PHILOSOPHY

in

Business Management

This is to verify that the above thesis was edited by Dr E.M. Solomon

____

Dr E.M. Solomon

27th March 2022

APPENDIX C

SAMPLE FRAME

ABBOTT WORLD MARATHON MAJORS

DATE	LABEL	NAME	VENUE	COUNTRY
1 March 2020	World Major	Tokyo Marathon	Tokyo	Japan
20 April 2020/ Postponed to 14 September 2020	World Major	Boston Marathon	Boston	United States of America
26 April 202/ postponed to 4 October 2020	World Major	Virgin Money London Marathon	London	United Kingdom
27 September 2020	World Major	BMW Berlin Marathon	Berlin	Germany
11 October 2020	World Major	Bank of America Chicago Marathon	Chicago	United States of America
1 November 2020	World Major	TCS New York City Marathon	New York City	United States of America

Source: Adapted from (Abbott World Marathon Majors, 2020)

IAAF/WORLD ATHLETICS PLATINUM LABEL ROAD RACES

DATE	LABEL	NAME	VENUE	COUNTRY
01 March 2020	Platinum Label Road Races	Tokyo Marathon	Tokyo	Japan
08 March 2020	Platinum Label Road Races	Nagoya Women's Marathon	Nagoya	Japan
22 March 2020	Platinum Label Road Races	Seoul Marathon - 2020 cancelled	Seoul	South Korea
20 April 2020	Platinum Label Road Races	B.A.A. Boston Marathon - 2020 cancelled	Boston	United States of America
26 July 2020	Platinum Label Road Races	media maratón de Bogotá - 2020 cancelled	Bogotá	Colombia

DATE	LABEL	NAME	VENUE	COUNTRY
27 September 2020	Platinum Label Road Races	BMW Berlin-Marathon - 2020 cancelled	Berlin	Germany
04 October 2020	Platinum Label Road Races	Virgin Money London Marathon	London	United Kingdom
11 October 2020	Platinum Label Road Races	Bank of America Chicago Marathon - 2020 cancelled	Chicago	United States of America
18 October 2020	Platinum Label Road Races	TCS Amsterdam Marathon - 2020 cancelled	Amsterdam	Netherland
01 November 2020	Platinum Label Road Races	TCS New York City Marathon - 2020 cancelled	New York	United States of America
29 November 2020	Platinum Label Road Races	Shanghai International Marathon	Shanghai	China
06 December 2020	Platinum Label Road Races	Maratón Valencia Trinidad Alfonso EDP	Valencia	Spain

Source: (World Athletics, 2019)

<u>IAAF/WORLD ATHLETICS GOLD LABEL ROAD RACES</u>

DATE	LABEL	NAME	VENUE	COUNTRY
05 January 2020	Gold Label Road Race	Xiamen Marathon	Xiamen	China
12 January 2020	Gold Label Road Race	10K Valencia Ibercaja	Valencia	Spain
19 January 2020	Gold Label Road Race	Aramco Houston Half Marathon	Houston	United States of America
19 January 2020	Gold Label Road Race	Chevron Houston Marathon	Houston	United States of America
19 January 2020	Gold Label Road Race	Tata Mumbai Marathon	Mumbai	India
24 January 2020	Gold Label Road Race	Standard Chartered Dubai Marathon	Dubai	United Arab Emirates
26 January 2020	Gold Label Road Race	Osaka Women's Marathon	Osaka	Japan
09 February 2020	Gold Label Road Race	Standard Chartered Hong Kong Marathon - 2020 cancelled	Hong Kong	Hong Kong
16 February 2020	Gold Label Road Race	eDreams Mitja Marató de Barcelona	Barcelona	Spain

