

Research Report

Varsity College

The role of Social Media in SMEs Sports Sponsorship within the context of The Fourth Industrial Revolution.

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Honours in Management

I hereby declare that the Research Report submitted for the Honours in Management degree to The Independent Institute of Education is my own work and has not previously been submitted to another University or Higher Education Institution for degree purposes.

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Abstract

Artificial Intelligence is predicted to grow immensely from USD\$10 billion dollars in 2018 to over USD\$126 billion in 2025, (Tractica, 2019). The Fourth Industrial Revolution is transforming the digital market. To optimise their use of the Internet, businesses must understand how The Fourth Industrial Revolution (4IR) will affect this expanding medium.

Small and medium enterprises (SMEs) need to better understand the potential advantages of implementing AI-empowered Social Media (SM) marketing to understand how this opportunity could assist with their threat from large firms, (Pauling, 2016).

This quantitative study aims to determine how 4IR effects the value of SM in sponsorship campaigns within the context of South African sports SMEs. A closed-ended electronic questionnaire was used to collect statistical data.

The results of this research shows there is a moderate, positive relationship with AI usage and SM Value. Indicating if AI usage is increased, the value of SM towards the business may grow. The research shows AI is perceived as important despite a lack of skills in this area. Leading to the recommendation of training staff, and updating policy to the rapidly expanding field.

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Introduction

In 2010 more computers were connected to the Internet than people living on earth, (Gershenfeld & Vasseur 2014). Cyril Ramaphosa (2018) highlighted the importance of the Fourth Industrial Revolution (4IR) to the South African Economy during his first National Economic Strategy as president. As defined by Sutherland (2020), 4IR is an over-reaching term for Artificial Intelligence (AI), big data, the Internet of things, robotics and 3D-printing. AI as a concept of 4IR has many exciting prospects within the field of Social Media (SM). Through this medium, Small and Medium Enterprises (SMEs) have been communicating Sports Sponsorship Campaigns, (Abeza, et al., 2015). The benefit or potential benefit received from investment in SM towards sports sponsorship is currently unclear within the context of the Fourth Industrial Revolution.

This research aimed to understand the impact of The 4IR and its potential advantages and concerns on SM's role in Sports Sponsorship Campaigns. It then examined SM's role in sponsorship and discussed how SME's were currently influenced by SM to understand how this may be changed by 4IR.

The positivist paradigm is used for this research using statistical scientific methods to investigate this emerging topic. Validity and reliability are important to this research which uses quantitative methods to study the relationship between AI usage and SM value. The motivation for this study originates from several areas discussed below.

Rationale

The Growth of 4IR has seen an increase in the use of Internet services such as SM and interactive websites. South Africa's Internet dissemination was only 54% in 2019, (Newman, et al., 2019). It is predicted to reach 88.8% in 2023, (Clement, 2019). South African Businesses need to optimise their use of this medium as The 4IR impacts the use of the Internet.

With AI emerging as a growing research area, there have been several studies showing its capabilities and effectiveness. However, the current impact it is having on organisations is unknown and therefore additional research is required.

There is a significant research gap on AI's effects on the African market. Additional research is also called for by Abeza et al. (2015) due to the constantly changing nature of both the sporting landscape and SM. Due to the recent emergence of AI, there is currently no

research investigating its effect on SM's value to sports sponsorship. However, the existing research suggests AI's benefits in other businesses and therefore highlights the potential impact on the African sporting industry. Academics in both the African business as well as the sports industry are calling for further research.

Sports sponsorship is a large contributor to South Africa's national economy. Nielsen South Africa (2018) reveals the sponsorship industry in South Africa is worth over R45 Billion. As companies are relying more on SM to communicate sponsorship campaigns, it is critical to understand how 4IR affects SM. Sports teams, independent athletes and online influencers need to identify how this changing medium can best be exploited to boost their sponsorship offering to potential investors.

Corporate marketing managers also need to update their understanding of SM and how to target opportunities most relevant to their target markets, enabling more effective campaigns. Streams of consumer insight can be untapped from SM's vast amounts of data, using AI analytics, (Micu, et al., 2018). This could give SME's a considerable edge.

Pauling (2016) points out SMEs in the sports industry are at risk from large businesses. Globally over 90% of businesses are SMEs, these economic contributors must be protected. Therefore, the government needs to understand how to adapt their support programs to better assist SMEs with opportunities from this emerging technology.

Taiminen and Karjaluo (2015) and Cesaroni and Consoli (2015) also emphasise the need for training initiatives for SMEs. They explain SMEs are not keeping up with digital development due to lack of knowledge in the area. The need for research to add key information to better equip entrepreneurs and business managers is growing.

Business decision-makers need to better understand the potential advantages of implementing AI-empowered SM marketing. This research aimed to address some of the problems at hand.

Problem Statement

South Africa's sports sponsorship industry is successfully growing. Further to this, SMEs have an increasing effect on the economy, (Taiwo, et al., 2012). However, Pauling (2016) warns that the economic downfall of SMEs in the sports industry is imminent without intervention. With possible solutions from AI and SM, the need to understand this emerging field is critical.

However, the effectiveness of SM in sponsorship campaigns is extensively debated. Without decisive results on SM's usefulness, there is a call for further research into SM's contribution to sports sponsorship within the wider industry. Furthermore, there is no current research on AI's effect on SM's value to sports sponsorship, due to its recent emergence.

Unfortunately, the majority of SMEs feel forced to use SM due to industry pressure, (Cesaroni & Consoli, 2015). Carson, et al. (2016) also found SMEs whose leaders understand SM's importance but don't implement SM strategies. While Rambe (2017) states there is a lack of training on SM within SMEs.

There is a need for SMEs to understand the value 4IR can bring to SM sponsorship. This feeds into the purpose of this research.

Purpose Statement

The purpose of this study was to determine how 4IR effects the value of SM in sponsorship campaigns within the context of South African sports SMEs.

To obtain this information the research needed to address several questions.

Research Question

Does AI technology increase SM's value to sports sponsorship campaigns within the context of South African SMEs?

- Does the integration of AI into SM sports sponsorship campaigns produce a competitive advantage?
- Is 4IR creating opportunities for SMEs to further leverage their sponsorship programs?
- Are SMEs exploiting the benefits of AI technology on SM?
- Does SM add value to SMEs?

Research Objectives

- To establish if AI technology benefits SM marketing for SMEs.
- To establish whether an interdependence between AI and SM value in sports sponsorship campaigns exists, within the context of South African SMEs.
- To establish if a relationship between AI usage in SM marketing and SMEs competitive advantage exists.

Hypotheses

H₁: High AI usage results in a positive effect on SM value towards SMEs sport sponsorship campaigns.

H₀: There is no relationship between AI usage and SM value towards SMEs sport sponsorship campaigns.

These decisions around the research discussion guided the selection of literature.

Literature Review

Introduction

The growth of The 4IR has seen an increased use of Internet Services such as SM. Micu, et al. (2018) emphasise the growing interest in AI's impact on SM and the value it could have to SMEs. For example, SMEs have an increasing effect on the economy, (Rugova & Prenaj, 2016). Where marketing managers spend billions of Rand on sports sponsorship every year. Therefore, this study will investigate the impact AI has on the value of SM in sports sponsorship towards SMEs. It will be grounded through a theoretical foundation.

Theoretical Foundation

This research will be framed on two theories, social media engagement and the congruence theory.

Gangi and Wasko (2016) posed the Social Media Engagement theory, which concentrates on users social interactions supported by SM. Its foundation is on technologies facilitation of social interactions. Engagement is defined as users psychological state that steers to higher involvement and personal benefit leading to action, (Gangi & Wasko, 2016). The theory builds user engagement of SM on two factors, social interactions and technical features. Social interactions speak to the ability to build personal relationships between users and brands. While technical features refer to the capability users have to integrate information and interact with the platform, (Gangi & Wasko, 2016).

The theory proposes that if organisations can construct user engagements that match user needs, then high engagement will be reached. Dessart, et al. (2015) suggests this leads to brand trust and loyalty as well as awareness. The more often users engage on SM platforms, the more valuable the platform becomes to organisations and fellow users, states (Gangi & Wasko, 2016).

This theory is relevant to this topic because the research is attempting to understand how 4IR will impact the value of SM to SMEs. Engagement from users is what brings value to SM platforms and is a common measure for SM performance.

Percy and Charles (1955) formed the congruence theory explaining that people endeavour to keep consistency with their perceptions and attitudes. If there is a discrepancy between an internal belief and an observed phenomenon, then individuals will look to justify their imbalance by evaluating all possible causes before adjusting their belief.

Gross and Wiedmann (2015) apply this theory to sponsorship and explained that brands that sponsor athletes will have their brand image aligned to the athlete/team. For example, when brands sponsor an athlete that is perceived to be elite, consumers will more likely perceive the brand as elite as well. Therefore this theory is relevant as it explains how value is derived from sports sponsorship affecting a brand's image.

These theories work together to explain how users interact with SM and how a brand image is changed through sports sponsorship. Giving a sound theoretical framework for the review of current academic literature.

Review of Previous Literature

Artificial Intelligence

Artificial Intelligence (AI) began when the neural network was first described using an algorithm by Rosenblatt (1958). Rosenblatt's Perceptron uses mathematical formulas to describe the learning process. More recently, Brundage and Avin (2018) define AI as the use of technology to create processes that can perform tasks which require intelligence. AI within SM is described by Micu, et al. (2018) as machine learning that uses advanced algorithms to analyse three categories; audience analysis, image analysis and sentiment analysis. Enabling marketers to seize opportunities to analyse and categorize consumer and content behaviour. Ferrara, et al. (2016) and Brundage and Avin (2018) introduce another aspect not focused on by Micu, et al. (2018), social robots.

The implementation of AI processes leads to significant competitive advantage, (Delen & Zolbanin, 2018). Davenport, et al. (2020) stress the importance of AI's, arguing that AI will transform entire business models, marketing strategies and consumer behaviour. Through SM there is a freedom to share personal information at an unprecedented level, (Micu, et al., 2018). For businesses to keep track of this information using traditional methodologies

is difficult. The most prominent challenge is turning the vast datasets into useful analytical marketing insights, (Delen & Zolbanin, 2018). Hence algorithms that interpret this information to understand consumer behaviour are in high demand.

Consumer analytics is one of the main benefits cited by, (Fan & Gordon, 2014), (Andrea & Mintz, 2019), (Micu, et al., 2018), (Delen & Zolbanin, 2018) and (Kim & Kim, 2018). In their study, Micu, et al. (2018) used advanced AI analysis through 900 images on Instagram to examine patterns in consumer SM behaviour leading to transactions. It is clear that AI enables brands to trace consumer lifestyles, attitudes and reactions to content, (Micu, et al., 2018). Delen and Zolbanin (2018) claim this improves understanding of consumer behaviour as well as ways to target specific audiences.

While this data is immensely valuable, the issue of privacy has been raised by Rugova and Prenaj (2016) who conducted a qualitative study in the form of a secondary research report on SMEs use of SM. They found SM targeted advertising is highly effective for SMEs. Jacobson, et al. (2020) surveyed 1500 Canadian Internet users on their perception of marketers use of SM data. The results suggest that over 50% of Internet users have a negative reaction to the use of personal data, through AI analysis. Furthermore, Brundage and Avin (2018) claim the development of AI has seen ordinary phishing attacks transformed into spear-phishing attacks. They describe these spear-phishing attacks as; large amounts of personal information gathered on individuals enabling them to be targeted directly and fooled into a seemingly trustworthy facade. While Micu, et al. (2018) dismisses the importance of this issue, claiming the user's fears of privacies are dwarfed by their need for sharing opinions on topics or building social status, there is still cause for concern.

Content analysis is another important benefit that AI provides, (Micu, et al., 2018). Andrea and Mintz (2019), studied images related to the Fifa World Cup draw in 2017. The study showed the capability of image tracking across all SM platforms and on the Web. It provided useful information about the characteristics of different platforms. This AI technology can be used by organisations to track their images and better understand their influence throughout the Internet. Furthermore, Fan and Gordon (2014) argue SM analytics also enables brands to track consumers reactions to ad campaigns and adjust them accordingly. To the researcher's knowledge, there is no research applying this to sponsorship opportunities. However, Hazari (2018) claims brands can only achieve competitive advantage if their sponsorship message is digitally relevant to consumers.

