

ISSN (print) 2047-8747
ISSN (online) 2047-8755

Volume 13 Special Issue
(2024)

Interdisciplinary Journal of Economics and Business Law

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Interdisciplinary Journal of Economics and Business Law

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Aims and Scope

The rationale of IJEBL is to provide a broad international forum for expanding the boundaries of economics and business law seeking solutions to global problems enabling academics and practicing economists, business people and legal practitioners to tackle the problems within this environment and context. We invite both academics and practitioners to contribute to assist in expanding the boundaries of the social sciences which have not come to terms with the profound change in the boundaries of disciplines, especially since the advent of nanotechnology. Prior to this technological development that is based on interdisciplinary research, those of us who supported the interdisciplinary approach were even greater pioneers. The importance of intangible assets in the form of intellectual property is increasing as is the need to understand valuation of these assets so that the true market value of brand, image, copyright and so forth can be understood. Changes in corporation, company and competition law is crucial for both large companies and SMEs to be successful. This is the reason why we need to include business law which is one of the most rapidly expanding interdisciplinary disciplines.

The aim of the IJEBL is to not only provide an independent forum for solving global economic and business problems but to expose readers to the exciting new developments and free thinking that the interdisciplinary approach continues to offer as an alternative to a narrow and rigid econometric approach. We also wish to provide readers with a taste of the books available on the market that can further such understanding through reviews of cutting - edge books that contribute to an interdisciplinary approach in each issue. Articles, comments, short papers, and book reviews are all welcome.

Welcome to the world's only open, independent, interdisciplinary forum born out of 20 years of my being Editor of the Journal of Interdisciplinary Economics and a founder member of the late Ken Penney's visionary idea while we were at Exeter University, UK. With the continuing lack of ethical responsibility in corporate governance, digital platforms and cross border analysis of intellectual property coupled with the dearth in understanding valuation which can add to the very much needed prosperity of businesses whether large or

small the need for an interdisciplinary approach is required more than ever. Those who contribute to IJEBL continue to spurn seeing the world through numbers, compartmentalised disciplines, and conformity, contributing to creative and challenging solutions to the current ills of the world economy with positive ideas and criticisms that can be implemented on a practical level and ethically. We are interested in innovation, entrepreneurship, solutions within the rule of law, the environment, the health of the planet/wildlife and cultural specificities. We have a global based support network of readers, contributors and subscribers and would like you to join us. This is Issue 3 Volume 13, IJEBL 2024 published January to January although subscriptions can start from October to January each year. An Abstract page to give a broad sample of contents has been added online and updated for Volume 13. Many thanks to all those who support our open, independent, interdisciplinary forum into our thirteenth year of existence.

IJEBL is published both online and as printed (complimentary) copy quarterly. The basic subscription is online and print which includes postage and packing must be ordered with the basic subscription. Additionally, an extra online issue has been added gratis that can focus on postgraduate papers to afford young contributors to publish for the first time in an international journal or on other Special Issue topics. We are continuing to expand the number of special issues/reports per volume.

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Editor

Acknowledgements

We are grateful to the University of Warsaw, Faculty of Management Press for their printing and distribution support of IJEBL.

Editorial Volume 13 IJEBL

There is a greater need than ever for the interdisciplinary approach as the world continues to face the dangers to human, animal, and plant life of climate change, continuing permutations of COVID in addition to politically motivated hatred. It is shocking that wildlife wet markets continue to exist while 80 billion sentient animals are ‘factory farmed’ in cruel and deplorable conditions every year for excessive amounts of meat. Freedom of thought and expression has been suppressed and assailed by too many in leadership positions replacing reasoned argument with incivility, political hatred, historical revisionism, and the butchering of innocent civilians. The world finds itself in a dialectical battle between democratic and autocratic forces in which the latter supported by mindlessness and lack of thought cannot be allowed to prevail.

Propaganda, especially through social media are trying to provide simple, superficial answers on most issues in young peoples’ lives encouraging them not to think independently. Interdisciplinary issues of corporate governance, business ethics and a more *humane economics* need to be explored to assist conflict resolution and fairness in business dealings.

A cooperative approach on a cross-cultural basis is needed to pool resources and talent across disciplines to create positive solutions to the world’s ills. To foster such creativity, we need to protect innovative ideas and enterprises through Intellectual Property Rights ensuring that creative minds are protected and nurtured within all organisational governance structures.

We remain the world’s open, independent interdisciplinary forum (but not ‘open’ access) and are grateful to our contributors, Advisory Board, readers, sponsors, and subscribers to ensure our existence into our second decade.

A special thank you to the University of Warsaw’s Faculty of Management Press continued support in terms of production and distribution. Online access to the five to six issues per volume, including the guest edited special issues (which are only available online) remain the basic subscription with printed copy complimentary upon request with no time of delivery guaranteed. Back- printed issues are available for a fee.

Editor

Guest Editors: Frank Ranganai Matenda, Mabutho Sibanda

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Bridging the Gap between Accounting Theory and Practice: A South African Perspective

**Thembelihle Khumalo¹, Jean Damascene Mvunabandi¹
and Celumusa Makepeace Chonco¹**

Abstract

The traditional accounting teaching methods have struggled to prepare accountants for evolving demands of the industry as instances of misconduct by accountancy professionals have been reported from and outside South Africa. The aim of this study was to examine coexistence of accounting theory and practice and the complicated interplay between the theoretical accounting principles and practical implementation in the rapidly evolving and technologically driven digital accounting world. Scoping review of literature methodological framework was employed to examine a wide range of academic sources, which provided a solid foundation for the analysis. The findings shed light on several key factors that influence the alignment of accounting theory and practice, including regulatory compliance, educational reform, technological literacy, cultural sensitivity, socio-economic challenges, and ethical behaviour. The discussion addressed the multiple challenges faced by companies, accounting professionals and regulators and provided valuable insights to bridge the gap between theory and practice. The study suggests a paradigm shift in accounting students' thinking, promoting holistic practices and collaboration between accountants and academia for robust experiential learning and industry-relevant training. This study impacts

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on various stakeholders within the accounting profession, regulators, and South African companies.

Keywords: SAICA; accounting theory and practice; International Financial Reporting Standards (IFRS); accounting curriculum.

Introduction

In South Africa and elsewhere, professional accountants and auditors argue that the accounting syllabus are outdated especially in the sophisticated realm of accounting in the fourth and fifth industrial revolutions, making it difficult for accounting graduates from tertiary institutions to perfectly fit into the labour market. Furthermore, South Africa's diverse economic landscape and rich cultural offerings provide an interesting backdrop for exploring the intersection of accounting theory and practical application (Burghardt & Möller, 2023; Lassou et al., 2021; Popenoe et al., 2021; van der Linde, 2022). The country's economic environment encompasses a wide range of businesses, from multinational corporations to small local companies, reflecting the complexity of the country's economic fabric. In recent decades, South Africa has undergone significant economic and regulatory changes. The post-apartheid era ushered in an era of financial inclusiveness and encouraged international trade and investment. This change made it necessary to align accounting practices with global standards as South Africa sought to integrate into the international financial community. In parallel with many other countries, South Africa underlined its commitment to harmonise local accounting practises with global standards by adopting International Financial Reporting Standards (IFRS) (Hamerton, 2020; Oboh et al., 2020; Popenoe et al., 2021). While this move aimed to improve transparency and comparability, it also raised questions about the practical application of these theoretical frameworks in the unique South African context.

Factors such as income inequality, different business models and varying corporate governance practices pose significant hurdles to the seamless implementation of accounting theory. Furthermore, understanding the regulatory framework and its enforcement mechanisms requires a nuanced perspective, considering South Africa's legal and institutional landscape (Adekoya et al., 2020; Bairagi & Munot, 2019; Burghardt & Möller, 2023; Hamerton, 2020; Marcinkowski & Reid, 2019; Mukherjee, 2019; Petra and Spieler, 2020). Further to that,

the practical and empirical evidence revealed that the traditional accounting teaching methods have struggled to prepare accountants for evolving demands of the industry. Furthermore, current accounting curriculum does not sufficiently and effectively prepare accountants and auditors for the labour market they are entering.

It is, therefore, imperative to bridge the gap between accounting theory and practice in South Africa. A comprehensive study in this area can shed light on the challenges that are faced by companies, accounting professionals, academic institutions, and regulators. It can also provide valuable insights into how accounting principles can be skilfully tailored to the needs of the South African business environment without breaching global standards. This research project aims to contribute to the growing knowledge of accounting practices in South Africa. By addressing the intricacies of accounting theory and its application in the local context, this study aims to provide practical recommendations for accounting stakeholders, regulators and companies operating in the South African market. Through this endeavour, we aim to cultivate a more seamless and effective financial reporting ecosystem that supports the sustainable growth and stability of the South African economy. This study aims to dissect the alignment of accounting theory with practical implementation in the dynamic South African economic landscape. It seeks to unearth the specific challenges businesses, professionals, and regulatory bodies face in this context. Ultimately, the research offers practical recommendations for optimising financial reporting practices tailored to South Africa's unique business environment while upholding global standards.

This study's objective is to comprehensively analyse the fit between accounting theory and practical implementation in South Africa's unique economic landscape. It seeks to identify specific challenges faced by companies, practitioners, academia, and regulators in this context, with the aim of providing actionable recommendations to improve the effectiveness and relevance of accounting practices in South Africa. In doing so, the researchers aim to promote a seamless and efficient financial reporting ecosystem that supports the sustainable growth and stability of the South African economy.

The rest of the paper proceeds as follows: the next section provides literature review, third section introduces research methodology, the fourth presents findings and discussion, and the final section presents the conclusion, contribution to the science and recommendations.

Literature Review and Theoretical Framework

This study was informed by the prominent theories which are stakeholders' theory, legitimacy theory, and technological acceptance model. Accountancy profession is therefore expected to consider the interest of all stakeholders to be regarded as legitimate. Stakeholder theory indicates that the interest of all stakeholders must be treated equally as no one group of stakeholders is superior over the other but the organisation's relationship with all its stakeholders should be balanced (Goyal, 2022). As agents, accountancy professionals must, therefore, balance the interest of principals as well as that of other stakeholders to uphold the integrity of the profession. Deegan (2006) further indicates that for an institution to be regarded as legitimate in accordance with legitimacy theory, its actions must be desirable, proper, and appropriate within the socially constructed system of norms, values, beliefs, and definitions. Ethical transgressions in the accounting profession impact stakeholders' perception of the legitimacy of the accounting profession, including the accounting professional bodies. The stakeholder and legitimacy theory form the basis of this study to support the International Ethics Standards Board for Accountants (IESBA) framework on which the analysis is based. Digital competency is listed as one of the important competencies by accounting professional bodies' competency frameworks. Digitisation has changed the way accountants think and do their work which requires them to have relevant technology literacy (Fettry et al., 2019). Digital competency is therefore an important competency that would enable accountancy professional to perform duties competently and with due care. It would assist accountancy professionals to avoid breaching the code of professional conduct.

Instances of misconduct by accountancy professionals have been reported from and outside South Africa (Bhaskar & Flower, 2019). These are showing that the distinguishing characteristics of accountancy professionals are only being theorised and not fully depicted by accountancy professionals. This includes failure to apply safe guides when faced with ethical dilemmas as evidenced by ethical transgressions, not acting in the public interest, not correctly applying the financial reporting framework. Balancing the interest of principals who want profits, with those of other stakeholders is a challenge for accountancy professionals that leads to breaching the code of professional conduct. Instances of misconduct have occurred despite negative implications arising from scandals in the past which indicates that there is a gap between theory and practice. Deontology, rule-based utilitarianism, and

virtues philosophies are being replaced by egoism philosophy as the underlying ethical decision making.

Critical and Technical Literature Review

Accountants serve as ambassadors for the accounting industry and are expected to adhere to professional codes of conduct in playing their agency role. Shanks (2020) and Anders (2022) indicate that accounting professional bodies are required to ensure their members comply with the ethical requirements as issued by the IESBA which is under the International Federation of Accountants (IFAC) or to a more stringent one developed from the IFAC code. Accounting professional bodies operating in South Africa that have adopted the IFAC codes and standards include South African Institute of Chartered Accountants (SAICA), South African Institute of Professional Accountants (SAIPA), Association of Chartered Certified Accountants (ACCA), Chartered Institute of Management Accountants (CIMA) as well as South African Institute of Business Accountants (SAIBA). These professional bodies are members of the IFAC except for SAIBA which is not a member but adopted the codes and standards issued by IFAC. The IFAC provides important rules to which accountancy professionals are required to abide themselves.

Professional accountancy organisations play a crucial role in shaping public perception of the profession. They influence the identity of individual accountants and the occupation as a whole by publishing clearly articulated competency frameworks for their existing and aspiring members (Espinosa-Pike et al., 2021b). The competency framework from SAICA indicates minimum competencies which are expected from a member at entry level into the profession which include professional values and attitudes, enabling competencies, and technical competencies which must be integrated as these cannot be developed in isolation (Terblanche et al., 2023). The role of these organisations in setting and upholding ethical standards cannot be overstated as this impact on their legitimacy. Enabling competencies include business acumen, decision making acumen, relational acumen, and digital acumen. Existing members are required to undergo continuous professional development to ensure they keep abreast of the developments in the profession. Other professional bodies have frameworks that are similar to the one alluded, with some differences. Professional bodies serve as custodians of

professional integrity, setting guidelines, expectations for practitioners and other stakeholders.

Accounting profession has distinguishing characteristics which set its members apart from other professions (Anders, 2022; Gaffikin, 2007; Shanks, 2020). These include possession of technical skills, acquiring practical training and intensive academic education, testing of competence (professional exams), organisational or pervasive qualities and skills, adherence to the code of professional conduct, professional body membership, altruistic service or acceptance of responsibility to act in the public interest. IESBA (2023) indicates that the acceptance to act in the public interest is a distinguishing mark of accountancy professionals. Furthermore, professional accountants are required to abide by the code of professional conduct including integrity, objectivity, professional competence and due care, confidentiality as well as professional behaviour as provided by IESBA. Anders (2022) adds that accountancy professionals are required to have an unambiguous declaration of allegiance to the public interest principle which is very important. Accountancy professionals are therefore expected to abide by the code of conduct and to act in the public interest, which is part of the distinguishing characteristics of accountancy professionals, to uphold the integrity of the accountancy profession.

The IESBA (2023) requires a professional accountant not to only consider the interest of an individual client or employing organisation but to consider the interest of other stakeholders. Gaffikin (2007) indicates that according to one of the Greek thinkers, Plato, any theory on man, implicit or explicit, will be reflected in a theory of the state. Furthermore, public interest is influenced by politics which is influenced by powerful groups or individuals based on rationality. Accountancy professionals therefore do not only have to consider the interest of principals but also the interest of other stakeholders to be regarded as legitimate. Public interest therefore covers the interests of various stakeholders including society whose interest is reflected in the state as influenced by politics. Ethics in the accounting profession are important to uphold the integrity of the profession so it can remain legitimate in its stakeholders.

It is important to differentiate between morals and ethics. The ethical discourse differs from moral discourse as the discourse in ethics is concerned with the establishment of values that are purposive and less general while moral discourse is concerned with establishing moral norms to resolve conflicts for a large number of individuals (Habermas, 1985). Ethics provide accountancy professionals with a sense of duty to

abide by the code of professional conduct in their professional dealings in accordance with the deontology ethical philosophy (Gaffikin, 2007). Rule based utilitarianism philosophy or consequentialism may also be considered in making decisions that are in the public interest. Professional accountants are not expected to follow on decisions that put their interest first at the expense of others or public which is based on egoism. Some of the virtues that are unique to accounting profession include integrity, consequentialism, providing useful economic information, communicative character accounting (Gaffikin, 2007). Ethics and virtues in accounting are threatened by several factors including dominance of external rewards, corrupting power of institutions, secularisation which impact negatively on morals, lack of belief in universal principles of ethics, as well as egoistic professionals who believe in survival of the fittest and thus believe that everything has been predetermined in life and there is no need to worry about the interest of other individuals.

Instances of misconduct by accountancy professionals have wide-ranging repercussions, affecting stakeholders, businesses, and the broader economy. They lead to financial losses, reputation damage, and legal consequences (Petra and Spieler, 2020). An empirical study that was conducted by Holzman et al. (2021) on Accounting and Auditing Enforcement Releases in United States based on 296 incidences reveal the societal ramifications of accounting professionals misconduct extend beyond adversely impacting a firm's investors to negatively influence the daily life of the residents in the firm's local community. Furthermore, these accounting frauds are motivated by financial gains, income inequality as well as job security. The ripple effects of such misconduct permeate through the financial ecosystem, eroding trust in the profession and the institutions it serves. Despite these negative consequences on transgressors and the profession, the cases of misconduct are reported where accountants fail to uphold their fiduciary duties.

The controversies, exemplified by corporate debacles at Enron and WorldCom in the early 2000s, compelled the accounting industry to reevaluate its ethical standards and practices. This period marked a pivotal juncture, prompting calls for a moral resurgence within the profession (Toms, 2019). However, a noteworthy concern arises regarding the unintended consequence of overemphasising compliance-focused strategies, potentially diminishing the significance of professional skills (Vaz & Espejo, 2017). Table 1 shows some of the 21st century reported scandals. Bhaskar and Flower (2019) indicate that some of these scandals were caused by various factors including government

austerity measures which reduce government expenditure impacting on financial health of firms dependent on public spending, new technologies, accountancy professionals not acting in public interest, income inequality as well as job security.

Table 1. Some of the reported global large scandals

Company Name	Country	Year	Auditing/ Accounting Firm	Scandal
Lehman Brothers	United States of America (USA)	2010	Ernst & Young (EY)	Excessive debt used in the company and false reporting to make the company look healthier in the eyes of investors.
MF Global	USA	2010	PricewaterhouseCoopers (PwC)	The company kept bonds off its balance sheet. Poor trading decisions were made resulting in fines. PwC paid out of court settlement of \$3 billion.
Colonial Bank	USA	2009	PwC	There were ghost mortgages in financial statements. The auditor was found negligent and paid \$335 million.
Connaught	United Kingdom	2009	PwC	The auditor was fined £1,5 million due to misconduct that occurred during the audit.
Miller Energy Resources	USA	2011	KPMG	Company's assets were overvalued by more than 100 time. A fine of \$6 million was issued.
Toshiba	Japan	2015	EY	The company overstated its profits.
Valeant Pharmaceuticals	Canada	2015	PwC	The company overstated revenues.

Caterpillar	USA	2017	PwC	Tax and accounting fraud accusations.
Steinhoff	South Africa	2009 to 2017	Deloitte	Accounting irregularities resulting in a significant decline in the share price. Fictitious transactions that inflated the profits and assets by over R100 billion.
Tongaat Hulett	South Africa	2015 to 2018	Deloitte	Ealy recognition of revenue from the sale of land, overstatement of the carrying amount of cane roots and standing cane, overstatement of capital work in progress and plant and machinery, overstatement of sugar sales in Zimbabwe, inappropriate capitalisation of infrastructure costs, incorrect apportionment of revenue between land sales and infrastructure, overstatement of projected revenue.
EOH	South Africa	2012 to 2019	Mazars	Public sector tender fraud.
Venda Building Society Mutual Bank	South Africa	2018	KPMG	Collusion between accountancy professionals, those charged with governance and other external stakeholders to fraud.

Source: Adopted from Bhaskar and Flower (2019)

Digital competency is listed as one of the important competencies by accounting professional bodies' competency frameworks. Digitisation has changed the way accountants think and do their work which requires them to have relevant technological literacy (Fettry et al., 2019). Emerging technologies that are related to accounting profession include big data, blockchain, enterprise resource planning, cloud computing and artificial intelligence (Ifada & Komara, 2023; Kroon et al., 2021; Yu, 2023). Applying latest technologies in accounting including in audit has proven to have a positive effect on the accounting profession (Fettry et al., 2019). Universities are therefore expected to well prepare accountancy students with latest technologies as research indicates that there are some gaps that must be addressed with regards to latest technologies (Jackson et al., 2023). Developing and acquiring new knowledge regarding the use of latest technologies assist in accountancy professionals in adding value in their companies (Ifada & Komara, 2023). It further assists in making effective, accurate and effective accounting judgements (Ifada & Komara, 2023). Workflows get simplified through technology and the efficiency and productivity is improved. Having digital skills would enable accountancy professionals to perform their duties with competence and due care and thus avoid breaching the code of good practice.

Instances of misconduct by accountancy professionals have been reported despite having the ethical code of conduct to which accountancy professionals are required to abide. These are showing that the distinguishing characteristics of accountancy professionals are only being theorised and not fully depicted by accountancy professionals. This includes failure to apply safe guides when faced with ethical dilemmas as evidenced by ethical transgressions where accountancy professionals were not acting in the public interest. Balancing the interest of principals who want profits, with those of other stakeholders is a challenge for accountancy professionals that leads to breaching the code of professional conduct. Instances of misconduct have occurred despite negative implications arising from scandals in the past which indicates that there is a gap between theory and practice. Deontology, rule-based utilitarianism, and virtues philosophies are being replaced by egoism philosophy as the underlying ethical decision making. This study investigates the gap, through literature review, between accounting theory and practice in South Africa to understand if the IESBA's code of professional conduct is being fully applied to protect the interest of all the stakeholders and uphold the legitimacy of the accounting profession.

Methodology

This study adopted a systematic review of the existing literature regarding the gap between accounting theory and practice in searching and analysing relevant literature to meet the research objectives. As an evidence-based minimum set of items (checklists), a systematic literature review aims to help researchers to improve the reporting of systematic reviews (Moher et al., 2015). A systematic review also focuses on attaining transparency and completeness in reporting all the decisions made at each stage of systematic reviews and meta-analyses (Liberati et al., 2009). The systematic review method, a systematic literature review, assisted in preventing bias of the articles that were gathered. This method involved identification, screening, eligibility, and inclusion.

The search process was conducted using reputable academic databases, reports from professional bodies and search engines, including but not limited to:

1. ACM Digital Library (<https://dl.acm.org/>)
2. IEEE Xplore Digital Library (<http://ieeexplore.ieee.org>)
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6. Springer Link (<https://link.springer.com/>)
7. Taylor and Francis (<https://www.tandfonline.com/>)

The search strategy incorporated a combination of relevant keywords and Boolean operators, such as "accounting theory," "accounting practice," "South Africa socio economic challenges," and related terms. Synonyms and alternative phrasings were also considered to ensure a comprehensive search. Studies selected for inclusion in this systematic review met the following criteria: The study addresses the relationship between accounting theory and practice, focus on the South African context, addresses accounting scandals, addresses South African socio-economic challenges and the publication is in English. Studies that do not meet this inclusion criteria were excluded. Additionally, studies with a low relevance score or lacking empirical data were not considered. Initial screening involved reviewing titles and abstracts to determine if the study potentially aligned with the research question and inclusion criteria. Selected studies from the initial screening had to undergo a thorough full-text assessment to confirm their suitability for inclusion.

The current study began with a search of relevant studies that were carried out from October 2023 to February 2024. The reviews were

taken between 2012 and 2024 due to dearth of studies within the area under consideration in South Africa. The search resulted in 86 studies, 18 were excluded as these were conducted before 2012. A total of 19 studies were excluded as they did not meet the relevance criteria. This resulted in a total of 49 studies that were analysed as these fully met the inclusion criteria.

The extracted data was synthesised to identify common themes, trends, and patterns in addressing the gap between accounting theory and practice in South Africa. Each selected study had to undergo a quality assessment to evaluate the rigour and validity of the research. Factors considered include the research design, data collection methods and analysis techniques. The extracted data was thematically coded to identify recurring themes and patterns in the literature. Content analysis is used to gain deeper insights from the data.

Synthesising and Interpretation/Analysis of Results

The results of the data analysis were synthesised to create a cohesive narrative. This involves weaving together key findings, themes, and insights from the literature. The synthesised findings were interpreted in the context of the research objectives. This process is about deriving meaning from the data and providing insights into the broader implications of the results.

Results Discussion

The results are fundamentally based on the review outcome of the reviewed and published studies in accounting theory and practice. Table 2 below presents the studies that support the analysis to the research objective as shown in the introductory section. After critical reading and analysing the articles presented in table, the researcher tried to match the articles and papers with the objective formulated, as presented in the last column of the table that is, Objective - to identify specific challenges faced by companies, practitioners, academia, and regulators in this context, with the aim of providing actionable recommendations to improve the effectiveness and relevance of accounting practices in South Africa. The systematic literature review is presented below, trying to achieve the objective formulated.

Table 2. Results discussion

Selected papers related to the research objective 1	
<p>Apartheid legacy impacting on the accounting profession's ability to balance the business interest and societal interest. Skills that accountancy professionals should consider addressing to perform their duties properly. Digital skills gap</p>	<p>Burghardt & Möller, 2023; Malmqvist et al., 2019; Jones, 2012; Oboh et al., 2020; Popenoe et al., 2021; Rasche & Gilbert, 2015; ACCA, 2022; Hammond et al., 2012; Terblanche & Waghid, 2020; Nathan, 2015; Mdhluli et al., 2023; Mfete, 2020. Kamau & Ilamoya, 2023; Landsberg & van den Berg, 2023; Mbizi et al., 2022; Sifile et al., 2021.</p>
<p>IFRS and other related frameworks have not assisted with the challenges faced by different industry segments in South Africa which include corporate scandals and high failure rate of SMEs. Lack of commitment by some accountancy professionals to the public interest resulting in ethical transgression and corporate scandals.</p>	<p>Bushe, 2019; Maziriri & Chivandi, 2020; Ngibe & Lekhanya, 2019; Saah & Musvoto, 2020; Mungai et al., 2022; Robinson et al., 2022; Sovacool et al., 2022; Villamayor-Tomas et al., 2022; Barth et al., 2012; Dragomir et al., 2022; Forst, 2014; Nnadi & Soobaroyen, 2015; Jaijairam, 2017; Ndlovu et al., 2020; Vaz & Espejo, 2017; SAICA, 2021; SAICA, 2022.</p>
<p>Accountancy professionals should contribute to addressing triple socio economic challenges which are unemployment, poverty, and inequality.</p>	<p>Bairagi & Munot, 2019; Nayak & K A, 2019; Oboh et al., 2020; Labani et al., 2017; Mohajan, 2017; Kgatle, 2020; Rossouw & Greyling, 2021; Schiel et al., 2014; Winchester et al., 2021; Ruzhani & Mushunje, 2022; Zikhali, 2021, SAICA, 2024; Espinosa-Pike et al., 2021a; Helen & Roberta, 2019; Pabel et al., 2021; van der Linde, 2022.</p>

Historical Overview of Accounting in South Africa and Skills Gap

The historical trajectory of accounting in South Africa offers a rich tapestry woven with colonial influences, political shifts, and profound sociocultural dynamics (Burghardt & Möller, 2023; Malmqvist et al., 2019). Dating back to the colonial era, South Africa's accounting practices were predominantly steered by British accounting standards. This colonial legacy was indelible on the region's early accounting principles and methodology development. The seismic transition to a democratic nation in 1994 marked a pivotal turning point in South African history, with far-reaching implications for the accounting profession (Hammond et al., 2012). Furthermore, this transformation ushered in a new era of regulatory reforms and frameworks that sought to align the nation's financial reporting practices with global standards of transparency and accountability. Establishing the SAICA and the SAIPA played a crucial role in solidifying the field's professionalisation, providing a structured platform for education, accreditation, and ongoing professional development. Other accounting professional bodies operating in South Africa include ACCA, CIMA as well as SAIBA. These professional bodies are expected to provide members that can assist in providing useful financial information to the users of financial reports and to prioritise public interest in their professional dealings. It is not clear whether they are able to bridge the gap between theory and practice due to the increasing number of ethical scandals being reported.

Furthermore, the apartheid era casts a profound shadow over the historical landscape of accounting in South Africa (Hammond et al., 2012). During this period, accounting practices were subject to intense scrutiny and criticism for their perceived contribution to perpetuating economic disparities within the nation as the public interest was based on apartheid proponents. The ethical implications of these practices reverberate through contemporary discussions on inclusivity, social responsibility, and equitable financial reporting (Jones, 2012; Oboh et al., 2020; Popenoe et al., 2021; Rasche & Gilbert, 2015). The legacy of apartheid continues to shape the ethos of the accounting profession, catalysing a collective commitment to address historical injustices and foster a more inclusive, representative, and socially conscious approach to accounting theory and practice. This nuanced historical context provides a critical foundation for understanding the challenges and opportunities currently confronting the South African accounting profession in its endeavour to harmonise theoretical frameworks with pragmatic applications. By appreciating the complex interplay of colonial

legacies, political transformations, and societal imperatives, stakeholders in the South African accounting landscape are better equipped to navigate the intricacies of modern financial reporting, ensuring its relevance, integrity, and efficacy in an ever-evolving global context.

The accounting profession in South Africa has the responsibility to respond to the decoloniality project especially within the academic space to produce leaders who are going to act justly and ethically (Terblanche & Waghid, 2020). This include incorporating other knowledge systems, fostering interpersonal skills, bridging the gap between technical subjects' content, and lived reality which would foster social cohesion. Decolonising the profession and accounting curriculum is a process of social transformation that include taking risk and willingness to enter troubling spaces of discomfort (Terblanche & Waghid, 2020). This would assist in addressing the challenges faced by corporates in South Africa and assist accountancy professionals in complying with the professional code of conduct.

An empirical study by Nathan (2015) indicates that it is not possible to be completely ethical for accountancy professionals within the South African business environment as they will be at a disadvantage. Despite having strong knowledge of ethics and good work done by professional bodies on ethics awareness, research indicates that there is considerable pressure on accountancy professionals to compromise on ethics due to the current economic environment of the country (Mdhluli et al., 2023). The neoliberal policies that worsened social-economic structure in post-apartheid South Africa make it difficult for accountancy professionals to protect the societies' interests despite them having good knowledge of ethics (Mfete, 2020). The socio-economic environment impacts on the accountancy professionals' application of the important frameworks in accounting despite them having good knowledge which is also worsened by inadequate skills.

A report by ACCA (2022) indicates that the professional bodies have to address significant gaps in accountancy professionals which were identified during their study on accountancy professionals from Africa. These include lack of digital skills, information system and data analysis skills which are identified as significantly lacking. Other skills identified as lacking include professional ethical behaviour, internal controls, risk management and fraud prevention. The report also indicates that some accountancy professionals do not have skills to incorporate Economic, Social and Governance (ESG) agenda into financial reporting. These skills shortages impact on professional accountants' ability to perform

their duties diligently in accordance with the code of professional conduct.