DATE	LABEL	NAME	VENUE	COUNTRY
16 February 2020	Gold Label Road Race	XXXIV Medio Maratón Internacional Guadalajara Electrolit	Guadalajara	Mexico
21 February 2020	Gold Label Road Race	Ras Al Khaimah Half Marathon	Ras Al Khaimah	United Arab Emirates
23 February 2020	Gold Label Road Race	Zurich Maratón de Sevilla	Sevilla	Spain
08 March 2020	Gold Label Road Race	The 75th Lake Biwa Mainichi Marathon	Otsu	Japan
08 March 2020	Gold Label Road Race	Huawei RomaOstia Half Marathon - 2020 cancelled	Roma	Italy
19 Apr 2020	Gold Label Road Race	Vienna City Marathon - 2020 cancelled	Wien	Austria
26 April 2020	Gold Label Road Race	Gifu Half Marathon - 2020 cancelled	Gifu	Japan
26 April 2020	Gold Label Road Race	Yellow River Estuary International Marathon - postponed indefinitely	Dongying	China
26 April 2020	Gold Label Road Race	Rock ‘n’ Roll Madrid Maraton - 2020 cancelled	Madrid	Spain
24 May 2020	Gold Label Road Race	Scotiabank Ottawa Marathon - 2020 cancelled	Ottawa	Canada
05 July 2020	Gold Label Road Race	Village Roadshow Theme Parks Gold Coast Marathon - 2020 cancelled	Gold Coast	Australia
30 August 2020	Gold Label Road Race	Telcel Mexico City Marathon - 2020 cancelled	Ciudad de México	Mexico
05 September 2020	Gold Label Road Race	Birell Prague Grand Prix - 2020 cancelled	Praha	Czech Republic
06 September 2020	Gold Label Road Race	EDP Meia Maratona de Lisboa - 2020 cancelled	Lisbon	Portugal
06 September 2020	Gold Label Road Race	Sportisimo Prague Half Marathon - 2020 cancelled	Praha	Czech Republic
13 September 2020	Gold Label Road Race	Copenhagen Half Marathon - 2020 cancelled	København	Denmark
13 September 2020	Gold Label Road Race	Haspa Marathon Hamburg - 2020 cancelled	Hamburg	Germany
13 September 2020	Gold Label Road Race	"Bank of Lanzhou Cup" - Lanzhou International Marathon - postponed indefinitely	Lanzhou	China

DATE	LABEL	NAME	VENUE	COUNTRY
20 September 2020	Gold Label Road Race	Vodafone Istanbul Half Marathon	Istanbul	Turkey
20 September 2020	Gold Label Road Race	Taiyuan International Marathon	Taiyuan	China
20 September 2020	Gold Label Road Race	Hengshui Lake International Marathon - postponed indefinitely	Hengshui	China
04 October 2020	Gold Label Road Race	Cardiff University / Cardiff Half Marathon - 2020 cancelled	Cardiff	United Kingdom
11 October 2020	Gold Label Road Race	Luso Meia Maratona - 2020 cancelled	Lisbon	Portugal
11 October 2020	Gold Label Road Race	Rimi Riga Marathon	Riga	Latvia
11 October 2020	Gold Label Road Race	Volkswagen Prague Marathon - 2020 cancelled	Praha	Czech Republic
17 October 2020	Gold Label Road Race	Beijing Marathon	Beijing	China
18 October 2020	Gold Label Road Race	Airtel Delhi Half Marathon	New Delhi	India
18 October 2020	Gold Label Road Race	Sanlam Cape Town Marathon - 2020 cancelled	Cape Town	South Africa
18 October 2020	Gold Label Road Race	Scotiabank Toronto Waterfront Marathon - 2020 cancelled	Toronto	Canada
25 October 2020	Gold Label Road Race	Volkswagen Ljubljana Marathon	Ljubljana	Slovenia
25 October 2020	Gold Label Road Race	NN Marathon Rotterdam - 2020 cancelled	Rotterdam	Netherlands
25 October 2020	Gold Label Road Race	Medio Maratón Valencia Trinidad Alfonso EDP - 2020 cancelled	Valencia	Spain
25 Oct 2020	Gold Label Road Race	Mainova Frankfurt Marathon - 2020 cancelled	Frankfurt	Germany
01 November 2020	Gold Label Road Race	Hangzhou Marathon	Hangzhou	China
01 November 2020	Gold Label Road Race	Chongqing International Marathon	Chongqing	China
08 November 2020	Gold Label Road Race	Hefei International Marathon	Hefei	China
08 November 2020	Gold Label Road Race	Sydney Running Festival / Sydney Marathon	Sydney	Australia
08 November 2020	Gold Label Road Race	Istanbul Marathon	Istanbul	Turkey
15 November 2020	Gold Label Road Race	Schneider Electric Marathon de Paris - 2020 cancelled	Paris	France
22 November 2020	Gold Label Road Race	TCS World 10K Bengaluru	Bengaluru	India
05 December 2020	Gold Label Road Race	Standard Chartered Singapore Marathon	Singapore	Singapore