The concern of accuracy was raised by Andrade, et al. (2019) who found that AI has considerable issues with facial analysis due to accessories and lighting in photos. Andrade, et al. (2019) used AI to image analyse and track trends in the beauty industry and found AI technology to be problematic. This could limit, among other things, facial recognition's use to track athletes influence through the Internet.

In contradiction to these results, Kim and Kim (2018) completed a similar study using AI to analyse images on SM and successfully identified the context. However, Kim and Kim (2018) used a small sample from only two universities in Korea. While their findings are promising, they acknowledge that a larger, more diverse study was needed. More recently, Mancosu and Bobba (2019) used AI facial analysis to screen 4,153 profiles before the Brexit referendum. The study was able to identify the age and gender with over 90% accuracy. This study identified users by their profile pictures and highlights AI's improvement in facial analysis, (Mancosu & Bobba, 2019). Although the researcher notes a lack of academic research into the role of AI content analysis in sports sponsorship.

Mancosu and Bobba (2019) raise the point, for most commercially available computers, advanced AI analytics will be computationally impossible. With exceedingly high costs of computers capable of AI analysis tools, this could be a major barrier to SMEs adoption of the emerging technology. However, Kim and Kim (2018), Micu, et al. (2018) and Andrade, et al. (2019) explain cloud-based services are available, whereby Internet-connected servers around the globe, for a relatively low cost, can process the images.

Time to monitor these systems is another factor that must be considered, (Rugova & Prenaj, 2016). Over 50% of Internet users expect a response to a complaint on the same day, less than one third receive one, (Fan & Gordon, 2014). Through SM there is growing consumer perception that messages should be answered 24/7. The cost for this in time and wages must be weighed against the cost of damaging the brand. Rugova and Prenaj (2016) agree that responses to customers through SM needs to be fast and employees need to be ready to respond consistently. Rugova and Prenaj (2016) argue staff also need to be highly trained to handle customer complaints. Interpreting reports from the AI systems also requires training and managements focus, Micu, et al. (2018). All of these increase the cost of running SM and AI programs. Adding to this Rugova and Prenaj (2016) state constant content needs to be published to keep good communication channels with consumers.

To this point, Ferrara, et al. (2016) argues the opposite, they state social bots can be trained to respond instantly and handle common conversations. This mitigates excess time spent

managing SM and enables marketers to focus on strategies. Content generating bots can also be implemented to minimise time spent on managing SM, therefore saving money.

SM has vast amounts of untapped data, which can open streams of consumer insight using AI analytics, (Micu, et al., 2018). While Software robots or Bots are growing in their influence (Ferrara, et al., 2016). As AI emerges as a growing research area, there have been several studies showing its capabilities and effectiveness. However, the current impact it is having on organisations is unknown. Adding to this, there is a gap in research on its effects on the African market. Similarly, the sports sponsorship industry has no current publications to date. However, the existing research suggests its benefits in other businesses and therefore highlights the potential impact on the sporting industry.

Social Media & Sports Sponsorship

Rugova and Prenaj (2016) state that SM is continually rising and is becoming more important to every business. Woodside, et al. (2015) state that SM is the integration of social interaction through multimedia, including video, text, images and audio across online platforms. However, a more recent study from Voorveld, et al. (2018) argue the term SM is dangerous, claiming Social Networks need to be understood and approached individually. Technology continues to transform SM and as it changes the definitions will adapt appropriately. For this study, SM will pertain to all Social Networks.

Razak and Bin (2016) emphasises SM's importance and they explain there to be a high belief in SME that SM increases their productivity and marketing performance. With the importance of marketing in SM's growing, its effects on sport sponsorship campaigns is a field of growing research, states Abeza, et al. (2015). Abeza, et al. (2015) conducted a qualitative research project on 96 research articles relating to sponsorship and sports management to evaluate the current body of knowledge. Acknowledging that SM is a continually advancing technology, they suggest the continuation of research. While most research is on the nature of SM there is a lack of studies into the effects AI could have in this industry.

Sponsorship is an important element in marketing for creating brand awareness, increasing the brand image and positioning the brand, (Hazari, 2018). Sponsorship involves a contractual agreement where financial or other incentives are exchanged for advertising rights.

Goldman, Blake and Fourie (2018) conducted a study into the Corporate Financial returns from sports sponsorship in South Africa. It focused on 20 JSE listed companies using

quantitative evaluation. Goldman, et al. (2018) revealed that there was a positive influence on brands in the consumables industry in response to sponsorship campaigns. However, due to a lack of data on company marketing objectives, sponsorship's true effectiveness can't be declared, (Goldman, et al., 2018). This study shows the positive financial impact of sports sponsorship in South Africa.

Sephapo (2017) confirms the marketing method of sponsorship is thoroughly used in South Africa. Therefore, it is important to understand the impact on these brands. Sephapo (2017) evaluated the value added to brand equity from sponsorship campaigns with the South African national rugby team. Sephapo (2017) found that campaigns were most effective when further leveraged with television advertising. The research also suggested that SM had a limited influence on consumers recall. This suggests that while SM was mentioned by respondents it was not an effective communication channel. As this study is limited to only Rugby, its findings are not representative of SM's impact on the whole sports industry within the country.

In contrast to this Hazari (2018) claims SM is much more effective than traditional means. Hazari (2018) used the setting of the 2018 Rio Olympic games to investigate the impact of SM consumption on sponsorship through consumer attitudes and purchase behaviour. Hazari (2018) found that consumer attitudes toward sports events and sports patronage are positively affected by SM. High SM consumption and sports enthusiasm lead to making a purchase, Hazari (2018).

Contrastingly, Popp, et al. (2017) found sales did not increase from a rise in SM engagement. The study tracked the increase in followers to sports teams and compared them to ticket sales. Popp, et al. (2017) found there was no increase in sales due to SM growth. The results of this study are in contradiction to claims from both Hazari (2018) and Woodside, et al. (2015) on SM's influence on sales. It must be taken into consideration that Popp, et al. (2017) focused solely on SM engagement. They did not account for other influencing factors, so these claims cannot be conclusively disproved.

Woodside, et al. (2015) found mixed results from their study into sports sponsorship on brand equity through SM. Woodside, et al. (2015) found sponsorship through SM effective in building consumer congruency. This leads to an increase in purchasing and positive word of mouth. However, Woodside, et al. (2015) also found the brand's relationship quality (BRQ) was only temporarily improved through SM sports sponsorship. Woodside, et al. (2015) suggests that more emphasis should be placed on long term sponsorships to increase BRQ.

This is in line with findings from Sephapo (2017) that brands with long term sponsorships have higher brand equity. Seeing as respondents were limited to South Korea, this would have limited this studies generalisation. The study was also limited by their reliance on several brands and suggest further research that is broader in its approach.

Sponsorship is successfully growing in South Africa. However, there is debate on how effective SM is in sponsorship campaigns. With no conclusive results on SM's usefulness, there is a call for further research into SM's contribution to sports sponsorship within a wider industry. Additional research is also called for by Abeza et al. (2015) due to the constantly changing nature of both the sporting landscape and SM. Due to the recent emergence of AI, there is currently no research investigating its effect on SM's value to sports sponsorship.

SMEs

After examining the current research on AI and SM sports sponsorship, it is important to investigate the existing literature regarding SMEs and their use of AI, SM and sports sponsorship.

The Department of Small Business Development Republic of South Africa (2019) classifies SMEs as a distinct enterprise that employs less than 250 staff and turns over less than R210 million annually. However, it is a mistake to assume SMEs have a small impact. Rugova and Prenaj (2016) point out over 90% of all companies worldwide are SME's. With the introduction of 4IR, it's important to understand how SMEs will be affected.

Carson, et al. (2016) state the growth in SM has meant that organisations from small to large have had to implement strategies to attract and maintain customers. In line with this Rugova and Prenaj (2016) state that in developed countries all businesses including SMEs are implementing SM well. However, in developing countries, they state it is not clear how the opportunity of SM is being used by SME's. Rugova and Prenaj (2016) studied the trend usage and impact of SM on SMEs through qualitative secondary research. They found SM usage by SMEs is growing in developing countries. However, management resistant attitude towards new tech and workers knowledge impacts SM's adoption.

Carson, et al. (2016) explored the SMEs use of SM. They found that while many leaders of SME's have stated they know the importance of SM, most have not implemented SM strategies. Furthermore, SMEs are not using analytical data that would give them more insight into followers engagement and behaviour. The majority of SMEs have no clear benchmarks to judge the success of SM. Cesaroni and Consoli (2015) also found that many SME's are unable to use SM profitably and feel forced to use it through the industry.

Cesaroni and Consoli (2015) recommend further studies to encourage SME's to fully integrate SM marketing.

Contradicting results were found by Naghibi and Karami (2014) who studied SM's impact on SMEs in India. One main attribute given to the growth of SMEs in India was new technology, making them more competitive. They found SM contributes significantly to SMEs success, calling it the most disruptive tool since the invention of the Internet.

SMEs in South Africa's tourism industry is also implementing SM openly according to Rambe (2017), 66% of SMEs in South Africa use SM to advertise their products. Rambe (2017) extended the study finding a positive correlation between SM marketing and firms competitiveness. Digging deeper the study found that over 70% of marketers had only novice or intermediate knowledge of SM. This shows a lack of training on SM within SMEs, (Rambe, 2017). Unfortunately, knowledge of AI systems was not covered in this research. Rambe (2017) suggests firms implement strategies for SM, including staff training.

Taiminen and Karjaluo (2015) and Cesaroni and Consoli (2015) also emphasise the need for training initiatives for SMEs. Taiminen and Karjaluo (2015) studied into SMEs use of digital marketing in Finland. They explain SMEs are not keeping up with digital development due to lack of knowledge in the area. Taiminen and Karjaluo (2015) call for research into SMEs who have benefited from SM.

The sports industry is experiencing constant growth, however, this growth is not felt by SMEs, (Pauling, 2016). Larger chains are taking over the European and Chinese sports market. One factor contributing to this is flexibility, where larger chains can analyse and predict yearly market trends. SMEs face management vacancies where managers are undertrained and overstretched with normal routines, (Pauling, 2016). This leaves them unable to keep up with shifting demands in SM implementation. This is an area where AI through SM analytics would be able to assist. SMEs could forecast and respond to trends with limited time and effort from management, (Fan & Gordon, 2014). The German sports market grew by 14.2% in 2015. The top 5 brands in the industry claimed 13.6% of the growth leaving little expansion to SMEs. This German shift in the global sports market shows the need for intervention to prevent SMEs collapse. Pauling (2016) warns that the economic downfall of SMEs in the sports industry is imminent without intervention, and calls for further training and research into this sector.

While there is a debate into the extent SM is used by SMEs, it is clear from the literature studied that SMEs are not taking full advantage of SM. The majority of the research points

towards a lack of training and or resources. There are threats to SMEs in the sports industry from larger chains. With possible solutions from AI and SM, the need to understand this emerging field is critical. SM marketing is a new concept where more studies are needed to understand the effects it has on SME's, (Rugova & Prenaj, 2016).

Summary

The effectiveness and capabilities of AI have been shown through several studies with its growth as an emerging research area. AI analytics can open the steams of consumer insight from vast amounts of untapped data on SM, (Micu, et al., 2018).

In South Africa, sponsorship is successfully growing, however, the effectiveness of SM in sponsorship campaigns is currently debated. Leading to a call for further research into SM's contribution to sports sponsorship within a wider industry.

Large corporations threaten SMEs in the sports industry. With possible solutions from AI and SM, the need to understand this emerging field is critical. While there is a debate into the extent SM is used by SMEs, it is clear from the literature studied, that SMEs are not taking full advantage of SM.

This in-depth literature review has highlighted several key concepts.