Technological advancements are impacting significantly on the accounting profession in Africa which necessitates upskilling of accountancy professionals to remain relevant (Kamau & Ilamoya, 2023). This is worsened by introduction of digital currencies and cryptocurrencies such as MPESA, Airtel, PayPal etc. Universities in South Africa are adequately addressing other competencies as required by competency frameworks of professional bodies but the digital skills, relational skills and decision-making skills are not adequately addressed (Landsberg & van den Berg, 2023; Mbizi et al., 2022; Sifile et al., 2021). Furthermore, African accountants have heard about the fourth industrial revolution technologies including Internet of Things, but many accountants do not have in-depth knowledge of these technologies (Sifile et al., 2021). There are low levels of skills in the usage of machine learning, robotics, and artificial intelligence among accountants in Africa and these skills should be developed along with technical, entrepreneurial, and soft skills to effectively work within the current environment. Digital skills gap impact on accountancy professionals' ability to apply professional competency and due care when performing their duties. This is also not in accordance with what the competency frameworks of professional bodies requires.

Research indicates that the use of latest technologies in Africa would assist in many ways including productivity, reduced environmental pollution, improved health services, financial inclusion, and knowledge sharing which would contribute to the Sustainable Development Goals and Agenda 2063 (Sifile et al., 2021). Specifically, using latest technologies by South African accountants would assist them to improve their contribution in creating value at their workplaces. Furthermore, using technologies effectively has a potential to reduce audit risk and thus improve audit quality.

African accountants need computer and critical thinking skills to effectively navigate in the technology driven era and these must be infused in the curricula of training institutions including universities (Mbizi et al., 2022). South African universities should assist in developing fourth industrial revolution skills and assist with the continuous professional development to address the digital skills gap in the accounting profession. Furthermore, accounting curriculum should incorporate artificial intelligence, machine learning, cyber security, robotics, coding, big data analysis, cloud computing and block chain. Accountancy professional bodies should train members on these

competencies through continuous professional development so they can be competent to perform their duties diligently.

The studies presented indicate that public interest prior to 1994 was determined based on the government policies during that period which impacted on the accounting profession even after 1994. This impacted significantly in the accounting profession as the business interest or interest of principals get more emphasis than the societal interest which impact on the legitimacy of the accounting profession. These studies also indicate that lack of appropriate skills impact on the accounting profession's ability to balance business interest with the societal interest. Digital skills in accountancy professionals are not at the required level and these should be addressed by all relevant stakeholders including training providers as well accounting professional bodies.

Regulatory Framework and Compliance

Numerous studies have emphasised the central role of the regulatory framework in aligning accounting theory with practice (Mungai et al., 2022; Robinson et al., 2022; Sovacool et al., 2022; Villamayor-Tomas et al., 2022). The introduction of International Financial Reporting Standards (IFRS) was an important milestone in South Africa's efforts to improve the transparency and comparability of financial reporting. However, challenges still need to be addressed, particularly in ensuring consistent compliance by smaller companies and unlisted entities. This underscores the need for continued regulatory vigilance and tailored approaches to address the specific challenges of different industry segments (Barth et al., 2012; Dragomir et al., 2022; Forst, 2014; Nnadi & Soobaroyen, 2015). Small and medium sized entities (SMEs) in South Africa have the failure rate that is regarded as the highest in the world due to various factors and the accounting profession has not assisted in resolving this (Bushe, 2019; Maziriri & Chivandi, 2020; Ngibe & Lekhanya, 2019; Saah & Musvoto, 2020). Accounting professional bodies must consider how can they address challenges faced by different industries in South Africa as part of their public interest duties. This includes dealing with corporate scandals and high failure rate of SMEs that have not been addressed by the current frameworks.

Regulatory changes have emerged as a pivotal force in reshaping industry dynamics. Recent research findings highlight an urgent need to address the persistent challenges faced by the South African accounting industry (SAICA, 2022). Professional bodies including SAICA have implemented stricter guidelines to enhance

transparency, commitment to public interest and accountability (SAICA, 2022). Accounting scandals in the 21st century, characterised by fraudulent financial manipulations and the exposure of financial malpractice, have been a recurring concern. These scandals indicate that accountancy professionals are failing to abide by the code of professional conduct, to put the public interest first which means they are not showing the distinguishing characteristics of accountancy professionals.

South African corporate scandals involving Steinhoff, Tongaat Hulett, VBS Bank, and Gupta-affiliated businesses are stark reminders of the continued prevalence of financial misconduct despite extensive audits and comprehensive reporting as guided by IFRS frameworks (Vaz & Espejo, 2017). Interestingly, in the wake of such crises, stakeholders' focus often shifts towards the identity of auditors rather than the CEO or the board, highlighting the pivotal role of independent financial professionals in guiding investors and the public (Jaijairam, 2017). Nevertheless, the potential conflict of interest arises when auditors, driven by the revenue from advisory services, are inclined to align more closely with management's viewpoints on financial statements and neglecting the reporting frameworks as well as the code of professional conduct (Jaijairam, 2017). This poses a critical ethical dilemma, as sacrificing integrity for consulting fees is equally unethical. The repercussions of issuing improper audit opinions extend far beyond immediate measures, exerting profound consequences on the auditing industry (Ndlovu et al., 2020). The traditional notion of “independence” among auditors, once considered fundamental, is transforming, with its practice and significance diminishing over time (Jaijairam, 2017). This shift is exemplified by cases such as Tongaat Hulett, where fraudulent financial documents went undetected for an extended period despite being audited by a reputable firm. These cases are evidence of accountancy professionals not applying the accounting theory in South Africa due to self-interest.

Similarly, Steinhoff Group, a prominent South African retailer, received an unqualified opinion despite later revelations of financial irregularities (Jaijairam, 2017). Despite receiving unqualified audit judgments, the increasing number of businesses facing closure underscores the evolving landscape of auditing practices and the need to reevaluate assessment criteria. The erosion of independence from cultural and practical perspectives further underscores the shifting dynamics within the profession. Notably, an independent investigation by PWC exposed the extensive revenue inflation perpetrated by senior executives at Tongaat Hulett, underscoring the far-reaching impact of such

accounting scams. The South African perspective on bridging the gap between accounting theory and practice is shaped by a complex interplay of historical accounting scandals, evolving ethical standards, media influence, changing perceptions of auditor independence, and significant regulatory changes (Jaijairam, 2017). These scandals indicate that accountancy professionals are failing to balance the interest of stakeholders and to apply the code of professional conduct.

A report from SAICA (2021) that incorporated input from the Chairman of Nedbank Group Audit Committee, Chief Executive Officer (CEO) of KPMG, the financial controller from DRD Gold Group, the CEO of the Institute of Internal Auditors, and the Auditor general of South Africa indicate that the accounting profession in South Africa has been tainted by the 21st century scandals where greed is indicated as one of factors resulting in corporate scandals. Furthermore, some accountancy professionals are not committed to serving public interest and to the code of professional conduct and they must question themselves whether they have business licenses or social licenses. Lack of courage and moral to report when something is not in order has been indicated as a challenge due to high level of inequality and job security. There is a need to align theory and practice to address these challenges.

Socio-Economic Factors and Stakeholder Expectations

The socio-economic fabric of South Africa is woven with historical disparities, creating a distinctive backdrop against which financial reporting practices must operate (Bairagi & Munot, 2019; Nayak, 2019; Oboh et al., 2020). This section delves into the intricate web of socio-economic factors that shape accounting practices in the region, emphasising the diverse array of stakeholders whose interests must be balanced. A historical legacy of inequalities characterises the mosaic of South Africa's socio-economic landscape. This legacy permeates various strata of society, impacting everything from access to resources and opportunities to the distribution of wealth and prosperity. Financial reporting is critical in illuminating the economic realities different population segments face in this milieu. Accounting practices in South Africa must deftly navigate the diverse interests of stakeholders that span a wide spectrum. These stakeholders include shareholders seeking returns on investments, government agencies responsible for oversight and regulation, employees seeking fair remuneration, non-governmental organisations championing social causes, and the communities directly affected by corporate activities. Balancing these varied interests

necessitates a nuanced approach to financial reporting, considering the multi-faceted impact that business operations have on society (Labani et al., 2017; Mohajan, 2017). Central to this dynamic is the imperative to address pressing social and environmental concerns. Issues such as transformation, poverty alleviation, and sustainable development have assumed a major role in the discourse surrounding accounting practices in South Africa. Accountants are increasingly viewed as key contributors to the broader societal goals of inclusivity, equity, and environmental stewardship. Accountants however are faced with a choice of business or society interest or public interest.

South African government adopted neoliberal economic policies after 1994 which resulted in few South Africans being rich while many live under the triple bottom socio-economic challenges such as unemployment, poverty and inequality (Kgatle, 2020). Social grants have played an important role in ensuring that well-being gap of South African people is reduced as more than 40% of South African population depend on social grants (Rossouw & Greyling, 2021; Schiel et al., 2014; Winchester et al., 2021). Social grants are however not regarded as a sustainable way to tackle inequality, strategies that empower people through education, economic participation and capacity building should be considered (Ruzhani & Mushunje, 2022; Zikhali, 2021). However, South Africa is still regarded as the most unequal society by institutions like World Bank with unemployment rate above 32% which is among the highest in the world. ACCA (2022) indicates that the accounting profession must step up and be recognised as actively influencing transformation including socio economic development in the African continent. Accountancy professionals should consider their contribution in redressing the economic imbalances as part of public interest contribution. However, accountancy professionals have a challenge of choosing between their principals' interest and the interest of other stakeholders.

Examining the intersectionality of identities within the accounting profession is crucial for understanding the complexities of diversity (Espinosa-Pike et al., 2021a; Lassou et al., 2021; Oboh et al., 2020). Beyond race, factors such as gender, sexual orientation, disability, and socio-economic background play pivotal roles in shaping professional experiences. The 2024 statistics from SAICA indicates that of 52 773 Chartered Accountants, only 21 961 are female and only 9 474 are black (SAICA, 2024). This is an indication that the profession is dominated by males and is not benefiting enough from the important

ethics of care which would be contributed by female accountancy professionals.

The studies above indicate that the distinguishing characteristics of accountancy professionals are not present in some accountancy professionals. Corporate scandals reveal that the code of professional conduct and serving public interest are not applied in some instances which shows that there is a gap between theory and practice. Deontology ethical philosophy is neglected for egoism by some accountancy professionals. History of South African accountancy profession impacts on the public interest as it was previously driven by the proponents of previous regime. Accountancy profession is expected to contribute to addressing the current issues impacting society including unemployment, poverty, and inequality. This requires the accounting theory to be aligned with South African challenges. Addressing skills gap within the profession would also assist in performing duties with professional competence and due care.

Sustaining the momentum of transformation and diversity in the accounting profession requires ongoing commitment and collaboration (Espinosa-Pike et al., 2021a; Helen & Roberta, 2019; Pabel et al., 2021; van der Linde, 2022). This involves continued advocacy, mentorship and sponsorship programs, comprehensive training on diversity and inclusion, and the active engagement of leadership at all levels. By working collectively, the profession can continue to evolve towards a more inclusive, representative, and dynamic future.

Conclusions, Contribution to the Science and Recommendations

Instances of misconduct by accountancy professionals have been reported from and outside of South Africa which impact on the legitimacy of the accounting profession. These are showing that the distinguishing characteristics of accountancy professionals are only being theorised and are not fully depicted by accountancy professionals due to South Africa's unique landscape. Empirical studies indicate that the competency frameworks as indicated by accounting professional bodies are not implemented fully in practice which indicate that there is a gap between theory and practice. This study has thoroughly investigated the relationship between accounting theory and practice in the South African context. It used systematic literature review. The IESBA provided a foundation for the analysis. The findings indicate that there are corporate scandals in South Africa within the 21st century and an increase in the number of businesses that are failing including SMEs. These occur

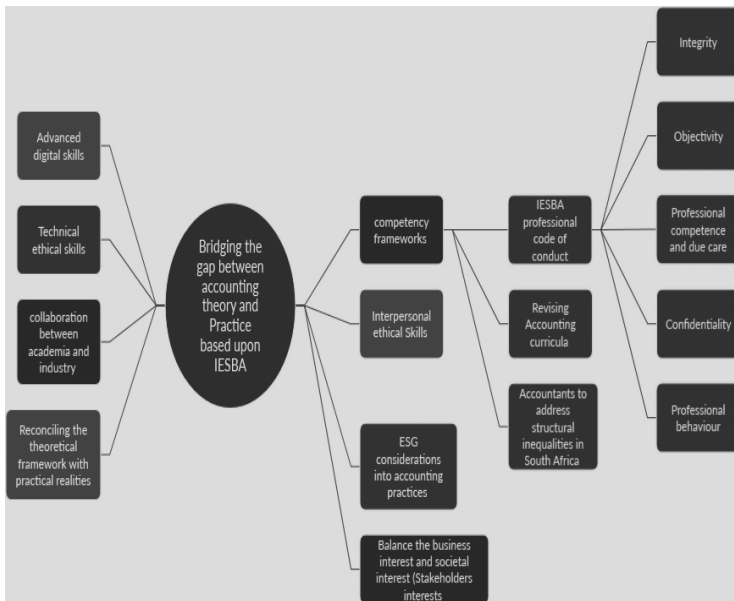
despite having framework from IFRS that covers both SMEs and entities with public accountability, competency frameworks issued by professional bodies as well as distinguishing characteristic of accountancy professionals. These are indicative of a gap between what the IESBA for Accountants and frameworks require and practice which impacts on the legitimacy of the accounting profession as it fails to balance the interests of all stakeholders.

The study further reveals that the historical past of the country impacts on what is in the interest of the public as accountants are required to protect the societal interest. Neo-liberal economic policies impact on professional accountants when it comes to balancing the interest of principals and that of societies as South Africa is experiencing a rise in triple bottom challenges of poverty, unemployment, and inequality. The skills gap in terms of knowledge of latest technologies has not been addressed fully by accountancy professionals which impact on performing duties with competency and due care. The findings emphasise the need for adaptable accounting practices to accommodate the diverse economic landscape to apply the distinguishing characteristics of an accountancy professional and challenges faced by companies, accounting professionals and regulators in reconciling the theoretical framework with practical realities. Addressing these challenges would restore the trust of the accounting profession including its integrity which impact on its legitimacy by stakeholders.

The study's recommendations, includes strengthening regulation, revising curricula and collaboration between industry and academia, aim to narrow the gap between theory and practice and improve the quality of financial reporting. The study provides valuable insights for stakeholders in the accounting profession, regulators and companies operating in the South African market and beyond. It offers practical implications for improving the effectiveness of financial reporting. Looking to the future, the accounting profession in South Africa must embrace emerging technologies such as blockchain, artificial intelligence, robotic process automation, cloud computing and data analytics. Given the increasing importance of sustainability reporting, integrating ESG considerations into accounting practices and education is essential. Tailored professional development programs should take these advances into account. Continued research collaboration between academia and industry will be critical to shaping the future of accounting practices and ensuring a dynamic and relevant financial reporting ecosystem. These steps will enable the profession to lead the way in innovative and sustainable financial reporting practices.

This article differs from previous literature analyses by reviewing recent contributions while focusing on an overview of the topic from perspectives of the gap between accounting theory and practice in the South Africa landscape by proposing a paradigm shift (model) in accounting students and professionals' thinking, moving from a sequential mind-set to embracing the holistic nature of accounting practices-based conceptualised model in South Africa's context.

Figure 1. Accounting practices-based conceptualised model in South Africa's context



Source: Developed by Authors (2024)

This study contributes to the body of knowledge by shedding light on whether the accounting theory is fully applied by accountancy professionals in South Africa or not and guide future researchers to further on the subject matter in the areas that were not addressed by this research. Future researchers could use other methodological approaches to overcome the limitations linked to literature review methodology.

Declaration of Interest

The authors report no conflicts of interest regarding this piece of research paper. Only the authors are responsible for the content and writing of this paper. Therefore, we have no conflicts of interests to disclose. We would also like to clarify that the paper has been extracted from Thembelihle Khumalo's research project which has been submitted to the Durban University of Technology as part of her postgraduate qualification.

Acknowledgments

We would like to thank the anonymous reviewers for the helpful and thoughtful suggestions, recommendations, and comments that have improved our paper in a substantial way. Moreover, we would like to express our gratitude to the Durban University of Technology for providing excellent research support and facilities.

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Towards a Comprehensive Integrated Talent Management Strategy for a Tertiary Institution in South Africa

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Abstract

To ensure competitiveness and sustainability with regards to human resources, a need was established to develop an integrated talent management strategy to ensure the university's survival. The study adopted a quantitative research methodology with the aid of a simple random sample size of 402 participants. The Principal Component Analysis (PCA) and Factor Analysis were used to determine the most important talent management practices. The reliability of the Human Capital Index was determined by the Cronbach Alpha coefficient. Results indicated that talent acquisition, talent engagement, talent deployment, talent retention, performance management and talent retention form the building blocks of an integrated talent management strategy. The results of the study show that the most or critical talent management practices in this study were Talent acquisition, Talent engagement, Talent development, Talent deployment.

Key words: talent management; strategy; performance management and talent retention; employees; tertiary institution.

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Introduction

Previous studies show that for tertiary institutions to remain competitive, management in these institutions should invest in their talented employees thereby developing sound and robust talent management strategies; hence, this research strongly advocates for such strategies (Mukwawaya, Proches & Green, 2022; Musakuro, 2018; Van Zyl *et al.*, 2017; Van den Brink, Fruytier & Thunnissen, 2012). Erasmus *et al.* (2017:84) state that “although the focus of talent management reports and articles that have been published recently emanates from challenges experienced in the private sector and multinational companies”, the same challenges are also experienced in the university environment and talent management strategies need to be put in place for universities to survive in a competitive environment they operate in.

Literature points out that in order to remain competitive and successful, organisations should entice and retain high-talented personnel who can respond to the ever-changing business atmosphere and the university is no exception. In light of the above, universities may be able to render high-quality service to its students and other relevant stakeholders because it may have a team of dedicated professionals (Mapanga & Mokgojwa, 2022); Onah & Anikwe, 2016). This paper was also worth undertaking because the results of this study may be applicable to other universities struggling with talent management issues. Policymakers within the Department of Education in South Africa may also benefit from the suggestions and recommendations of this study.

The concept of talent management remains vague to define amongst authors (Mukwawaya, Proches & Green, 2022); Van Zyl *et al.*, 2017). Arris, Cascio and Pauwe (2013) reported that there is partial theoretical development in the arena of talent management. This paper was mainly motivated by the observation that it is crucial to retain staff within South African tertiary institutions. Poor staff retention in South African tertiary institutions often results in high labour turnover expenses, that is, costs related to recruiting and training of new staff. Literature shows that talent management in an organisation offers actual and tangible benefits of reducing recruitment and turnover expenses (Ordieno, 2015; Makondo, 2014; Musakuro, 2018). Against this background the study aims to achieve the following:

- To develop a comprehensive integrated talent management strategy for tertiary institution in South Africa.

Literature Review

Theoretical Overview of Talent Management

Mampane (2019) states that there is evidence in literature that talent management is relatively a new conception in tertiary institutions despite its relevance for these institutions in offering a practical way of driving competitive edge. In a study conducted by Rudhumbu and Maphosa (2015) in Botswana, it was stated that talent management practices utilised in tertiary institutions in Botswana are still lagging behind because the knowledge and capability to apply these talent management strategies is lacking (Festings & Schafer, 2014; Rudhumbu & Maphosa, 2015; Mampane; 2019; Simataa & Pearse, 2018).

In light of the above observation, this research seeks to bridge the knowledge gap and capability in the application of talent management strategies. Proper implementation of talent management strategies in tertiary institutions will ensure that these institutions enjoy a competitive advantage over other institutions. Application of talent management strategies at tertiary institutions also ensures that these institutions cut costs of replacing employees who have left (Amushila & Bussin, 2021); Koketso & Rust, 2012; Mabaso & Dlamini, 2018; Musakuro, 2018; Odierno, 2015).

Koketso and Rust (2012) posit that efficient talent management practices result in dedicated workers and results in a substantial reduction in labour turnover, increase in employee engagement and productivity and talent retention. Erasmus *et al.* (2013) noted that most workers who show dedication perform better and are less likely to quit (Erasmus *et al.*, 2013; Koketso & Rust 2012; Mabaso & Dlamini, 2018; Shikweni & Schurink, 2019).

Talent Management Philosophy

Literature shows that talent management has continued to grow due to various theoretical developments and continuous research on the concept. Notwithstanding the increasing literature on talent management, there is an ambiguity regarding the explanations, hypothetical models and empirically grounded endorsements for the practice of talent management in organisations. Literature points out that uncertainties linked to talent management can be drawn to the dissimilar interpretation of the concept, for instance, the meaning of talent (Collings & Mellahi, 2009; Lewis & Heckman, 2006; Shikweni & Schurink, 2019). After the

interrogation of literature about the above tensions relating to talent management, four philosophies were developed as discussed below:

Exclusive /Stable Talent Management Philosophy

Talent is generally regarded as the natural ability in doing something. Talent is also regarded as a natural scarce and determined variable. Burkus and Osula (2011) noted that the belief that talent is an innate construct in business is widely accepted. The above belief provides the foundation of exclusive/stable talent management viewpoint. This assumption generally divides employees into two groups thus: a small group of employees with capacity who are regarded to be “A players” and excellent performers) and a bigger group of employees who are considered to be B and C players who are ordinary and lowest performers (Axelrod *et al.*, 2002; Burkus & Osula, 2011; Meyers & van Woerkom, 2014; Mukwawaya, Proches & Green, 2022).

Literature considers “A players” as employees with an amalgamation of intelligence, disposition and motivation toward work. Literature also points out that intellectual capacity is considered as stable traits and the distinction between A, B and C players is irreversible, reflecting the idea that workers should either have the talent or not (Delong & Vijayaraghavan, 2003; Welch & Welch, 2005). Scholars who believe in the exclusive/stable viewpoint state that the organisation that wins the “war for talent” advance their competitive advantage over their rivals in the long overhaul (Axelrod *et al.*, 2001). Bourdreau and Ramstad (2006) point out clearly that the idea of differentiating employees as A, B or C players’ leads to preferential treatment of employees.

Exclusive/Developable Talent Management Philosophy

The developable talent management viewpoint considers talent as a potential that requires to be nurtured. Silzer and Church (2009:379) noted that looking at the above observation, talent can be considered as “the possibility that individuals can become something more than what they currently are”. Talent can also be considered as latent potential or realised potential that manifests in excellent performance. This implies that potential will only come to reality if it is nurtured (Meyers & Woerkom, 2014; Silzer & Church, 2009; Mapanga & Mokgojwa, 2022).

The other core idea embedded in the exclusive/developable talent management perspective is the rare occurrence of potential or talent. Thus, few employees exhibit abundant promise for becoming

excellent performers in future. Literature maintains that 10%-15% of the employees of an organisation are perceived as high performers. In short, both the exclusive/developable and exclusive/stable approaches to talent are similar because both consider talent as rare and partly inborn. In contrast though, the developable suggest that talents are covert and can be reviewed by means of development (Yarnal, 2011; Mukwawaya, Proches & Green, 2022).

Church and Waclawski (2009) view talent as rare but partially learnt; they emphasize two main ideas, namely: the identification of workers with talent and the growth of these identified employees. Derr, Jones and Toomey (1998) reported that most organisations use a 3-stage process of high capability management in the United States of America. During the first phase, workers with high potential are acknowledged during that initial stage in the career (separation stage). In the second stage, these perceived high performers are taken to the transition phase where they are offered exceptional tasks and offered on-the-job training and lastly taken to the senior roles within the organisation (Yarnal, 2011).

The exclusive/developable approach segment employees based on potential. Workers who display great potential will get specific training and development prospects so that they perform their duties to the best excellently. Church and Waclawski (2009) posit that a 3-dimensional model of potential was developed, and that gives guidelines on how talent is measured. The first element of potential consists of cognitive and personality variables (Shikweni & van Wyk, 2019; Mukwawaya, Proches & Green, 2022).

Silzer and Church (2009) further stated that these features are assumed to be indispensable for a variety of organisational positions and roles. The second aspect of potential includes, among others; learning orientation, career ambition and factors that enable the development of employees within the organisational context. The last dimension consists of prompt pointers of skills such as leadership and research skills that can further be nurtured for specific career paths (Barkhuizen, Mogwere & Schutte, 2014).

Immediately after potential has been identified, training and development can be presented to these employees so that they excel in their areas of specialty within the organisation. The training offered to these employees will be tailored to early career-specific potential. These theories suggest that a relationship among individual potential and training leads to gain in a given skill. This will then imply that employees can exhibit improvement in work abilities after receiving training (Papierno *et al.*, 2005; Malunda & Atwebemberie, 2019).

Meyers and Woerkom (2009) point out that when organisations design their talent management systems in relation to the developable viewpoint they anticipate to produce yields on training interventions by providing development prospects to workers with talent (Meyers & Woerkom, 2009). Papierno *et al.* (2005), maintained that the idea of tailor-making training to employees with potential is based on the premise that these employees will show a much deeper growth rate in their skills and work aptitudes. The notion above has been criticized by scholars on basis that the mere labeling of employees as “high potential” will make these employees perform extremely well despite the fact that they might not be true high-potentials (Mukwawaya, Proches & Green, 2022; Woerkom, 2009).

Meyers & van Woerkom (2009) maintained that since potential is covert by description, discovering the “true” high potential of an employee can be a problem to the organisation. The three-dimensional model of potential normally serves as an impetus for identifying talent but cannot answer the entire questions with regard to talent management. It is unclear whether an amalgamation of potential in the professional progress of employees varies by function and sector (Meyers & van Woerkom, 2009; Silzer & Church, 2009).

In light of the observation that talent is latent, one can make an inference that more people possess talent than normally presumed. This means that employees with talent cannot only sort the labour market (as a stable talent viewpoint might entail) but can be nurtured from within the organization (Gladwell, 2008; Meyers & Woerkom, 2009). The view of talent transfer emanated from studies in the field of top sport. Instances of talent transfer include athletes in a given sport “A” can be competent in another sport “B” provided that the two distinct sports need the same abilities.

The developable talent management viewpoint underscores the assumption of talent change in sport as it assumes that talent can be developed toward distinct levels. In light of the above statement, employees can therefore be exposed to different career dimensions as long as definite requirements are met for a particular position. This implies that workers in one occupational category can be mentored and trained in another professional category in minimum time and with fewer resources if these workers meet the required skills for the job (Silzer & Church, 2009; Meyers & Woerkom, 2014).

Inclusive/Stable Talent Management Philosophy

Peterson & Seligman (2004) posit that the inclusive/stable talent management viewpoint suggests that worker and organisational growth may be attained by concentrating on positive abilities or the talent that exists in a person. This implies that everyone possesses positive characteristics that enhance them to excel in everything they do.

Seligman & Csikszentmihalyi (2000:5) maintained that the inclusive/stable talent management philosophy is deeply grounded in positive psychology and is defined as “the science of positive subjective experience, positive individual traits, and positive institutions”. Scholars who believed in the inclusive/stable talent management philosophy were building knowledge based on positive individual characters (Peterson & Park, 2011; Seligman & Csikszentmihalyi, 2000; Mukwawaya, Proches & Green, 2022).

Supporters of the inclusive/stable talent management viewpoint recommend human resources practitioners to intentionally make talent management systems that recognise exceptional traits of workers and purpose to capitalise on them. In relation to this, three tasks for talent management arise that include, among others, identifying talent from individual employees, stimulating the use of identified talent and matching the talents of employees with the positions available.

Linley (2008) posits that the significance of the responsibilities of talent management, namely, identification and the use of talent have been noted by some scholars as the corner stone in the framework of positive psychology. Linley (2008) further maintained that many employees do not know their strengths hence practitioners of talent management have to take control of talent identification. It is vital to note that using strengths is directly associated with a plethora of positive individual results that include, among others, feeling excited, happy, invigorated and well absorbed in their positions. Meyers and van Woerkom (2014) noted that evidence from research support the above assertions by showing that interventions can be used to help employees to identify their talents as a way of enhancing their happiness and well-being.

Literature notes that there is pragmatic confirmation that workers who view that their company enables talent identification and use show a high level of in-role and extra-role performance. Increasing the positive relationship between the natural aptitudes of a worker with his or her job is a crucial characteristic of talent management which is grounded on the inclusive/stable viewpoint that is useful. The

inclusive/stable talent management philosophy partly overlaps with the definition of vocational interests hence assigning workers in positions that ensure that they play to their strengths and promote employee performance (Meyers & van Woerkom, 2014; Mapanga & Mokgojwa, 2022).

Kaiser and Overfield (2011) posit that biased attention on strengths can resultantly change them into weaknesses. Concentrating on employee strengths does not therefore mean that the weaknesses of employees are totally neglected altogether. Training and development are major aspects that are underscored by the inclusive/stable talent management philosophy (Capelli & Keller, 2014; Mapanga & Mokgojwa, 2022).

The inclusive/stable talent management philosophy allows employees to perceive as being reinforced and appreciated by the organisation (Meyers & van Woerkom, 2014). In addition, employees also make positive attribution about the aims of talent management utilised by the organisation (Nishii, Lepak & Schneider, 2008). This might imply that workers will believe that talent management is intended to improve their happiness and well-being (Meyers & van Woerkom, 2014).

If workers view talent management or human resource as a yardstick for their organisation's concern for their well-being, organisational dedication may take place (Nishii *et al.*, 2008). The inclusive talent management idea is then perceived as a key variable for talent retention. O'Reilly and Pfeffer (2000) noted that organisations might have fewer problems in attracting talented workers since employees wish to work for organisations where they can fully use their talents (Capelli & Keller, 2014).

Buckingham (2005) shows that using talents in the inclusive/stable talent management philosophy is perceived to create pleasure, vigor and motivation. The use of exceptional strengths might have a positive influence on workers working in a team because team cohesiveness will be enhanced (Buckingham, 2005; Peterson & Seligman, 2004; Cropanzano & Wright, 2001; Mapanga & Mokgojwa, 2022).

The greatest challenge that is faced by organisations that utilise the inclusive/stable talent management perspective is running the risk of fostering a fixed mindset amongst those employees with a static talent mindset considers that main talents are determined by nature and cannot be changed. This implies that when workers fail, they tend to blame their failure on the lack of inborn traits that will then result in employees

feeling discouraged and always avoiding taking responsibilities at the workplace (Biswas-Diener *et al.*, 2011; Dweck, 2012).