DATE	LABEL	NAME	VENUE	COUNTRY
06 December 2020	Gold Label Road Race	The 74th Fukuoka International Open Marathon Championships	Fukuoka	Japan
13 December 2020	Gold Label Road Race	Guangzhou Marathon	Guangzhou	China
20 December 2020	Gold Label Road Race	Bangsaen21 Half Marathon	Chon Buri	Thailand
20 December 2020	Gold Label Road Race	Shenzhen Marathon	Shenzhen	China
31 December 2020	Gold Label Road Race	Nationale-Nederlanden San Silvestre Vallecana	Madrid	Spain

Source: (World Athletics, 2019)

IAU GOLD LABEL RACES

DATE	LABEL	NAME	VENUE	COUNTRY
14 March 2020	Gold Label Road Race	Om die Dam	Hartbeespoort	South Africa
11 April 2020	Gold Label Road Race	Two Oceans Marathon	Cape Town	South Africa
23 May 2020	Gold Label Road Race	S24H	Timisoara	Romania
14 June 2020	Gold Label Road Race	Comrades Marathon	Pietermaritzburg/Durban	South Africa
12 September 2020	Gold Label Road Race	RUN Winschoten 100km and 50 km	Winschoten	Netherlands

Source: Adapted from (International Association of Ultrarunners, 2020b; Two Oceans Marathon, 2020)

APPENDIX D

DESCRIPTIVE STATISTICAL ANALYSIS SUMMARY

Referring back to section 7.3, the main summary of the descriptive statistical analysis results on the social media posts of the sampled sports events posted between August 2019 and November 2020 can be found in Tables D1 and D2.

The main summary is presented in the form of a combined frequency table containing all the sports events and variables, displaying the number of times a specific value of a variable occurs together with its respective percentages. For clarity's sake, Table D is divided in two parts, 1 and 2, to accommodate all the sporting events. Table D1 addresses summaries for the Comrades Marathon, TCS New York City Marathon, London Marathon, Cape Town Marathon, Bank of America Chicago Marathon, Berlin Marathon and the Blacksmores Sydney Running Festival. Table D2 addresses summaries for the Boston Marathon, Toronto Waterfront Marathon, TCS Amsterdam Marathon, Two Oceans Marathon, Schneider Electric Marathon de Paris, Om Die Dam Marathon as well as the combined data set.

It is important to note that the total engagements given in the table are merely the combined total of likes, shares and comments and not the final stakeholder engagement index.

Table D 1: Main summary of the results of the descriptive statistical analysis — part 1