Key Concepts

Fourth Industrial Revolution: 4IR is an over-reaching term for Artificial Intelligence (AI), big data, the Internet of things, robotics and 3D-printing, (Sutherland, 2020). Understanding the impact of 4IR is central to this research.

Artificial Intelligence: Machine learning that uses advanced algorithms to analyse three categories; audience analysis, image analysis analyse and sentiment analysis, (Micu, et al., 2018). This study focused on AI as this is the area of 4IR most relevant to SM marketing campaigns.

Social Media: The integration of social interaction through multimedia, across online platforms, (Woodside, et al., 2015). SM is the marketing tool this research focused on to measure the impact of 4IR.

Sponsorship: is when an organisation is contracted to an event, team or athlete to represent their brand, (Hazari, 2018). Sponsorship is one of the fastest-growing forms of advertising. This study examined the changes to this industry through 4IR.

Small and Medium Enterprises: An enterprise that employs less than 250 staff and turns over less than R210 million annually, (The Department of Small Business Development Republic of South Africa, 2019). This research studied a potential solution to SMEs threats caused by large chains.

The research methodology was constructed around these key concepts.

Methodology

Research Design

There was limited insight into The 4IR, therefore, the researcher proposed using a positivist paradigm approach to provide a better understanding of this emerging concept. This method aimed at elucidating the relationship between two or more variables, in this case between AI and sports sponsorship campaigns on SM. The positivist paradigm uses a scientific approach that strictly guides the research process, (Crabtree, 2016).

Research Paradigm

Epistemology concerns what is usable knowledge according to Du Plooy-Cilliers (2014). In the chosen paradigm this requires knowledge to be observable and objective, (Du Plooy-Cilliers, 2014). As AI is an emerging field, there are many opinions towards it with little observable facts. It was appropriate to research only objective and observable facts that reduced the likelihood of bias affecting the research results.

The Ontological perspective of the positivist paradigm views reality as an external objective reality that is stable and governed by laws, (Du Plooy-Cilliers, 2014). It focuses on the effects of this reality and not on unobservable characteristics such as culture. As Hazari (2018) explains, SM and AI are global phenomena that will affect many cultures in similar ways. This fits the Positivist view of a similar reality having identical effects on many people.

Du Plooy-Cilliers (2014) explains positivism focuses its metatheory on value-free objective theories that can be tested to discover causal relationships. This enables researchers to predict effects and act to control or manipulate the phenomenon. Creating practical insights into AI that will empower management to effectively implement findings into improving business effectiveness.

Observable facts measured in quantitative processes are valued as the methodology of the chosen paradigm, (Du Plooy-Cilliers, 2014). This is relevant as findings from this research lead to empirical results that are trustworthy.

Axiology of the Positivist paradigm is objectivist and value-free research with no personal bias, (Du Plooy-Cilliers, 2014). This research aimed to gain an objective understanding of AI's influence on SM sports sponsorship campaigns. Anything that jeopardises this clear understanding, such as personal bias, was counterintuitive. This positioned the research axiology as objectivist.

The positivist paradigm feeds into the research design as it was looking for causal relationships between AI usage and SM value. Du Plooy-Cilliers (2017) states the most appropriate science for causal research is empirical-analytical sciences.

Conceptual Approach

Quantitative research allows for bias-free information to be collected and was, therefore, the chosen approach for this study, (Bezuidenhout, 2014). The existence of a relationship between the use of AI and the value of SM to sponsorship campaigns used correlational research. The existence of relationships between these variables was measured through numbered data and statistical systems from the positivism paradigm. Data analysis was formal enabling more final results, (Dudovskiy, 2018).

Research Approach

As the emerging field of AI is largely unknown, the deductive approach was most appropriate. It began with a general hypothesis and lead to explicit scientific results. This also enabled results to be generalised and more valuable to a wider community, (Bezuidenhout, 2014). A hypothesis based on the effect the use of AI has on SM value to sponsorship campaigns has been formed. A cross-sectional questionnaire was used to collect data and test this hypothesis.

A single email to all research subjects distributed this questionnaire. The defensibility of the research was improved as bias was stopped through the elimination of contact between the researcher and the respondents. Businesses in the sports industry use email as a common method of communication. It was therefore surmised that response rates would not be as poor as Pascoe (2017) suggested. Furthermore, considerable costs and time was saved through this distribution method enabling a wide sample of businesses across South Africa to be examined. The emailed survey used closed-ended, direct questions to test specific variables which were built into the research plan.

Research Plan

Investigating the potential relationship between AI and SM value required this research to collect and analyse data scientifically.

Population

For this research, specific characteristics were selected to ensure the relevance of respondents. These outlined the population parameters which must be shared by all variables to be a member of the population, (Pascoe, 2017).

Characteristics

Respondent;

- Individuals that have decision making power over SM and sponsorship decisions for SMEs in the sports industry.

Marketers were selected as they have decision making responsibilities on marketing tools such as AI and SM as well as, sponsorship campaigns. As the respondents represented their employers, it was important to specify the characteristics of their employers.

Respondents employer;

- The company must be classified as an SME as per The Department of Small Business Development Republic of South Africa (2019)
- SMEs must be in the sports industry
- SMEs must use SM as a marketing tool

Sampling

Simple random sampling was used as it is the simplest method to initiate, (Pascoe, 2017). Every member of the population has the same probability of being selected. It is the only method that is completely free from bias, (Pascoe, 2017).

Unit of analysis

In this research, the unit of analysis was individuals, specifically SME marketers in the sports industry.

Sampling Method

Probability sampling was implemented in this study, due to its links in quantitative methods and the positivist paradigm. Methods that eliminate human bias are used in probability sampling, (Pascoe, 2017).

Simple random sampling was used as this is the simplest method to implement, (Pascoe, 2017). It is the only pure sampling method being free from bias. Every member of the population has an equal probability of being selected. A drawback is when large amounts of data is collected data can be selected in clumps leading to the risk of inaccurate results, (Dudovskiy, 2018). However, only a small sample size has been selected minimising this risk.

To conclude the simplicity allows freedom from bias and minimal risk which made simple, random sampling the most suited sampling method for this research.

Sample Size

Proving the relationship between AI and SM value beyond the sample was the intention of this study. Therefore, large sample size was preferable. Unfortunately, based on the fact that this is an honours level (NQF 8) qualification the number of respondents was restricted to a sample size of 25.

The research plan detailing the population and sampling provided the framework for the data collection method.

Data Collection Method

To prove correlations between AI usage and SM value, the researcher used a questionnaire constructed with quantitative methods.

A cross-sectional survey was used to collect data. This saved costs and eliminated the chance of repeat responses. As the sports community is very close, questionnaires circulated at different times may result in conversations and lead to influence from other SMEs. The survey was distributed at a singular point in time to construct a concise image of the overall phenomenon, (Cronje, 2014). Results were accepted for one week with the first submission recorded on 24/07/2020 and the last submission accepted on 30/07/2020.

Only closed-ended questions were used where respondents must select an option from provided answers ensuring no irrelevant data was collected, (Cronje & Plooy-Cillers, 2014). Closed-ended questions fit with the positivist and quantitative methods which allowed the researcher to statistically analyse the collected data from 3 sections.

Section 1 – Demographics

A general description of the sample population was provided in this section. Contingency questions directed respondents to end the questionnaire if they do not meet the research characteristics, Cronje (2014).

Section 2 – AI usage

This section investigated the level of technology usage. Likert questions collected data on SMEs use of AI to form an AI usage scale. Statements designed to test a specific variable were given where marketers were requested to indicate their position towards the statement between strongly agree to strongly disagree.

Section 3 – SM value

The value SM contributes to the SMEs was measured in this section. Likert survey questions were also used to construct an SM Value scale. This was compared to an AI usage scale in the data analysis stage to establish if a relationship exists between these variables.

Participants for this research were recruited from customer lists of a local sports nutrition manufacture. Permission for this was provided through a gatekeepers letter. Sports nutrition is sold to a variety of sport SMEs in different areas of the sports market such as; specialist stores, events and online. Furthermore, as this manufacture distributes nationally, these results are generalisable to the whole country.

For this data to be collected efficiently, the large geographical area was taken into account, here, emails were used to overcome this limitation, Cronje (2014). Hence, the need to hire, train and transport staff to interview respondents was mitigated. The questionnaire was designed so assistance was not required by respondents. This drastically reduced time and financial restraints to the research, (Dudovskiy, 2018). Objectivity was also increased by this method as the researcher had no contact with the respondents.

There were several disadvantages to this method. For example, poor response rates and questions may have been misunderstood due to the lack of physical contact with this method. To ensure the questionnaire is clear, a pilot questionnaire was used on acquaintances of the researcher. Emailed questionnaires have strong advantages while the effects of their disadvantages were reduced.

The questionnaire was set up on the online platform Google Forms, that collected the responses. The link for the questionnaire was attached to the email with the necessary instructions. The platform collected the data automatically, simplifying the data collection process. After one week the questionnaire was closed.

All sections of the data collection were designed to limit the influence and the possibility of bias thus ensuring the research was as scientifically accurate and objective as possible. The

data analysis was designed to allow the most accurate interpretations to be made from the collected data.

Data Analysis Method

A clear understanding of AI's influence on the SM value needed to be formed through objective scientific results. Consequently, quantitative analysis tools were used. Statistics removed the guesswork thus allowing objective and defensible conclusions to be drawn, (Khan, 2014).

The deductive approach requires results to be specific. Therefore the survey used mutually exclusive answers and closed-ended questions. Data automatically record and collated from Google Forms was exported to Microsoft Excel for analysis.

Section 1 used multiple-choice questions.

Mode, median and mean were selected to analyse multiple-choice questions. Their simplicity, as well as overarching principles, contributed to the research's reliability.

Standard deviation was used to test the data's validity. This statistic was implemented to indicate potential issues or the strength of the data. Unfortunately, it is affected by data outliers. However, while (Wegner, 2016) explains these can be removed through a well-documented process to ensure defensibility against claims of tampering with results, the small sample size made identifying outliers impractical.

Section 2 and 3 were Likert questions. Continuous data collected from Likert scales were analysed using frequency distribution, mode and mean. Mode measured the most frequently occurring value, while mean calculated the average value, (Wegner, 2016). A five-point Likert scale was used due to its low data spread. These questions were also used to form matrix questions forming two scales. These allowed the researcher to test correlations between AI usage and SM value, using the mean of each scale.

Inferential analysis, specifically Pearson's correlation coefficient, was used to determine the relationship between AI and SM value. This analysis assesses the strength of the linear association of two variables, Wegner (2016), and this was used to analyse the relationship between AI usage and the SM value scales.

Results that are close to zero indicate a weak relationship, whereas values close to -1 or +1, indicate a strong negative or positive relationship. -1 is the strongest negative relationship and +1 is the strongest positive relationship, (Pietersen & Maree, 2016).

The results of the Likert questions have been shown in histograms showing the percentage of each response. Histograms were selected due to their clear presentation of data, continuing efforts to improve the defensibility of the research. Scatter charts have also been used in the research findings to visually represent linear relationships, as suggested by Pietersen & Maree (2016).