Despite the fact that the inclusive/stable talent management philosophy offers overall enticement and retention of employees, the question of whether the “right” workers are retained and attracted remains unanswered. Although the inclusive/stable talent management philosophy does separate employees, there are usually some workers who are vital to the organisation due to the implicit knowledge they have acquired in the organisation over the years. Many organisations the world over should deal with the scarcity of certain skills like the shortage of health care workers for instance.

Inclusive/Developable Talent Management Philosophy

The inclusive talent management idea aims to develop average employees into astonishing performers. The goal of the inclusive/developable talent management viewpoint is linked to pronounced growth mind-set. Dweck (2012:614) further noted that in the growth mindset the belief is that employees have a “great capacity to adapt, change and grow”. It can also be argued that employees do not have only the potential but also the internal need to grow and fulfil their growth needs (Dweck, 2012; Meyers & van Woerkom, 2014).

The inclusive/developable talent management approach has two sub-approaches. The first approach perceives talent as employees having the “potential for excellence that can be cultivated through enhanced awareness, accessibility and effort”. This implies that every employee has the capability to be exceptional in an explicit field contingent on the skills and strength of that particular individual. The second slant in the inclusive/developable talent management viewpoint believes that every employee can be exceptional in almost any sphere they want to pursue (Ericsson *et al.*, 2009).

The inclusive/developable talent management viewpoint seeks to produce optimal performance amongst all categories in the labour force thereby permitting every employee to reach their potential. The inclusive talent management perspective permits for the development of workers and helps workers to self-manage their progress. The inclusive/developable talent management philosophy advises organisations to cascade this viewpoint to line managers and workers in general with the aim of creating a growth mindset amongst employees and an organisational ethos for development.

The major intention of the talent management approach is to nurture leaders of the future who will help in succession planning (Cohn, Khurana & Preece, 2005). Notwithstanding the importance of practice in talent development, learning from experience has also been noticed to have a significant impact in leadership development (Day, 2010). Obtaining knowledge from practice relies on-the-job training that is beneficial in the initial phase of a worker's career. Leaders destined for the future should always strive to learn from both bad or good leaders and action learning projects for them to be effective (Day, 2012; Mapanga & Mokgojwa, 2022).

Supporters of the inclusive/developable talent management viewpoint claim that this viewpoint is helpful in various ways. The advantages of the inclusive/developable philosophy can be anticipated due to the single focus on singular potential and developmental prospects hence creating a growth mindset amongst employees. The growth mindset is related to learning efforts that promote intellectual achievements, willpower and better conflict resolution strategies to be achieved within the organisational context (Dweck, 2012).

The second benefit of the inclusive/developable talent management idea is centered on the confidence that all workers can become exceptional performers and can result in the Pygmalion effects which are a form of self-fulfilling prophecy. Organisations with the inclusive/developable talent philosophy often raise positive expectations in relation to employee learning progress and their real progress can increase significantly (Rosenthal, 2010).

The third advantage of the inclusive/developable talent management viewpoint is based on the idea of developing a broad range of talents that are necessary to organisations. Specific talents are needed to manage a business competitively in various change situations experienced in the business environment (Cappelli, 2008; Mapanga & Mokgojwa, 2022).

The major loophole of the inclusive/developable talent management viewpoint is grounded on the idea that developing the whole workforce entails resources and time and as such training is often restricted. With restricted training budgets, organisations are often found to be in a difficult position to roll out training that covers targeted staff (Walker & LaRocco, 2002).

Data and Methodology

The study was aimed at developing an integrated talent management strategy at a tertiary institution in South Africa. The study adopted a quantitative research methodology with the aid of a survey questionnaire that was hand distributed to the participants.

The population in the study consisted of 2000 academic staff of the tertiary institution under study. A simple random sample size of 402 was estimated at a 95% confidence interval with a degree of error of 5%.

The adapted Human Capital Index (HCI) Questionnaire was utilized in this particular study. The HCI has 45 items that were subjected to a 5-point Likert scale. Data was collected using the Human Capital Index questionnaire. The Principal Component Analysis (PCA) and Factor Analysis were used to determine the most important talent management practices. The reliability of the Human Capital Index was determined by the Cronbach Alpha coefficient. Results indicated that talent acquisition, talent engagement, talent development, talent deployment, performance management and talent retention form the building blocks of an integrated talent management strategy.

Before the collection of data, the management of the tertiary institution was contacted and informed about the purpose of the study. Owing to the benefits of the study, permission to conduct the study was granted. A summary of demographic information of participants is presented in Table 1.

Results

The study results are discussed in this section. Table 2 outlines the demographic details of the participants as shown below.

Table 1. Summary of demographic details of participants

Variable		Frequency	Percentage
Gender	Male	156	38.8%
	Female	246	61.2%
Age	30 years and below	49	12.2%
	31-40 years	145	36.1%
	41-50 years	103	25.6%
	51 years and above	105	26.1%
Race	Black African	319	79.4%
	Coloured	8	2.0%
	Indian	9	2.2%
	White	66	16.4%
Work strata	Academic	206	51.2%
	Support	47	11.7%
	Administration	149	37%
Qualification	Certificate/Matric	32	8.0%
	Diploma	68	16.9%
	Degree	29	7.2%
	Honours	55	13.7%
	Masters'	128	31.8%
	Doctoral Degree	90	22.4%

The total number of participants for quantitative data collection was 402. There were more females (n=246) than males (n=156). The majority of the respondents were in the age range of 31-40 years and they constitute 36.1% while the lowest number of participants falls in the age range of 30 years and below. This is because during data collection employees within the age ranges of 31-40 years were (145) which was the highest compared to other age groups.

Furthermore, the majority of the research participants were academics (51.2%) compared with the minority who were the support staff (11.7%). An analysis of participants' profile in relation to educational qualifications reveals that the majority of the respondents were master's degree holders (31.8%), doctoral degree holders were (22.4%). Honours holders were (13.7%), matric holders were (8.0%) and degree holders were (7.2%), respectively.

Reliability Analysis

Table 2 depicts the reliability statistics from the reliability analysis and shows a Cronbach Alpha Coefficient of 0.971 from 45 items used from the adapted version of the Human Capital Index of talent management practices.

Table 2. Cronbach's Alpha

Cronbach's Alpha	Number of Items
0.971	45

Table 2 above shows a Cronbach's Alpha Coefficient of 0.971, which confirms that the HCI of talent management practices scale is highly reliable and consistently measure employee perception about the application of talent management practices within the organisational context.

Principal Component Analysis

To determine the most important talent management practices, a principal component analysis was done on the 45 items of the Human Capital Index Questionnaire. The results show that six factors could be extracted based on the eigenvalues. The subsequent principal component analysis was performed using Varimax rotation to identify the factors. Five items were deleted mainly because of problematic loadings. The six factors explained 67% of the variance and were labelled Talent Acquisition (Factor 1), Talent Engagement (Factor 2), Talent Development (Factor 3), Talent Deployment (Factor 4) Performance Management (Factor 5) and Talent Retention (Factor 6). All the items show acceptable loadings, and both the total variance and rotated component matrix are reported as follows:

Table 3. Total variance explained for the human capital index questionnaire

Component	Initial Eigenvalues			Extraction Sums of Squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	10.982	36.603	36.602	10.991	36.602	36.602
2	3.441	11.476	48.176	3.441	11.375	47.067
3	1.940	6.444	53.510	1.830	6.334	53.511
4	1.425	4.727	59.221	1.115	4.617	58.228
5	1.365	4.545	63.782	1.266	4.455	63.782
6	1.102	3.677	67.460	1.102	3.677	67.460
7	1.010	3.368	70.824			
8	0.901	3.007	73.828			
9	0.773	2.580	76.418			
10	0.671	2.239	78.649			
11	0.628	2.094	80.753			
12	0.568	1.896	82.652			
13	0.534	1.781	84.432			
14	0.465	1.552	85.987			
15	0.454	1.514	87.500			

16	0.429	1.434	88.935			
17	0.401	1.340	90.277			
18	0.390	1.303	91.580			
19	0.365	1.220	92.802			
20	0.321	1.073	93.876			
21	0.306	1.023	94.901			
22	0.289	0.787	97.549			
23	0.288	0.786	97.548			
24	0.287	0.585	97.547			
25	0.186	0.584	97.546			
26	0.185	0.583	97.545			
27	0.184	0.582	97.544			
28	0.183	0.581	97.455			
29	0.182	0.579	97.344			
30	0.180	0.578	97.224			
31	0.178	0.577	97.103			
32	0.176	0.568	96.883			
33	0.175	0.578	96.991			
34	0.174	0.588	97.770			

35	0.173	0.578	97.771			
36	0.168	0.565	98.335			
37	0.139	0.466	98.803			
38	0.133	0.444	99.249			
39	0.113	0.379	99.630			
40	0.112	0.368	100.000			

To ascertain the most important talent management practices at the University, a Varimax rotation was performed. Six factors explained 67,460% of the variance and were labelled Talent Acquisition (Factor 1), Talent Engagement (Factor 2), Talent Development (Factor 3), Talent Deployment (Factor 4) Performance Management (Factor 5) and Talent Retention (Factor 6) as reported in Table below:

Table 4. Varimax rotation for the human capital index questionnaire

Talent Item	Component					
	Talent Acquisition	Talent Engagement	Talent Development	Talent Deployment	Performance Management	Talent Retention
HCI 1	0.399	-0.097	0.013	0.073	0.333	0.201
HCI 2	0.401	-0.075	0.047	0.012	0.289	0.038
HCI 3	0.406	-0.075	0.019	0.180	0.204	0.148
HCI 4	0.408	0.066	-0.003	0.284	0.260	0.099
HCI 5	0.410	0.069	0.080	0.396	0.088	-0.001
HCI 6	0.411	0.045	0.120	0.314	0.066	0.014
HCI 7	0.412	0.265	0.255	0.186	0.017	0.190
HCI 8	0.416	0.252	0.69	0.218	0.039	0.389
HCI 9	0.417	0.039	0.024	0.196	-0.014	0.351
HCI 10	0.420	0.068	0.189	0.109	0.012	0.201
HCI 11	0.421	0.077	0.240	0.089	-0.061	0.234
HCI 12	0.422	0.155	0.183	-0.149	0.011	0.272
HCI 13	0.438	0.129	0.204	0.094	-0.051	0.252

HCI 14	0.303	0.111	-0.042	0.149	0.391	0.283
HCI 15	0.392	0.209	0.064	0.328	0.204	0.120
HCI 16	0.653	0.211	0.065	0.329	0.291	0.098
HCI 17	0.602	0.212	0.067	0.330	0.207	0.087
HCI 18	0.631	0.214	0.070	0.331	0.209	0.089
HCI 19	0.782	0.216	0.072	0.333	0.221	0.078
HCI 20	0.555	0.218	0.074	0.335	0.025	0.066
HCI 21	0.394	0.841	0.073	0.331	0.023	0.069
HCI 22	0.393	0.901	0.710	0.330	0.021	0.075
HCI 23	0.391	0.799	0.693	0.329	0.019	0.076
HCI 24	0.423	0.775	0.190	0.057	0.090	0.015
HCI 25	0.437	0.602	0.240	0.055	-150	0.191
HCI 26	0.304	0.112	0.544	0.068	0.093	0.390

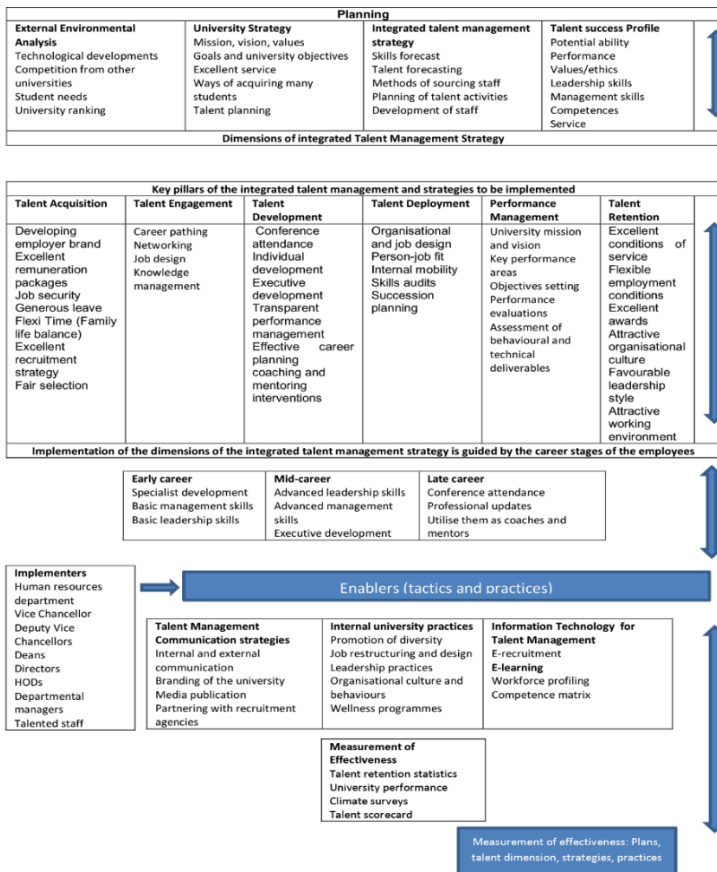
HCI 27	0.394	0.210	0.843	0.051	0.150	0.350
HCI 28	0.320	0.256	0.740	0.050	0.327	0.202
HCI 29	0.313	0.291	0.768	0.139	0.063	0.097
HCI 30	0.181	0.315	0.779	-0.020	0.073	0.089
HCI 31	0.083	0.284	0.177	0.571	0.073	0.084
HCI 32	-0.132	0.132	0.045	0.551	0.062	0.060
HCI 33	0.039	0.049	0.074	0.681	0.073	0.059
HCI 34	0.041	0.051	0.044	0.510	0.024	0.509
HCI 35	0.042	0.052	0.043	0.509	0.029	0.170
HCI 36	0.246	0.096	0.040	0.095	0.638	0.037
HCI 37	0.203	0.152	0.068	-0.027	0.733	-0.035
HCI 38	0.042	0.231	0.083	0.034	0.734	0.197
HCI 39	-0.024	0.250	0.104	0.076	0.623	0.126

HCI 40	0.061	0.171	0.091	0.066	0.730	0.159
HCI 41	0.172	0.156	0.078	0.135	0.278	0.661
HCI 42	0.253	0.148	0.081	0.052	0.249	0.692
HCI 43	0.259	0.112	0.167	0.071	-0.013	0.692
HCI 44	0.563	0.184	0.071	0.056	0.028	0.751
HCI 45	0.334	0.013	-0.024	0.076	0.133	0.760

Note: Values in bold are significant

Table 4 above, it is clear that the most or critical talent management practices in this study were Talent acquisition, Talent engagement, Talent development, Talent deployment, Performance management and Talent retention. Based on data analysis and literature review, an integrated talent management strategy was developed as shown in Figure 1 below.

Figure 1. Integrated talent management strategy



Discussion

The paper has been able to deliver an integrated talent management strategy that will guide and support any talent management initiative that can be considered at South African universities. The integrated talent management strategy is comprehensive in the sense that it covers the

most important dimensions of talent management and the ways of evaluating the developed strategy.

This study contributed practically in the field of human resources in South Africa because Festing and Schafer (2014) assert that despite the popularity and undisputed strategic importance of talent management for the corporate world, research on talent management is lacking in its theoretical foundation and as such this research makes a valuable contribution through the development of an integrated talent management strategy that will be useful for South African universities and beyond.

From a practical point of view, management at South African universities may benefit from the comprehensive integrated talent management strategy developed as it guides the best practice for talent management amongst employees in an institution of higher learning. The talent management strategy will also allow human resources practitioners to retain the highly talented pool of university employees to ensure the university's survival and competitiveness.

Since there is a dilemma in defining what can be considered as "talent", this research considered "talent" as all the employees of the organisation in the sense that they all contribute significantly to their organisation for the realisation of organisational objectives.

The study further highlighted the key dimensions of talent management that propels or drives the competitive advantage of the organisation. The major dimensions of talent management identified in this study include Talent acquisition, Talent engagement, Talent development, Talent deployment, Performance management and Talent retention.

The paper also emphasised the importance of the implementers of the integrated talent management model that include:

- Vice-chancellor
- Deputy vice-chancellors
- Deans
- Directors
- Departmental managers
- Human Resources department
- Head of departments
- Talented staff

The paper also identifies the importance of universities in using information technology in supporting talent management initiatives. An

excellent information system will perfect the integration and coordination of talent management initiatives in an organisation.

The developed integrated talent management strategy serves as a tool that guides other policies, processes and procedures in as far as the management of personnel is concerned at South African universities.

Since the overall aim of this study was to develop comprehensive integrated talent management strategy, the proposed integrated talent management strategy was developed based on key findings and recommendations of this study with the aim of addressing a plethora of challenges experienced at universities with regard to talent management. This strategy seeks to present dynamics of talent management at universities as well as to illustrate the relationships and influence of various stakeholders both internally and externally.

Conclusions

This paper informed the development of an integrated talent management strategy that consists of six talent management dimensions that include talent acquisition, talent engagement, talent development, talent deployment, performance management and talent retention. The developed strategy further suggested that the implementation of the key dimensions of talent management strategy should be informed by the career stages of the talent pool at the university. The integrated talent management strategy suggested an evaluation measure that should be taken by all key stakeholders at the university to ensure the effective implementation of the model.

Although the integrated talent management framework for the private sector developed by Van Zyl *et al.* (2017) has some similarities with the integrated talent management strategy developed by the researchers, it should be acknowledged that the key features of the integrated strategy were developed based on the findings of this particular study. It is imperative to note that the dimensions of talent management, as well as the implementers of the strategy, are different because of the different environments in which the talent management model is applied. Also, of importance is to understand that the developed integrated talent management strategy was also informed by recent literature in the field of talent management (Mukwawaya, Proches & Green, 2022).

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Corporate Governance Disclosures and Fraudulent Practices in the Nigerian Banking Sector

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Abstract

This study examines the effect of corporate governance disclosures on fraudulent practices in the Nigerian banking sector. The twenty-four specified Deposit Money Banks were the study's population. Twelve Deposit Money Banks whose stocks were actively traded on the stock market throughout the study period and whose relevant data were easily accessible were chosen through purposeful sampling. Secondary panel data extracted from the audited financial statements of the twelve Deposit Money Banks for the period between 2012 and 2021 are used for this study. Content analysis and disclosure index was used to proxy corporate governance disclosures, while the Beneish M-Score model is used to proxy fraudulent practices. Panel regression analysis is applied to achieve the objective. The findings revealed that corporate governance disclosures had significant and negative effects on fraudulent practices along with firm age having the same effect. Asset turnover, Z-Score, and firm size positively and significantly affect fraudulent practices. The study therefore concluded that disclosure of corporate governance

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significantly affects fraudulent practices. The study calls for the enforcement of corporate governance disclosures and increased regulatory oversight of the Nigerian banking sector.

Keywords: corporate governance disclosure; deposit money bank; fraudulent practices; Beneish M-score model.

Introduction

The public, creditors, auditors, investors, and other key stakeholders' concerns have increased due to the increased fraudulent financial reporting in publicly listed companies. Several corporate governance failures in America, Europe, Asia, and Nigeria, among other developed and developing nations, have highlighted the necessity of strengthening and expanding corporate governance disclosure (CGD). No company is too big to fail, as demonstrated by the failure of high-profit organisations like Worldcom, Enron, Tyco, Satyam, Ather Anderson, Parmalat, and Barings Bank. This has led to a thorough examination of the regulatory role that the government plays in safeguarding the interest of the shareholders, investors, and other key stakeholders.

Cadbury (2002) states that corporate governance is a mechanism or system by which firms are controlled and directed. One significant area of scrutiny is the extent of CGDs made by the banks and the potential effect on fraudulent practices. The Nigerian banking sector plays a pivotal role in the country's economic stability and growth. The commercial banks in Nigeria, called Deposit Money Banks (DMBs), play a crucial role as intermediaries in the country's financial system by facilitating the mobilisation of deposits and extending credit to individuals, corporations, and the government (Akinadewo et al., 2023). Any economy must prioritise the financial sector's health since its collapse might impede national development and economic progress (Ogundele et al., 2020). However, concerns have arisen regarding the integrity and transparency of corporate governance practices within this sector. Due to the role the banking sector holds in the global economy, many scholars have been interested in studying corporate governance in banks. Corporate governance may lessen conflicts of interest by preventing fraud in a company's financial statements and decreasing opportunistic attitudes (Razali and Arshad, 2014).

CGD is a crucial tool for ensuring that a company's corporate governance practices remain within the bounds of the law regarding

accountability and transparency (Patel and Dallas, 2002). According to Moloji and Oluwasegun (2021), a company's corporate governance standards and disclosure policies impact its value. Additionally, Mallin (2002) contends that corporate governance transparency is essential to maintaining the stability of an economy's financial system and enhancing the trust of investors and shareholders in the financial markets. Furthermore, disclosure is a vital characteristic of a good corporate governance framework. A subtle indicator of the extent of adherence to applicable regulations and laws is the disclosure of corporate governance procedures in companies' annual reports. In making critical investment, financing and dividend decisions, the shareholders and investors must be equipped with relevant, appropriate, sufficient, and timely information. For the financial and stock markets to function well, listed companies must provide sufficient and timely information disclosures to increase the confidence of investors and shareholders (Healy and Palepu, 2001; Abdelkarim et al., 2009). Better transparency is a byproduct of improved disclosure and is one of the cornerstones of sound corporate governance practices.

A corporate body can convey business and financial information to its stakeholders through a procedure known as corporate disclosure. The integrity of financial markets and the effective and efficient use of resources depend heavily on a robust, clear, and effective corporate disclosure system. By allowing shareholders and investors to stay informed about their companies' activities regarding risk management, internal controls, gender diversity, and other related issues, CGD can be viewed as a strategic tool that mitigates or reduces information asymmetries (Cheng and Courtenay, 2006). On the other hand, if not well managed, CGD on sensitive aspects of an organisation, such as its business technology, marketing strategies, and research and development, can reduce its competitive edge (Bushman et al., 2004).

Despite these efforts, the Nigerian banking sector has been plagued by several high-profile corporate failures, underscoring persistent issues with corporate governance and fraudulent practices. Notable cases include the collapse of banks such as Oceanic Bank, Intercontinental Bank, and Afribank in the late 2000s, primarily due to poor corporate governance, insider abuses, and inadequate disclosure practices (Odekunle, 2015). These failures not only eroded public trust but also highlighted the critical need for stringent corporate governance disclosures to prevent fraud and ensure the integrity of financial institutions. The Nigerian Stock Exchange (NSE) and the Financial Reporting Council of Nigeria (FRCN) have since introduced various

guidelines to improve corporate transparency and accountability.

In order to support strong corporate governance, firms should disseminate information beyond what is required by the Companies and Allied Matter Act (CAMA), according to Section 34.1 of the Securities and Exchange Commission (SEC) rule. In addition, the SEC code's Section 34.4 mandates that the board of directors include a corporate governance update in the annual report that informs stakeholders on the company's governance structure, policies, and practices. Similarly, Section 5.1.1 of the Central Bank of Nigeria (CBN) code (CBN 2014) states that banks must furnish information beyond what is mandated by law and regulation in order to enhance good corporate governance. Since the aforementioned suggests that disclosure can reduce agency conflicts, openness and disclosure are now essential components of most corporate governance frameworks (Ho et al., 2001; Jensen and Meckling, 1976). Therefore, Nigeria implemented several corporate governance reforms to improve disclosure and procedures relating to corporate governance (Tsamenyi et al., 2007).

Fraud is an intentional act that may involve fraudulent financial reporting (falsification of documents or records, an intentionally incorrect application of accounting policies) and misappropriation of assets. Financial statements may contain material misstatements as a result of fraud. Intentional manipulation of both financial and non-financial information to deceive creditors, investors, or other stakeholders is also considered fraud. Internal and external parties can commit fraud (Carmichael, 2020). To make the stock seem more desirable to investors, bank managers get bank loans approved, and justify excessive salaries and incentives when remuneration is tied to business success. In sum, fraudsters try to inflate the perceived worth of the company (Beaver, 2022).

Furthermore, several high-profile instances of financial misbehaviour and fraudulent activities have occurred in Nigeria's banking sector in recent years. The public, investors, and regulators are among the stakeholders concerned about these instances and the suitability of the corporate governance procedures. As far as the writers are aware, there is a dearth of studies on CGD of fraudulent practices in emerging nations, particularly Nigeria. Therefore, the purpose of this study is to close this gap by examining the relationship between CGD openness and the prevalence of fraudulent activity in Nigerian banks.

Conceptual Review

Corporate Governance

According to Cadbury (2002), corporate governance can be defined as a system or mechanism that directs and controls businesses. Financial disclosure is a tool used by corporate governance to manage conflicts of interest between principals and agents. Additionally, corporate governance can reduce the knowledge asymmetry in stock market transactions and prevent opportunistic insider investing (Arum et al., 2023). A combination of internal and external causes has led to a substantial shift in Nigerian CGD. There has been an internal movement in the Nigerian corporate sector regarding the importance of sound corporate governance practices in ensuring that organisations act responsibly, transparently, and morally. Laws that seek to enhance corporate governance, such as the Nigerian Code of Corporate Governance Standards, have served to solidify this knowledge further (Okike, 2007). The Code offers a thorough framework outlining best practices for corporate governance, including rules on disclosure requirements. It was last amended in 2018. Companies listed on the Nigerian Exchange Group (NXG) are required to follow these guidelines, which promote a transparency culture that addresses issues including executive remuneration, board composition, risk management, and sustainability policies. Externally, global trends and investor expectations have played a pivotal role in shaping CGD practices in Nigeria. The increasing integration of Nigerian companies into the global economy has heightened the demand for transparency and accountability. International investors and financial institutions often scrutinise corporate governance practices as part of their investment decision-making process, placing pressure on Nigerian firms to align with global best practices. This external impetus, coupled with the local regulatory framework, have led to a paradigm shift in how companies approach CGD.

Beneish M-Score Model

The Beneish M-Score model is one of the fraud detection models that corporate governance needs magical tool to use to detect, prevent, and predict misstated financial statements. This quantitative forensic approach was created to identify and forecast fraud and manipulated earnings in the yearly financial statements of Best Company Ltd., a carpet cleaning company, and Enron, a US-based energy giant (Warshavsky,

2012). Prof Messod D. Beneish developed the Beneish (1999b) model, sometimes referred to as the M-score, as a financial fraud detection model. The model combines eight financial measures to determine the possibility of financial or earnings manipulation in a company's financial statements. It is a financial forensic tool designed to detect earnings manipulation by analyzing eight financial ratios derived from a company's financial statements. Analysts and investors mainly use it as a tool to evaluate the accuracy and consistency of a company's financial reporting. Detection of fraudulent financial reporting is possible, inter alia, by using fraud-prediction models. One of the best-known models in the world is the Beneish model (Omar et al., 2014)

Researchers discovered that Beneish's model is capable of identifying fraud in financial statements of other countries (Ibadin, and Ehigie, 2019). This model utilises a combination of eight financial ratios and accounting metrics to generate a score that helps identify companies at risk of engaging in fraudulent practices. The ratios encompass various aspects, including revenue recognition, gross margins, asset quality, sales growth, and accruals. The Beneish M-Score model is grounded in the premise that manipulative accounting practices can be identified by examining deviations in financial metrics that are indicative of potential earnings manipulation. Investors, analysts, and regulators commonly use the Beneish M-Score model as an effective screening mechanism to assess the financial health and integrity of companies, particularly those where there are concerns about the reliability of reported earnings.

Empirical Review

Adeyemi (2010) examines the conceptual framework of corporate governance. Several elements of corporate governance were identified and observed, with a focus on the Nigerian banking sector. For the most part, secondary sources were explored for this investigation, and some conclusions were also explained using simple percentages. The study found that because of the dominant power of the chief executive officer (CEO), internal controls were similarly poor, and the boards of directors of many of these institutions were incompetent. Full disclosures of all the financial transactions and strengthening the regulatory authorities' enforcement mechanisms were among the recommendations made by the study, which also showed that financial transaction non-disclosure and lack of transparency were prevalent in Nigeria's banking industry. Agyei-Mensah (2012) evaluated Ghanaian listed companies' disclosure levels of internal control information. The findings indicated that Ghana has poor

corporate transparency; an estimated 35% of the companies listed are thought to have omitted vital internal control information from their annual reports. However, the outcome positively indicates that the board's independence is a key factor in explaining internal control disclosure.

Asyiqin et al., (2014) examined the association between the corporate governance structure and the risk of financial reporting fraud. The possibility of incorrect financial reporting is ascertained by combining the Beneish M-Score model with the Altman Z-Score model. These links are examined based on a content analysis of the 2010 to 2011 annual reports of 227 Malaysian publicly listed firms. The study's conclusions show how effective corporate governance frameworks reduce the likelihood of financial reporting fraud. These results imply that an effective corporate governance system is necessary to increase the credibility of financial reporting. In their study, Aghghaleh et al., (2016) examined Malaysia's procedures for detecting financial fraud. They compared the strengths and weaknesses of the Beneish and Dechow models. After looking at businesses registered in the country between 2001 and 2014, they concluded that both models are useful for predicting two types of fraud.

Isukul and Chizea (2017) used the unweighted disclosure index approach to investigate CGD in banks located in Ghana and Nigeria. This study analyses the 2014 annual reports of 10 listed banks in Ghana and Nigeria for CGD procedures. The study's findings reveal that banks in Ghana and Nigeria adhere to various CGD regulations and principles, with Ghanaian banks disclosing less information than their Nigerian counterparts. Upon closer inspection, Ghanaian and Nigerian banks both have relatively low voluntary CGD scores. Ghanaian banks are less lucky than Nigerian banks since their levels of CGD tend to be more varied. The research suggests that laws and rules should be passed to increase voluntary corporate governance transparency and diversify board membership in boardrooms. Moloi and Oluwasegun (2021) examined the extent to which Nigerian banks published corporate governance practices in their annual reports by. They considered international recommendations on corporate governance, well-known national codes, and laws and regulations relevant to Nigerian banks. The study's qualitative content analysis employed a checklist based on the CBN code, well-known national regulations, and guiding principles to evaluate the level of compliance that commercial banks had disclosed in their annual reports with the exception of two corporate governance pillar scores—shareholder rights and functions and involvement with shareholders' associations—which received little to no attention in the annual reports

of the evaluated banks. The findings show significant CGDs made by all banks. Rostami and Rezaei, (2022) examined how corporate governance and its mechanisms affect a company's ability to avoid engaging in fraudulent financial reporting. The data of 187 listed businesses on the Tehran Stock Exchange were gathered during six years from 2013 to 2019 utilizing the systematic elimination method, and a linear regression model was used to test the hypotheses. Corporate governance was assessed using the modified Beneish (1999) model to proxy fraudulent financial reporting. The results show that a strong corporate governance framework considerably lowers the desire of businesses to disclose financial information fraudulently. The nine corporate governance mechanisms all showed a negative and significant relationship, except fraudulent financial reporting and board compensation.