	COMRADES MARATHON		TCS NEW YORK CITY MARATHON		LONDON MARATHON		CAPE TOWN MARATHON		BANK OF AMERICA CHICAGO MARATHON		BERLIN MARATHON		BLACKMORES SYDNEY RUNNING FESTIVAL	
Number of Posts	738		592		372		322		304		303		293	
Number of followers	78366		338689		354286		51972		196998		227789		48546	
	Total	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**
Stakeholder Engagement														
Likes	99 485	134.80	290 812	491.24	818 690	2200.78	49 903	154.98	227 135	747.15	459 893	1517.80	22 378	76.38
Shares	12 691	17.20	22 783	38.48	76 571	205.84	5 549	17.23	23 366	76.86	51 008	168.34	1 179	4.02
Comments	9 250	12.53	19 468	32.89	56 576	152.09	4 181	12.98	18 870	62.07	27 101	89.44	2 830	9.66
Total Engagements	121 432	164.53	333 063	562.61	951 837	2558.70	59 633	185.20	269 371	886.09	528 002	1775.58	26 387	90.06
Moment of Participation														
	Total	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Month of the year														
Month of Event (2020)	155	21.0	29	4.9	71	19.1	58	18.0	43	14.1	55	18.2	20	6.8
Other months	583	79.0	563	95.1	301	80.9	264	82.0	261	85.9	248	81.8	273	93.2
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Days of the week														
Weekdays	615	83.3	437	73.8	309	83.1	241	74.8	232	76.3	217	71.6	245	83.6
Weekends	123	16.7	155	26.2	63	16.9	81	25.2	72	23.7	86	28.4	48	16.3
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Time of the day														
Mornings	347	47.0	137	23.1	104	28.0	191	59.3	36	11.8	80	26.4	220	75.1
Afternoons	340	46.1	183	30.9	148	39.8	110	34.2	107	35.2	154	50.8	31	10.6
Night	51	6.9	272	45.9	120	32.3	21	6.5	161	53.0	69	22.8	42	14.3
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*

	COMRADES MARATHON		TCS NEW YORK CITY MARATHON		LONDON MARATHON		CAPE TOWN MARATHON		BANK OF AMERICA CHICAGO MARATHON		BERLIN MARATHON		BLACKMORES SYDNEY RUNNING FESTIVAL	
Design														
Vividness														
Low	15	2.0	11	1.9	31	8.3	14	4.3	2	0.7	3	1	4	1.4
Medium	648	87.8	383	64.7	196	52.7	239	74.2	257	84.9	232	76.6	243	82.9
High	75	10.2	198	33.4	145	39.0	69	21.4	44	14.5	68	22.4	46	15.7
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Interactivity														
None	481	65.2	180	30.4	174	46.8	135	41.9	32	10.5	137	45.2	11	3.8
Low	41	5.6	68	11.5	24	6.5	27	8.4	99	32.6	7	2.3	133	45.4
Medium	147	19.9	224	37.8	118	31.7	93	28.9	104	34.2	67	22.1	58	19.8
High	69	9.3	120	20.3	56	15.1	67	20.8	69	22.7	92	30.4	91	31.1
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Fluency of post														
Post length														
0-140	297	40.2	119	20.1	145	39.0	112	34.8	52	17.1	58	19.1	155	52.9
141-280	262	35.5	257	43.4	174	46.8	93	28.9	136	44.7	99	32.7	67	22.9
281-560	120	16.3	192	32.4	46	12.4	88	27.3	89	29.3	106	35.0	60	20.5
561-1120	38	5.1	22	3.7	5	1.3	24	7.5	24	7.9	38	12.5	8	2.7
1121+	21	2.8	2	.3	2	.5	5	1.6	3	1	2	0.7	3	1.0
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Number of hashtags														
0	59	8.0	193	32.6	94	25.3	210	65.2	164	53.9	14	4.6	252	86.0
1-2	210	28.5	327	55.2	266	71.5	99	30.7	138	45.4	77	25.4	18	6.1
3-5+	469	63.6	72	12.2	12	3.2	13	4.0	2	0.7	212	70.0	23	7.8
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Tagging														
Yes	215	29.1	209	35.3	80	21.5	126	39.1	179	58.9	74	24.4	106	36.2
No	523	70.9	383	64.7	292	78.5	196	60.9	125	41.1	229	75.6	187	63.8