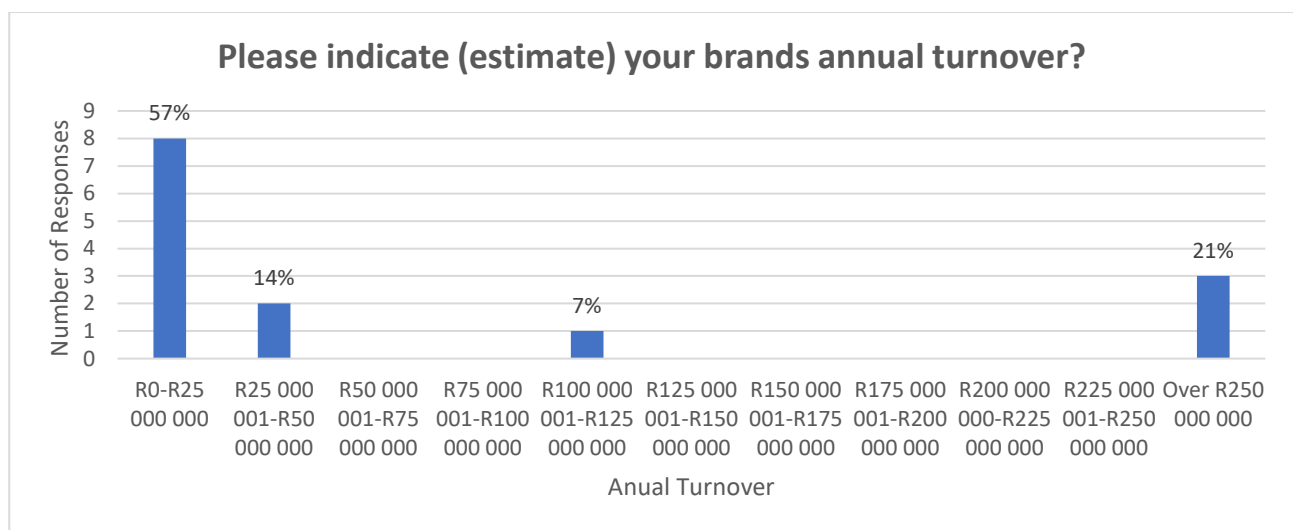
Findings

The researcher hypothesised that high AI usage results in a positive effect on SM value towards SMEs sport sponsorship campaigns. The following results will allow the researcher to accept or reject the null hypothesis.

Demographic Questions

The first question asked respondents to estimate their brands annual turnover. While this collected valuable information, it was also used to eliminate unsuitable respondents. Its results are shown in Chart 1.

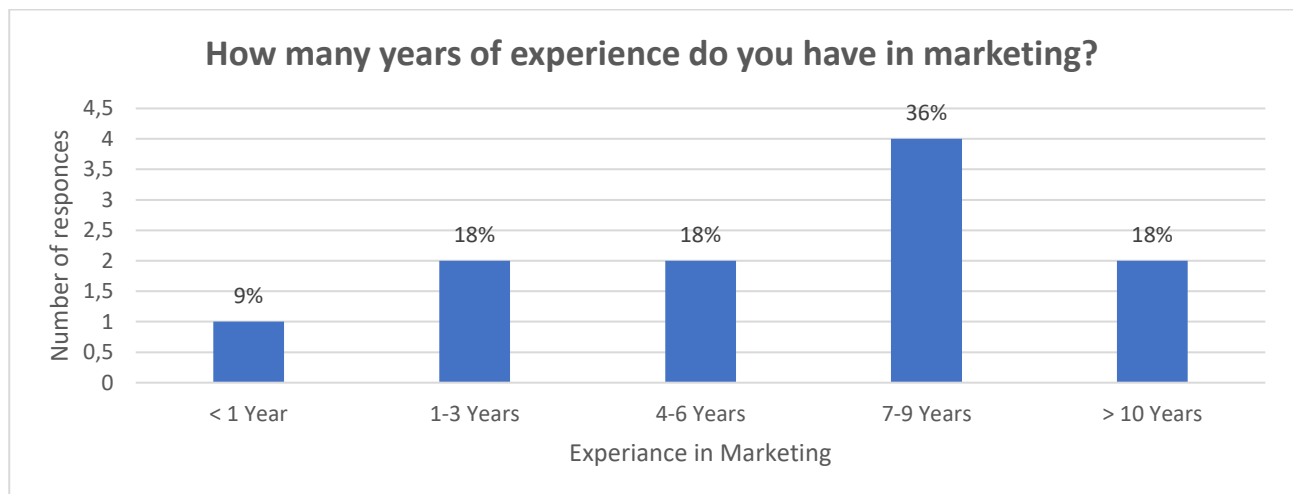
Chart 1



Three brands representing 21% of the sample turned over more than R250 000 000. This is outside the South African Government's definition of SMEs, and so their results were excluded, therefore, taking the completed responses from 14 to 11.

Question 4 aimed to collect data on the number of years of experience marketers had, investigating the role experience plays in SM marketing. Chart 2 gives a visual representation of these results.

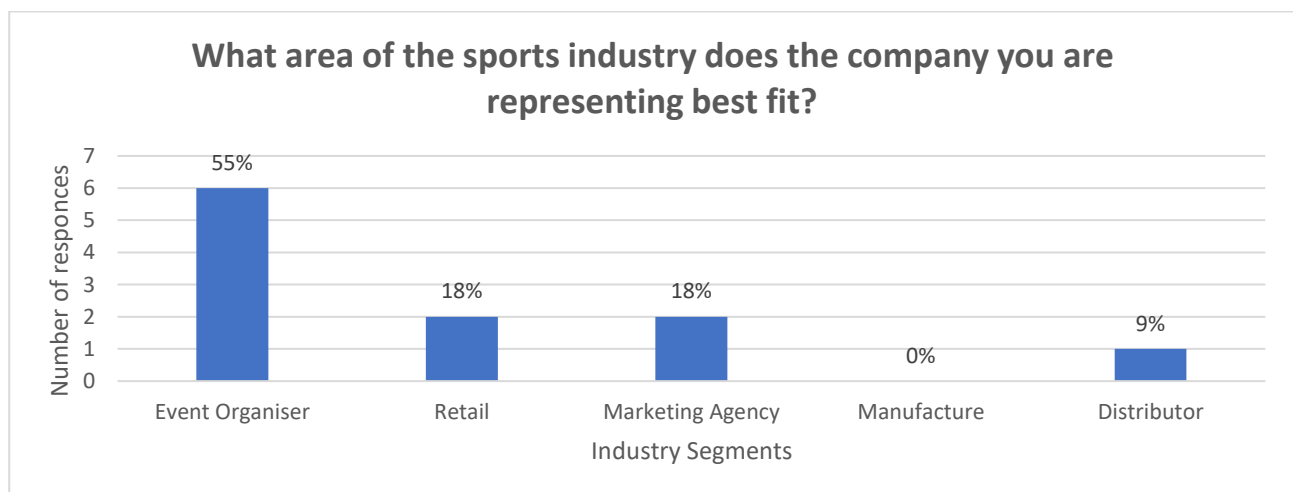
Chart 2



The majority of respondents indicated they had between 7-9 years of experience in the industry while only 1 respondent had less than a year. This shows that the majority of SME's have marketers with over 7 years of experience. The implications of this on AI usage will be further discussed below.

Question 5 segmented the Sports industry into 5 respective sections displayed in Chart 3.

Chart 3



No manufacturers and only one distributor responded within the sample characteristics. Responses from retail outlets and marketing agencies were also below the researcher's expectation. While over 55% of respondents were event organisers, this could be a result of COVID-19 closing all events, giving event organisers more time to respond to the questionnaire. On the contrary, the other four areas of the industry have seen an increase in complexity from the pandemic, possibly limiting responses.

The first 5 questions give the researcher a better understanding of the respondents and will enable further data analysis for both the AI usage and SM value sections.

AI Usage Scale

The AI usage scale investigates 5 key areas of AI usage as depicted in Table 1.

Table 1:

AI Usage	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Staff Knowledge	9%	18%	18%	9%	45%
Regular Usage	9%	18%	36%	9%	27%
Importance	36%	18%	0%	27%	18%
External Market Analysis	9%	27%	9%	27%	27%
Platform Analysis	9%	18%	18%	18%	36%

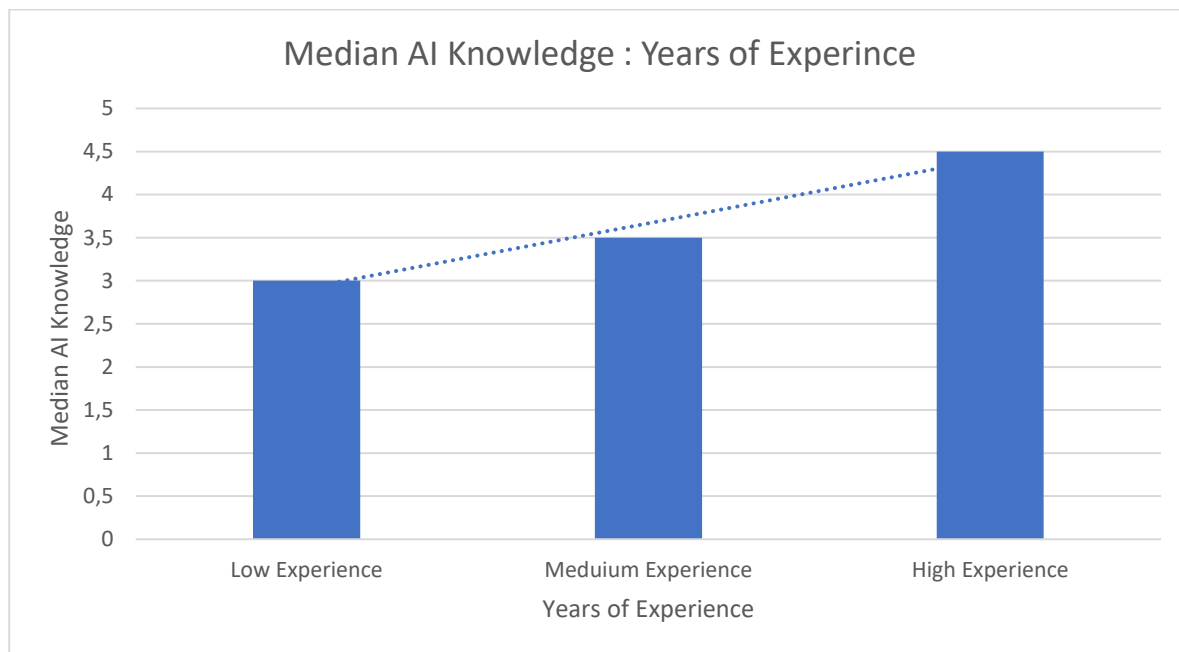
The results in the above table demonstrate the attitudes sports SME marketers have towards 5 areas of AI usage that were outlined by this questionnaire. There are several notable results;

Firstly, 45% of respondents strongly disagreed that staff have advanced knowledge of AI, with only 9% strongly agreeing. In total 63% disagreed with the statement with only 27% agreeing and 18% neutral. This shows a lack of expertise in AI. These results are similar to findings of Rambe (2017). Rambe (2017) found 70% of South African SME marketers in the tourist industry had a novice to intermediate knowledge of SM. Rugova and Prenaj (2016), also state staff knowledge is a barrier to SM adoption in SMEs. While these findings do not speak directly to AI as this study does, they give complimentary results where a similar adoption pattern of AI can be expected.

There is a noticeable difference from the importance of AI where 36% of respondents strongly agree and 18% agree that AI is important to SM campaigns with 27% disagreeing with the statement. It can be deduced from this that although there is a recognition of AI's importance, there is a gap in staff knowledge. This is in line with Carson, et al. (2016) who found that while many leaders of SME's have stated they know the importance of SM, most have not implemented SM strategies. Further to this the fact that no SME marketers responded neutrally to AI's importance, indicates that all marketers had an opinion on the importance of AI. Although knowledge of AI is low in the industry this shows an awareness of the topic by all respondents.

To understand the impact experience has on AI knowledge, the years of experience were grouped into 3 sections. <4 years of low experience, 4-7 years of medium experience and >8 years of high experience.