Theoretical Framework

The agency problem arises when, following agency theory, shareholders (principals) assign managers (agents) the responsibility of managing the business. Conflicts between the interests of the principals and agents may result from shareholders giving managers the majority of the decision-making authority (Cohen, Krishnamurty and Wright, 2004). As a result, agency costs may arise from the disputes and stress brought on by divergence of interest. The value loss that happens when shareholders do not have direct influence over their company is known as agency costs. This theory becomes particularly relevant in the context of the Nigerian banking sector, where shareholders entrust executives and managers with the responsibility of safeguarding their interests. The degree of transparency and quality of information disclosed to shareholders becomes critical in the context of CGDs. Good CGDs help to balance the interests of shareholders and managers. Examples of these disclosures include comprehensive financial reports, board arrangements, and CEO compensation packages. By ensuring that relevant information is disclosed, the agency theory suggests that shareholders can better monitor and evaluate managerial actions, reducing information asymmetry and, consequently, the likelihood of fraudulent practices.

The shortcomings of the agency theory led to the development of the stakeholder theory (Hill and Jones, 1992). The fundamental goal of agency theory, which is to maximise shareholder wealth at the expense of other important stakeholders, is viewed as restrictive (Donaldson and Davis, 1991). The demands of other stakeholders, including the local

community, suppliers, consumers, government organisations, and workers, must also be met (Philips, 2003). Ignoring the demands of different stakeholders might be a significant non-economic risk to the company's survival. The banking institutions are accountable to stakeholders relying on transparent and ethical operations. Effective CGDs serve as a means to communicate with and satisfy the information needs of these diverse stakeholders. The stakeholder theory suggests that banks can build trust and legitimacy within the community by embracing a stakeholder-oriented approach to corporate governance. In addition to satisfying stakeholders' informational needs, transparent disclosures enhance the banking institution's credibility and general reputation. As a result, fraudulent activities may be discouraged as banks are held more accountable to many parties than just shareholders.

In conclusion, the agency and stakeholder theories serve as the foundation for this research. A strong theoretical framework for analysing the connection between CGDs and fraudulent activities in the Nigerian banking sector is provided by the merger of the agency theory and stakeholder Theory. The agency theory helps elucidate the dynamics of the principal-agent relationship, emphasising the role of information disclosure in reducing agency conflicts, while the stakeholder theory broadens the perspective to encompass the diverse interests of stakeholders, underscoring the importance of transparency in building trust and preventing fraudulent activities.

Methodology

Research Design

This study investigated panel research design. This study focuses on DMBs during a 10-year period, from 2012 to 2021. As a result, panel data were collected as the type of data. Due to its great informational value, panel data is considered a suitable tool for investigating changes, dynamics, and causal links throughout time. Panel data were used in longitudinal research. The panel data include both cross-sectional and time-frame units. Twelve designated DMBs in Nigeria serve as the cross-sectional units for the study, which runs from 2012 to 2021.

Population, Methods of Sampling, and Sample Quantity

The listed DMBs in Nigeria were the primary subject of this paper. The population of the study consists of the twenty-four DMBs currently listed on the NXG. Purposive sampling was used in this study to select 12 DMBs whose equities were traded on the stock market during the sample period and also based on the availability of data. The right data were easily accessible. The selected DMBs' audited financial accounts provided the data for the years 2012–2021. The reason for the base year is because it was the period when the regulatory authority required the DMBs to use uniform accounting year-end.

Model Specification and Measurement of Variables

Multiple regression analysis was performed to examine the relationship between fraudulent behaviors and CGDs. Below, we build the relationship between the variables.

$$\begin{aligned}
 f(\text{Corporate Governance Disclosure Index, Control Variables})\text{BENit} \\
 = \beta_1\text{CGIit} + \beta_2\text{ASTit} + \beta_3\text{ASGit} + \beta_4\text{ZSCit} \\
 + \beta_5\text{ROEit} + \beta_6\text{FSZit} + \beta_7\text{AGEit} + \beta_8\text{LEVit} \\
 + \varepsilon\text{it}
 \end{aligned}
 \tag{eq. 1}$$

The Benish Fraud M Score (BEN) is used as a stand-in for fraudulent practices.

$$\text{Asset Turnover (AST)} = \frac{\text{revenue or sales}}{\text{total assets}}
 \tag{eq. 2}$$

$$\begin{aligned}
 \text{Asset Growth (ASG)} \\
 = \frac{\text{current yr total assets} - \text{previous yr total assets}}{\text{previous yr total assets}} \\
 + 1.4 \times \left(\frac{\text{Total Asset}}{\text{profit after tax}} \right) + 3.3 \times \left(\frac{\text{Total Asset}}{\text{profit before interest and tax}} \right) \\
 + 0.6 \times \left(\frac{\text{Total Liabilities}}{\text{Market Capotalization}} \right) \times \left(\frac{\text{Revenue}}{\text{Total Asset}} \right) \\
 + 1.0 \times \text{Corporate Governance Disclosure Index}
 \end{aligned}
 \tag{eq. 3}$$

Corporate Governance Disclosure Index (CGDI) is measured on the scale of disclosure used in this study is either “0” or “1”. The

contents of each annual report are reviewed and compared to the items on the list and coded as “1” if disclosed or “0” for non-disclosure. The items that the study explored on the disclosure checklist are shown in Appendix A. Other variables such as Return on Equity, Firm Size, Firm Age, Leverage, Asset Turnover, Z-Score and Asset Growth are control variables. In examining the relationship between fraudulent behaviors and CGDI, it is crucial to include control variables to isolate the effect of CGDI on fraudulent behaviors. Control variables help account for other factors that might influence the dependent variable, ensuring a more accurate and reliable analysis. Return on Equity (ROE) is measured as earnings before interest and taxes divided by total equity (%); Firm Size (FSZ) is measured as a natural log of total assets; Firm Age (AGE) is measured as number of years a company is trading in the stock exchange;

Altman Z – Score (ZSC)

$$\begin{aligned}
 &= 1.2 \times \left(\frac{\text{Working Capital}}{\text{Total Asset}} \right) + 1.4 \times \left(\frac{\text{Profit after Tax}}{\text{Total Asset}} \right) \\
 &+ 3.3 \times \left(\frac{\text{Profit before interest and tax}}{\text{Total Asset}} \right) \\
 &+ 0.6 \times \left(\frac{\text{Market Capotalization}}{\text{Total Liabilities}} \right) \\
 &+ 1.0 \\
 &\times \left(\frac{\text{Revenue}}{\text{Total Asset}} \right) \qquad \qquad \qquad \text{eq. 4}
 \end{aligned}$$

$$\text{Leverage (LEV)} = \frac{\text{Total liabilities}}{\text{total equity}} \qquad \qquad \qquad \text{eq. 5}$$

The Beneish (1997, 1999) M-Score model is applied in this investigation. The eight variable forms that follow the Beneish model are as follows: Beneish Fraud M-Score = -4.84 + Sales Debtor Index = 0.92 + Gross Profit Index = 0.528 + Other Asset Index = 0.404 + Sales Growth Index = 0.892 + Depreciation Index = -0.172 + Expenses Index = 4.679 + Total Accural Index = -0.327.

Discussion of Results

Descriptive Statistics

The descriptive data of the chosen DMBs in Nigeria are shown in Table 1 below. The average, median, maximum, minimum, standard deviation (degree of dispersion), skewness, kurtosis, and Jarque-Bera statistics (normality test) are displayed for the chosen DMBs in Table 4.1. The Corporate Governance Disclosure Index has an average level of 0.59. According to the CGI, companies may, on average, disclose more information about their governance processes. The values range from 29% to 83% at the lowest and maximum, respectively. The standard deviation of 0.13 implies relatively low variability in CGI values, indicating a certain level of consistency in CGD across the DMBs. The mean value for AST is 0.09, which indicates that firms generate revenue equivalent to 9% of their total assets on average. The highest total AST is 0.55, while the lowest is 0.04. The measure of dispersion of AST values around the mean is 0.05. The skewness of 7.38 suggests that a few firms have much higher AST values than the majority. The average ASG is 16.07%, representing the average percentage from the previous period. The maximum growth level is 67.90%, while the lowest is -68.23%. The study suggests that at the highest, a firm experiences a growth in total assets by 67.60, while at the lowest, some DMBs experienced a decrease in total assets, with -68.23% being the largest decrease. The standard deviation for ASG is 15.23, which implies considerable variability in ASG values, suggesting that some DMBs experience significant changes in total assets. The mean Z-Score is 0.54. This represents the Z-Score's average value, which measures financial health and the likelihood of financial distress. The moderately left-skewed distribution (negative skewness) indicates that more firms have Z-Scores below the mean, potentially suggesting some level of financial distress for a portion of the DMBs. The average logged firm size (FZ) in the sample is 9.24. This indicates that, on average, the total assets of the firms, when transformed logarithmically, are around this value. The standard deviation of 0.41 suggests that the logged firm sizes are relatively tightly clustered around the mean. This indicates that there is moderate variability in the firm sizes within the sample. The kurtosis value of 2.41 suggests that the distribution of logged firm sizes is close to normal distribution (which has a kurtosis of 3). The mean value of AGE is 27.25, which suggests that DMBs have been trading relatively for a long period.

Table 1. Descriptive statistics

	AST	ASG	ZSC	ROE	AGE	FSZ	LEV	CGI
Mean	0.09	16.07	0.54	9.18	27.25	9.24	9.66	0.59
Median	0.08	16.05	0.56	12.02	20.50	9.24	13.12	0.63
Max.	0.55	67.90	1.05	32.08	53.00	10.07	51.25	0.83
Min.	0.04	-68.23	-0.78	-394.32	8.00	8.19	-154.75	0.29
Std. Dev.	0.05	15.23	0.20	38.85	15.37	0.41	22.33	0.13
Skew.	7.38	-0.77	-2.29	-9.54	0.36	-0.19	-5.44	-0.20
Kurtosis	71.22	10.41	17.08	98.82	1.47	2.41	35.18	2.47
Jarque-Bera	24357.9	286.36	1096.5	47727.1	14.30	2.43	5771.7	2.18
Prob.	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.34
Obs.	120	120	120	120	120	120	120	120

Source: Authors computation (2024)

Correlation Matrix

Table 4.2 displays the Pearson correlation coefficients between the explanatory variables. These values demonstrate no evidence of multicollinearity, as most of the explanatory variables have correlations that are less than 0.65. The strongest association is seen between AST and LEV, at 0.648. When the correlation coefficient is larger than 0.80, there is a multicollinearity problem (Tauringana and Arfifa, 2013). The Variance Inflation Factor (VIF) test for multicollinearity is also included in Table 4.3. In the VIF, every coefficient is less than five. In general, the degree of multicollinearity may be allowed if the VIF score is less than 10

Table2. Correlation matrix

	AST	ASG	ZSC	ROE	AGE	FSZ	LEV	CGI
AST	1.000							
ASG	-0.547	1.000						
	0.000	-----						
ZSC	-0.575	0.189	1.000					
	0.000	0.038	-----					
ROE	-0.081	0.024	0.218	1.000				
	0.377	0.797	0.017	-----				
AGE	-0.186	-0.046	-0.123	-0.087	1.000			
	0.042	0.622	0.180	0.346	-----			
FSZ	-0.516	0.143	0.309	0.305	0.186	1.000		
	0.000	0.119	0.001	0.001	0.042	-----		
LEV	-0.648	0.100	0.542	0.089	0.094	0.338	1.000	
	0.000	0.279	0.000	0.336	0.308	0.000	-----	
CGI	-0.219	0.032	0.234	0.089	0.203	0.449	0.088	1.000
	0.016	0.725	0.010	0.334	0.026	0.000	0.340	-----

Source: Authors' computation (2023)

Table 3. Variance inflation factors

Variable	Coefficient Variance	Centred VIF
AGE	1.43E-06	1.258
ASG	2.19E-06	1.894
AST	0.516286	4.447
FSZ	0.00298	1.882
ROE	2.11E-07	1.187
LEV	1.19E-06	2.216
ZSC	0.012822	1.967
CGI	0.032826	1.359
C	0.329832	

Source: Authors' Computation (2023)

Table 4. Breusch-Pagan Hetttest

Chi2(1)	0.212
P-value	0.645

Source: Authors' Computation (2023)

Heteroscedasticity, or non-constant variance of errors in a regression model, is identified by the Breush-Pagan test. The null hypothesis for the Breusch-Pagan test (also known as the Breusch-Pagan heteroscedasticity test) is that the variance of the errors in a regression model is constant, which means there is no heteroscedasticity present. We cannot reject the null hypothesis since the p-value (0.645) is higher than the usual significance level of 0.05. Since there is little evidence of heteroscedasticity, the chi-square value is low, which lends more credence to this conclusion. As a result, there is insufficient information to conclude that the regression model has heteroskedasticity. Put another way, the Breush-Pagan Hetttest indicates that there is no discernible heteroskedasticity in the model.

Table 5. Linktest

T	-0.593
P-value	0.554

Source: Authors' Computation (2023)

If the p-value associated with this added variable is high (typically above 0.05), we fail to reject the null hypothesis, suggesting the model is correctly specified. Conversely, if the p-value is low, we reject the null hypothesis, indicating that the model may be misspecified, possibly due to omitted variables or incorrect functional form. The result lacks sufficient evidence to reject the null hypothesis of correct model specification because the p-value is greater than 0.05. Consequently, we can presume that the model is well described and that neither functional form misspecification nor a clear signal of missing variables exists. Stated differently, the outcome implies that the variables incorporated into the regression model and the functional form employed are suitable for elucidating the fluctuations in the dependent variable. Regression analysis and the validity of the predicted coefficients are more credible when there is no discernible indication of model misspecification.

Hausman's Test

The fixed-effect model or random-effect model has been chosen for the panel data regression based on the Hausman (1978) test. The hausman's test results as shown in Table 6 suggested using a fixed-effects model rather than a random-effects model.

Table 6. Hausman's test

Correlated Random Effects - Hausman Test			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	41.115	8	0

Source: Authors' computation (2023)

Regression Analysis

The impact of corporate governance transparency on fraudulent activities in Nigerian DMBs was investigated using multiple regression analysis. The result of the regression is shown in Table 7. The fixed effect model's statistically significant F-statistic (F statistics = 3.227, p-value = 0.000) shows that the model is relevant when taken as a whole and offers insightful information about the relationships between the variables that were part of the research. The percentage of the dependent variable's variance that the independent variables in the model can account for is shown by the regression analysis' R-square. The independent factors account for 38.0% of the variability in the dependent variables, according to the R-square of 0.38.

From Table 6, CGD reveals a negative and significant relationship ($c = -0.582$, $p = 0.031$) with Fraudulent practices. The negative relationship suggests that the likelihood of fraudulent practices decreases as CGD increases. In other words, firms with more transparent and comprehensive CGDs may be less likely to engage in fraudulent activities. Additionally, companies with robust disclosure policies related to corporate governance are seen as more reliable and less vulnerable to fraud. Transparent governance procedures lessen information asymmetry and improve accountability. The outcome supports the assertion that corporate governance may have a detrimental impact on fraudulent activity (Chen et al., 2006). The outcome concurs with Asyiqin et al., (2014). Research suggests that corporate governance can lessen the likelihood of financial statement fraud (Razali and Arshad, 2014; Girau et al., 2019).

AST maintains a positive and significant relationship ($c = 2.266$, $p = 0.005$) with fraudulent practices. The positive and significant relationship serves as a warning signal regarding the potential risk of fraudulent practices in companies with higher AST. It implies that stakeholders, including investors, regulators, and auditors, should be attentive to the possibility of fraudulent activities in such firms. Auditors and financial analysts may need to consider the level of AST as a vital factor in their risk assessments. Firms with high AST may be subject to closer scrutiny, and additional measures may be necessary to detect and prevent fraudulent behaviour. Additionally, the result revealed a positive and statistically significant relationship between the Altman Z-Score and fraudulent practices, with a coefficient (C) of 0.27364 and a p-value of 0.019. The positive and significant relationship serves as an indicator that companies with higher Altman Z-Scores may be at a higher risk of

engaging in fraudulent practices. The Altman Z-Score is often a proxy for financial distress; this result suggests a potential link between financial distress and fraudulent behaviour. Stakeholders should exercise caution when dealing with companies that exhibit higher Altman Z-Scores. This financial distress measure, in this context, appears to be associated with an increased likelihood of fraudulent activities.

However, AGE shared a negative and significant relationship ($z = -0.047$, $p = 0.000$) with fraudulent practices. The negative relationship suggests that as AGE increases, the likelihood of fraudulent practices decreases. The negative and significant relationship implies that older firms are associated with a lower risk of engaging in fraudulent practices. This suggests that as firms mature and establish a longer operational history, they may develop more robust internal controls, ethical standards, and corporate governance practices that mitigate the risk of fraud. Finally, FSZ maintains a positive and significant relationship ($c=0.474$, $p = 0.026$) with fraudulent practices. The positive and significant relationship implies that larger firms may be associated with a higher risk of engaging in fraudulent practices. This could be due to the complexity of operations, decentralised decision-making, or challenges in monitoring and controlling activities in larger organisations. Other variables such as Asset Growth (ASG), Return on Equity (ROE) and Leverage (LEV) revealed insignificant relationship with fraudulent practices in Nigerian Deposit Money Banks

Table 7. Regression analysis

Dependent Variable: BEN						
Method: Panel EGLS						
Cross-sections included: 12						
Total panel (balanced) observations: 120						
RANDOM EFFECT				FIXED EFFECT		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
AST	1.296	2.286	0.024	2.266	3.611	0.001
ASG	0.001	0.608	0.545	0.002	1.219	0.226
ZSC	0.163	1.581	0.117	0.274	2.384	0.019
ROE	0.002	1.524	0.130	-0.001	-0.577	0.565
AGE	0.000	-0.031	0.976	-0.047	-3.950	0.000
FSZ	-0.030	-0.566	0.573	0.474	2.265	0.026
CGD	-0.241	-1.434	0.154	-0.582	-2.194	0.031
LEV	0.007	2.205	0.030	-0.001	-0.226	0.822
C	1.046	1.932	0.056	-2.475	-1.462	0.147
R-squared	0.117			0.380		
Adjusted R-squared	0.053			0.262		
S.E. of regression	0.188			0.166		
F-statistic	1.838			3.227		
Prob(F-statistic)	0.077			0.000		
Durbin-Watson stat	1.957			2.418		
Mean dependent var	1.123			1.123		
S.D. dependent var	0.194			0.194		

Source: Authors' computation (2023)

Conclusions and Recommendations

This research project aimed to examine the impact of corporate governance transparency on fraudulent practices in the Nigerian banking sector between 2012 and 2021. Purposive sampling was used in the study to choose 12 active DMBs from the NXG as the sample. The source of the data was audited yearly reports. The Hausman test was employed in the investigation, and the results showed that the fixed effects model was superior because the p-values were significant ($p < 0.05$). As a result, the panel data regression used the fixed effects model.

The result revealed that CGD demonstrates a negative and significant relationship with fraudulent practices, implying that increased transparency in CGDs is associated with a decreased likelihood of engaging in fraudulent activities. This highlights the importance of strong corporate governance practices in mitigating fraud risk and enhancing trustworthiness. The results also revealed that AGE significantly and negatively influences fraudulent practices, while AST, Z-Score, and FSZ positively and significantly affect fraudulent practices. The findings showed a clear indication that transparent and comprehensive CGD is associated with a lower likelihood of fraudulent activities. Therefore, regulatory authorities and industry stakeholders should encourage DMBs to adopt and adhere to robust corporate governance frameworks and disclosures.

The negative and significant relationship between Corporate Governance Disclosure (CGD) and fraudulent practices underscores the importance of transparency in corporate governance frameworks. This finding aligns with agency theory, which posits that transparency reduces information asymmetry between managers and stakeholders, thus mitigating the risk of managerial opportunism. The evidence supports the theoretical argument that robust governance practices, characterized by clear and transparent disclosure, enhance accountability and reduce the propensity for fraudulent behavior. This extends the theoretical understanding by emphasizing that not just the presence of governance structures, but their transparency and comprehensiveness, are critical in curbing fraudulent activities. Additionally, in light of the findings, recommendations for the study include reinforcing CGDs of the DMBs in Nigeria, particularly for transparency and conducting thorough risk assessments in companies with higher AST. Finally, stakeholders should consider the maturity of firms and their size when assessing the potential risk of fraudulent activities.

Limitations of the Study and Suggestions for Further Studies

The study did not explicitly account for broader economic and political factors that could influence the banking sector in Nigeria. Events such as economic recessions, political instability, or significant changes in government policies may affect both corporate governance practices and the prevalence of fraud. Also, the study primarily used quantitative data and analysis methods. Incorporating qualitative data, such as interviews with banking officials or regulators, could provide deeper insights into the motivations and contextual factors behind corporate governance practices and fraudulent activities. Future research could build on this study by exploring the following areas such as examining the role of technological advancements, such as digital banking and fintech, in shaping corporate governance practices and fraud detection mechanisms and Using qualitative methods, such as case studies or interviews, could enrich the understanding of the contextual and motivational factors behind corporate governance practices and fraud in the banking sector among others.

Acknowledgements

The authors would like to thank Adeleke university, Obafemi Awolowo University and North West University for providing exceptional research facilities and support.

Author Contributions

All authors contributed to the production of this research article. The authors read and approved the manuscript.

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical Approval

The article does not contain any studies with human participants.

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Appendices

Appendix A

Serial Number	Governance Disclosure
1	CEO Roles in the Board
2	Compliance with Corporate Governance Standards Disclosure
3	Non-Executive/Independent Directors Roles Disclosure
4	Board Roles and Functions Disclosure
5	Chairman Roles in the Board Disclosure
6	Company Secretary Roles in the Board Disclosure
7	Board of Directors Biographical Information Disclosure
8	Board Members' Age Disclosures
9	Board Meetings with Attendance Records Disclosure
10	Board Members Appointment Dates Disclosure
11	Board Change/Re-Election or Resignation Information Disclosure
12	Board Education and Training Process Disclosure
13	Board Performance Review/Process Disclosure
14	Internal Control System Disclosure
15	Shareholders Engagement Process/Policy Disclosure
16	Disclosure of CEO Compensation
17	Board Ethics, Anti-Corruption and Code of Conduct Disclosure
18	Board Members Third Party Transactions Disclosure
19	Whistle-Blowing Process/Policy Disclosure
20	Disclosure of Board Shares Ownership
21	Disclosure of Major Shareholders
22	Disclosure of Audit Committee Activities
23	Disclosure of Board Remuneration Committee
24	Disclosure of Board Nomination Committee

A Comparison of Tax Effects on Small Businesses in Developing and Developed Countries

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Abstract

The study aimed to determine the effect of tax policies on small businesses in developing and developed countries. The study also sought to understand how these tax policies affect SMEs by comparing developing and developed countries to highlight the similarities and differences in tax policies. The study assessed whether developed countries' policies were more lenient than those of developing countries as they have access to more resources and are technologically advanced. A traditional literature review approach was employed to collect data from secondary sources such as articles, e-books, and other tax policy documents relating to SMEs. The study revealed that SMEs in developing and developed countries are subjected to similar policies. It was also discovered that both countries face similar challenges due to having the same tax policies, and neither country holds significant advantages over the other. This study concludes that the taxation of SMEs in developing and developed countries creates an operational burden as compliance with tax policies absorbs more than a fair amount of small business resources and reduces the chances of growth and development. It is suggested that the government should offer incentives and introduce lenient policies to encourage the incorporation of SMEs since taxation is a high contributor to the overall economy and cannot be erased.

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Keywords: SARS; tax incentives; challenges; tax policy; taxation; SMEs.

Introduction and Background

This study compared the effects of tax on small businesses between developing and developed countries. Taxation plays a crucial role as it provides the government with essential funds (Das, 2019). According to Atawodi and Ojeka (2012), taxation is a system comprising a set of rules, regulations and acts that stipulates the conditions or circumstances that will trigger a tax liability, determines which persons are liable for tax, procedures ensuring compliance and penalties for non-compliance to these regulations, and is equally a source of government revenue and an economic policy used by the government to attain economic growth. Furthermore, it is an essential tool used by governments to generate revenue, affecting small businesses differently in developing and developed countries (Bird and Zolt, 2008). Small and Medium-sized Enterprises (SMEs) significantly contribute to job opportunities and economic growth, particularly in developing countries (Martins, 2001). In a broad economic context, taxes can significantly impact the operations and growth of SMEs, influencing their ability to contribute to the overall economic landscape (Dunkleberg, 2021). According to the World Bank (2020), SMEs make up more than 90% of businesses worldwide and contribute significantly to employment, accounting for up to 60% of total employment in some countries. The remaining sections of the article focus on the background, motivation for topic actuality, and theoretical framework.

The introduction of distinct tax policies for SMEs in South Africa can be traced back to 2001 (Sieberhagen, 2009). Since then, taxes have had substantial implications for the growth, profitability, and survival of small businesses in the country. Notably, South Africa experiences one of the highest SME failure rates, with finance being the primary contributing factor, followed by compliance burdens unique to South Africa, as regulation and taxation consistently emerge as two key obstacles cited by SMEs across different countries (Miller, 2018). In developed countries like the United States of America (USA), SMEs face a more intricate tax system, resulting in significant compliance costs (Marron and Center, 2011). Conversely, developing countries generally have a less complex tax system. However, small businesses in developing countries like Ghana still grapple with significant challenges in adhering to tax laws due to factors such as inadequate infrastructure, the high

presence of informal sectors, and corruption-related issues (Amundsen, 2022). These complexities and obstacles pose considerable challenges for SMEs in effectively meeting their tax obligations and navigating the tax landscape (Ayyagari et al., 2007).

Since taxes are cash outflow, they impose more pressure on the cash flow of small entities as they are obligated to pay out part of their profits and capital, enabling them to invest more toward growth. As a result, small businesses must outsource capital to invest in operations. According to Olawale and Garwe (2010), the main hurdle to the growth of small businesses is the difficulty in obtaining financing. Small businesses end up paying penalties for late payments at a high rate. However, Peters and Naicker (2013) opine that the government has provided various funding sources for small businesses, yet penalties on taxes are seen in small business payments (Miller, 2018). Small businesses have faced various challenges, including access to finance, regulatory burdens, and tax compliance (Ayyagari et al., 2007). This study focusses on the micro SMEs tax structures in Republic of South Africa (RSA) and USA.

Problem Statement and Objective

The effects of taxation on SMEs may vary across different countries, depending on their institutional environments, resources, and capabilities. According to Peckley (2022), the growth of small businesses tends to be discouraged when tax is excessively applied to their income. Developing countries like South Africa face unique challenges in designing and implementing tax policies that support SMEs' growth and competitiveness. Although small businesses are crucial to the growth of the economy, as they are a significant source of revenue, about 5.5% of GDP is derived from this category as opposed to the 3% of other upper-middle-income countries (Boonzaaier et al, 2019).

This suggests that heavy tax policies may be imposed so that the overall economy of the state can benefit whilst in fact it is not allowing these businesses to grow (Hanlona and Heitzman, 2010). Implications of tax policies imposed on small businesses in developing countries, will not have the same impact on the growth of the entity as opposed to that of developed countries (Besley and Persson, 2014). Developed countries have sophisticated economies, access to more resources and technological infrastructures whilst developing countries depend more on tax revenue (Ayyagari et al, 2011). A comparison study of the difference between developing and developed countries applied to

determine whether some of the countries have lenient tax policies or if their small companies enabling them to grow, or whether certain tax policies hold small companies 'growth is scarce in literature. Therefore, it is crucial to have a comparative study that outline way(s) tax in developed and developing countries impact the growth and development of SMEs.

Literature Review

Impact of Tax Policy on the Growth and Development of SMEs in Developing and Developed Countries

Taxes come in many forms, such as corporate taxes, subsidies, capital gains, and levies. These taxes affect the choices companies make in their management decisions. In general, governments need the means to exercise their legal powers to control society, enforce contracts, protect private property, and obtain other benefits that the government enacts. However, economic growth also benefits SMEs when taxes are kept low as businesses make decisions based on taxes, and government policies can use taxes to influence those decisions. The effects of these tax policies on small businesses were clearly demonstrated by the sub-objectives below, considering the relationships between taxation and growth in developing and developed countries and the differences and similarities in the tax policies of small businesses in developing and developed countries.

Similarities in the Tax Policies of Small Businesses between Developing and Developed Countries

Every business owner in a developing or developed country must register their business for formality, which may be compulsory or voluntary, and are required to comply with the tax policies. Tax compliance refers to preparing, submitting, and paying taxes that are due within the allotted time frame (Gentry, 2018). To achieve the objective of tax compliance initiated by the government, it is imperative that the tax systems catering to SMEs are streamlined and uncomplicated to fulfil the requirements of the sector. According to Gentry (2018), tax policies tend to favour large businesses; this includes specialised tax on oil and depreciation. These targeted taxes for large entities reduce considerable relative subsidisation of SMEs. Additionally, a minimum of two tax provisions significantly impact entrepreneurship and innovation, although they might not aim at SMEs (Glenn, 2014).

Microbusinesses trade in a rigorous regulatory domain with multiple taxes that constantly exert a significant imposition on their operation (Atawodi and Ojeka, 2022). According to Abrie and Doussy (2016), tax compliance places a heavy administrative burden on small and medium-sized businesses because they have a shortage of skilled and experienced accounting staff to manage their tax compliance affairs, leading to additional costs for using experts. Additionally, it compromises the creativity of the businesses as they focus on the tax complexity challenges. According to Poterba (2019), tax policy for both South Africa and the USA affects small business financing in two related manners: through the tax deduction of interest paid, which is a form of normal corporate tax, and through the principle of capital gains tax, which affects capital. In general, taxation can simultaneously impact the supply and demand of working capital. The supply effects are assumed to be small, but there are demand effects in practice. Poterba (2019) found that changes in the treatment of capital gains, interest, and dividends in income tax do not affect most working capital investors. Similarly, Gompers and Lerner (2021) revealed that the working capital liabilities of taxable and tax-exempt investors react similarly to changes in capital gains tax rates, which would not be the case if the provision of capital resources were tax-sensitive.