	COMRADES MARATHON		TCS NEW YORK CITY MARATHON		LONDON MARATHON		CAPE TOWN MARATHON		BANK OF AMERICA CHICAGO MARATHON		BERLIN MARATHON		BLACKMORES SYDNEY RUNNING FESTIVAL	
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Format Type														
Photo														
Yes	652	88.3	395	66.7	201	54.0	241	74.8	258	84.9	234	77.2	191	65.2
No	86	11.7	197	33.3	171	46.0	81	25.2	46	15.1	69	22.8	102	34.8
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Link														
Yes	126	17.1	277	46.8	95	25.5	145	45.0	221	72.7	69	22.8	145	49.5
No	612	82.9	315	53.2	277	74.5	177	55.0	83	27.3	234	77.2	148	50.5
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Text														
Yes	720	97.6	540	91.2	366	98.4	295	91.6	299	98.4	299	98.7	289	98.6
No	18	2.4	52	8.8	6	1.6	27	8.4	5	1.6	4	1.3	4	1.4
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Video														
Yes	73	9.9	179	30.2	142	38.2	67	20.8	46	15.1	66	21.8	47	16.0
No	665	90.1	413	69.8	230	61.8	255	79.2	258	84.9	237	78.2	246	84.0
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Live Content														
Yes	26	3.5	41	6.9	63	16.9	92	28.6	3	1	146	48.2	9	3.1
No	712	96.5	551	93.1	309	83.1	230	71.4	301	99	157	51.8	284	96.9
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Call-to-Action														
Yes	144	19.5	291	49.2	125	33.6	127	39.4	158	52	94	31.0	66	22.5
No	594	80.5	301	50.8	247	66.4	195	60.6	146	48	209	69.0	227	77.5
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
COVID-19														
Yes	41	5.6	8	1.4	37	9.9	24	7.5	8	2.6	13	4.3	3	1.0

	COMRADES MARATHON		TCS NEW YORK CITY MARATHON		LONDON MARATHON		CAPE TOWN MARATHON		BANK OF AMERICA CHICAGO MARATHON		BERLIN MARATHON		BLACKMORES SYDNEY RUNNING FESTIVAL	
No	697	94.4	584	98.6	335	90.1	298	92.5	296	97.4	290	95.7	290	99.0
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Virtual Race														
Yes	95	12.9	115	19.4	24	6.5	92	28.6	41	13.5	11	3.6	23	7.8
No	643	87.1	477	80.6	348	93.5	230	71.4	263	86.5	292	96.4	270	92.2
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Content Type														
Informational														
Yes	439	59.5	366	61.8	164	44.1	208	64.6	63	21	184	60.7	8	2.7
No	299	40.5	226	38.2	208	55.9	114	35.4	241	79	119	39.3	285	97.3
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Entertainment														
Yes	207	28.0	223	37.7	176	47.3	245	76.1	154	49	199	65.7	162	55.3
No	531	72.0	369	62.3	196	52.7	77	23.9	150	51	104	34.3	131	44.7
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Promotional														
Yes	198	26.8	195	32.9	100	26.9	192	59.6	92	30	133	43.9	127	43.3
No	540	73.2	397	67.1	272	73.1	130	40.4	212	70	170	56.1	166	56.7
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Social														
Yes	281	38.1	274	46.3	184	49.5	277	86.0	61	20	243	80.2	18	6.1
No	457	61.9	318	53.7	188	50.5	45	14.0	243	80	60	19.8	275	93.9

	COMRADES MARATHON		TCS NEW YORK CITY MARATHON		LONDON MARATHON		CAPE TOWN MARATHON		BANK OF AMERICA CHICAGO MARATHON		BERLIN MARATHON		BLACKMORES SYDNEY RUNNING FESTIVAL	
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*
Remunerative														
Yes	29	3.9	46	7.8	15	4.0	35	10.9	10	3	15	5.0	22	7.5
No	709	96.1	546	92.2	357	96.0	287	89.1	294	97	288	95.0	271	92.5
Total	*738*	*100.0*	*592*	*100.0*	*372*	*100.0*	*322*	*100.0*	*304*	*100.0*	*303*	*100.0*	*293*	*100.0*

Source: Author's own compilation from SPSS output

Table D 2: Main summary of the results of the descriptive statistical analysis — part 2