Chart 4

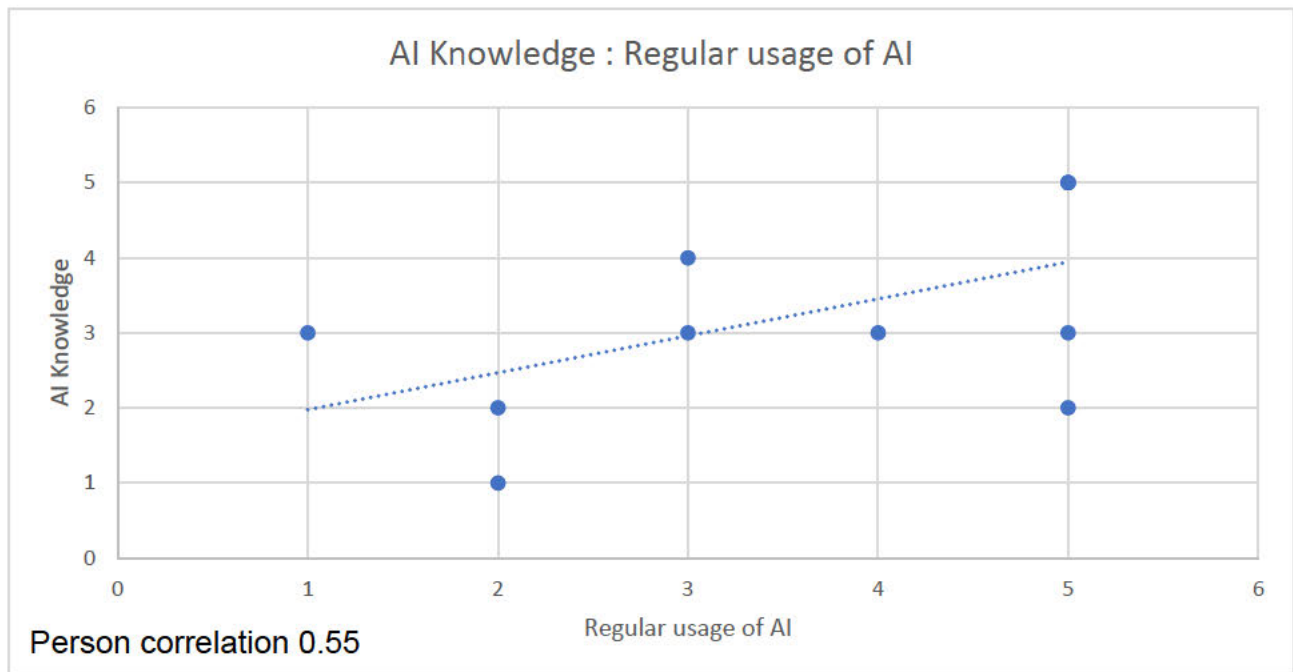


In Chart 4 the lower number represents a higher knowledge in AI. With 1 representing strongly agree and 5 strongly disagree to staff having advanced knowledge of AI. Chart 4 shows the median response with the trend, less experienced marketers have more knowledge of AI progressing to worse knowledge with more experience. Indicating contrary results to (Micu, et al., 2018), who found that more experienced marketers were more proficient in AI technology.

Secondly, for regular usage, usage on external market analysis and platform analysis all resulted with a similar mean of 3.3, 3.4 and 3.5 respectively showing the average response was between neutral to disagreeing with their implementation of AI and its specific tools. Carson, et al. (2016) had similar findings where SMEs were not using analytical data that would give them more insight into followers engagement and behaviour.

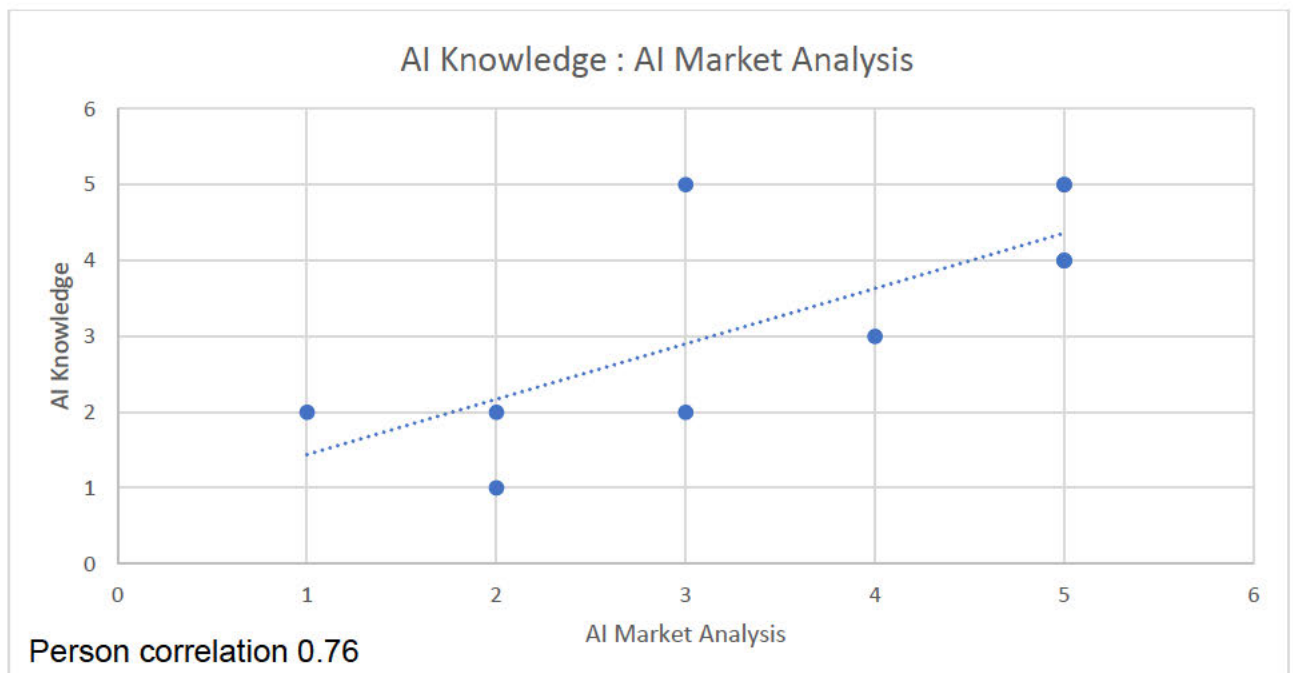
Upon further investigation, it was found that retailers were the lowest respondents to the regular use of AI and the use of market and platform analysis. With a mode of 4 indicating their most common answer was disagreeing. On the other hand, unsurprisingly marketing agencies are the most regular users of AI, including market and platform analysis with a mode of 1 showing the most common answer was strongly agree across all three statements. This is in line with the results from the AI knowledge statement where all retailers responded strongly disagree with staff's advanced knowledge in AI. A positive relationship with a Person correlation of 0.55 moderate strength was found between AI knowledge and AI usage as depicted in chart 5 below.

Chart 5



These results show the higher respondents knowledge in AI the more likely they are to use it regularly. Rambe (2017) suggests firms implement staff training for SM. This correlation shows that further training into AI usage in SM could be an effective way to increase the industries use of the marketing tool. Chart 6 further breaks down this finding into the specific tool of market analysis.

Chart 6



A strong relationship with a Pearson correlation of 0.76 was found between AI knowledge and the use of AI for Market analysis. Marketers who have advanced knowledge are more

likely to use AI as a tool for market analysis. This fits with findings from, (Fan & Gordon, 2014), (Andrea & Mintz, 2019), (Micu, et al., 2018), (Delen & Zolbanin, 2018) and (Kim & Kim, 2018) who state consumer analytics (encompassed by market analysis) is one of the main benefits of AI within SM as marketers become more familiar with the emerging technology, their increased use of these tools speak to their positive effect.

To understand the implications these findings have on SM value, the results of section 3 of the questionnaire are important.

SM Value Scale

Table 3:

SM Value	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Valuable	27%	45%	18%	9%	0%
Competitive Advantage	18%	45%	9%	27%	0%
Effective	55%	18%	0%	18%	9%
Important	55%	18%	0%	18%	9%
Attracts Customers	45%	27%	9%	9%	9%

The opinions of marketers towards SM's value are examined in the above table, forming the SM Value Scale.

The research reveals 72% of respondents agreed that SM is valuable to their business, with only 9% against and 18% neutral. This shows high regard for SM's value within SME's of the Sports industry. Rambe (2017) found similar results in the South African tourist industry. The industry's perspective towards SM adding Competitive Advantage (C.A.) is also clearly positive. With 63% in favour, 27% disagreeing and only 9% neutral. This is in line with Indian SMEs according to Naghibi and Karami (2014), who stated SM gave significant CA.

Questions 13 and 14, investigated the effectiveness and importance of SM. They produced the same results from all respondents. Fifty five percent strongly agreed SM is effective and important. Eighteen percent agreed to the statements with no respondents remaining neutral, indicating all respondents have an opinion on SM's effectiveness and importance. The study by Razak and Bin (2016) also emphasises SM's importance. There was minimal opposition to these statements, only 18% disagreed and 9% strongly disagreed.

SM's ability to attract customers also yielded clear results with 45% strongly agreeing and 27% agreeing that customers are attracted through SM. Neutral, Disagree and strongly disagree had 9% responses respectfully. This result is in direct opposition to Popp, et al. (2017) who found sales did not increase through an increase in SM engagement. However,

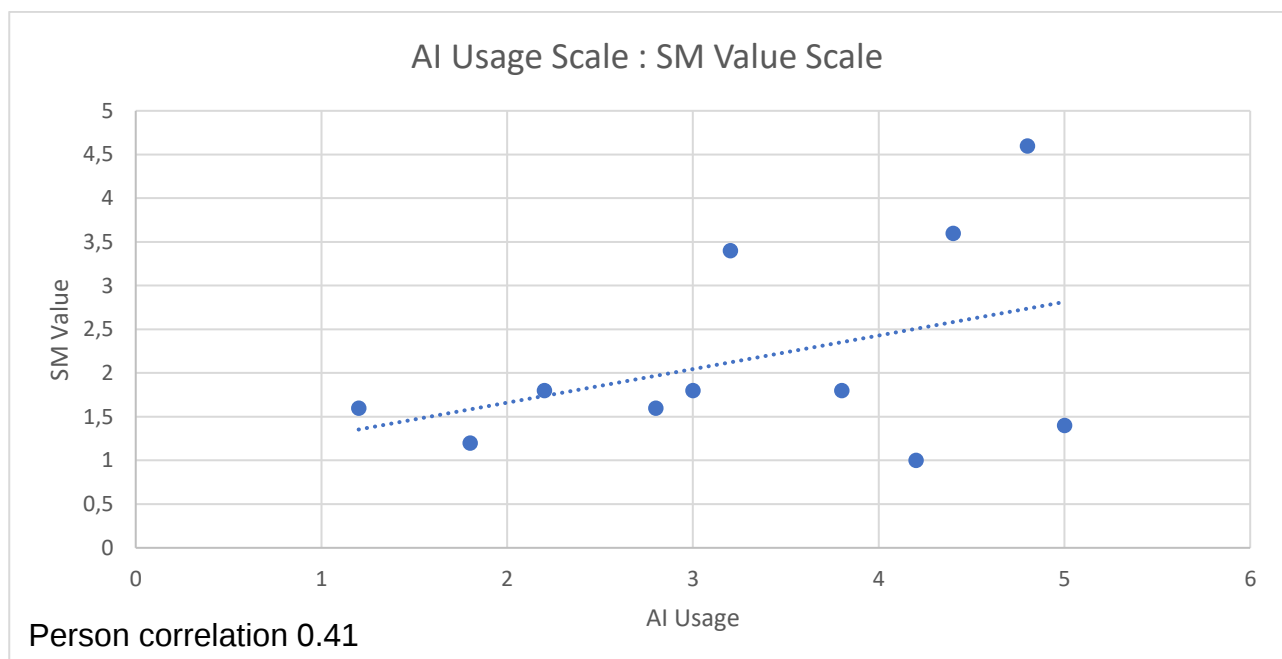
results from both Hazari (2018) and Woodside, et al. (2015) correspond with this studies findings on SM's effect on customer attraction.

Looking into the results from both scales, the industry is less divided on SM with a standard Variance of 1.3 as opposed to AI's variance of 1.6. This can be contributed to AI being an emerging field that is not fully understood by the industry. Pearsons Correlational analysis has been employed to further understand the relationships between these two variables.

Correlations

Scatter charts have been used to visually represent the Pearson correlations with trend lines. Their clear presentation of all results ensures reliability and defensibility of the research. The first correlation is between the AI usage scale and SM value scale, illustrated in Chart 7.