Gentry (2018) found that greater marginal tax rates for SMEs negatively impact the entry of these businesses, but the impact is not considerably significant. This research also showed that the convexity of the tax code hinders independent activity. They estimate that an increase in the gap between successful and unsuccessful SMEs by 5% decreases the probability of failure by 0 each year—67% points based on an underlying probability of 3.26%. The study suggested that taxation laws provide for a "profit tax" as the state supports most payments to successful SMEs. Gentry and Hubbard (2018) extend this work by examining SMEs in general and market entry. They revealed that the entry levy into innovative companies and sectors is lower than SMEs in general.

Differences in the Tax Policies of Small Businesses in Developing and Developed Countries

According to the findings of this study, South Africa's small enterprises regard the value-added tax (VAT) as the most complicated tax. The time owners spend on compliance is considered the most unnecessary expense

in assuring tax compliance, and VAT compliance is the most expensive and complex. Smulders et al., (2022) discovered that handling tax compliance-related issues required SMEs to spend an average of 250 hours per year. Small business owners are responsible for most of the internal time spent on tax matters. Owners account for approximately 63% of the total annual hours on tax compliance operations. Internal time expended by small businesses costs about R53,356 per year. Sales tax compliance was the most significant, with approximately 38% of the overall cost, followed by Pay-As-You-Earn (PAYE) and income tax, respectively.

Additionally, small businesses often enlist the assistance of external providers when it comes to accounting and tax-related tasks. Smulders et al., (2022) state that the typical yearly expenditure for tax compliance services among SMEs stands at approximately R9,882. Govender (2018) further revealed that VAT ranks as the second most significant individual tax, taking up about a third of the total time per year for all taxes in South Africa.

The common and complex tax charged for small businesses in the USA is sales tax. This tax is charged on the purchases made by small businesses. It is also regarded as the state tax and varies from state to state as well as within the state, varying between 2.9% to 7.25% at the state level (Gentry, 2014). Apart from the state rate, local authorities in 35 states enforce an extra consumption tax ranging from about 1% to 5%. Within the state, municipalities have the right to raise the sales tax above the state limit. There are also other rules surrounding sales tax, such as which items are taxed and not taxed; this tax system is quite complex in the USA. Several states also provide lowered or zero-rated rates for specific property types, including food for personal use, residential utilities, and machinery related to manufacturing. Gentry (2014) further stated the transition towards using economic benchmarks to determine if a seller is operating a company in the state. As such, the annual sales volume (for example, volume within the state exceeding \$100) and the changes stem from the U.S. Supreme Court in *South Dakota v. Wayfair* court case in 2018 ruling, which overturned a previous decision that prohibited governments from inflicting sales tax collection requirements on sellers except if they had a "physical presence" in the country. Table 1 below compares taxation between South Africa and the USA.

Table 1. Comparison table of taxation between South Africa and the United States of America

	Value Added Tax (RSA)	Sales or use tax (USA)
Exported goods	Generally, the export of goods is subject to a 0% tax rate.	The export of goods is exempt from sales tax.
Exported services The taxability of a service typically relies on the location of its performance or where the recipient of the service derives the benefit, as determined by the respective taxing state.	Services physically delivered outside the RSA will carry VAT at 0%.	Exported services performed outside the USA have sales tax implications.
Imported goods	For imported goods, VAT output is payable at the border, and VAT input is payable at 15%.	Goods sold originating from a different country but intended for delivery within a particular state are usually liable for sales tax. In cases where a purchaser brings in a good from outside the state without paying sales tax, they may be obligated to pay use tax, and all imported goods are subject to state tax and import duties.
Imported services	Services imported for non-trade purposes are subject to an input tax of 15%.	Sales of services rendered or received within a state, but provided by a person situated outside that state are typically subject to sales or use tax. If a vendor fails to levy sales tax on services that are not exempt, the recipient may be responsible for remitting the tax.

Source: Gentry (2018)

Impact of Tax on Small business in Developing and Developed Economies

Taxes are a financial and administrative burden to small businesses as they directly impact their ability to invest in their business and personnel and compete within the economy (Abraham and Ackah, 2021). A broad effect is that corporate taxes show a favourable relationship with the gross domestic product (GDP) growth rate, implying that reducing corporate taxes could harm overall economic growth. This suggests that heavy tax policies may be imposed so that the overall economy of the state can benefit while not allowing these businesses to grow (Wadesango and Chirebvu, 2020). Taxes imposed on small businesses, such as VAT and income taxes, lead to reduced income margins and the likelihood of capital investment in machinery, wages, and technological advancements. The implications of the policies imposed on small businesses in a developed country will not have the same impact on the growth of the entity as that of a developed country (Harju et al., 2022). Developed countries have sophisticated economies, access to more resources, and technological infrastructures, whilst developed countries depend more on tax revenue (Abraham and Ackah, 2021).

This section considered how the various taxes affect the performance of small businesses, particularly in South Africa and the USA.

VAT in South Africa

According to Agbo and Nwadiolor (2020), VAT was brought into effect by France with effect from 10 April 1954 for larger entities and was later extended to all business sectors, replacing the sales tax. The VAT Act stipulates that VAT is levied and accrued on the value of supplied goods and services by registered vendors, including the importation of goods or services. According to the definition given by Wadesango and Chirebvu (2020), VAT is described as a progressive indirect tax assessed on the utilisation of goods or services. It generates revenue in a fair and transparent manner. Focusing on South Africa, VAT levied targets consumption, discouraging the consumption of goods and services, resulting in more savings. SMEs only pay VAT for goods or services consumed; this solidifies the practice of not letting businesses pay for more than they used.

Sales Tax in the USA

Since the USA has not yet adopted the VAT act, the sales tax still applies, which is also based on goods and services consumed. A sales tax is a primary indirect tax imposed in the USA, determined by how much consumers spend and are charged on sales transactions (Philips and Ibaid, 2019). The sales tax rates differ in structure from state to state; therefore, they depend on the jurisdiction and can be between 0% and 13% (Roach, 2020). The current taxes on the sale of working capital violate several tax policy principles, such as economic growth and fairness, leading to numerous economic perversions. These perversions occur when a sales tax is collected more than once on the same amount of input purchases made at various phases of production or distribution before the final sale to consumers (Philips and Ibaid, 2019).

Income Tax in South Africa and the USA

Income tax is a direct tax charged directly by the state with respect to the ordinary income people, or taxpayers earn, including companies and trusts. The ordinary income included under the income tax policy encompasses dividends, interest, and sale of goods/services (Das, 2019).

Abraham and Ackah (2021) postulated that corporate taxation limits taxpayers' growth potential, preventing future economic development. Consequently, income tax has an adverse effect on the performance of small businesses. Harju et al., (2022) posit that some critics who believe that corporate taxes de-motivate productivity levels argue that taxation policies can have a positive or negative impact on the level of compliance and the income produced by taxpayers. They indicate that a decreased income tax rate will not necessarily lead to a reduced tax burden as this reduction in SMEs will stimulate taxpayers to heighten their level of tax payment.

Performance of Small Businesses

Most regulatory restrictions imposed by the government are costly. These mainly relate to the start-up and growth of entities, post-filing, and other taxes such as VAT, regression of tax compliance costs, and administration costs (Nieuwenhuizen, 2019). The fundamental objective of this research is to assess the relationship between taxation and the financial sustainability of SMEs. Hosono et al., (2022) found a negative relationship between taxes and revenues, suggesting that taxes imposed

on SME business operations influence their profitability. The outcome is consistent with prior research of Adebisi and Gbegi (2013), who discovered that taxes negatively impact profitability.

Income taxes reduce the capital available to invest and expand entities into larger, more productive operations (Hosono et al., 2022). This happens when capital accumulation of the economy, including capital equipment and the knowledge that increases productivity and leads to greater purchasing power for both investors and consumers, decreases. An inverse relationship exists between taxes and the expansion of SMEs in terms of infrastructure, equipment, and machinery. Tax reforms and incentives in both South Africa and the USA have been offered to small businesses to reduce the tax burden and promote innovation. These cuts in the income tax rate can also increase small businesses' cash reserves, boosting overall business activity (Hosono et al., 2022). Harju et al., (2020) argued that in addition to perversions taxation causes in economic growth, income tax influences foreign direct investment (FDI) decisions. This creates a gap between income from FDI before and after tax. The larger the gap, the less incentive there is for FDI in each country, but this does not necessarily mean that high taxes discourage investment (Harju et al., 2020). Other considerations, such as market trends, labour costs, and regulatory hurdles, are also considered. However, these benefits can be quickly offset if the FDI yield gap is too large, favouring low-tax countries over high-tax countries (Phillips and Ibaid, 2019).

To buttress this point further, a study conducted by Harju et al., (2020) could not find any significant connection between taxes and investments, consistent with the study conducted by Tomlin (2008), which found that resources SMEs utilise in compliance with taxation are resources that could otherwise be utilised to reinvest to enable future growth. This negatively affected the level of investments and improved the company's operations. According to Das (2019), a positive association exists between taxes and operating expenses, indicating that a spike in taxes has a notable correlation-enhancing impact on operating expenses. This suggests that SMEs are disproportionately affected by operating costs when scaled by revenue or assets, with the compliance costs of SMEs being higher than those of large companies.

Possible Policies which may be Applied to Reduce the Effect of Taxation on the Sustainability, Growth, and Development of Small Businesses

As discussed in the above sections, the study showed that the challenges and failures associated with SMEs are widely attributed to limited access to capital, poor bookkeeping, expensive registration requirements, market access, and others. SME tax policies should be levied at lower rates to enable SMEs to have sufficient capital for other activities that may lead to business growth (Atawodi and Ojeka, 2012). Furthermore, it will help SMEs to be competitively equipped to survive in a competitive market. Governments in both developing and developed countries should consider increasing tax incentives and exemptions as this will not only attract investors who are potential taxpayers but also encourage voluntary compliance (Atawodi and Ojeka, 2012). Policy recommendations to decrease the tax burden on small businesses are detailed in the recommendations section below.

Research Methodology

A traditional literature review approach to review the research objectives and presents the findings with the aim of identifying a theoretical framework that address the research problem. This study's target population was all macro SMEs in the RSA (a developing country) and the USA (a developed country). Thus, literatures that addresses these groups of SMEs are selected, reviewed, scrutinised and presented in this study. The selected SMEs were registered taxpayers compliant for the last five financial years.

As a result of the choice of research approach (qualitative), the purposive sampling technique was used to choose journals, press releases, books, and publications on macro-SMEs as they provided information relevant to the research objectives. The sample size for this study covered the SME industry in developing and developed countries. This is an effective choice for studying the effects of the tax policies on SMEs in the USA and the RSA, as they are major industries in both countries. According to Bhorat et al. (2018), most SMEs in the RSA operate within the context of wholesale and retail sectors. Meanwhile, the USA is seeing growth in e-commerce and online food delivery (GoDaddyInc, 2022). The USA-based “Next Insurance” company

projected that in the next two years, the online food delivery industry would have grown by 20%, reaching \$200 billion in annual sales. Thus, this sector would be sufficiently sizeable to guarantee that the outcomes are statistically meaningful (applied to the intended population as a whole) and dependable, incorporating a range of characteristics within the population.

Discussion

This section discusses and makes conclusions based on the literature reviewed above for each research objective.

Impact of Tax on Small Business in Developing and Developed Economies

The study found that corporate taxes showed a favourable relationship with the GDP growth rate, suggesting that reducing these taxes may not always be beneficial for overall economic growth. However, the implications of tax policies on small businesses vary between developing and developed countries due to economic resources and infrastructure differences. The study also examined various taxes, including VAT, sales tax, and income tax, and their effects on SMEs in the RSA and the USA. It was found that VAT levied in South Africa targets consumption, potentially discouraging spending on goods and services and leading to increased savings. In contrast, the USA employs a sales tax system that varies between states and may lead to economic perversions, particularly when multiple taxes are levied on the same value of purchases.

The study findings indicate that income tax had a direct impact on the performance of small businesses. Corporate taxation was noted to limit the growth potential of taxpayers and hinder future economic development. Thus, it can be concluded that lowering income tax rates in both countries through tax reforms and incentives may potentially boost small businesses' cash reserves and overall business activity. The study also discovered that income taxes reduced the capital available for investment and expansion, potentially hindering capital accumulation and productivity. The FDI yield gap influenced foreign investment decisions, but the study could not conclude that high taxes were the sole determining factor for this unfavourable relationship. Other considerations, such as market trends and labour costs, also played a significant role in attracting foreign investment.

Similarities in the Tax Policies of Small Businesses between Developing and Developed Countries

Several similarities in the tax affecting SMEs in developed (USA) and developing (South Africa) countries were highlighted. Firstly, all businesses, regardless of location, must register and comply with tax regulations. Tax compliance involves the preparation, submission, and timely payment of taxes, and governments play a crucial role in ensuring streamlined and uncomplicated tax systems for SMEs. However, despite these commonalities, the literature identified some areas of concern for small businesses. Tax tends to favour large businesses, creating a relative subsidisation of large companies at the expense of SMEs. Specialised taxes, such as those related to oil and depreciation, further accentuate this discrepancy. Additionally, SMEs are administratively burdened by tax compliance, diverting valuable resources that could otherwise be used for essential management activities.

Furthermore, the financing aspect of tax policies significantly impacts SMEs in both countries. The tax deduction for interest payments and preferential rates on capital gains influence the availability of operating capital for small businesses. While supply effects of taxes on capital are weak, demand effects are evident in practice, affecting the decisions of taxable and tax-exempt investors regarding capital commitments. The research also delves into the impact of higher marginal tax rates on SME formulation and self-employment. Although higher tax rates have an injurious effect on SME formulation, the statistical significance of this effect is not evident. Moreover, the entrance rate for self-employment is decreased by the convexity of the tax law, potentially hindering entrepreneurship.

In summary, this highlights the burden SMEs face in operating effectively in both countries. As part of the requirements, all small and large businesses must register, which automatically triggers tax compliance regulations. In addition, the literature reviewed indicated that the tax act forces a "success" tax, considering that the state receives a higher portion of the profits from successful SMEs, further impacting the incentives for entrepreneurs to enter the small business space in both countries.

Differences in the Tax Policies of Small Businesses Between Developing and Developed Countries

The statement underscores the substantial differences in tax policies affecting small businesses in developing and developed countries. The comparison between South Africa and the USA highlights how these differences impact the operations and growth of small enterprises.

In South Africa, small businesses face a significant hurdle in the form of VAT, which poses a high administrative burden. The time and financial resources spent complying with VAT regulations can hamper the financial health and potential expansion of these businesses. On the other hand, the USA employs a sales tax system that varies across states and municipalities, further complicated by specific rules for different property types. The recent shift towards economic thresholds based on a 2018 Supreme Court ruling adds another layer of intricacy to the tax system.

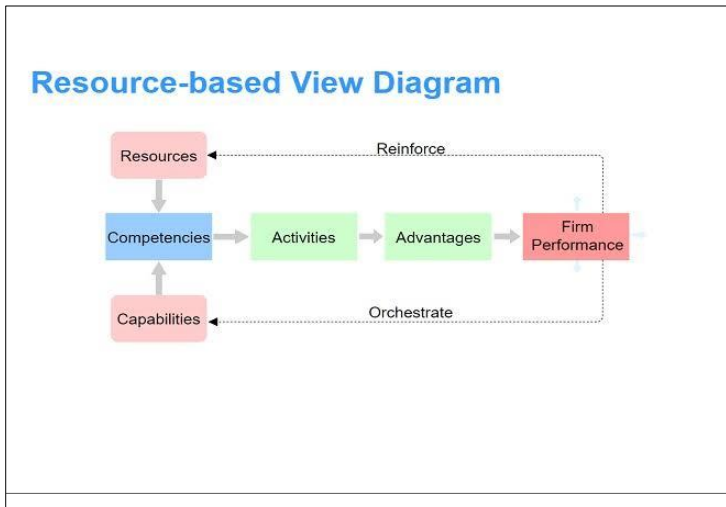
These divergent tax policies have concrete implications for small businesses in both countries. In South Africa, the complexities and costs tied to VAT compliance could limit the growth trajectory of SMEs. In contrast, the intricate sales tax system in the USA might lead to difficulties in tax compliance for small businesses, mainly due to the evolving economic threshold requirements.

In conclusion, the disparities in tax policies between developing and developed countries, as illustrated by the South African and American examples, demonstrate how taxation frameworks can profoundly shape the landscape for small businesses. The challenges posed by complex tax systems highlight the need for policymakers to consider SMEs' unique needs and capacities when designing and implementing tax policies. Recognising this concept is crucial for creating a favourable environment supporting the growth and endurance of small businesses across different economic contexts.

Theoretical Perspectives on Reviewed Study

The findings of this study can be linked to the Resource-Based View (RBV) theory. Figure 1 below provided a detail diagram of the RBV.

Figure 1. An introduction to resource-based view



Source: Opinaldo (2022)

The Resource-Based View theory focuses on essential determinants of their competitiveness and performance which were key instruments in accessing the differences and similarities of the tax systems on both developing and developed. Using the RBV theory, the SME's resource was classified as income and capital, while the capabilities of the resources were hindered by the tax policies in terms of the research whether in developing or developed countries. Taxation is an external factor to the SME's environment which has significant influence on the financial structure as it reduces the ability for SMEs to reinvest and overall reduce the resource which has been obtained. The capability of this resource influences the performance hence, RBV theory applies that capabilities are essential to determine the competitiveness and the performance. The differences and similarities outlined the competitiveness of SMEs in the developed and developing countries and by inspection of the competitiveness of SMEs in both the US and RSA enabled the comparison to be carried out effectively.

Recommendations

Disparities exist among tax policies in developing and developed countries, enabling awareness of potential amendments to tax policies. The research suggests that nations should conduct regular reviews and research to observe and continuously study how tax policies on SMEs may be revised to maximise their performance and competitiveness. Additionally, the differences should be further investigated and determined whether they should be applied to the countries' tax policies. The effects of tax on small businesses have been discussed as well as how they largely contribute toward the economy of a developing and developed country, characterising the costs and benefits that affect the GDP. Furthermore, the study recommends regular interactions with business owners to understand how the tax policies could be applied fairly for all parties involved.

Moreover, government chatters responsible for collecting taxes should access SMEs struggling with compliance and study how to enable them. Additionally, the government should offer incentives to SMEs, establish fair penalties and fees for them, and introduce a tax system that varies depending on their category. The study further recommends the following to counteract the effect of taxes on the longevity, expansion, and development of small businesses, as a summary of policies which have been stated and additional policies:

- The government should offer incentives to SMEs, establish fair penalties and fees for them, and introduce a tax system that varies depending on their category.
- The government should also provide mandatory learning programmes for newly registered SME owners to promote education and awareness of tax implications.

Conclusions

This study aimed to examine the tax policies implemented in the RSA and the USA, focusing on small businesses to determine how these policies affect the advancement and expansion of SMEs. Additionally, the study aimed to determine the similarities and differences of these tax policies on small businesses by considering the economic standards of South Africa and the USA. Through a literature review, the research proved that tax policies on SMEs are not as streamlined and

uncomplicated as they are presented to be; whether in developing or developed countries, SMEs still face many difficulties in tax compliance, creating administrative and financial burdens on the SMEs. The study analysed the applications of both systems in developing and developed countries. The results were that tax policies in both economies do not give much of an advantage nor have a significant change from one to another, as SMEs still encounter similar compliance difficulties in both economies. Tax policies not only disadvantage SMEs, but also negatively affect the country's economy in terms of tax collections and the competitiveness of markets. The study concluded that changing tax policies on SMEs will not only enhance their survival, but also improve the competitiveness of the market and GDP of the economies.

Acknowledgements

The authors would like to thank North West University for providing exceptional research facilities and support.

Author contributions

All authors contributed to the production of this research article. The authors read and approved the manuscript.

Conflict of interest

The authors declare that they have no conflict of interest.

Ethical approval

The article does not contain any studies with human participants.

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Effectiveness of Internal Audit Function in Enhancing Governance and Accountability in Provincial Governance Systems

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Abstract

This study focuses on the effectiveness of the internal audit function (IAF) in enhancing governance and accountability in provincial governance systems. Few studies have been conducted; however, they lack a theoretical grounding. Utilising institutional theory, this study examined the operational challenges that impeded IAF effectiveness, using the Western Cape government (WCG) as an example. This study established operational challenges that impeded IAF effectiveness, as the management's failure to promptly address audit recommendations. Through a mixed research method that consist of a sample of 260 participants involving surveys, interviews, and focus groups, the paper identified these issues and suggested remedies. This contribution enriches the existing literature on IAF effectiveness in the context of South Africa, emphasizing the pivotal role of IAF in enhancing governance and accountability within provincial government systems.

Keywords: Internal audit activity independence, Internal Auditors objectivity, governance, accountability, public service.

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Introduction

Provincial governance systems in the South African government are developed to promote accountability. Accountability is a constitutional requirement for all government spheres in the Republic of South Africa. Considering that these spheres operate on taxpayer's money, accountability is a necessary mechanism to ensure taxpayers' money is used for a good cause (Etim, Jeremiah & Jeremiah, 2020:2). Therefore, accountability is used as a tool to ensure that expenditures for public services are incurred economically, efficiently, and effectively (Olorunfoba & Gbemigun, 2019:219). IAF was also established to assist management with internal controls and other governance procedures that provide some level of accountability to the organs of state officials (Sri Rahayu, Yudi & Rahayu, 2020:2-3). IAF further provides consulting and assurance activities that encourage adherence to statutory and legislative requirements (Kotb, Elbardan & Halabi, 2020:2). Statutory and legislative frameworks ensure that all government employees are accountable for their actions and the management is accountable for its decisions (Etim, et al., 2020:2), thereby achieving the constitutional responsibility of providing a democratic and accountable government. The Public Finance Management Act 1 of 1999 and the Treasury Regulation of 2000, necessitated the establishment of the office of the Auditor-General of South Africa (AGSA).

The main purpose of the appointment was to maintain a high level of accountability and oversight that yielded better corporate governance, sound administration of the public purse and enhance the delivery of public services (Olorunfoba & Gbemigun, 2019:221). The AGSA is the external auditor of all organs of state and has a "constitutional mandate and, as the supreme audit institution (SAI) of South Africa, it exists to strengthen the country's democracy by enabling oversight, accountability and governance in the public sector through auditing, thereby building public confidence" (AGSA, 2021). Internal auditors on the other hand are working internally within the organs of state to assist them to gain control of their activities and achieve a sound operational efficiency, good corporate governance, efficient management of risk and control processes (Saeed, Hamawandy & Omar, 2020:1455). IAF operates within a distinctive regulatory framework (PFMA and Treasury regulation), posing a unique challenge that impacts the IAF's ability to fulfill its mandate effectively. One of the primary challenges lies in the absence of a specific framework designed to evaluate and bolster their effectiveness. This gap leaves provincial governance systems vulnerable to risks that

compromise good cooperate governance, accountability, and statutory requirements, thereby exposing provincial government to the spectre of maladministration (Gegeza, 2021). This paper seeks to shed light on the effectiveness of IAF in enhancing governance and accountability within provincial governance systems.

Literature Review

The Role of IAF on Governance and Accountability in Provincial Government

The IIA (2012: 5) states that: IAF is a critical component of good governance. IAFs assist public institutions attain accountability and integrity, improve operations, and maintain public trust through impartial, objective assessments, that verify whether public funds are utilized ethically and effectively to accomplish the desired outcomes (IIA, 2012: 5). Thus, IAFs plays various roles such as oversight, detection, deterrence, insight, and foresight roles in efforts to enhance governance and accountability in provincial government.

Oversight Role

According to Omolaye and Jacob (2017), the governance responsibility examines whether public institutions are performing as they should, as well as detecting and preventing public wrongdoing. This practice includes confirming that government institutions are using funds for the intended purpose and adhering to all applicable rules and regulations (Omolaye & Jacob, 2017). Mamaile (2018) stated that the audits relating to oversight answers the following questions: (i) Has the organizational policy been carried out as planned? and (ii) Are those in charge of creating such policies putting in place effective risk-reduction measures? From these questions it can be fairly argued that oversight audits help to increase public sector accountability by giving relevant leaders within and outside the audited organization an access to the performance information. Key elements of an effective public sector audit activity suggest that accounting officer (AO) and managers must oversee establishing organizational goals and objectives (Alhababsah, 2022). These two persons further play a crucial role relating to assessment of risk and implementing effective controls to curb risks and achieve organizational objectives (Joshi, 2020). Therefore, IAFs evaluate and

report on the effectiveness of these efforts as part of their oversight function.

The term 'oversight' also refers to the various role of IAF that is responsible for detecting and preventing public wrongdoing, which includes fraud, unethical behaviour or non-compliance with acts, and other abuses of government employees' power and resources (Omolaye & Jacob, 2017). The IAF also assesses the effectiveness of management's internal control structures to identify and eliminate conditions conducive to corruption.

Detection Role

According to Nisaka and Rochayatun (2023) the IAF detection role amongst others, is to uncover and gather proof to support decisions concerning disciplinary proceedings and/or criminal prosecutions or other remedies after incorrect, ineffective, illegal, fraudulent, or abusive actions that have already occurred. Therefore, a conclusion can be drawn that the IAFs are required to identify areas in which mismanagement, or wrongdoings have occurred and alert management so that appropriate corrective action can be taken to prevent the reoccurrence of such activities in the future. Preventing reoccurrence of these, it solely depends on the management willingness to implement the IAFs recommended corrective measures.

Deterrence Role

The purpose of the deterrence role is to uncover and eliminate factors that allow corruption to thrive (Nisaka & Rochayatun, 2023). Stemming from this practice, it can be argued that IAFs must be always proactive when executing their duties, to identify troublesome and unsafe locations before they escalate out of control. Such actions provide assurance that the organization's resources are protected and justify the IAF's existence (Alhababsah, 2022). As a result, it is evident that the IAF must consist of qualified staff with specialised talents to efficiently perform this function, sufficient budget is a key in ensuring continuous training and completion of audits thus bringing value to the organizations in which they are involved.

Insight Role

The study undertaken by the IIA on auditor independence in times of crisis (COVID-19's impact on internal audit's roles and responsibilities, 2020) revealed that internal auditors play a crucial insight role, that provides an unbiased review of public institutions' activities, guidelines, operations, and results to decision-makers. They also assist AO by determining which activities and policies are effective and which are ineffective. Their role is to share excellent practices, benchmark data and seek for prospects to borrow, adjust or re-engineer management approaches horizontally, through government institutions, and vertically between government spheres (Fashami, et al., 2020). Therefore, the IAF must be competent in its internal auditing profession, and, in this case, it must be well-versed in the relevant policies and have a thorough understanding of the field to provide the required value to the organization (Mamaile,2018).

Foresight Role

Dobrowolsk (2020) defines 'foresight' as the practice of carefully looking into the longer-term future of an organization, the economy and society to identify areas of strategic research and the emergence of generic technologies expected to offer the greatest economic and social benefits. The Supplemental Guidance on the Role of Auditing in Public Sector Governance issued by IIA (2012) states that IAFs assist their organizations by looking ahead, recognizing trends, and bringing potential concerns to their attention before they become catastrophes. Mamaile (2019) indicates that the IAFs can identify risks and opportunities arising from rapidly evolving science and technology, the complexities of modern society and changes in the nature of the economy.

Theoretical Framework

In this current organizational paper, institutional theory provides a significant viewpoint.

Application of Institutional Theory to this Paper

The fact that government departments are state institutions ruled by government and operated on taxpayers' money, implies that legitimacy is critical to their survival. According to Vyas-Doorgapersad and Mothabi (2022), current corporate misconduct places social demands on institutions to find means of controlling risks and assuring organizational effectiveness. Compliance with the legislative and regulatory requirements has a substantial impact on the institutions' structure and performance. To start with these mandatory requirements, establish a connection between the government department and the external environment. Secondly, these rules assist the IAF to oversee the management and administrative processes that will guide the institutional performance.

The IAF's role in the performance of government departments is to ensure that the departments gain legitimacy to demonstrate societal appropriateness through the proper management and utilization of resources, and to guarantee that the institute complies with all relevant prescripts, beliefs, and norms (Shbeilat, 2018). This practice is demonstrated by the availability of the IA Charter, which is a reminder that the IAFs should behave in a trustworthy manner that is consistent with the requirements of the charter. Melo, et al, (2020) indicate that the IA Charter serves as a legal guide for IAFs to carry out their obligations. When Al-Twajjry, Brierley and Gwilliam (2003) studied the evolution of IAFs in Saudi Arabia, they accepted the isomorphic viewpoint. Motubatse et al, (2017) revealed in their findings that the precise operations of IAFs are not always connected to the expectations of how they will operate, as demonstrated by the ISPPIA. The survey conducted by Al-Twajjry et al., (2003) found that the IAFs in Saudi Arabia are underdeveloped.

A study conducted by Unegbu and Kida (2011) indicated that IAF officials are subjected to different categories of humiliation, ridicule, and maltreatment, hence they are not performing as expected. These authors further stated that the IAFs are subjected to several threats which impede the effectiveness of their audits, such as the numerous recorded incidences of assassination, burglary, native medicine and acid attacks on their lives and property. This situation results in a lack of IAA independence and internal auditors' objectivity thus renders IAF role ineffective, a notion that is also supported by Unegbu and Kida (2011). Therefore, IAA independence and internal auditors' objectivity is appropriated thereby allowing IAF to provide reasonable assurance that

the institutional processes will be upheld. In line with the objectives of this paper that focuses on the effectiveness of IAF role in enhancing governance and accountability within the provincial governance systems, the importance of IAF roles' effectiveness ensures compliance with the governance systems that assist the institution to attain its objectives.

Institutional theory is relevant, studied, and justifiable within internal government sector research, notably in both developing and developed countries (Aksom & Tymchenko, 2020). In SA's provincial governance systems, the theory, as part of the institution's phenomena, consists of a domain comprising IAF practices. IAA independence and internal auditors' objectivity could sustain research in auditing in an underdeveloped country such as SA (Mihret, James & Mula, 2012). According to DiMaggio and Powell (1983), normative isomorphism assumes that organizational transformation is achieved through the process of professionalism. This practice is accomplished through formal education and research-based sources from credible experts, professional interconnected systems that share science and technology, as well as professional norms.

The code of ethics suggests that internal auditors must have an appropriate understanding of the profession attained through universities and/or professional bodies. This requirement might place a strain on government departments when recruiting internal auditors. This system could be viewed as the current manifestation of normative isomorphism. According to DiMaggio and Powell (1983), an organization may imitate another organization's structure because of the change that a corporate organization internally recognizes. This practice occurs when an organization becomes aware of the IAFs' influence on organizational control and functional execution, that is critical to its implementation.