	BOSTON MARATHON		TORONTO WATERFRONT MARATHON		TCS AMSTERDAM MARATHON		TWO OCEANS MARATHON		SCHNEIDER ELECTRIC MARATHON DE PARIS		OM DIE DAM MARATHON		DATA SET COMBINED	
Number of Posts	272		221		166		104		96		58		3841	
Number of followers	350304		26105		72584		67752		206346		12714		2032451	
Stakeholder Engagement														
	Total	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**	**Total**	**Mean**
Likes	179710	660.70	11156	50.48	60358	363.60	16811	161.64	53981	562.30	3378	58.24	2293690	597.16
Shares	25719	94.56	941	4.26	3348	20.17	3639	34.99	10657	111.01	859	14.81	238310	62.04
Comments	10645	39.14	651	2.95	5123	30.86	279	32.57	10295	107.24	577	9.95	168954	43.99
Total Engagements	216074	794.39	12748	57.68	68829	414.63	23837	229.20	74933	780.55	4814	83.00	2700951	703.19

	BOSTON MARATHON		TORONTO WATERFRONT MARATHON		TCS AMSTERDAM MARATHON		TWO OCEANS MARATHON		SCHNEIDER ELECTRIC MARATHON DE PARIS		OM DIE DAM MARATHON		DATA SET COMBINED	
Moment of Participation														
	Total	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Month of year														
Month of Event	57	21.0	29	13.1	30	18.1	9	8.7	1	1.0	37	63.8	NA	NA
Other months	215	79.0	192	86.9	136	81.9	95	91.3	95	99.0	21	36.2	NA	NA
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Days of the week														
Weekdays	198	72.8	153	69.2	116	69.9	66	63.5	84	87.5	41	70.7	2954	76.9
Weekends	74	27.2	68	30.8	50	30.1	38	36.5	12	12.5	17	29.3	887	23.1
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Time of day														
Mornings	12	4.4	27	12.2	55	33.1	36	34.6	18	18.8	39	67.2	1302	33.9
Afternoons	126	46.3	81	36.7	72	43.4	44	42.3	33	34.4	17	29.3	1446	37.6
Night	134	49.3	113	51.1	39	23.5	24	23.1	45	46.9	2	3.4	1093	28.5
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Design														
Vividness														
Low	24	8.8	41	18.6	0	0.0	33	31.7	9	9.4	9	15.5	196	5.1
Medium	170	62.5	115	52.0	114	68.7	59	56.7	55	57.3	39	67.2	2751	71.6
High	78	28.7	65	29.4	52	31.3	12	11.5	32	33.3	10	17.2	894	23.3
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Interactivity														
None	4	1.5	11	5.0	32	19.3	38	36.5	18	18.8	36	62.1	1289	33.6
Low	152	55.9	91	41.2	42	25.3	35	33.7	9	9.4	8	13.8	736	19.2
Medium	85	31.3	78	35.3	22	13.3	14	13.5	31	32.3	11	19.0	1052	27.4
High	31	11.4	41	18.6	70	42.2	17	16.3	38	39.6	3	5.2	764	19.9
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*

	BOSTON MARATHON		TORONTO WATERFRONT MARATHON		TCS AMSTERDAM MARATHON		TWO OCEANS MARATHON		SCHNEIDER ELECTRIC MARATHON DE PARIS		OM DIE DAM MARATHON		DATA SET COMBINED	
Fluency of Post														
Post length														
0-140	41	15.1	54	24.4	38	22.9	38	36.5	15	15.6	23	39.7	1147	29.9
141-280	58	21.3	51	23.1	65	39.2	26	25.0	39	40.6	18	31.0	1345	35.0
281-560	117	43.0	66	29.9	51	30.7	32	30.8	32	33.3	13	22.4	1012	26.3
561-1120	51	18.8	41	18.6	12	7.2	7	6.7	5	5.2	2	3.4	277	7.2
1121+	5	1.8	9	4.1	38	22.9	1	1.0	5	5.2	2	3.4	60	1.6
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Number of hashtags														
0	150	55.1	112	50.7	138	83.1	35	33.7	10	10.4	7	12.1	1438	37.4
1-2	110	40.4	89	40.3	28	16.9	46	44.2	75	78.1	10	17.2	1493	38.9
3-5+	12	4.4	20	9.0	0	0.0	23	22.1	11	11.5	41	70.7	910	23.7
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Tagging														
Yes	151	55.5	49	22.2	23	13.9	27	26.0	39	40.6	14	24.1	1292	33.6
No	121	44.5	172	77.8	143	86.1	77	74.0	57	59.4	44	75.9	2549	66.4
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Format Type														
Photo														
Yes	167	61.4	115	52.0	113	68.1	59	56.7	55	57.3	39	67.2	2720	70.8
No	105	38.6	106	48.0	53	31.9	45	43.3	41	42.7	19	32.8	1121	29.2
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Link														
Yes	231	84.9	167	75.6	60	36.1	39	37.5	43	44.8	29	50.0	1647	42.9
No	41	15.1	54	24.4	106	63.9	65	62.5	53	55.2	29	50.0	2194	57.1
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Text														
Yes	265	97.4	216	97.7	164	98.8	3	2.9	92	95.8	55	94.8	3603	93.8