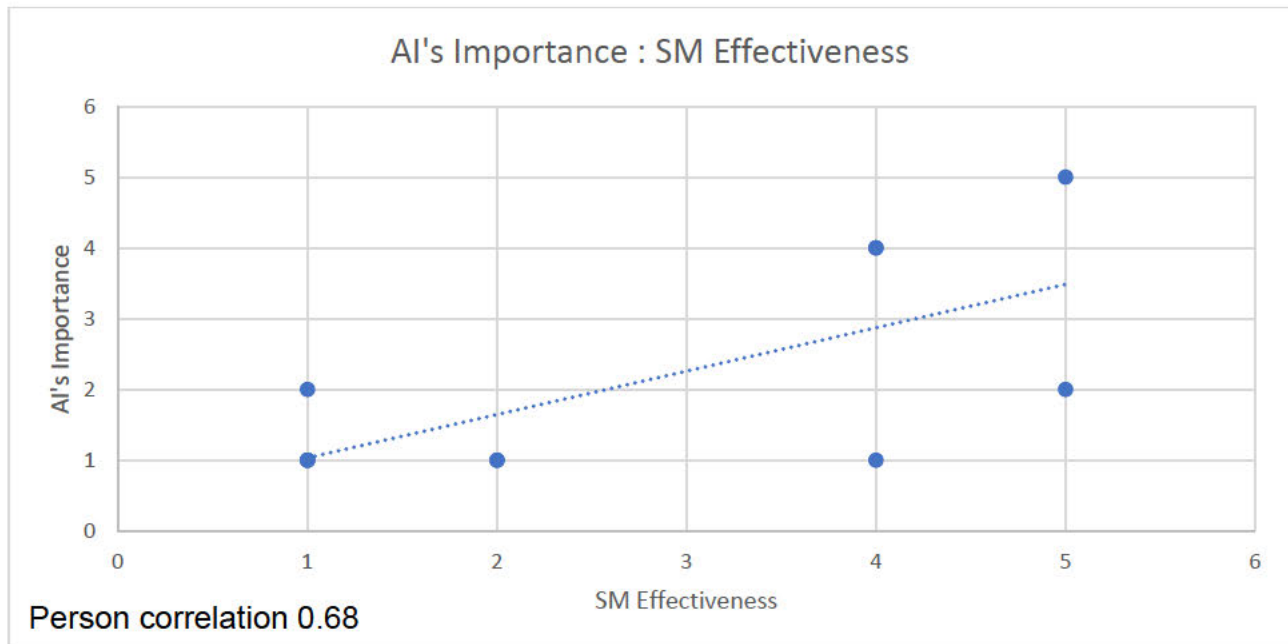
Chart 7



A weak positive relationship was found between AI Usage and SM Value. It is depicted in Chart 7 with a Pearson correlation of 0.41. This relationship is grounds to accept the null hypothesis; "High AI usage results in a positive effect on SM value towards SMEs sport sponsorship campaigns," More research is required due to its week correlation. Marketing agencies and retail stores had a relationship correlation of 1, in other words, it is perfect. A contributor to this might be their customer focus approach. However, more research is needed to understand this. On the other hand, event organisers (0.07) and distributors (unreadable) decreased the correlation considerably. This large divide in the industry is not explained by any statistics collected in this research and so further research is needed.

A much stronger correlation is shown in Chart 8.

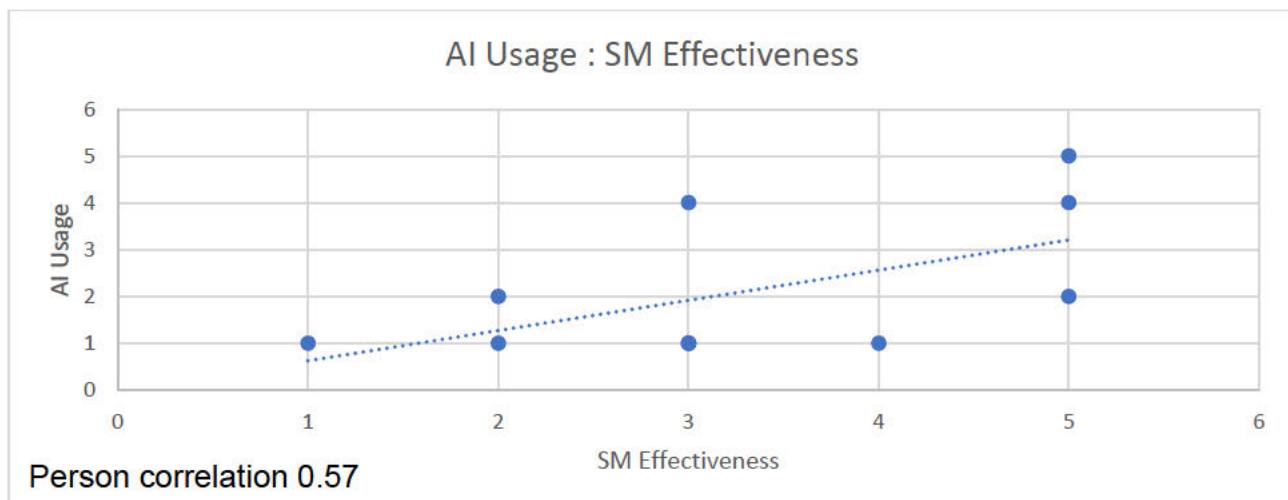
Chart 8



A Pearson correlation of 0.68 indicating a strong positive relationship exists between marketers perception of AI as an important tool and SM affecting the business. This answers Pauling's (2016) call for further research into increasing business competitiveness for sports SMEs. It also agrees with the call for more training by, Pauling (2016). The results show that effective training on the importance of AI could drastically increase SM's effect on SME's. Showing potential for a solution to sports SME's threat from larger companies.

Further to this chart 9 shows the relationship between AI usage and SM's effectiveness.

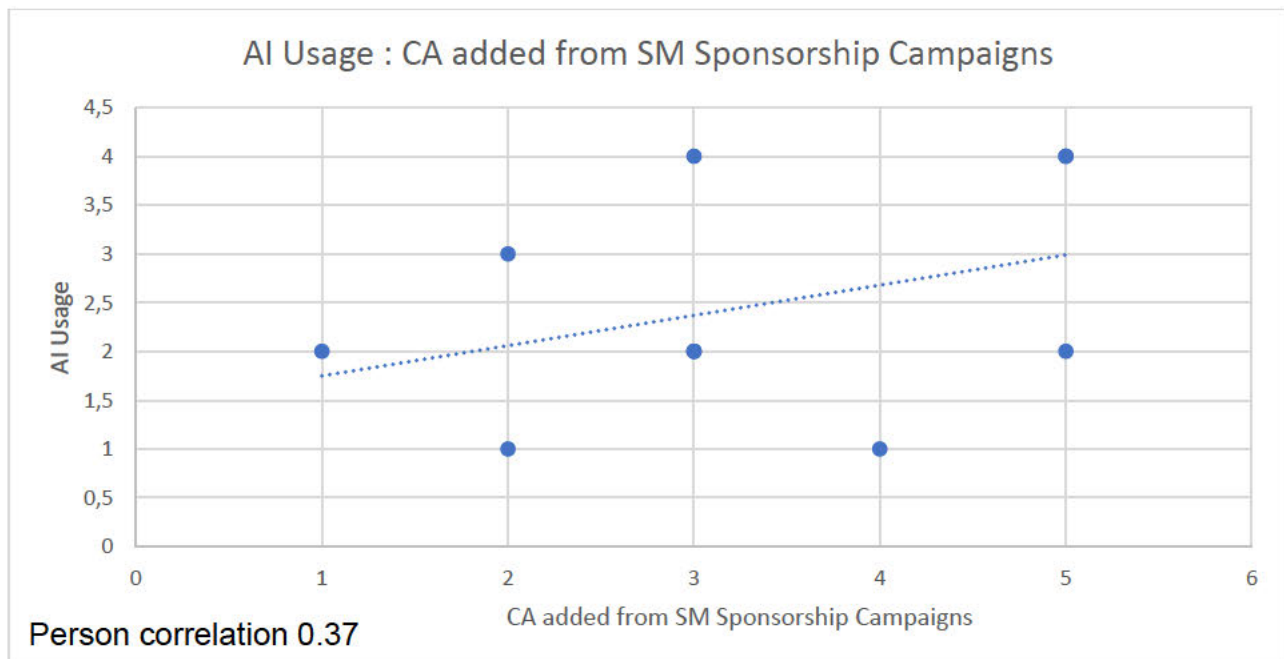
Chart 9



The Pearson correlation of 0.57 indicates a medium-strength positive relationship. A relative benefit is gained through AI technology on SME's SM marketing. It can, therefore, be extrapolated that a weak beneficial relationship exists between AI usage and SMEs SM marketing effectiveness, answering the first research objective.

Chart 10 attempts to answer the main research question.

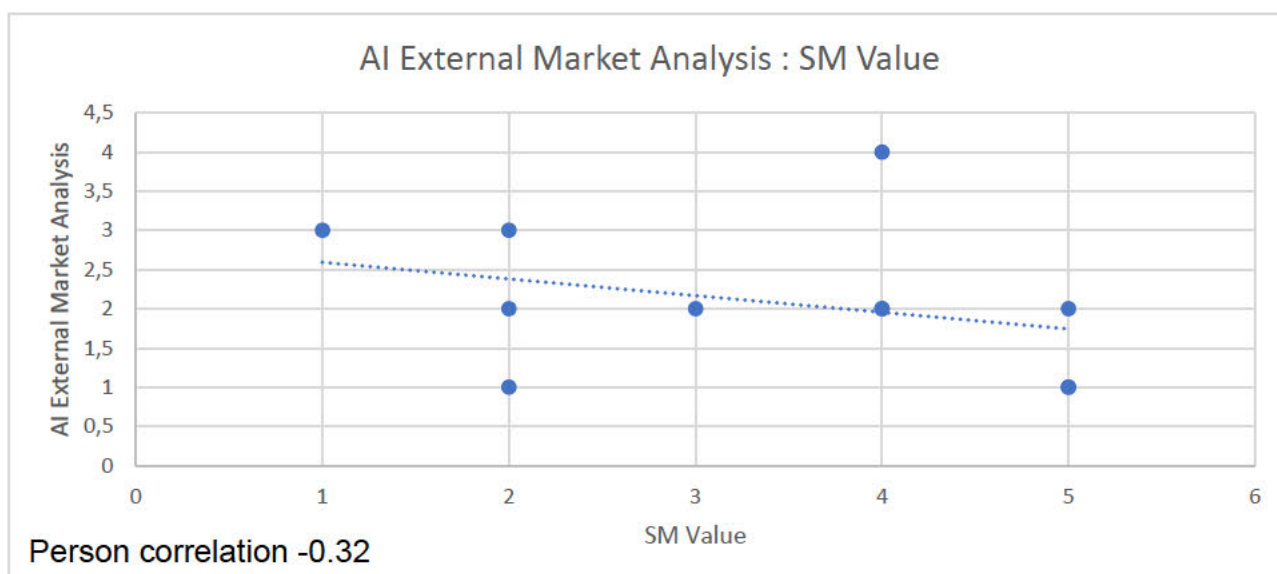
Chart 10



A positive weak relationship of 0.37 (Pearson coefficient) exists between AI usage and Sponsorship campaigns having competitive advantage's (CA)'s. It can be taken from this that there is potential for AI to add CA to SME's sponsorship campaigns. However, it is not as strong as findings from Fan and Gordon (2014) suggest. Taking into consideration the low knowledge in AI, further training may be needed for this to be fully recognised.

Another surprising correlation is shown in Chart 11.

Chart 11



An unexpected negative relationship, of -0.32 Pearson correlation, exists between the use of AI for external market analysis and SM's value. This is in contradiction to Rugova & Prenaj (2016) who found SM targeted advertising is highly effective for SMEs. An explanation could be the staff's lack of knowledge in AI resulting in ineffective use. Andrade, et al. (2019) also raised the concern of accuracy they found that AI's have considerable issues with facial analysis (a tool included in the market analysis). A low knowledge in AI combined with unrefined AI systems could be the reason South African SME's are not seeing the benefit of external market analysis.

Further discussion into these findings aims to produce applicable recommendations.