The mimetic may also happen when IAFs of a department that is not performing well may copy the best practices of IAFs from another department that has a fully functional IAF. Another possibility is that a provincial government internal auditors may imitate the best practice of internal audits conducted by another department in the similar sphere. Mimetic isomorphism may result from the uncertain condition in terms of best practices for internal auditors. Since provincial and local government institutions are financed with taxpayers' money and are accountable to national government, the existence of coercive isomorphism may be demonstrated by the pressure to uphold all the relevant prescripts to gain legitimacy. These prescripts may indicate the degree of coercive isomorphism in some government departments' use of IAFs. The WCG operates within the parameters of the South African

Constitution, PFMA and Treasury Regulations (2000) as issued in terms of the PFMA.

It, however, is unfortunate that there are still certain government departments that do not adhere to these prescripts when carrying out their duties, as indicated by pervasive corruption and reports of malfeasance from the AGSA. Corruption is a disease in the current South African government and is deeply embedded in most public institutions as was exposed during the Commission of Enquiry on State Capture. Most institutions have fostered a refined corruption culture that has been entrenched deeply and broadly within their 'political veins'. In view of this malaise, it is critical to study effectiveness of IAF role to enhance governance and accountability within the provincial governance systems, to ensure that IAFs are functioning adequately and carrying out their missions by robustly upholding norms, laws, and regulations. Institutional theorists believe that entities, such as governments departments, should ensure that formal structures e.g., IAFs, are functioning independently and objectively in all departments.

Research Design and Data Collection

This article used a mixed research approach. This approach was used to enhance the rigor, validity, and depth of the research findings, leading to a richer understanding of the complexity of the effectiveness of IAF in enhancing governance and accountability phenomena.

Research Population, Sampling Technique, and Sample Size

The target population for the study was the WCG. A Purposive sampling method was used in selecting the prospective respondents. Purposive sampling is a non-probability sampling procedure that is selected based on characteristics of a population and the objective of the study (Surbhi, 2016). Two hundred sixty (260) WCG IAF employees constituted the sampled unit. Assertion can be made that this sampled size was representative of the target population as it far exceeds the suggested minimum size of 30 for a quantitative study (Eichler et al., 2018).

Data Collection and Analysis of Data

Two Hundred and sixty interviewer-administered questionnaires were circulated to the identified sample. A total number of 260 fully completed questionnaires were returned and received for analysis. The data acquired

via a questionnaire instrument was analysed using SPSS software, and the outcomes were provided in the form of descriptive statistics. These outcomes were further triangulated with personal interviews with a CAE and 3 deputy directors and two focus group discussions of four and six participants were held with the WCG. Thematically analysis was conducted for qualitative data acquired using personal interviews.

Results and Discussion

Even though personal interviews were conducted, however the survey questionnaire serves as a core source of main data in this study. As a result, interviewer-administered questionnaire outcome is addressed first, followed by direct quotes from personal interview as needed to supplement and corroborate the survey questionnaire outcomes.

Descriptive Analysis

Three data central measures, median, mean and the standard deviation were used to represent the results of this study. According to Gravetter and Wallnau (2013) mean values are normally used to rank or prioritise items amongst other things, whereas the median values are used to provide an insight into the absolute middle value (average). The early mentioned central measures were used as the basis for a five-point Likert scale to determine the point of “I don’t know” or “moderate” where the mean value is 3. In the same manner, a mean value greater than 3 (thus 4 and above) represents the agreement whereas a mean value less than 3 represents the disagreement. The mean score ratings of the Five variables are presented in Tables below.

Table 1. Internal audit effectiveness

Factors	1	2	3	4	5	Agreement
Management is not taking timely corrective action based on audit findings and recommendation	2%	6%	5%	6%	82%	87%
Implementation of recommendation rate is low	1%	2%	3%	6%	88%	94%
IA findings are not solved within the required period	2%	5%	3%	7%	83%	90%

Of the respondents, 87% alluded to the notion that the management is not taking timely corrective action based on audit findings and recommendation, 94% indicates that the implementation of recommendation rate is low and 90% indicates that IA findings are not solved within the required period. **The participants in the telephone interviews and focus group discussion concurred with these results, but further noted the following:** *“When the reports issued highlights that controls are adequate and effective, the management is naturally happy with the result. When it comes to audit findings, it does depend on the maturity of the client and their understanding of internal audit. Certain clients value our assessment; however, others see it as something that their supervisors will use against them. In the latter case, they will not agree to findings and in certain instances we have more than one exit meeting. We do not change our assessment and may have to clear it at a higher level” (Participant – #1).*

“When the reports issued highlights that controls are adequate and effective, the management is naturally happy with the result. However, when it comes to audit findings, client will argue findings despite evidence provided and this causes. delays in finalizing reports” (Participant – #6).

Table 2. Challenges that impedes effectiveness of IAF

Factors	1	2	3	4	5	Agreement
Sectional heads are not cooperating with the IAF	2%	4%	7%	44%	42%	87%
IAF is given low status in the management structure	3%	5%	8%	39%	46%	84%
Management has a bad perception about IA as adding value to the organisation	4%	5%	5%	52%	34%	86%

Table 4 above, of the respondents, 86% of indicates that sectional heads are not cooperating with the IAF, 84% indicates that IAF is given low status in the management structure and lastly, 86% agrees that the management has a bad perception about IAF as fault finder than adding value to the organisation. **The participants in the telephone interviews and focus group discussion concurred with these results, but further noted the following:** “a. Management not providing actual plans timely. b. Another challenge that affect internal audit independence is the use of internal audit function as a management training ground and the sector of the organization. c. IAF is being undermined and auditors are seen as police not adding value activity. d. people do not want a change, lack of buy in from management, capacity issues in our organisations, limited budget for improve and train the IAs. e. IA needs more budget/resources as these affects scope coverage such field verification” (Participant – #1, #4 & #6

Reliability and Validity of the Results

The reliability of the survey result was tested using the Cronbach’s Alpha. According to Morgan & Waring (2004) reliability of data involves adequate, comprehensive, and correct data collection, which aimed at measuring the relevant concept under investigation. As such, Cronbach’s Alpha test was used to determining the extent to which various variable in a questionnaire measures the same concept. The survey instrument for this study have attained 0.90 internal consistency reliability, thus 90% of reliability. The results for the reliability test are shown in table 3.

Table 3. Cronbach's Alpha values for the reliability test

Constructs	Cronbach's Alpha	Cronbach's alpha based on standardized items
IAE	.957	.962
OCIAF	.818	.820

NOTE: IAE= internal audit effectiveness; IAOC= Operational challenges that impedes effectiveness of IAF.

According to Kerlinger and Lee (2000) the reliability test results at 0.60 and above indicate the level of reliability thereby accepted as reliable. Accordingly, the lowest Cronbach's Alpha test value documented was on construct IAOC as .820. Based on this level of alpha values, a conclusion was made that the data deem reliable.

Correlation Analysis

The correlation analysis was conducted to test the validity of the survey result. The statistical tool Pearson correlation “r” was employed to study and ascertain the leaner relationship in the data, as well as testing the statistical significance of the relationship between each of the variable. The first construct tested was the IAAI see table 4.

Table 4. Inter-item correlation analysis – internal audit effectiveness

	Correlations				
	Means	SDV	AFC	ACR	IRH
AFC	4,59	.969	1		
ACR	4,78	.703	.561**	1	
IRH	4,77	.714	.632**	.816**	1

****.** Correlation is significant at the 0.01 level (2-tailed).

NOTE: AFC= Management does not take timely corrective action based on audit findings and recommendation in my organisation; ACR= Audit plan of my department is completed at the required time; IRH= In my organisation Implementation of recommendation rate is low

Variables on the table above have demonstrated a strong correlation result at a significant level ($p= 0.01$). Other correlation analysis that was

conducted was on internal audit operational challenges, the results of such analysis are shown in table 4.

Table 5. Inter-item correlation for challenges that impedes effectiveness of IAF

	Correlations				
	Means	SDV	SHC	ILS	MWP
SHC	4,20	.905	1		
ILS	4,19	.990	.457**	1	
MWP	4,08	.968	.485**	.432**	1

****.** Correlation is significant at the 0.01 level (2-tailed).

NOTE: SHC= Sectional heads of my organisation are cooperating with the IAF; ILS IAF of my department is given low status in the management structure; MWP= Management of my organisation have a bad perception about IA as adding value to the organisation.

The correlation analysis of internal audit operational challenges has demonstrated a moderate to a strong correlation at the significant level ($p= 0.01$). On overall the Inter-item correlation analysis have shown a positive relationship, therefore the survey results were valid.

Research Implications

The findings are examined in this section in terms of theoretical, managerial, and institutional implications.

Theoretical Implications

This paper's primary theoretical proposition is that good governance and accountability mechanisms can be viewed as the breeding grounds for effective public service delivery, which must be enhanced within the provincial governance systems. Drawing on institutional theory, that views effectiveness of IAF role as a value creating opportunity to ensure

that AO exact their respective roles within the provincial governance systems. This paper argues that the IAF can only add value to the organisational operations and providing some level of assurance that the organisational objectives will be achieved when their role is effective thus functioning as intended.

This argument is also supported by empirical findings of this study, which suggest that effectiveness of IAF roles, is a technique that enhance governance and accountability within provincial governance systems. Previous research conducted in the private sector has proved that effectiveness of IAFs are the pillars of good cooperate governance and accountability enhancement. Something that can also be drawn from this paper in the public sector. Furthermore, this is the first research to examine effectiveness of IAF in enhancing governance and accountability within the provincial governance systems. As a result, this study adds to the literature by exploring effectiveness of IAF in enhancing governance and accountability in a critical yet underserved area of the WCG.

Furthermore, unlike prior studies on the same topic, this study employed institutional theory to analyse the results, providing a deeper understanding of effectiveness of IAF in enhancing governance and accountability principles.

Managerial Implications

By considering operational challenges that impedes IAF effectiveness within the provincial governance systems, the outcomes of this paper have significant implications for enhancing IAA independence and internal auditors' Objectivity. According to the survey, most of the significant operational challenges accrue from the lack of IAA independence and IA objectivity because of the lack of management support. In their efforts to attain organisational objectives, management support towards IAF through taking IA findings seriously and implement corrective measures must be a priority. The supportive attitude of management towards the role of IAF at the provincial government is important to IAF's performance as a corporate governance tool. Anything opposing would undermine IAF's effectiveness as a tool for corporate governance, negatively affects the provincial governance mandate.

Full management support and commitment to the IAF operations, notably ensuring IAA independence, and adequate resourcing of IAF is crucial to the overall performance of the provincial government.

IAF assist the management to have and maintain effective governance and accountability mechanisms, that ensure the best possible use of public purse when providing public services (Sebola & Mamabolo, 2016:60). Therefore, these mechanisms can only remain effective when they are constantly reviewed by IAF and in a case of anomalies found and corrective measure are implemented by the management.

Thus, the management must implement corrective measures to prevent the risks that jeopardize the attainment of organizational objectives. Furthermore, this paper expands the understanding of possible challenges posed to IAF effectiveness by the lack of management commitment to implement IAF recommendation. This provides the management a chance to consider emerging risk as result of their lack of implementing corrective measures to prevent the reoccurrence of irregularities.

Institutional implications

Understanding the importance of IAF in enhancing good cooperate governance and accountability within provincial governance systems is crucial for their effectiveness. The IAF add value to the organisational operations through various consulting and assurance engagement activities. Therefore, the institutions must ensure that this function is given sufficient budget and resources to operate. This will ensure proper coverage of scope, more especial with field verification engagement activities. It will empower the IAF staff members in terms of job-related abilities and expertise, and it will also ensure that internal auditors receive constant training, which will alleviate their skills needed to deal with the growing issues confronting the provincial governance systems. Thus, IAF employee's skills and knowledge will be sharpened, and their value-add role will be achieved.

The institution must have measures and procedures in place that ensures speedily filling of IAF vacant positions to avoid capacity issues. IAF is an important function of the organisation, it forms part of the organisational structure, therefore it must be giving a high status within the management structures. The IAF can only exact their responsibilities through the freedom and resources they are getting from the institutional management structures. The institution must over emphasise the importance of IAF role in the enhancement of good cooperate governance and accountability, as a critical fundamental attribute of their effectiveness.

The institution must further create a conducive environment that informs all employees about the IAF responsibilities and their importance within the operations of the provincial government. This could be achieved through institutional trainings, workshops, and seminars. Lastly, when all institutional employees understand the role and importance of IAF within the organisation, thus when IAF will be viewed as adding value to the provincial government's operations as opposed to fault finders.

Conclusions

This paper noted that the role of IAF is crucial towards enhancing good cooperate governance and accountability within the provincial governance systems. Further noted significant hindrances to the effectiveness of IAF in add value to the operations of the provincial government sphere. This invites irregularities that are threatening the attainment of provincial government objectives to thrive easily. Considering the outcomes of the data collected and analysed, it was evident that IAF can only be effective when their activities are independent and when they have objectivity minds. However, it was established that the management does not support the IAF role to the extent required. Although the IAF's position was regarded as beneficial in giving consulting and reasonable assurance on risk exposure, the results also revealed operational issues faced by the IAF within the WCG. Such operational constraints have a significant impact on the IAF's ability to add value to the operations of the provincial governance systems. The causal and predictive elements that contribute to ineffectiveness of IAF were found to be inability of IAF to successfully carry out its duties because it lacks sufficient budget to successfully carry out its duties, being given low status in the management structure, management have a bad perception about IA as fault finders as opposed to adding value to the organisation, management is not taking timely corrective action based on audit findings and recommendation.

It is critical that the department address the concerns surrounding the IAF role as they relate to IAA independence and internal auditors' objectivity within the provincial government, particularly a crucial government like the WCG. This could be accomplished through a variety of purposeful initiatives designed to improve organizational dynamics and communication inside the department. Strategies such as regular seminars, team building exercises, and ongoing monitoring and assessment could produce beneficial results. It is also obvious that the

techniques may need to be policy-driven to produce beneficial results and to moderate stakeholder behaviour.

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Sustainable 4IR land administration processes to enhance the safety, health and well-being of stakeholders

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Abstract

The Constitution of South Africa provides all people with the right to an environment that is not harmful to their health and well-being. This is in line with the United Nations (UN) Sustainable Development Goals (SDGs) and Agenda 2030 which are aimed at prosperity for the current and future generations by representing a holistic approach to understanding and addressing sustainability in various industries. The five pillars of Agenda 2030 comprise people, planet, prosperity, peace, and partnerships, which link to the goals of land administration (with all countries having to deal with the management of land) in terms of meeting the needs of people and the environment through collaborative efforts between various stakeholders. The COVID-19 pandemic had a devastating effect on the health and well-being of many people in addition to its detrimental effect on businesses and the environment. Conscious efforts to promote SDGs (such as SDG3 which is aimed at good health and well-being), also in land administration, is thus of vital importance. Land administration legislation does make provision for safety, health, and well-being of stakeholders, but an enforcement problem still exists, often resulting in parties choosing to rather pay fines than comply with legislative requirements. Land administration therefore requires changes in terms of administration to achieve sustainability objectives. Information management in land administration can be enhanced by making use of advanced technological processes brought about by the Fourth Industrial Revolution (4IR). A systematic literature

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review of relevant literature was conducted. This conceptual paper employed a systematic search strategy to identify relevant academic literature. Findings of this systematic literature review are reported using the PRISMA technique (whereby various aspects including the title, abstract, results and findings of articles are considered) to improve transparency of the systematic review that was undertaken. The Scopus database (a curated, high-quality bibliometric data source) was utilised to conduct the search for relevant academic literature. The findings of the systematic literature review (providing supporting information relating to the relationship between land administration and sustainability, safety, health, well-being and 4IR) is used to propose a conceptual framework for sustainable 4IR land administration processes aimed at enhancing the safety, health, and well-being of stakeholders. Such conceptual framework will form the basis for empirical research to be conducted in subsequent phases of research on the topic as presented as the title of this paper.

Key words: land administration; sustainability; safety; health; well-being; 4IR; SDGs.

Introduction

Developing countries, such as South Africa, have seen a rapid rate in urbanisation, whilst urban centres have been designed and planned for a small number of the population. This has resulted in challenges with regard to land administration including poor infrastructure, poor service delivery, a shortage of housing, illegal and informal land transactions, environmental degradation due to pollution, and a loss of agricultural land (Nkwae, 2023). These challenges can have detrimental effects on the safety, health and well-being of all stakeholders associated with land administration.

Land Administration and Land Administration Stakeholders

Land administration is an overarching term used by land related professions and includes surveying and mapping of land, planning, land laws and regulations, land valuation as well as land taxation (Bennett, Unger, Lemmen and Dijkstra, 2021). However, many definitions of land administration are vague, contradictory and incomplete regarding the aspects of land administration. In an attempt to properly define land

administration various additional aspects of land administration has been included. Land administration thus includes: developing and implementing land policies; protecting, acquiring, using, transferring, as well as rights and interests related to land; as well as planning, coordinating, directing, and controlling the use of land (Nkwae, 2023).

A stakeholder is any person, group or organisation with a vested interest in the decision-making process as well as activities associated with a particular matter. Regarding land administration, stakeholders are all people, parties and organisations that are directly or indirectly impacted by land administration decisions and include individuals, local communities, society, government (local and national), civil society organisations, local institutions, as well as any other interested or affected parties (Ansah, Voss, Asaima and Wuni, 2023). Land conflicts are often caused due to all relevant stakeholders not being included in the decision-making processes associated with land administration (Tambunan, 2016; Kaamah, Doe and Asibey, 2023). Appropriate engagement with all relevant stakeholders can thus assist in mitigating conflicts regarding land administration and reducing associated risks to people and the environment, which is required for sustainable development.

Land administration is aimed at, among other things, sustainable development. To achieve sustainable development, strategies and technologies should be implored to allow for reaching sustainable development objectives, with specific reference to information management that allows for monitoring and evaluation of sustainability objectives and initiatives (Williamson, Enemark, Wallace and Rajabifard, 2010; Hegab, Shaban, Jamil and Khanna, 2023).

Sustainable Development Goals (SDGs)

In essence, sustainable development is an organising principle aimed at meeting human development needs whilst protecting the environment and natural resources. Sustainability includes four core elements: economic growth, social inclusion, environmental protection, and good governance (Williamson, *et al.*, 2010; Denters, Ginther and De Waart, 2023).

The 2030 Agenda for Sustainable Development, as adopted by all United Nations Member States in 2015, is aimed at peace and prosperity for people as well as the planet for current and future generations. The United Nation's Sustainable Development Goals (SDGs) calls for action by all countries to end poverty and deprivations whilst enhancing health and economic growth (amongst others) and

taking cognisance of the environment. These goals are at the heart of Agenda 2030 (United Nations, 2024a).

Agenda 2030 is ‘‘a plan of action for people, planet and prosperity’’. In addition to the 17 SDGs, five pillars of critical importance for humanity and the environment have been identified. The first pillar is people, indicating that poverty and hunger should be ended and that a healthy environment should be created where all people can fulfil their potential (United Nations, 2024b). Land administration is an essential part of this pillar as appropriate land administration can be used to eradicate hunger and poverty whilst enhancing the environment.

Secondly, the planet should be protected from degradation (including sustainable consumption and production which is closely linked to land administration), natural resources managed, and the needs of both the current and future generations supported (United Nations, 2024b).

Prosperity is the third pillar and focuses on ensuring prosperous and fulfilling lives for all, whilst ensure that economic, social and technological progress does not harm the environment (United Nations, 2024b). Once again, land administration plays a crucial part in this regard and can and should be used to enhance the safety, health and well-being of all stakeholders without harming the environment.

The fourth pillar, peace, is aimed at fostering peaceful, just and inclusive societies that are not prone to fear and violence. No sustainable development can take place if peace is not upheld (United Nations, 2024b). Proper land administration is aimed at reducing conflict and ensuring the inclusion of all stakeholders to enhance peace.

Partnership, as the fifth pillar, requires partnerships with various stakeholders (including people and countries) allows for an interlinked and integrated focus on global improvement (United Nations, 2024b). Land administration requires input from, and partnerships with, all relevant stakeholders.

From the above-mentioned summary of SDGs and the five pillars of Agenda 2030, it is clear that land administration plays a critical role in sustainable development.

Safety, Health and Well-being

Most countries’ (developed and developing) legislative frameworks make provision for the safety, health and well-being of people. South Africa, as a developing country, is no exception as Section 24(a) of the Constitution of the Republic of South Africa indicates that all people have

the right to an environment that is not harmful to their health or well-being (RSA, 1996). All stakeholders associated with land administration are therefore also covered under this fundamental human right.

The onset of the COVID-19 pandemic in 2020 had various detrimental effects on people as well as the environment. One should however take note of the fact that the COVID-19 pandemic brought safety, health and well-being to the forefront of discussions and research (Sherratt and Dianty, 2023). It is important to learn from the mistakes made (such as the disposal of masks and gloves which had various negative impacts on the environment) and to focus on how a recurrence of such matters should be addressed in future (regardless of what the future might hold).

Safety, health and well-being forms an integral part of land administration as various aspects of land administration affects the safety, health and well-being of all stakeholders. It is important to recognise that land administration processes should be in line with sustainable development goals as well as the legal right to an environment that is not harmful to the health or well-being of people. Effective land administration improves the lives of people regarding their safety, health and well-being as it can ensure proper housing, reduced pollution, proper nutrition, and food security (Williamson, *et al.*, 2010; Çakmakçı, Salık and Çakmakçı, 2023).

Fourth Industrial Revolution (4IR)

The World Economic Forum (2024) describes the Fourth Industrial Revolution (4IR) as representing fundamental changes in how we live, work and relate to one another. Technological advances brought about by 4IR allows for merging physical, digital and biological worlds, thereby creating an opportunity to enhance inclusiveness and sustainable development.

4IR can be used to enhance the transparency of land administration through openness, availability and access to land information, and participatory processes for all stakeholders. Openness means that all land administration matters are decentralised and that all stakeholders are aware of actions taken and decisions made. Availability and access to land information means that all stakeholders have access to all relevant information, thus ensuring that access to information is symmetrical and thereby reducing challenges such as bribery and corruption. Participatory processes allow for verification and validation through consensus to maximise participation from all stakeholders

(Ameyaw and De Vries, 2020). 4IR can thus be utilised to enhance information management in land administration by enhancing transparency in all processes and allowing for stakeholder participation.

Systematic Literature Review

Based on the information provided above, the relationship between sustainable development, land administration, 4IR, as well as health, safety and well-being of stakeholders seem to be apparent. It was, however, necessary to determine if these relationships were in fact extensively researched and the results of such research findings published in accredited academic publications. This conceptual paper employed a systematic search strategy to identify relevant academic literature. Findings of this systematic literature review are reported using the PRISMA technique (whereby various aspects including the title, abstract, results and findings of articles are considered) to improve transparency of the systematic review that was undertaken. The Scopus database was utilised to conduct the search for relevant academic literature. Scopus is regarded as a curated, high-quality bibliometric data source that can be used for academic research (Baas, Schotten, Plume, Côté and Karimi, 2020) and deemed appropriate for this study as the first phase of this research. A total of 946 articles were published on land administration.

Research Questions

As this paper is the initial phase of research to be conducted in subsequent phases regarding sustainable 4IR land administration processes to enhance the safety, health and well-being of stakeholders, the research questions presented below are focussed on establishing if the key constructs of this paper are in any way related. This paper is not aimed at establishing the strength or direction of relationships, it is aimed at establishing interrelatedness of search terms.

This paper focussed on answering the following research questions:

- Is there an association between land administration and sustainability?
- Is there a relationship between land administration and safety?
- Is there a connection between land administration and health?
- Is there a linkage between land administration and well-being?

- Is there a relation between land administration and 4IR?
- Is there a link between land administration and SDGs?

Search Strategy and Results

To identify academic articles on the Scopus database that would address the research questions, the following key terms were used:

1. ‘land administration’ AND ‘sustainability’
2. ‘land administration’ AND ‘safety’
3. ‘land administration’ AND ‘health’
4. ‘land administration’ AND ‘well-being’ OR ‘well-being’
5. ‘land administration’ AND ‘4IR’ OR ‘4th industrial revolution’ OR ‘fourth industrial revolution’
6. ‘land administration’ AND ‘SDG’ OR ‘sustainable development goal’

Table 1 below provides a summary of the number of articles found for each aspect. The search was conducted on 19 February 2024 and only English articles were included. The articles were then reviewed over a period of one week to determine which articles to include in the final analysis of the systematic literature review. No limitation was put on the year of publication to find all relevant articles published on the various aspects under investigation. The total number of articles (946) published on land administration were reduced to the numbers indicated below due to the linking of ‘land administration’ with the various search terms indicated for this paper. It should be noted that this systematic literature review forms the basis of a larger study that will utilise empirical research (both quantitative and qualitative) in subsequent phases to extrapolate detailed information with a view to addressing sustainable 4IR land administration processes to enhance the safety, health and well-being of stakeholders.

Table 1. Initial number of articles found during the Scopus search

Search terms	Land administration and sustainability	Land administration and safety	Land administration and health	Land administration and well-being	Land administration and 4IR	Land administration and SDGs
Number of articles found	45	6	9	2	0	17

Source: Author’s own compilation

Following the initial findings, the articles were screened manually in terms of the title and abstracts of the articles. Only articles that had full-text papers available were downloaded for analyses and duplicates were removed. The following tables provide a summary of the findings related to the various associations between land administration and the research questions. Only relevant information was included, thus a drastic reduction in the number of relevant articles can be seen.

As this systematic literature review serves as a basis for an extensive study to be conducted in subsequent phases, a critical analysis of the findings of the articles falls outside the scope of this paper. The information provided in the tables below is aimed at establishing relationships/links between the search terms, which will be used to compile an interview guide and questionnaire to properly investigate these relationships.

Table 2 provides an overview of the findings related to land administration and sustainability.

Table 2. Link between land administration and sustainability

Author/s	Year of publication	Title of article	Link indicated
Barau A.S., Maconachie R., Ludin A.N.M., Abdulhamid A.	2015	Urban morphology dynamics and environmental change in Kano, Nigeria	Land administration affects sustainability.
Akaateba M.A., Ahmed A., Inkoom D.K.B.	2021	Chiefs, land professionals and hybrid planning in Tamale and Techiman, Ghana: Implications for sustainable urban development	Research on the implications of land administration on sustainability, with specific reference to Ghana, is limited. However, land administration is deemed necessary for sustainable development.
Alananga S., Makupa E.R., Moyo K.J., Matotola U.C., Mrema E.F.	2019	Land administration practices in Tanzania: a replica of past mistakes	Land administration processes should allow for sustainability prospects.
Adjetei L.D., Takyi S.A., Asibey M.O., Amponsah O.	2023	The fate of urban green spaces: Assessment of the ownership, availability and conditions of parks in Accra, Ghana	Urbanisation led to a loss of green spaces, thus land administration should encompass sustainability to

Author/s	Year of publication	Title of article	Link indicated
			ensure that further loss of green spaces are mitigated.
Enemark S.	2006	Understanding the land management paradigm: Need for establishing sustainable national concepts	Global pressure is put on land administration processes to establish sustainable national concepts.
Tanku M., Woldetensae B.	2023	Industrialization and urban socio-economic dynamics next to a primate city: The case of three Ethiopian cities	Land administration should allow for both economic and urban sustainability.
Behailu D., Kasa A.	2018	Land Governance in Ethiopia: Towards evaluating global trends	Land is a vital resource and driver of economic growth and development. Sustainability practices in land administration is required to enhance responsible land administration and sustainability.
Habib M.	2020	Developing a sustainability	Land administration

Author/s	Year of publication	Title of article	Link indicated
		strategy for multipurpose cadastre in post-conflict Syria	should be developed to enhance sustainability.
Mitchell D., Enemark S., van der Molen P.	2015	Climate resilient urban development: Why responsible land governance is important	Rapid urbanisation and climate change required land administration processes aimed at enhancing sustainability.
Bovkir R., Aydinoglu A.C.	2018	Providing land value information from geographic data infrastructure by using fuzzy logic analysis approach	Effective land administration aids in promoting sustainable land development in urban as well as rural areas.
Jahani Chehrehbargh F., Rajabifard A., Atazadeh B., Steudler D.	2024	Identifying global parameters for advancing Land Administration Systems	Sustainable and efficient land administration processes are required to preserve natural resources.
Li W., Feng T., Hao J.	2009	The evolving concepts of land administration in China: Cultivated land protection perspective	A holistic approach to land administration is required to enhance, amongst others, sustainability.

Author/s	Year of publication	Title of article	Link indicated
Turimubumwe P., Adam A.G., Alemie B.K.	2024	Managing public urban lands for sustainable urban development in Bujumbura, Burundi: The role of land administration system	Managing land administration effectively allows for sustainable development.
Azadi H., Robinson G., Barati A.A., Goli I., Moghaddam S.M., Siamian N., Värmik R., Tan R., Janečková K.	2023	Smart Land Governance: Towards a Conceptual Framework	Global environmental governance is aimed at addressing climate change issues through mitigation and adaptation strategies. One of these strategies is land administration aimed at enhancing sustainability.
Alemie B.K., Bennett R.M., Zevenbergen J.	2015	Evolving urban cadastres in Ethiopia: The impacts on urban land governance	Land administration and governance should be aimed at a holistic approach to enhance sustainability, amongst others.
Karikari I., Stillwell J.	2004	The implementation of geographical	Land administration should be

Author/s	Year of publication	Title of article	Link indicated
		information systems for land administration in Ghana	modernised to allow for the inclusion of sustainability as part of the land sector in Ghana.
Williamson I.P.	2001	Land administration "best practice" providing the infrastructure for land policy implementation	Land administration processes should be broadened to include sustainability as best practice element.
Zaim Z., Rudiarto I., Buchori I., Wahyudi A.	2020	Community participation pattern in communal village land utilization	Land administration systems should recognise the importance of sustainability.
Cobbinah P.B., Asibey M.O., Gyedu-Pensang Y.A.	2020	Urban land use planning in Ghana: Navigating complex coalescence of land ownership and administration	Land administration governance should mitigate challenges regarding sustainable land use.
Ibrahim A.-S., Akanbang B.A.A., Laube W.	2022	Sustaining decentralized collaborative governance arrangements in Africa: a case study of land	Collaboration should be sustained in land administrations to allow for sustainability.