	BOSTON MARATHON		TORONTO WATERFRONT MARATHON		TCS AMSTERDAM MARATHON		TWO OCEANS MARATHON		SCHNEIDER ELECTRIC MARATHON DE PARIS		OM DIE DAM MARATHON		DATA SET COMBINED	
No	7	2.6	5	2.3	2	1.2	101	97.1	4	4.2	3	5.2	238	6.2
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Video														
Yes	77	28.3	65	29.4	53	31.9	12	11.5	32	33.3	10	17.2	869	22.6
No	195	71.7	156	70.6	113	68.1	92	88.5	64	66.7	48	82.8	2972	77.4
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Live Content														
Yes	0	0.0	32	14.5	6	3.6	0	0.0	0	0.0	16	27.6	434	11.3
No	272	100.0	189	85.5	160	96.4	104	100.0	96	100.0	42	72.4	3407	88.7
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Call-to-Action														
Yes	91	33.5	99	44.8	35	21.1	22	21.2	49	51.0	16	27.6	1317	34.3
No	181	66.5	122	55.2	131	78.9	82	78.8	47	49.0	42	72.4	2524	65.7
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
COVID-19														
Yes	8	2.9	3	1.4	6	3.6	12	11.5	3	3.1	1	1.7	167	4.3
No	264	97.1	218	98.6	160	96.4	92	88.5	93	96.9	57	98.3	3674	95.7
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Virtual Race														
Yes	51	18.8	32	14.5	22	13.3	0	0.0	0	0.0	0	0.0	506	13.2
No	221	81.3	189	85.5	144	86.7	104	100.0	96	100.0	58	100.0	3335	86.8
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Content Type														
Informational														
Yes	41	15.1	16	7.2	8	4.8	81	77.9	60	62.5	56	96.6	1694	44.1
No	231	84.9	205	92.8	158	95.2	23	22.1	36	37.5	2	3.4	2147	55.9
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Entertainment														

	BOSTON MARATHON		TORONTO WATERFRONT MARATHON		TCS AMSTERDAM MARATHON		TWO OCEANS MARATHON		SCHNEIDER ELECTRIC MARATHON DE PARIS		OM DIE DAM MARATHON		DATA SET COMBINED	
Yes	164	60.3	166	75.1	118	71.1	15	14.4	39	40.6	5	8.6	1873	48.8
No	108	39.7	55	24.9	48	28.9	89	85.6	57	59.4	53	91.4	1968	51.2
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Promotional														
Yes	102	37.5	70	31.7	52	31.3	16	15.4	32	33.3	7	12.1	1316	34.3
No	170	62.5	151	68.3	114	68.7	88	84.6	64	66.7	51	87.9	2525	65.7
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Social														
Yes	20	7.4	16	7.2	6	3.6	53	51.0	63	65.6	17	29.3	1513	39.4
No	252	92.6	205	92.8	160	96.4	51	49.0	33	34.4	41	70.7	2328	60.6
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*
Remunerative														
Yes	8	2.9	0	0.0	4	2.4	2	1.9	5	5.2	6	10.3	197	5.1
No	264	97.1	221	100.0	162	97.6	102	98.1	91	94.8	52	89.7	3644	94.9
Total	*272*	*100.0*	*221*	*100.0*	*166*	*100.0*	*104*	*100.0*	*96*	*100.0*	*58*	*100.0*	*3841*	*100.0*

Source: Author’s own compilation from SPSS output