Discussion

Determining how The 4IR effects the value of SM in sponsorship campaigns within the context of South African sports SMEs is the purpose of this study. The positive relationship between AI usage scale and the SM value scale, indicate that there is a positive effect on the value of SM sponsorship campaigns from AI. It can, therefore, be extrapolated that The 4IR will increase the value of SM in sports sponsorship campaigns to South African SMEs.

This finding points to the main research question, "Does AI technology increase SM's value to sports sponsorship campaigns within the context of South African SMEs?" A positive relationship exists between AI and SM sponsorship campaigns value. Although, the extent of the increase is limited due to a weak relationship.

The next research question asked, "Is 4IR creating opportunities for SMEs to further leverage their sponsorship programs?" while there is awareness of the importance of AI and

therefore opportunities, it presents that the knowledge gap is a large barrier for the adoption of this new technology. This is in line with findings from Prenaj (2016) indicating that staff's knowledge and management resistance was a barrier for SM usage in SMEs from developing countries.

Feeding on this the third research sub-question can be answered, "Are SMEs exploiting the benefits of AI on SM?" This question can be debated as there is a positive relationship between AI usage and SM value. However, with a negative relationship between AI market analysis, one of the main opportunities from AI, (Fan & Gordon, 2014), (Andrea & Mintz, 2019) and (Micu, et al., 2018), and SM value. There is still space for improvement by SMEs. Carson, et al. (2016) also found a lack of SMEs using analytical data that would give them more insight into followers engagement and behaviour.

"Does SM add value to SME's", is the next research question the study addressed. It was clear with 72% of SME's agreeing that SM adds value to their organisation. These results are in line with Rugova and Prenaj (2016) and Hazari (2018) who emphasised the importance of SM to SME's. This result contradicts Cesaroni and Consoli (2015) who claim that most feel forced to use SM. It is poignant to note that the fast-evolving technology of SM has changed considerably from Cesaroni and Consoli (2015) publication. Emphasising the need for continuous study into this changing field.

AI is an emerging technology, as a result, these relationships may grow in strength as SME's adjust to this new tool.

Recommendations

Procedure

This study reveals a reduced knowledge of AI. While there is a large recognition of AI's importance, this calls for more training for both students and experienced professionals. Less experienced marketers were found to have a higher knowledge of AI while the more experienced professionals have lower knowledge in this area. Short courses constructed for working professionals to be upskilled in AI would benefit this industry. Rambe (2017), Taiminen & Karjaluo (2015) and Cesaroni & Consoli (2015) echoed this call for further training in the SM field.

Increasing market research into the AI and SM sectors is recommended to enable businesses to keep up with the fast-emerging field. Businesses also need to keep up to date with policies which will affect their marketing methods.

Policy

Government policy regulating the use of personal information needs to be updated. With knowledge in AI being less than advanced and the call to increase external market and platform analysis, personal information must be protected. Jacobson, et al. (2020) revealed that 50% of users are against their data being analysed. As AI analytics evolves, government privacy regulations will have to continually change. These policies should be informed by relevant academic and market research.

Academia

Notable differences in results have been found between this research and dated research on this topic, indicating the continuing advancement of the technology. Continuing academic research is needed for this technology. Abeza et al. (2015) also recommended regular academic studies due to the constantly changing nature of both the sporting landscape, AI and SM technology.

Taking these recommendations into account there are several contributions this study is anticipated to make.

Reliability

Reliability deals with the credibility of the research project and demands consistency in the results, (Koonin, 2014). Koonin (2014) postulates that reliable research should yield similar results when repeated with the same methods. Errors can affect this and can originate from a misinterpretation of research questions or questions being interpreted differently, (Koonin, 2014). Hence, pilot surveys have been used to reduce the impact of this. A pilot survey will be used where professional marketers were sampled, while internal consistency is used to ensure the reliability of the research.

Internal Validity

This speaks to the research's ability to answer the research question, (Koonin, 2014). The findings should reflect the current situation regarding 4IR. Closed-ended questions have been used to ensure only answers relating to specific variables are recorded. Contingency questions have also been implemented to ensure only respondents who match the specified characteristics were recorded, this resulted in the removal of 3 respondents. The research question has therefore been answered with defensible results, adding to the validity of the research.

External Validity

The research must be generalisable. If the same study was conducted on the full population it would produce similar results, (Koonin, 2014). Several areas of this study build into external validity. The sampling frame provided by the sports nutrition company delivers a large, diverse spectrum across the country. While the sample population is randomly selected, further increasing validity. Eliminating contact between the researcher and subjects decreased bias and influence. The quantitative techniques used in the positivist paradigm, as well as strict scientific collection of data, continue to build the external validity of the research.

Unfortunately, due to the limited number of responses, it resulted in reduced external reliability of this research. With such a small sample size the diversity of South African culture may not be captured, limiting the generalisation of the research.

The results of this research need to be reliable and valid to add a worthwhile contribution to society.

Anticipated Contribution

South African SMEs will benefit largely from this research. With increasing economic pressure and unstable markets, it is also plagued with a lack of academic research. 4IR is a growing issue that will affect many factors in the economy. This study will give SME's in the sports industry better understanding of the evolving technological tools through AI and SM. SMEs are better equipped with the knowledge that the use of AI in SM sponsorship campaigns increases the SMEs CA. This could assist sports SMEs worldwide as they battle for CA over large firms.

As pressure from larger businesses increases, SME owners may find SM and AI are possible solutions to help them compete against larger firms, (Pauling, 2016). The importance of AI in SM has been highlighted in this study, while positive relations have been found between AI and SM value have been found. SME business managers have been provided with critical information with a possible solution through this study.

This research aimed to provide an understanding of AI's influence on the SM value. Answering Taiminen and Karjaluo's (2015) call for research to build SME's understanding of SM's value. Further to this, training facilities can gain valuable knowledge of this emerging phenomenon which will better enable entrepreneurs to be trained in these emerging technological tools. There is clear evidence from this study for the importance of staff

training. While weak spots in external market analysis and platform analysis raise more specific areas for training.

There is a growing knowledge gap on The 4IR and this research has contributed to this field benefiting both South African and international academics. Insight has been added to the technological field as well as the South African business literature. The relatively unstudied economy of South Africa is of growing international importance.

Goldman, et al. (2018) also stress's sponsorship as a constantly growing industry. This research will add considerably to both the sponsorship and sports industries. Providing a better understanding of how AI can benefit SM sponsorship campaigns. This can further boost SMEs understanding of the marketing tools available to them.

These benefits to society must be weighed up against ethical costs.

Conclusion

A positive relationship was found between the use of AI and the value of SM in sponsorship campaigns through this research. Results were collected using a quantitative questionnaire distributed to sport SMEs throughout South Africa. These results indicate SMEs can increase the benefit SM sponsorship campaigns have through the use of AI.

While there is a high awareness of AI's importance from South African sport SMEs, the results show a low number of marketers with advanced knowledge in AI. This indicates a knowledge gap where increased training could highly benefit SMEs in the sports industry. The importance of this is emphasised by Pauling (2016) who points out SMEs in the sports industry are at risk from large businesses. This has highlighted the need for SMEs to find possible solutions and build CA.

Another important finding from this research is the positive relationship between AI usage and CA added from SM Sponsorship Campaigns. Indicating an increased use of AI in sponsorship campaigns increases the SMEs CA. This could have large implications for sports SMEs worldwide as they battle for CA over large firms.

This research has found that AI increases the value of SM sponsorship campaigns and therefore has solved the purpose of this research. Through the finding of a positive relationship between AI usage and SM value, the researcher can accept the hypothesis (H0) and reject the null hypothesis (H1), thereby completing the goal of this research.

Although the call for studies into AI and SM has been answered through this and several other studies, this dynamic and fastpaced field continues to require attention, (Davenport, et al., 2020). As a result, several factors should be considered for further research into this research area.

Firstly the small sample size has limited the generalisability of the research and has limited the external validity of the results. For further studies, a larger sample size would be recommended.

The second consideration is that this study was conducted during the COVID-19 pandemic, possible implications of this may have skewed the data. Further research should be, if at all possible, conducted under normal circumstances.

Ethical Considerations

For research to be practised in a responsible way, the researcher needed to adhere to ethical and professional practices, (Louw, 2014). The IIE ethical guidelines were adhered to during this study while confidentiality was of utmost importance.

Ethics that affect the researcher

Deception

There was no deception in this research. Participants could feel secure in the knowledge they were not being misled. There was no hidden meanings, all descriptions and statements where true.

Sensitive Data

Respondents information and data has been protected. Collected data was stored on encrypted google accounts and a password-protected computer. Personal information will not be sold to 3rd parties, all questions in the survey were anonymous. Further protecting respondents identity and sensitive information.

Informed Consent

The purpose of the research and respondents rights to privacy were clearly explained. The email stated that selecting the link to the survey indicated agreement to the research terms.

Data Manipulation

Statistical analysis must be transparent. The researcher has record data collection processes and signs a declaration stating data was not intentionally manipulated.

Ethics that affect participants

Incentives

No incentives were provided to respondents to motivate their participation. Incentives can influence the way people respond to questions, un-randomizing the sample profile, (Koonin, 2014).

Protecting Participants

Participants were given an outline of the research, ensuring they understood the effects it could have on them. Respondents were then asked to discontinue the questionnaire if they felt they could be harmed. Questions that could revoke past trauma were avoided. Anti-virus scanners have been used to protect the respondent's data from electronic threats.

It was important respondents health and safety was protected. Emails were used to eliminate the risk of face to face interviews during the COVID-19 pandemic. Furthermore, no equipment was used that could harm the participants.

Data Collection

Data Collection was carried out digitally obeying social distance guidelines enforced during COVID-19. It also ensured no bias or influence from the researcher affected the results.

While the upstanding ethics of this research has added to its effectiveness, several limitations must be considered.

Limitations

Management time

SME Managers are pressed for time, (Pauling, 2016). Consequently, only event organisers who had increased time due to COVID-19 restrictions on events had a high response rate. To reduce the risk of this, the questionnaire was as short and simple as possible. A statement of the estimated completion time was also made.

Time frame

Although this research has answered calls for studies into AI and SM, this dynamic and fastpaced field will continue to require attention, limiting the usefulness of this research, (Davenport, et al., 2020).

Data Collection Method

Questionnaires have low response rates, (Dudovskiy, 2018). While Google Forms require respondents to have a google account, this has reduced the number of respondents. As this research is an Honours program NQF 8 restrictions applied. These restricted the sample size to 25. Taking these factors into account the small sample size has comprised the generalisation of the research.

COVID-19

A Public Health Emergency of International concern has been declared for COVID-19, (World Health Organisation, 2020). This resulted in the South African Economy being temporarily locked down. Many of the SME's in the sports industry were closed and this also reduced the number of responses. As a result, all data collection was electronic and did not require face to face contact.

These limitations were understood and actions were taken to limit their effect on the research, (Enslin, 2014).

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Annexures

Annexure 1: Example of Consent Form

To whom it may concern,

My name is Mark Mackenzie I am studying my honours in management at Varsity College. I am conducting research on the effects of Artificial Intelligence on Social Media value to small businesses in the sports industry. I hope that this research will enhance our understanding of Social Medias Value to small and medium enterprises.

I would like to invite you to participate in my study. If there is someone more appropriate in your organisation to complete this questionnaire please forward this email to them and motivate them to participate?

This questionnaire will take no longer than 2 minutes to complete, and your responses will be anonymous. Completion of this form will give you access to the conclusion and recommendations of this study.

Please click on the Red Box to assist in the Research. The research will be done using google forms.

For a definition of Artificial Intelligence please read the section below the Red Box. If you would like further information please read under the section Explanatory Information.

This questionnaire will be closed after 7 days, 2 August 2020. Please take part before this date?

Thank you for your time and valuable contribution.

[Assist in Research \(ClickHere\)](#)

Artificial Intelligence:

For the purpose of this study, Artificial Intelligence will be defined as; Machine learning that uses advanced algorithms to analyse three categories; audience analysis, image analysis and sentiment analysis, (Micu, et al., 2018).