Author/s	Year of publication	Title of article	Link indicated
		management committees in the Upper West Region, Ghana	
Bogaerts T., Williamson I.P., Fendel E.M.	2002	The role of land administration in the accession of Central European countries to the European Union	Land administration should focus on environmental sustainability, amongst others.
Kalantari M., Rajabifard A., Wallace J., Williamson I.	2008	Spatially referenced legal property objects	Sustainable development requires effective land administration is terms of social, environmental and economic aspects.
Casiano Flores C., Tan E., Buntinx I., Crompvoets J., Stöcker C., Zevenbergen J.	2020	Governance assessment of the UAVs implementation in Rwanda under the fit-for-purpose land administration approach	Land administration approaches should be modified to allow for a sustainable land administration system.
Barua S.K., Abir U.H., Boscolo M.	2018	Improving Forest Land Governance: The Case of Developing a Digital Archiving System for Forest Land Records in Bangladesh	Insufficient land administration record-keeping leads to challenges regarding sustainability. It is suggested

Author/s	Year of publication	Title of article	Link indicated
			that land administration records be digitalised to improve transparency.
Bennett R., Wallace J., Williamson I.	2008	Organising land information for sustainable land administration	Land administration processes must be improved to allow for achievement of sustainability objectives.
Navarra D., Van Der Molen P.	2012	Urban governance and climate change	Land administration processes should be upgraded to contribute to sustainable development.
Qiao Y.-K., Peng F.-L., Luan Y.-P., Wu X.-L.	2022	Rethinking underground land value and pricing: A sustainability perspective	Land administration processes should allow stakeholders to realise the importance of sustainability.
Lemmen C., van Oosterom P., Bennett R.	2015	The Land Administration Domain Model	Technological development should be incorporated in land administration processes to allow for the

Author/s	Year of publication	Title of article	Link indicated
			enhancement of sustainability.

Source: Author's own compilation

Table 2 indicates that there is a clear link between land administration and sustainability. It should be noted that sustainability, sustainable development as well as sustainable development are included in these articles. Therefore, some of these articles are also indicated below where ‘sustainable development goals’ was used as search term. These terms are sometimes used interchangeably, but the link is still clear. Various countries, both developed and developing, sees the importance of land administration as a strategy to enhance sustainability as part of a holistic approach.

The next Scopus search terms relate to land administration and safety. A summary of the findings from various articles is provided in Table 3.

Table 3. Link between land administration and safety

Author/s	Year of publication	Title of article	Link indicated
Pak D.N.B., Kırtıloğlu O.S., Kayalık M., Polat Z.A.	2023	The transformation from e-government to e-land administration in Türkiye: A SWOT-based assessment analysis	Land administration and safety is related (in various countries).
Rajabirad A., Shin J., Atazadeh B., Kalantari M.	2019	A conceptual framework for unified 3D digital management of urban land and property information	Urbanisation is ever-increasing and requires land administration processes that encompass safety aspects.

Author/s	Year of publication	Title of article	Link indicated
Li W., Feng T., Hao J.	2009	The evolving concepts of land administration in China: Cultivated land protection perspective	A holistic approach to land administration includes safety aspects related to land use.
Siejka M., Ślusarski M., Zygmunt M.	2014	3D + time Cadastre, possibility of implementation in Poland	Modernisation of land administration must allow for safety aspects.

Source: Author's own compilation

From the information provided in Table 3 there is a link between land administration and safety. A holistic, modern approach to land administration should encompass safety aspects as a fundamental right of all stakeholders in terms of legislative requirements in addition to moral convictions.

The link between land administration and health is presented in Table 4 below.

Table 4. Link between land administration and health

Author/s	Year of publication	Title of article	Link indicated
Pak D.N.B., Kırtıloğlu O.S., Kayalık M., Polat Z.A.	2023	The transformation from e-government to e-land administration in Türkiye: A SWOT-based assessment analysis	Information and communication technology can be used to enhance health of stakeholders within the scope of land administration.
Yunlong C.	1990	Land use and management in PR	Land administration should be

		China. Problems and strategies	adapted to (amongst others) conserve land, protect the environment, and increase the health of the ever-increasing population.
Li L., Lei Y., Tang L., Yan F., Luo F., Zhu H.	2019	A 3D spatial data model of the solar rights associated with individual residential properties	Land administration should make provision for the health of people, especially those in high-density areas.
Potts K.E., Rajabifard A., Bennett R.M.	2017	Supporting the risk management process with land information: a case study of Australia	Land administration processes should allow stakeholders to properly manage land-related risks, including health.

Source: Author's own compilation

Even though the number of articles linking land administration and health is limited, it is clear that there is a link between the two concepts. Land administration should emphasise health as part of the legal as well as moral obligations towards individuals as well as society as a whole.

Table 5 below presents a short summary of the articles, although limited, indicating a link between land administration and well-being.

Table 5. Link between land administration and well-being

Author/s	Year of publication	Title of article	Link indicated
Mengesha A.K., Bauer T., Damyanovic D., Agegnehu S.K., Mansberger R., Stoeglehner G.	2022	Gender Analysis of Landholding and Situation of Female-Headed Households after Land Registration: The Case of Machakel Woreda	Well-implemented and functional land administration systems can improve the well-being of individuals, households, and other stakeholders.
Behailu D., Kasa A.	2018	Land Governance in Ethiopia: Towards evaluating global trends	The way that land is administered has a significant impact on a country and the well-being of society.

Source: Author's own compilation

Even though only two relevant articles could be included in this table linking land administration and well-being, there is a link between land administration and the well-being of individuals, households, society, and other applicable stakeholders. Once again, well-being is a legislative requirement in addition to a moral responsibility.

As indicated in Table 1, no articles were found that specifically linked land administration and 4IR. This does not, however, mean that it is not an important aspect as its importance is clearly indicated on other platforms (such as theses and websites). It merely indicates that there is a gap in published research that clearly elucidates the link between land administration and 4IR. Some of the articles to indicate that digitalisation of land administration processes are required, which is in essence alluding to 4IR practices.

The findings regarding the link between land administration and SDGs are presented in Table 6 below. As previously indicated, some of

the articles referring to SDGs also refer to sustainability in general, thus reinforcing the importance of SDGs in land administration processes.

Table 6. Link between land administration and SDGs

Author/s	Year of publication	Title of article	Link indicated
Home, R.	2021	History and prospects for African land governance: institutions, technology and 'land rights for all'	Land administration is related to various sustainable development goals.
Koeva M., Stöcker C., Crommelinck S., Ho S., Chipofya M., Sahib J., Bennett R., Zevenbergen J., Vosselman G., Lemmen C., Crompvoets J., Buntinx I., Wayumba G., Wayumba R., Odwe P.O., Osewe G.T., Chika B., Pattyn V.	2020	Innovative remote sensing methodologies for Kenyan land tenure mapping	Effective land administration systems can assist in reducing poverty and enhancing sustainable development goals.
Mengesha A.K., Bauer T., Damyanovic D., Agegnehu S.K.,	2022	Gender Analysis of Landholding and Situation of Female-Headed Households after Land Registration:	Well-implemented land administration systems can support the

Author/s	Year of publication	Title of article	Link indicated
Mansberger R., Stoeglehner G.		The Case of Machakel Woreda	achievement of sustainable development goals.
Akaateba M.A., Ahmed A., Inkoom D.K.B.	2021	Chiefs, land professionals and hybrid planning in Tamale and Techiman, Ghana: Implications for sustainable urban development	Land administration can influence sustainability practices and enhance sustainable development goals.
Zysk E., Dawidowicz A., Nowak M., Figurska M., Żróbek S., Żróbek R., Burandt J.	2020	Organizational aspects of the concept of a green cadastre for rural areas	Land administration should be monitored and protective measures put in place to enhance the achievement of sustainable development goals.
Hull S., Liversage H., Rizzo M.P., Evtimov V.	2022	An Overview of Frontier Technologies for Land Tenure: How to Avoid the Hype and Focus on What Matters	Proper land administration practices can enhance the realisation of sustainable development goals.
Okembo C., Lemmen C., Kuria D., Zevenbergen J.	2022	Developing an adapted land administration domain model profile for Kenya	Land administration and management is crucial for

Author/s	Year of publication	Title of article	Link indicated
			meeting sustainable development goals.
Unger E.-M., Bennett R.M., Lemmen C., Zevenbergen J.	2021	LADM for sustainable development: An exploratory study on the application of domain-specific data models to support the SDGs	Land administration underpins sustainable development goals.
Aditya T., Sucaya I.K.G.A., Nugroho Adi F.	2021	LADM-compliant field data collector for cadastral surveyors	Land administration (and information) is a prerequisite for achieving sustainable development goals.
Xu Z., Zhuo Y., Li G., Bennett R.M., Liao R., Wu C., Wu Y.	2022	An LADM-based model to facilitate land tenure reform of rural homesteads in China	Sustainable development goals are underpinned by land administration models.
Jahani Chehrehbargh F., Rajabifard A., Atazadeh B., Steudler D.	2024	Identifying global parameters for advancing Land Administration Systems	Land administration is related to sustainable development goals, with specific reference to the preservation of

Author/s	Year of publication	Title of article	Link indicated
			natural resources.
Unger E.-M., Lemmen C., Bennett R.	2023	Women's access to land and the Land Administration Domain Model (LADM): Requirements, modelling and assessment	Land administration is imperative for the 2030 Agenda for sustainable development.
Enemark S.	2016	Fit-for-purpose land administration for sustainable development	Proper land administration is fundamental for the achievement of sustainable development goals.
Zamzuri A., Hassan M.I., Abdul Rahman A.	2024	Incorporating Adjacent Free Space (AFS) for marine spatial unit in 3D marine cadastre data model based on LADM	Rapid development imposes high demands on land administration and is related to the achievement of sustainable development goals.

Source: Author's own compilation

Table 6 indicates that there is a clear link between land administration and sustainable development goals as well as sustainable development and sustainability. It is also evident that various authors conducting research in various countries (developed and developing) alluded to the importance of land administration regarding sustainability.

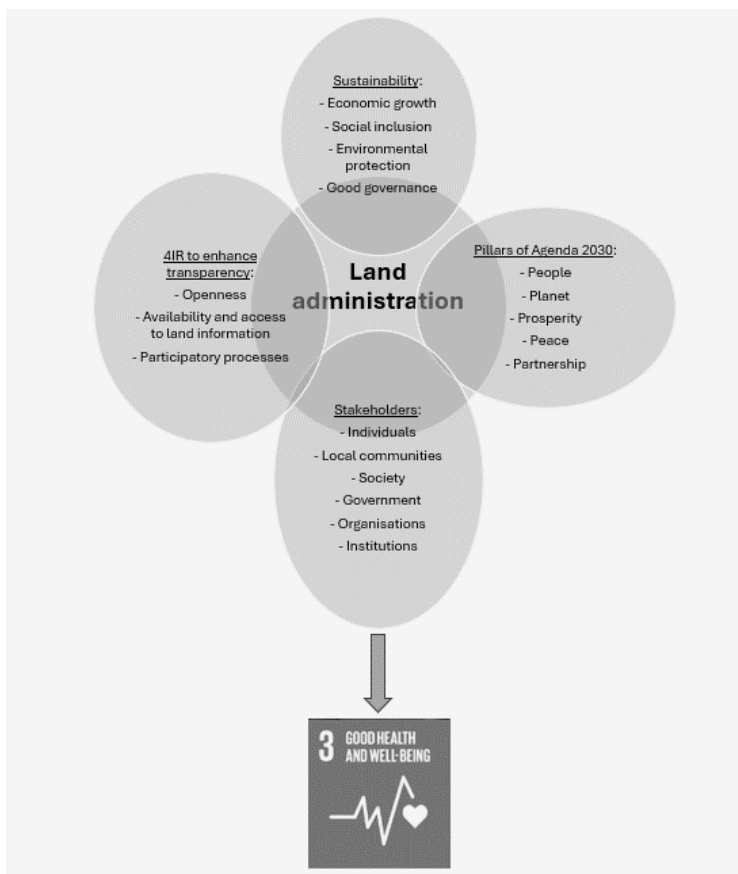
Based on the findings presented above, the associations between land administration and sustainability, safety, health, well-

being, and SDGs are supported. The only link that could not be established through the systematic literature review is the link between land administration and 4IR besides from mention being made of the importance of digitalisation of land administration information to enhance transparency (which is discussed previously in this paper). However, as indicated, 4IR is of vital importance for land administration and is therefore included in the proposed conceptual framework as presented. These associations will be further examined to determine the validity of their inclusion in the final conceptual framework when the empirical research is conducted in subsequent phases. This initial systematic literature review demonstrates that various aspects related to sustainability, safety, health, well-being and SDGs should be incorporated as part of the holistic approach to land administration aimed at enhancing sustainable development.

Conceptual Framework

Based on the systematic literature review conducted, a conceptual framework is proposed which will allow for sustainable 4IR land administration processes aimed at enhancing the safety, health, and well-being of stakeholders. As illustrated in this conceptual framework, a holistic approach to land administration is of vital importance as taking cognisance of the various reciprocal relationships between aspects is required. None of these aspects should merely be focussed on individually, it should instead be seen as part of the process of land administration aimed at enhancing the safety, health and well-being of stakeholders as part of sustainable development goals and objectives. As previously indicated, these relationships will be further researched in the subsequent empirical research to be conducted.

Figure 1. Sustainable 4IR land administration processes to enhance the safety, health and well-being of stakeholders



As can be seen in the visual representation in Figure 1, these various aspects are interrelated and overlapping in nature. All aspects should thus be considered equally important and deserving of consideration in land administration processes.

Conclusions and Recommendations

Land administration, as umbrella term, must consider various aspects to be effective. This initial systematic literature review indicates associations between land administration and sustainability, SDGs, safety, health and well-being of stakeholders. Achieving the United Nation's global drive for sustainable development, land administration plays a pivotal role and should therefore encompass sustainable 4IR processes to enhance the safety, health and well-being of stakeholders. Economic growth, social inclusion, environmental protection and good governance should be included as part of achieving sustainability, in line with the pillars of Agenda 2030 which focuses on people, planet, prosperity, peace, and partnership. All relevant stakeholders of land administration should be allowed to participate in the management and decision-making related to land administration. The inclusion of stakeholders can be enhanced by employing 4IR to enhance transparency in land administration.

The findings of the systematic literature review presented in this paper culminated in the development of a proposed conceptual framework for sustainable 4IR land administration processes to enhance the safety, health and well-being of stakeholders. It is suggested that this proposed conceptual framework be further investigated to finalise the conceptual framework for further research. The final conceptual framework should then be implemented and the results of such implementation researched, through quantitative and qualitative empirical research methods, to determine the efficacy of this framework. If this framework proves effective in enhancing the safety, health and well-being of stakeholders, it should be distributed widely as a tool to assist in achieving SDGs (with specific reference to SDG 3) though land administration processes.

Data Availability

This manuscript has no associated data.

Compliance with Ethical Standards**Conflict of Interest**

The author declares that she has no conflict of interest.

Ethical Approval

The article does not contain any studies with human participants or animals performed by the author. Ethical clearance for this conceptual paper was obtained from the UNISA College of Economic and Management Sciences (CRERC Ref #: 1475).

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Critical Assessment of Luxury Jewellery Purchasing Behaviour: A Pandemic–Environmental Perspective

Tatenda T. Chabata¹

Abstract

Consumer behaviour is continually changing and businesses need to monitor it frequently to better understand consumers' needs and wants. The COVID-19 pandemic influenced consumers' purchasing behaviour, and most consumers gravitated towards making necessity purchases rather than luxury purchases. One notable luxury purchase is jewellery. Limited research has been conducted on consumers' luxury purchasing behaviour in developing economies in the Fourth Industrial Revolution (4IR). In this study, the researcher assesses factors that influence jewellery purchases during a pandemic, specifically COVID-19. Consumers' purchasing behaviour, intention, attitude, subjective norms and perceived behavioural control are tested based on the theory of planned behaviour (TPB). The research method and design entailed a quantitative descriptive approach. The sample size was 150 jewellery consumers from Gauteng province, South Africa. A self-administered five-point Likert-scale online survey was used to obtain responses. Data were collected using convenience sampling, while descriptive statistics and regression analysis were used to test the variables of interest. The findings revealed that consumer attitude had the most significant influence on jewellery purchasing intention in a pandemic environment in the presence of 4IR. All the other variables tested in this study had no significant influence on luxury purchasing behaviour. This study can

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assist researchers and practitioners in understanding relevant factors that determine jewellery purchasing behaviour in a global pandemic. More importantly, they can apply appropriate 4IR strategies to enhance the purchasing behaviour of luxury products, specifically jewellery. Limitations and future research directions are also provided.

Keywords: COVID-19, 4IR, consumer behaviour, purchasing behaviour, jewellery, theory of planned behaviour (TPB)

Introduction

Consumer behaviour is an important factor to consider because of the ever-changing needs and wants of consumers. These needs and wants change based on a variety of factors that are of interest to both practitioners and academics. According to Solomon, Russell-Bennett and Previte (2013), “consumer behaviour” is defined as the study of how people choose goods, how they buy and how they use certain products to fulfil their needs. In this study, “consumer behaviour” is defined as how and why individuals purchase jewellery products. By investigating factors that influence buying behaviour and buying patterns, businesses gain knowledge of what drives consumers to purchase goods and services (Stankevich, 2017).

The COVID-19 pandemic affected several variables, such as the cost of living, which resulted in changes in consumer needs, thus affecting consumer buying behaviour (Sheth, 2020). The global pandemic caused people to change their shopping habits because of a shift in consumer needs (Danciu, 2021). The main trend among consumers during the pandemic was “mindfulness” (Altynova, 2021). The pandemic influenced how consumers made decisions about products, causing them to move away from luxurious products to more inferior goods as salaries were affected and the cost of living increased for some. Other consumers around the world gravitated more towards buying essential items (Danciu, 2021). This resulted in the deterioration of other sectors and industries (Danciu, 2021), particularly the luxury goods industry, as more people purchased essential rather than luxury goods, thereby reducing sales revenue and profits for jewellery businesses. This trend away from luxury items to necessities (Meghna and Vikalpa, 2021) prompted this study, and the researcher thus hopes to inform jewellery making manufacturers and retail businesses what factors to consider to encourage consumers to purchase their luxury offerings during a

pandemic and to be more effective in applying 4IR strategies to enhance purchases that help jewellery businesses to be resilient and survive these environmental challenges.

Minimal research has been conducted on the effects that COVID-19 has had on the jewellery industry (Stockton, 2020; Human Rights Watch, 2019; Khosla, 2020; Care Ratings, 2021). During the global lockdown, people remained quarantined in their homes (Vinod and Sharma, 2021) and buying certain products was no longer a necessity. One of the most evident declines in purchasing trends was that of luxury items, particularly jewellery. Consequently, the jewellery industry was characterised by low sales and growth (Altynova, 2021; Danciu, 2021; Kothari and Japee, 2021). Altynova (2021) mentions that there has been a decline in jewellery, watches and clothing sales since COVID-19. According to Stockton (2021), global diamond jewellery sales decreased by 15% in 2020. In India, retail jewellery sales plummeted by 80% because of the COVID-19 pandemic (Debata, Patnaik & Mishra, 2020).

Moreover, COVID-19 changed the behaviour of both consumers and businesses (Svajdova, 2021). The pandemic disrupted how people bought goods and services, as well as the general economy (Meghna and Vikalpa, 2021), and there was a great amount of uncertainty in everyday life (Chirumbolo, Callea and Urbini, 2021). Individuals that did not have secure jobs were affected the most (Chirumbolo et al., 2021). The pandemic promoted a savings culture among most consumers who experienced job insecurity (Chirumbolo et al., 2021), as well as among businesses with little capital.

In contrast, the United States of America identified increasing sales of jewellery during the pandemic, with jewellery designer Mark Patterson stating that their retail store doubled its sales in 2020 (Gomeisky, 2020). Similarly, the jewellery retailer Moda Operandi witnessed a 35% increase in sales (Gomeisky, 2020). The diamond and jewellery industries were thriving because consumers were no longer prioritising holidays (Gomeisky, 2020), and online sales further aided the jewellery industry to survive the economic effects of the pandemic (Gomeisky, 2020; Retail Insider, 2020; Quiniquini, 2021).

In South Africa, Ngunu Diamonds reported a 60% increase in sales after the lockdown in March 2020 (CGTN, 2020). Diamond companies like Thoko's Diamonds in South Africa decided to move into the jewellery sector as sales in the luxury jewellery market were showing increasing sales (Reuters, 2020). Nevertheless, the literature available on the effects that COVID-19 has had on the overall jewellery industry is sourced from different countries and scant research exists in the context

of South African consumers (Stockton, 2021. Debata et al., 2020). Thus, the dearth of information pertaining to how COVID-19 affected jewellery purchasing behaviour in South Africa warranted this study.

A reasonable amount of research has been conducted on the fashion and beauty industry in terms of COVID-19 and consumer buying patterns (Gjoni, 2020; Mckinsey & Company, 2020; Liu, Xai & Lang, 2021; Dewalska-Opitek and Bilińska-Reformat, 2021), but not on the jewellery sector. Moreover, there is no significant information on the effects of COVID-19 on the purchasing trends of South African jewellery items in general. As a result, this study was conducted in Gauteng province, South Africa because it is the country's economic powerhouse (Statistics South Africa [Stats SA], 2019). Gauteng contributes 34% to the total gross domestic product (GDP) of the country, making it the largest contributing province to the South African economy (Stats SA, 2021). Gauteng consumers' spending power is generally higher than that of other provinces in South Africa, even during the pandemic Gauteng consumers were enhancing their life standards by buying and using quality, luxury products.

Therefore, the research question that underpinned this study was the following:

What were the factors that influenced jewellery purchasing behaviour among Gauteng, South African consumers during the COVID-19 pandemic, and how can the 4IR strategies be applicable in sustaining jewellery businesses?

Theoretical Background

Overview of Consumer Behaviour

East, Singh and Wright (2017) explain that consumer behaviour is the way people purchase and use different goods and services, the way they respond to how items are priced, and how different marketing approaches influence their decision-making. Moreover, Rani (2014) states that many factors influence a consumer in the decision-making process, which consists of specific steps. Fig. 1 shows the proposed buying process model by Stankevich (2017).

Figure 1. The buying process model



Source: Stankevich (2017)

The model in Fig. 1 demonstrates that before a consumer makes a purchase, they must identify the need that they have for a certain product. After identifying their need, they search for different products and gain information on them. The individual will then evaluate the different alternatives to identify which product is best suited to them; after the evaluation, they will make a purchase decision. Following the purchase, they engage in post-purchase behaviour, which reflects how the individual feels and acts after purchasing products.

Importance of Consumer Buying Behaviour for Businesses

The consumer is at the centre of retailers' success; without the consumer, retailers would not be able to function optimally. When retailers make business decisions, they should always keep the customer in mind. Studying the consumer is important because marketers learn the different factors that influence consumers when making purchases (Prabhu, 2020). Kumar (2017) states that by studying consumer behaviour, the unfulfilled needs that consumers have will be discovered. When retailers understand the decision-making process that their targeted consumers go through, they will be able to cater for their needs and fill a gap in the market (Prabhu, 2020). To offer the targeted customer the appropriate product, the retailer needs to understand factors like the consumer's income, lifestyle and social factors (Indirani, 2015). With all the different options that consumers have available to them, it is important to offer customers the appropriate products. Analysing consumers' buying behaviour/traits assists in product development. When a retailer knows their market, they

will create products suited to their target market. Therefore, the main objective of retailers is to satisfy their customers.

Given that consumer buying behaviour is not a linear and standardised process, it is important to conduct research on the behavioural factors of luxury goods spending during the COVID-19 pandemic. According to Torbati, Asad and Mohammadzade (2017), the attitude of consumers purchasing luxury goods has a positive impact on their purchase intention. This suggests that if the consumer has a positive attitude towards a product, they will make the purchase, thus benefitting a business. Lakmali and Kajendra (2017) further highlight that the consumer's attitude has a significant impact on their luxury purchase intentions; the other determining factor is the consumer's status. Yet, there are still more factors that influence customer purchase behaviour, thus making this an ongoing area of research for both practitioners and academics.

Factors Influencing Consumer Behaviour

The factors that affect consumer buying behaviour are personal, psychological factors, cultural factors, social factors and economic factors (Qazzafi, 2020). Personal factors consist of age, occupation, income and lifestyle (Ramya and Ali, 2016). Age is a significant factor, as people buy different goods at different ages. Occupation influences how people buy, for example, a professional doctor's purchases would be different from the purchases of an executive businessman (Ramya and Ali, 2016). An individual's level of income will also determine their purchasing power, while lifestyle refers to the different interests of an individual and the activities they engage in (Ramya and Ali, 2016).

Psychological factors consist of motivation and perception. Motivation is what drives individuals to engage in certain behaviours. Motivation entails direction, effort and persistence (Vainikka, 2015). Direction indicates what an individual wants to achieve; effort is the energy an individual is willing to exert to achieve their objective; and persistence is the time they are willing to sacrifice in obtaining that objective (Vainikka, 2015). A person's perception is their response to motivation; if a motivated individual has a positive response, then their perception of the good or service will be positive (Qazzafi, 2020).

On the other hand, culture entails the values and perceptions that an individual has learnt from their family and other relationships of significance (Jisana, 2014). Subculture consists of factors such as nationality, religion and location (Jisana, 2014). Social class refers to an

individual's social standing, which affects an individual's consumption habits (Jisana, 2014). Social factors consist of reference groups, family, social roles and statuses. Reference groups are any groups that an individual belongs to and whose opinions they trust; they are therefore used as a basis for making decisions (Durmaz, 2014). An individual's family has a great influence on the decisions that a consumer makes, as the latter values their family members' views (Durmaz, 2014). Roles and statuses also determine what products certain individuals buy; everybody has a different role in society (Durmaz, 2014).

An economic factor is an important aspect when analysing consumer behaviour. When an individual has a low income or minimal savings, they will not be able to make expensive purchases – even if they want to (Qazzafi, 2020). Therefore, the greater the income, the more spending power an individual has. Because of the COVID-19 pandemic, researchers predicted several changes in consumer behaviour, which required empirical studies such as this one to assess the influence of COVID-19 on consumer buying behaviour.

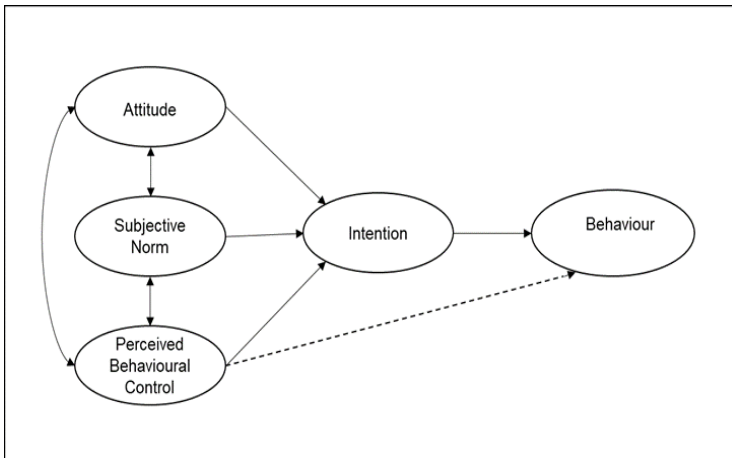
On 7 January 2020 a pathogen was identified as a coronavirus (COVID-19). This virus causes common colds and upper respiratory tract infections (WHO, 2020). The virus can be spread through droplets and physical contact with an infected person (Galbadage, Peterson & Gunasekera, 2020). In a bid to prevent the spread of the virus, most governments around the world implemented social distancing rules and restrictions for confined spaces (Jo, Shin & Kim, 2020). This measure inevitably increased online sales, as it became the alternative mode of buying goods and services for most people. As a result, worldwide retail e-commerce sales in 2020 rose to a total of 4.28 trillion US dollars (Chevalier, 2021) and revenues were expected to increase over the next four years (Chevalier, 2021) – preferably without the presence of the pandemic. This shows that from early 2019 to date, there has been a shift in consumer purchasing behaviour in terms of the source of purchase.

In line with the objective of the study, it is imperative to identify what factors within the COVID-19 environment influenced consumer jewellery spending behaviour. To understand the potential factors better, several theories could be adopted, but the researcher has adopted and further utilised an underpinning theory for this study, which will be discussed in the next section.

Theoretical Framework

The researcher adopted the theory of planned behaviour (TPB) as the theoretical framework for this study. The TPB was founded by Icek Ajzen in 1991 (Ajzen, 1991), and the aim of TPB is to monitor consumer behaviour and identify the ultimate objective of individuals. The central component of the theory is the intention that a consumer has to perform a specific behaviour. Consumer intentions are driven by motivational factors (Ajzen, 1991). Behavioural intention is driven by attitude, social norms and perceived behavioural control, all of which are interrelated (Ajzen, 2005). Therefore, the greater the intention, the greater the chance of the consumer's expressing their actual behaviour. Fig. 2 shows the original relationships in the TPB.

Figure 2. Theory of planned behaviour



Source: Ajzen (1991)

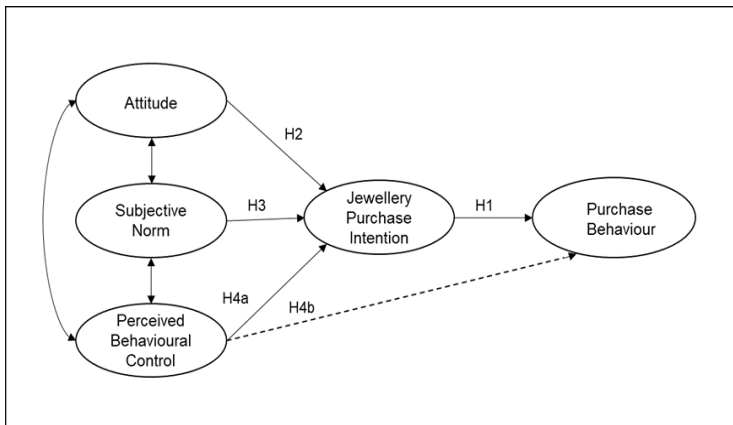
The benefits of TPB are that businesses or marketers can predict the likelihood of an individual's performing a certain behaviour. Nevertheless, the limitations of this theory are that only attitude, subjective norms and perceived behavioural control are considered as variables (Armitage and Conner, 2001; Hagger, Chatzisarantis and Biddle, 2002; Hardeman, Johnston, Johnston, Bonetti, Wareham and Kinmonth, 2002).

Proposed Conceptual Model

TPB in the Context of Jewellery Purchases

Fig. 3 provides the underpinning conceptual model that guides this study. Of particular interest is the contextualisation of TPB in the South African jewellery industry.