Examples of Artificial Intelligence include Facebook Adverts analysis (basic) to custom software packages (advanced).

EXPLANATORY INFORMATION

To whom it may concern,

My name is Mark Mackenzie and I am a student at Varsity College. I am currently conducting research under the supervision of Hennie Pulser about The Fourth Industrial Revolutions effects on the value of Social Media in sponsorship. I hope that this research will enhance our understanding of Social Medias Value to small and medium enterprises.

I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.

What will I be doing if I participate in your study?

I would like to invite you to participate in this research because of your marketing experience in the sports industry. If you decide to participate in this research, I would like to ask you to fill in a 2-minute long questionnaire on google forms.

You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.

Are there any risks/ or discomforts involved in participating in this study?

Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. If you find at any stage that you are not comfortable with the line of questioning, you may withdraw from participating.

Do I have to participate in the study?

- Your inclusion in this study is purely voluntary;
- If you do not wish to participate in this study, you have every right not to do so;
- Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.

Will my identity be protected?

Yes, I promise to protect your identity. I will not use your name or the name of the organisation you represent in any research summaries to come out of this research and questions have been designed to preserve your identity.

What will happen to the information that participants provide?

Once I have finished the data analysis, I will write summaries to be included in my research report, which is a requirement to complete my Honours degree in Commerce. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate. You should not agree to participate unless you are completely comfortable with the procedures followed.

My contact details are as follows:

Mark Mackenzie



The contact details of my supervisor are as follows:

Dr Hennie Pelser



Consent form for participants

I, agree to participate in the research conducted by Mark Mackenzie about The Fourth Industrial Revolutions effects on the value of Social Media.

This research has been explained to me and I understand what participation in this research will involve. I understand that:

1. I agree to be interviewed for this research.
2. My confidentiality will be ensured. My name and personal details are anonymous.
3. My participation in this research is voluntary and I have the right to withdraw from the research at any time. There will be no repercussions should I choose to withdraw from the research.

By clicking the link to the questionnaire you accept these terms and consent to the research.

[Assist in Research \(Click Here\)](#)

This is a once-off email to complete my research project. Thank you for your assistance.

Annexure 2: Example of Measurement Instruments

Section 1

Social Media Questionnaire

My name is Mark Mackenzie I am studying my honours in management at Varsity College. I am conducting research on the effects of Artificial Intelligence on Social Media value to small businesses in the sports industry. This questionnaire will take no longer than 5 minutes to complete, and your responses will be anonymous. Thank you for your time.

Please indicate your brands annual turnover?

- ☐ R0-R25 000 000
- ☐ R25 000 001-R50 000 000
- ☐ R50 000 001-R75 000 000
- ☐ R75 000 001-R100 000 000
- ☐ R100 000 001-R125 000 000
- ☐ R125 000 001-R150 000 000
- ☐ R150 000 001-R175 000 000
- ☐ R175 000 001-R200 000 000
- ☐ R200 000 000-R225 000 000
- ☐ R225 000 001-R250 000 000
- ☐ Over R250 000 000

Are you (personally) involved in decision making on Social Media tactics for the company you are representing?

- ☐ Yes
- ☐ No

Are you (personally) involved in Sponsorship decisions for the company you are representing?

- ☐ Yes
- ☐ No

Are you (personally) involved in Sponsorship decisions for the company you are representing?

- ☐ Yes
- ☐ No

How many years of experience do you have in marketing?

- ☐ < 1 Year
- ☐ 1-3 Years
- ☐ 4-6 Years
- ☐ 7-9 Years
- ☐ > 10 Years

What area of the sports industry does the company you are representing best fit?

- ☐ Retail
- ☐ Event Organiser
- ☐ Nutrition Manufacture
- ☐ Equipment Manufacture
- ☐ Marketing Agency
- ☐ Distributor
- ☐ Not in the sports industry

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Google Forms

Section 2

Social Media Questionnaire

Artificial Intelligence Usage

The level you use Artificial Intelligence.

Please state how much you agree or disagree with the statements provided, with 1 being you highly agree and 5 being you do not agree.

Staff have advanced knowledge in Artificial Intelligence.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

Artificial intelligence is used regularly in Social Media campaigns.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

Artificial intelligence is an important tool in Social Media Campaigns.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

The business uses Artificial intelligence to analyse the external market's behaviour. (customers or competitors)

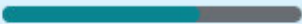
	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

The business uses Artificial intelligence to analyse Social Media platform behaviour.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

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Google Forms

Section 3

Social Media Questionnaire

Social Media Usage

The value you place on Social Media.

Please state how much you agree or disagree with the statements provided, with 1 being you highly agree and 5 being you do not agree.

Social Media Sponsorship campaigns are highly valuable to the business.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

The use of Social Media Sponsorship campaigns adds a competitive advantage to the business.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

Social Media platforms have an effect when marketing the business.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

Social Media plays an important part in marketing the business.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

The business attracts customers through advertising on Social Media.

	1	2	3	4	5	
Strongly Agree	☐	☐	☐	☐	☐	Strongly Disagree

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Annexure 3: Permission Letter

Annexure 4: Ethics Clearance Letter



17 July 2020

Student name: Mark Mackenzie

Student number: 14012106

Campus: Varsity College: Pietermaritzburg

Re: Approval of BCom Honours in Management Proposal and Ethics Clearance

HONOURS ETHICAL CLEARANCE LETTER

Your research proposal and the ethical implications of your proposed research topic were reviewed by your supervisor and the campus research panel, a subcommittee of The Independent Institute of Education's Research and Postgraduate Studies Committee.

Your research proposal posed no significant ethical concerns and your supporting documents and instruments are in order to proceed. We hereby provide you with permission to proceed with your research.

In the event of you deciding to change your research methodology in any way, kindly consult your supervisor to ensure all ethical considerations are adhered to and pose no risk to any participant or party involved. A revised ethical clearance letter will be issued.

We wish you all the best with your research!

GENERAL CONDITIONS TO BE FULFILLED IN RELATION TO RESEARCH

Permission is granted to proceed with the above study subject to the conditions listed below being met and may be withdrawn should any of these conditions be flouted.

Please note: The panel has not considered the merits, accuracy or ethical soundness of the research. The only merits examined are the use of The IIE as a sample.

Permission is granted subject to the following conditions:

1. The researcher will need to obtain informed consent in writing from all the participants in their sample if the study is not anonymous.
2. The researcher may only use the data collected for research purposes and in no other way.
3. Photographs of human subjects may only be taken if relevant to the research, informed consent was obtained, and even with informed consent, the photographs may not be published on any online platforms.
4. The researcher is responsible for supplying and utilising their own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
5. No names or identifying information of participants may be used within the research and the research must be voluntary.
6. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled/advised based on this.

Supervisor: Dr HJ Pelser

Campus Postgraduate Coordinator (CPC): Dr HJ Pelser

Annexure 5: Originality Report

20/08/2020

Originality Report

SafeAssign Originality Report

RESM0419p_VCPM1 • Safe Assign Plagiarism Practice

[View Originality Report - Old Design](#)

Mark Mackenzie

Submitted on 20/08/2020 18:01 GMT+2

Total Score:  Low risk 13 %

Total Number of Reports

1

Highest Match

13 %

Research Report Mark Mackenzie Safe--

Average Match

13 %

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Average Word Count

13,510

Highest: Research Report Mark Mackenzie

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Word Count: 13,510
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 Student paper

Excluded sources (0)

Research Report

Varsity College

The role of Social Media in SMEs Sports Sponsorship within the context of The Fourth Industrial Revolution.

Student Name: Mark Mackenzie

Student Number: 14012106

Supervisor: Dr Hennie Pelser

Honours in Management

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Annexure 6: Concept Document Table

Purpose Statement	Primary Research Question	Research Rationale	Seminal Authors	Literature Review – Conceptual Framework	Paradigm	Approach	Data Collection Method(s)	Ethics	Key Findings	Recommendations
The purpose of this study is to determine how 4IR affects the value of SM in sponsorship campaigns within the context of South African sports SMEs.	Does AI technology increase SM's value to sports sponsorship campaigns within the context of South African SMEs?	SMEs in the sports industry are at risk from large businesses. With the increasing impact of the fourth industrial revolution, it is important to understand if AI in SM has possible solutions. As companies are relying more on social media to communicate sponsorship campaigns, it is critical to understand how the fourth industrial revolution affects social media.	Percy, O. & Charles, T., 1955. The principle of congruity in the prediction of attitude change. <i>Psychological Review</i> , 62(1), pp. 42-55. Rosenblatt, F., 1958. A PROBABILISTIC MODEL FOR INFORMATION STORAGE AND ORGANIZATION IN THE BRAIN. <i>Psychological Review</i> , 65(6), pp. 386-48.	<u>Artificial Intelligence</u> The effectiveness and capabilities of AI have been shown through several studies with its growth as an emerging research area. AI analytics can open the streams of consumer insight from vast amounts of untapped data on SM. Social Media and Sponsorship In South Africa, sponsorship is successfully growing, however, the effectiveness of SM in sponsorship campaigns is currently debated. Small & Medium Enterprises Large corporations threaten SMEs in the sports industry. With possible solutions from AI and SM, the need to understand this emerging field is critical.	<i>Paradigm: positivism</i> <i>Epistemology: To empirically observe the value social media has to SMEs in the sports industry.</i> <i>Ontology: To reality is external and objective, the research will discover the laws that govern AI's effect on SM's value</i> <i>Axiology: objective research, truth and reason are valued. Strict scientific rules and accountability measures are implemented to ensure the truth of SM's impact on SMEs is discovered in the context of the 4IR</i>	<i>Quantitative</i> <i>Population</i> <i>Marketers</i> Representing sports SMEs	<i>Quantitative</i> a cross-sectional survey using google forms. Email sent out nationally. All data collected electronically, no contact. Questions Only closed ended questions will be used. Multiple choice and Likert scale questions collect information. Participants recruited from customer list of sports nutrition company. Includes SMEs nation wide from several areas of the sports industry.	<i>This study will adhere to the IIE ethical guidelines and confidentiality will be of utmost importance. All participants will be informed of confidentiality procedures before the Questionnaire</i> <i>This research will be carried out digitally obeying social distance guidelines enforce during COVID-19.</i>	1 positive effect on the value of SM sponsorship campaigns from AI. 2 knowledge gap is a large barrier for the adoption of this new technology. 3 SM adds value to SMEs. 4 there is space for improvement for SMEs exploiting the benefits of AI on SM. 5 Gap between high Awareness of AI's importance and low AI skills of staff	Procedure More training for both students and experienced professionals Increasing market research into the AI and SM sectors Businesses also need to keep up to date Policy Government policy regulating the use of personal information needs to be updated.
Research Problem	Hypotheses	Key Concepts	Key Theories			Sampling	Data Analysis Method(s)	Limitations	Key Contribution	
The economic downfall of SMEs in the sports industry is imminent without intervention. With possible solutions from AI and SM, the need to understand this emerging field is critical.	High social media presents of sponsorship activities result in a positive effect on market exposure of sport sponsorship campaigns.	Fourth Industrial Revolution Artificial Intelligence Social Media Sponsorship Small and Medium Enterprises	Social Media Engagement Theory The Congruence Theory			probability sampling Simple random sampling 25 participants	<i>Unit of analysis:</i> individuals, specifically SME marketers in the sports industry. <i>Statistical analysis used</i> Demographics Contingency questions remove unsuitable respondents. <i>Correlation testing</i> Two scales formed to measure correlation, AI usage scale and SM value scale – from Likert questions <i>Correlation calculation</i> Pearsons correlation Mode and the mean of response to Likert scale questions displayed on a histogram	<i>Management</i> Vacancy SMEs Managers are pressed for time & may not complete the questionnaire <i>Relevant Time frame</i> the fastpaced field of AI will continue to require attention <i>Data Collection Method</i> Questionnaires have low response rates & NQF 8 restricts sample size. COVID-19 Many SME's are closed reducing the number of responses	Identification of gap between AI skills which are low and AI importance that is high. Leading for the call for more training to equip SME marketers with the skills they know they need but do not have.	Academia Continuing academic research is needed for this technology.