Figure 3. Conceptual model of jewellery purchase behaviour



Source: Developed by the author (2022)

Purchase Intention and Purchase Behaviour

Fishbein and Ajzen (1975) define “purchase intention” as the perception of an individual regarding the performance of a particular behaviour. In the context of this study, purchase intention motivates an individual to perform the behaviour of interest, as postulated by Ajzen (1991). Studies by Bian and Forsythe (2012), Jin and Kang (2011), Li, Li and Kambele (2012) and Zhang and Kim (2013) have validated the mediating effect of consumer purchase intention on purchasing behaviour and other variables in different research settings. Behavioural intention was found to have a positive impact on adoption behaviour (Dilotsotlhe, 2021). In line with the original findings of TPB, actual behaviour is a direct result derived from behavioural intention (Ajzen, 2005), making it appropriate that the researcher makes the following hypothesis in this study:

H₁ Purchase intention regarding jewellery will have a positive effect on Gauteng consumers' actual purchases of jewellery products during a pandemic

Attitude and Purchase Intention

Fishbein and Ajzen (1975) defined “attitude” toward behaviour intention as a consumer’s negative or positive feelings about performing the target behaviour. Ajzen and Fishbein (1980) maintain that attitude toward the behaviour is determined by an individual’s salient beliefs that the behaviour leads to certain outcomes, and it includes an evaluation of these outcomes by that individual. Attitude refers to the consumer’s firm belief about performing the behaviour in question; in this study, that is purchasing jewellery. Extant literature has concluded that attitude is the most important predictor of purchase intentions (Son and Jin, 2013; Jin and Kang, 2011). Conversely, knowledge is lacking in the drivers of attitude as an important predictor of behavioural intention (Ajzen, 2005; Paul, Modi and Patel, 2016). Several previous studies have confirmed the significant effect of attitude on purchase intentions (Jain, Khan and Mishra, 2015; Ling, 2009; Sanyal, Datta and Banerjee, 2014; Zhang, Prybutok and Strutton, 2007; Jing, Huang, Ran, Zhan and Shi, 2019). In the context of this study, it is expected that a positive attitude towards purchasing jewellery will influence the behavioural intention to purchase the jewellery in a pandemic environment. Therefore, the researcher hypothesises the following:

H₂ Attitude toward purchasing jewellery has a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

Subjective Norms and Purchase Intention

Subjective norms are defined as a person’s perceptions regarding approval or disapproval of their behaviour by significant others (Ajzen, 1991; Fishbein and Ajzen, 1975). Subjective norms refer to the influence of important others, such as family, friends or colleagues, in the performance of behaviour by a consumer. Some previous studies have found a direct relationship between subjective norms and customer purchase intention (Jain et al., 2015; Kim and Karpova, 2010; Fishbein and Ajzen, 1975; Ajzen, 1991; May, 2005). Therefore, based on a substantial review of the literature, the researcher makes the following hypothesis:

H₃ Subjective norms concerning purchasing jewellery have a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

Perceived Behavioural Control, Purchase Intention and Purchase Behaviour

Ajzen (1991) stipulated that perceived behavioural control refers to the degree of difficulty that an individual perceives when performing a specific behaviour. Moreover, perceived behavioural control helps to predict those behaviours that individuals intend to perform but are unable to perform because of a lack of opportunities and/or resources, for example, skills, money or time (Miller and Howell, 2005). The degree to which people have control over their behaviour is dependent on their ability to overcome the barriers caused by the lack of opportunities or resources (Hagger, Cameron, Hamilton, Hankonen and Lintunen, 2020). Accordingly, TPB proposes that the more opportunities and resources that are available to a consumer, the greater the consumer's perceived behavioural control will be (Ajzen, 1991). TPB indicates that perceived behavioural control ought to influence both purchase intentions and purchase behaviour simultaneously. In support of TPB, various authors have found that perceived behavioural control has a significant influence on luxury purchase intentions (Ling, 2009; May, 2005). In addition, several other studies have confirmed that there is a significant relationship between perceived behavioural control and customer purchase intention (Dilotsotlhe and Inseng, 2020; Teo and Pok, 2003; Lee and Ho, 2002; Shih and Fang, 2004), in general. Other studies have found that perceived behavioural control has a direct relationship with actual purchase behaviour (Ajzen, 1991; Lynne, Casey, Hodges and Rahmani, 1995). Thus, based on the provided review of past literature, in this study, the researcher makes the following hypothesis:

H_{4a} Perceived behavioural control concerning purchasing jewellery has a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

H_{4b} Perceived behavioural control concerning purchasing jewellery has a positive effect on Gauteng consumers' actual purchase behaviour of jewellery during a pandemic

Methodology

The study adopted a positivist epistemological approach because it focused on numerically measurable data that were statistically analysed (Mohajan, 2020) by the researcher. There are two main types of research approaches, namely deductive and inductive. In this study the researcher adopted a deductive approach, using a “top-down”: perspective (Janzen, Nguyen, Stobbe and Araujo, 2015) and moving from a general idea to reach a particular conclusion. This approach uses a generally accepted framework instead of creating new knowledge (Janzen et al., 2015). Moreover, a survey strategy approach to collect quantitative data was used. A quantitative research approach consists of collecting data and testing a hypothesis that is numerically measured to establish whether the stated or proposed theories in question are valid (Habib, Pathik, Maryam and Habib, 2014).

In this study the researcher adopted a non-probability sampling method because the respondents had to be jewellery consumers from Gauteng, South Africa; therefore, not every jewellery consumer could participate and there was no available sample frame. Convenience sampling was used to collect data from 150 willing respondents, and 150 is justifiable for quantitative data analysis purposes (Endacott and Botti, 2005). A large sample size ensures that there is little chance of sampling errors (Endacott and Botti, 2005). This also assists in avoiding inaccurate information because of outliers. An online 5-Lickert scale survey, anchored on 18 scale items adopted and adapted from previous extant literature. The online survey questionnaire included a screening question, coined: “Have you bought jewellery from a South African retailer during the COVID-19 period?”. The survey was conveniently sent to prospective respondents via social media with an informed consent form to invite participants to respond to the survey.

The software used for the data analysis was the latest Statistical Package for Social Sciences (SPSS). SPSS is software that is used to obtain statistical data (Roval, Baker and Ponton, 2012). Descriptive statistics revealed the various statistical results of the demographics and variables of interest. Hypothesis testing using simple linear and multiple regression analysis enabled the researcher to ascertain the relationships between the variables of interest in the study.

Findings and Discussion

Descriptive Statistics

Of the total of 150 respondents ($n = 150$), 47.06% stated that they bought earrings between April 2020 and December 2021. Of the 150 respondents, 5.88% purchased rings, 33.33% purchased necklaces and 13.73% purchased watches. The findings suggest that most of the respondents purchased earrings more than all other types of jewellery during the COVID-19 pandemic.

Of the total of 150 respondents ($n = 150$), 80.39% were female, 13.73% indicated that they were male, and 5.88% regarded themselves as not having a specific gender (i.e. other/non-binary). The results confirmed that more women than men participated in this study. Therefore, Gauteng jewellery businesses should focus on the purchase behaviour of female consumers and develop 4IR strategies that are predominantly targeted at female consumers.

Of the 150 respondents ($n = 150$), indicated that they were between the ages of 18 and 24, constituting 29.41% of the sample; 9.8% of the respondents were between the ages of 25 and 34; 11.76% were between the ages of 35 and 44; 25.49% were between the ages of 45 and 54; 21.57% were between the ages of 55 and 64; and 1.96% were 65 years and above. The majority of the respondents were above the age of 24, although those aged 18–24 accounted for the largest percentage of respondents. These respondents are part of Generation Z and are digitally connected, accounting for about 40% of all consumer shopping in 2020 (Peter, 2021). This cohort would be receptive to 4IR strategies used by jewellery companies and would be easy to convince to purchase jewellery during a pandemic.

A total of 5.88% of the respondents indicated that they had completed their matric and a post-high school certificate or diploma. Moreover, 68.63% had a bachelor's degree and 19.61% had postgraduate degrees. The majority of the respondents showed that they had a higher level of tertiary education. This suggests that they were knowledgeable or educated and could thus rationally make purchase decisions regarding jewellery products. 13.73% of the respondents indicated that they had no disposable income and 25.49% indicated that their disposable income was below R10 000. In addition, 11.76% indicated that their disposable income was between R10 000 and R15 000, while 17.85% were in the R15 001 to R20 000 income bracket. There were also 13.73% respondents in the R20 001 to R30 000 income bracket and 11.76%

indicated that they earned between R30 001 and R40 000. Furthermore, 3.72% indicated that they earned R40 001 to R50 000 and 1.96% were in the R50 001 and above income bracket. Based on the results of the study, most of the respondents mentioned that even though they did not earn a high income, they still managed to source funds to purchase jewellery products in the COVID-19 environment.

Hypothesis Testing

Hypothesis tests were conducted on five main variables, namely jewellery purchase behaviour, jewellery purchase intention, attitude, subjective norms and perceived behavioural control. Table 1 provides a summary of the hypothesis test results of the study.

Table 1. Hypothesis results summary

Hypothesised relationships	Path coefficients	P-values	Significant/Insignificant
PI → H ₁ PB	0.247	0.084	Insignificant and not supported
A → H ₂ PI	0.378	0.019	Significant and supported
SN → H ₃ PI	-0.056	0.720	Insignificant and not supported
PBC → H _{4a} PI	-0.089	0.529	Insignificant and not supported
PBC → H _{4b} PB	0.221	0.126	Insignificant and not supported

Source: Developed by Authors (2024)

H₁ Purchase intention regarding jewellery will have a positive effect on Gauteng consumers' actual purchases of jewellery products during a pandemic

The results for the relationship between purchase intention and purchase behaviour were ($\beta = 0.247$; $t = 1.764$; $p = 0.084$). The relationship is positive; however, it slightly missed the significance level of 0.05. This negates what Ajzen (1991) found about the relationship that purchase intention has with purchase behaviour. Purchase intention is the willingness of an individual to make a purchase (Ajzen, 1991); therefore, to undertake the action of making a purchase, the consumer needs to be

willing to make the purchase. This is one of the fundamental steps when making a purchase. However, studies by Jain, Khan and Mishra (2017), as well as that of Sanyal et al. (2014), suggest that purchase intention does not always positively and significantly affect actual purchase behaviour.

H₂ Attitude toward purchasing jewellery has a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

The results for the relationship between attitude and jewellery purchase intention were ($\beta = 0.378$; $t = 2.432$; $p = 0.019$). The findings support that the relationship was positive and significant. This suggests that the respondents have a positive attitude towards jewellery and then act on their jewellery purchase intention. The positive and significant relationship between attitude and jewellery purchase intention indicates that the respondents are willing to purchase jewellery. A study by Jain et al. (2015) reveals that attitude has a significant impact on the purchase intention of luxury brands. In addition, studies by Lakmali and Kajendra (2017), as well as Tak (2020), affirm the findings of this study on attitude and purchase intention, showing that attitude has a significant and positive influence on purchase intention.

H₃ Subjective norms concerning purchasing jewellery have a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

The results for the relationship between subjective norms and purchase intention were ($\beta = -0.056$; $t = -0.327$; $p = 0.720$). The relationship is negative and insignificant; therefore, the hypothesis is rejected. The findings of this study contradict what has been discovered in other studies. Subjective norms usually have a positive and significant relationship with purchase intention (Das & Sabbir, 2019; Lakmali & Kajendra, 2017). However, in a pandemic environment, it seems the opinions of family, friends and others about purchasing jewellery did not influence the respondents' jewellery purchase intentions.

H_{4a} Perceived behavioural control concerning purchasing jewellery has a positive effect on Gauteng consumers' purchase intentions concerning jewellery products during a pandemic

The results for the relationship between perceived behavioural control and jewellery purchase intention were ($\beta = -0.089$; $t = -0.634$; $p = 0.529$). The relationship is negative and insignificant; therefore, the hypothesis is rejected. The findings of this study contradict what has been discovered in other studies. Previous studies suggest that perceived

behavioural control regarding factors such as income plays a role in purchase intentions (Das and Sabbir, 2019 and Jain 2020). This suggests that when people have resources, they are willing to buy luxury items. However, a study by Jain et al. (2017) showed that perceived behavioural control has an insignificant impact on purchase intention, thus supporting the findings of this study.

H_{4b} Perceived behavioural control concerning purchasing jewellery has a positive effect on Gauteng consumers' actual purchases of jewellery during a pandemic

The results for the relationship between perceived behavioural control and actual jewellery purchase behaviour were ($\beta = 0.221$; $t = 1.556$; $p = 0.126$). This indicates that although the relationship was positive, it was not significant. This suggests that resources such as money do not always make an individual more inclined to make a jewellery purchase. However, a study by Jain (2020) contradicts the findings of this study in that it discovered that resources such as income had a significant influence on purchase behaviour. Jain et al. (2017) further highlighted that perceived behavioural control has a significant relationship with purchase behaviour in general. In the study by Dilotsotlhe and Inseng (2020), the results showed that perceived behavioural control and behavioural intention had a small effect on actual behaviour.

Recommendations for Jewellery Retailers

In this study, perceived attitude was the most significant variable affecting jewellery purchase intention. As a result, jewellery brands can market jewellery based on female buyers' attitude, since most buyers in the study were female. Use of 4IR may be applicable by ensuring that jewellery buyers' contacts are personalised, which will enhance their attitude towards the purchase of jewellery products amid a pandemic. Moreover, if more female – relative to male – jewellery customers developed positive attitudes about jewellery because they felt good about buying and using it, the demand for jewellery purchases during a pandemic would grow, thereby increasing jewellery business sales and profitability levels.

Other ways that jewellery firms can enhance consumers' attitudes positively to influence purchase intention could be the use of 4IR augmented reality and virtual reality technologies to create

immersive and interactive experiences for consumers while adhering to the strict lockdown and distancing protocols. Virtual try-ons, as well as augmented reality showrooms, are examples of how these technologies could be applied by jewellery firms, thus enhancing the overall shopping experience amid a pandemic.

The majority of the respondents were females between the ages of 18 and 24. Therefore, jewellery retailers should focus on marketing strategies that stimulate perceived attitudes towards jewellery purchase intentions and then develop potentially successful targeted strategies that female jewellery consumers – as the ideal target audience – would prefer. In particular, a lucrative target audience to tailor jewellery marketing content would be those that fall within Generation Z. Utilising appropriate 4IR strategies, such as e-commerce and other digital platforms, to limit any contact with clients during a pandemic would enhance their attitude towards purchasing jewellery online. The strategies should accommodate Generation Z, since they comprised most of the respondents and they are digitally inclined. Therefore, jewellery retailers can utilise digital platforms to influence these consumers to buy jewellery, as the majority of purchases during COVID-19 were made online. Moreover, the retailers could enlist influencers to promote jewellery sales, since Generation Z is frequently on social media. Generation Z would probably be receptive to blockchain technology, which is a component of the 4IR, and retailers could employ it to enhance the authentication and traceability of jewellery sold through online channels during a pandemic.

Subjective norms and perceived behavioural control did not influence purchase intention in this study. Therefore, reference groups do not influence Generation Z when it comes to jewellery, and money and other resources are not a factor that drives their jewellery spending. Most of the respondents indicated that their disposable income was R10 000 or less; therefore, some jewellery products could be produced for people in this income bracket or retailers could offer more discounts to attract the majority of low-income customers who are willing and able to purchase affordable jewellery products during a pandemic.

Limitations and Future Research Direction

Like any other research, this study has its limitations. The first is the region in which this study was conducted, namely Gauteng. Therefore, the findings of this study are not a true reflection of the consumer behaviour for the whole country during a pandemic. Future research on

this topic could focus on conducting similar studies in other provinces, thus reflecting different jewellery consumer behaviours. Another limitation was the sample size of 150; this number could be increased to provide a better idea of consumer behaviour, since quantitative studies consist of larger samples to obtain better generalisability of the results. As a result, future studies could test the research instrument among a larger sample size. Adopting a non-probability sampling approach means that there is a possibility that the population was not well represented, so perhaps future research could adopt probability sampling to obtain a more generalised outcome. Lastly, the study focused on only five variables derived from TPB; therefore, additional variables or integration of other behaviour theories could be tested to improve the predictive strength of the proposed conceptual model among the sample of interest, perhaps in a different cultural and regional environment.

Author Contributions

The author fully contributed to the production of this research article.
The author read and approved the ultimate manuscript.

Data Availability

Data is available upon request.

Compliance with Ethical Standards

Conflict of Interest

The author declares that there was no conflict of interest.

Ethical Approval

The article obtained ethical clearance from the University of South Africa (UNISA) Ethics Clearance Committee.

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Facilitating Ergonomics Awareness in a Workplace. A Case of the University of Venda, Limpopo Province

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Abstract

This paper examines the role of ergonomics in improving the production processes within the working environment, with particular reference to the University of Venda which is the institution of higher learning. Ergonomics is a way of designing workstations, work practices, and workflow to accommodate the capabilities of workers or is the scientific study of people at work. The literature review maintains that consideration of ergonomics design amongst employees reduces risk factors known to contribute to occupational ergonomic injuries and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs). An overall goal of ergonomics is to promote health and safety and to optimise productivity. The Department of Health has conceptualised. Ergonomics is transformative and developmental and addressing its principles, which are applied in a workplace through the design of workstations. The findings confirm that there is a relationship between office ergonomics and the effect on cognitive ergonomics. By applying ergonomics principles, organisations can create a safer and healthier workplace for their employees. A qualitative research approach was followed to explore the experiences, perceptions and insights of ergonomics awareness. Data analysed and measured the reliability of the implementation of knowledge of basic ergonomics principles for both

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workers and employers. The results will be presented in a narrative way. The findings of the study present the significance of ergonomics awareness between the employer and employee commitment to ergonomics principles. Drawing from key objectives and findings, including lessons learnt, the conclusion focuses on the fact that public entities and private consultants can provide customised presentations and training for groups and associations on ergonomics. Assumed results will lead to renewed governmental competencies to deliver services necessitating human resource management and healthcare.

Keywords: Ergonomics, facilitate, ergonomics awareness, workplace, higher education, institute.

Introduction

Ergonomics is a way of designing workstations, work practices, and workflow to accommodate the capabilities of workers or is the scientific study of people at work (Online Safety Trainer, 2020). O’Neil (2011) in his article “Office Ergonomic Standards; Layperson’s Guide” asserts that furniture designed using ergonomic principles can improve performance and reduce workplace injury. The National Safety Council in the USA established that on an average workday, ‘one million employees will be absent from work due to job stress’, whereas 86% of productivity problems reside in the work environments (Olabode, Adesanya & Bakare 2017). The work environment ergonomics affects the performance of employees (Olabode, Adesanya & Bakare 2017). The type of work environment in which employees operate determines how such enterprises prosper. Ergonomic design reduces risk factors known to contribute to occupational ergonomic injuries and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs). An overall goal of ergonomics is to promote health and safety and to optimise productivity. According to Cloete (2016), the rapid transformation of the public and private sectors has placed renewed emphasis on the employees in organisations to be capacitated with the required competencies to meet the ever-increasing demands of their communities. This, by implication, means that Ergonomics is transformative and developmental and addresses its principles, which are applied in a workplace through the design of workstations (Pheasant, 1992). As a result, Ergonomics should be managed well in terms of fitting the job to the worker and adapting the work environment to the needs of humans.

The University of Venda as an educational institution which focuses on imparting knowledge for the betterment of society. In South Africa, institutions of higher learning are not independent, they depend on the Ministry of Higher Learning, under the leadership of Dr Blade Nzimande (Mnisi, 2022). Under its existence, institutions are expected to be responsive to the Ministry's directives efficiently and effectively. The targets of enrolment, funding for students, and programme approval are the responsibilities of the Ministry. In this manner, the institutions are required to be responsive to national directives to enhance their productivity. On the other hand, the universities in South Africa operate within the framework of the digital economy, meaning institutions of higher learning need to leap-frog to embrace technology in their quest to pursue excellence (RSA, 2023). In this manner, institutions demand innovative, cost-effective, space-saving designs with an emphasis on people management in a diversely cultural society like that of the University of Venda.

The ergonomics awareness is a fundamental component of human resource management, which employers overlook. The RSA (1997) states that the effective management of human resource development activities and processes within both the public and the private sector has the potential to ensure that employers continue to deliver services to their communities in an efficient and effective way through awareness campaigns related to ergonomics. The problem in this regard has increased the rate and high cost of ergonomic injuries and illnesses such as carpal tunnel syndrome, Therefore, ergonomics cut across all industries and occupations. That is why Pearson (2020) argues that some of the hardest hits are the electronic, manufacturing, retail, and service industries, as highlighted in the following principles. These key principles of ergonomics include:

- Neutral posture: Maintaining a neutral posture helps to reduce stress on the muscles and joints. This means keeping the head upright, the shoulders relaxed, the spine in a straight line, and the elbows bent at a 90-degree angle;
- Minimizing repetitive movements: Repetitive movements can lead to muscle strain and fatigue. Ergonomics principles can help to reduce repetitive movements by designing tasks and workstations to allow for variation in movement;
- Providing adequate clearance: Workstations should be designed to provide adequate clearance for the worker's body and movements. This helps to reduce the risk of contact stress injuries, such as carpal tunnel syndrome, and

- Keeping tasks within easy reach: Tasks should be located within easy reach to minimise the need for stretching or twisting. This helps to reduce the risk of muscle strain and fatigue (Moore, 2011).

The above key principles also serve as key objectives of the study.

Literature

The Concept of Ergonomics

Ergonomics is quickly becoming a critical term in health and safety studies, and it is frequently used as an interdisciplinary concept (Middlesworth, 2023). Whenever there is a discussion about the concept of ergonomics, additional clarification should be provided depending on the context.

According to Buckenmaier (2023), the concept of ergonomics has recently been explored and adopted by various authors and studies focusing on designing workstations, work practices, and workflow. To accommodate the capabilities of workers. Ergonomics, therefore, becomes the scientific study of people at work. Ergonomic reduces risk factors known to contribute to occupational ergonomic injuries and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs).

Occupational Safety and Health Administration (OSHA Academy (2016) defines the word "ergonomics" as derived from Greek:

- "Ergo" means "work,"; and
- "Nomics" means "laws pertaining to, or measure."

Therefore, "Ergonomics is "the laws pertaining to work, the measure of work."

Similarly, Ergonomics is the science of fitting the job to the worker and adapting the work environment to the needs of humans. An overall goal of ergonomics is to promote health and safety and to optimise productivity. Thus, the study of ergonomics is a way to reduce human error(s) in the workplace. According to Koirala & Nepal (2022, p. 274), ergonomics is the study of how a worker interacts with his or her working environment. This includes the physical space in which a person works, as well as the tools and materials, work practices, and work structure, whether the person works alone or as part of a team. Also, Olobode, Adesanya & Bakare (2017) distinguished between three types of working environment ergonomics such as office ergonomics, employee cognitive

ergonomics and organisational ergonomics as defined by the International Ergonomics Association in 2017.

The office ergonomics considers workstation resources like computers, desks, chairs, lighting, noise level and room temperature. Employee cognitive ergonomics focuses on mental processes such as perceptions, attitudes, memory, reasoning, and motor responses (Motor responses are sometimes called physical ergonomics). Organisational ergonomics is the optimal utilisation of sociotechnical systems, looking at organisational structures like office space, policies and processes the organisation puts to create an enabling environment. The three components of ergonomics are interrelated as resources affect mental processes like attitude which in turn have negative effects on organizational ergonomics such as low morale or low productivity. Therefore, the concept of ergonomics, and work environment ergonomics will be used interchangeably. Having realised that ergonomics reduces risk factors known to contribute to occupational ergonomic injuries and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs). Ergonomics has its risk factors in the workplace, such as:

- Risk factors inherent in the worker;
- Risk factors inherent in the task; and
- Risk factors inherent in the environment (OSHA Academy, 2016).

The IOWA (1995) states that workers come in all shapes and sizes, each with unique attributes that present certain ergonomic risk factors to a given job. The task(s) of the job itself can present risk factors that increase the likelihood of an injury.

Finally, the workplace environment within which the worker and job exist may also contain exposures to risk factors. We will cover each of these risk factor categories in this course. Consequently, a question such as ‘Who is at risk?’ comes to the fore in terms of factors that increase the risk of an injury, i.e. risks for developing musculoskeletal disorders (MSDs); workers must:

- Repeat the same motion throughout their workday;
- Do their work in an awkward position;
- Use a great deal of force to perform their jobs;
- Repeatedly lift heavy objects or
- Face a combination of these risk factors (Middlesworth, 2023).

The level of risk depends on how long a worker is exposed to these conditions, how often they are exposed, and the level of exposure. Odebiyi & Okafor (2023) allude to the fact that applying ergonomic

principles to the workplace reduces the risk of MSDs, i.e., injuries to the muscles, tendons, ligaments, nerves and supporting tissues. Otherwise, when there is a mismatch between the physical requirements of the job and the physical capacity of the worker, work-related MSDs are also called workplace musculoskeletal disorders (WMSDs). In this manner, a working environment without ergonomic inputs has the potential for employees to develop musculoskeletal disorders (MSDs).

Korhan (2023) states that workers in many different industries and occupations can be exposed to risk factors such as lifting heavy items, bending, reaching overhead, pushing and pulling heavy loads, working in awkward body postures and performing the same or similar tasks repetitively. Exposure to these known risk factors for MSDs increases a worker's risk of injury. The MSDs represent a wide range of disorders that can differ in severity from mild periodic symptoms to severe chronic and debilitating conditions, such as:

- Carpal tunnel syndrome;
- Tendinitis;
- Osteoarthritis and rheumatoid arthritis;
- Fibromyalgia;
- Rotator cuff injuries (affects the shoulder);
- Epicondylitis (affects the elbow);
- Trigger finger;
- Muscle strains and low back injuries; and
- Factors contributing to MSDs (Korhan, 2023).

Therefore, contributing factors are aspects of work tasks that can lead to fatigue, MSD symptoms and injuries, or other types of problems. These factors may be present in one or more of the tasks employees must perform to accomplish their jobs. One has to be aware of the symptoms of WMSDs, which are pain, numbness, and tingling; reduced worker productivity; lost time from work; temporary or permanent disability; inability to perform job tasks; and an increase in workers' compensation costs.

Ergonomics and Employee Performance in the Institution of Higher Learning

Ergonomics is a strategy that helps institutions find and keep their best workers. Improved ergonomics makes employees work better and less likely to miss work or quit (Koirala & Nepal, 2022, p. 284). Ergonomics considers employees' physical, mental, social, organisational, and

environmental factors when designing the workplace, jobs, products, environment, and systems to make sure they fit their needs, abilities, and limitations (Akinbola & Popoola, 2019). Ahmadi, Tavassoli & Ahmadi (2015) attest that ergonomics improves human health and a system's overall performance using theory, principles, data, and techniques. It is a scientific system that focuses on how people interact with other parts of a system. Ergonomics is a way to organise work so that tools are easy for employees and ensures that the work environment is good for them, leading to more work done (Mihartescu, Negrut, & Misca, 2021).

Therefore, the performance of employees can be improved if the workplace is designed with ergonomics in mind. Better education is needed in the institution of higher learning to understand how improving the work environment can help increase productivity. When the institution gives its employees a better place to work, their health improves, making them more productive and reducing the company's healthcare costs (Al-Omari & Okasheh, 2017). Workplace ergonomics is a broad science that looks at many things that can affect a worker's comfort and health, such as lighting, noise, temperature, vibration, heavy lifting, repetitive motion, workstation design, tool design, machine design, chair design, and shoe design, among others (Koirala & Nepal, 2022 p. 283). Talking about performance means what needs to be done and how it can be done. It is important to think about physical factors, people, work design, and social issues in building work environments.

Koirala & Nepal (2022, p. 283) further indicate that poorly designed work environments can greatly affect how well workers do their jobs and how happy they are, which in turn affects how much they produce.

The physical working environment greatly impacts how well and happy employees do their jobs. Good ergonomics, workers' health and safety could be improved, leading to more work (Ahmadi, Tavassoli & Ahmadi, 2015). To adapt to this change in ergonomics, management must include direct worker participation and awareness in designing workplaces (Dimberg, Laestadius, Ross, & Dimberg, 2015). For institutions of higher learning to meet ergonomics standards, they need to use the most up-to-date technology to make sure employees are comfortable. Regular training in the workplace can help employees learn how they can make a big difference in ergonomics (Pickson, Bannerman & Ahwireng, 2017). Therefore, accessing and improving workplace ergonomics could boost employee performance and productivity while reducing burnout, absenteeism, and turnover rates.

Ergonomics is often associated with the individual's needs, capabilities and limitations against any work done or equipment used. Worker injuries and their subsequent costs, both direct and indirect, often are the result of some problem with the interface between a worker and a machine system. According to Muin & Sapri (2013), ergonomics is divided into physical, cognitive, and organisational ergonomics.

Figure1. Ergonomics structure

Physical Ergonomic	Working posture, materials handling, repetitive movements, work related musculoskeletal disorders, workplace layout, safety and health of employees
Cognitive Ergonomic	Mental workload, ability to make decisions, skilled performance, human reliability, work stress and training.
Organisational Ergonomic	Communication, work design, design of working times, teamwork, community ergonomics, cooperative work, and equality management.

Source: Muin & Sapri (2013)

Ergonomics plays an important role in ensuring the capacity and capability of individuals in a workplace. Since it helps to improve the working environment so that people can work comfortably and use the minimum amount of energy properly and efficiently. The discipline of ergonomics focuses on understanding the interaction between humans and systems, which involves all the people around, whether in or outside their workplace environment (Karwowski, 2005).

Ergonomics Elements in the Working Environment

Providing an ergonomic working environment increases the workers' productivity and the organisation's reputation (Muin & Sapri, 2013). An ergonomic working environment is important to minimize stress (Miles, 2000). Since lighting, sound, vibration, and temperature can influence job

quality and human error while doing their tasks (Mustafa, 2007). The equipment modification to suit employees in doing their jobs can minimize illness and give them more comfort, which leads to increased productivity (Wicken, Lee, Liao & Becker, 2004)

Benefits of Ergonomics at the Workplace

According to the Occupational Safety and Health Association of Australia (OSHA) (2012), some ergonomic benefits can be obtained directly and indirectly identified in studies by previous researchers. The direct benefits are reduced litigation costs, reduced sick pay costs, lower injury and illness costs, reduced product and material damage and improved productivity rates. The indirect benefits are; improved job morale, reduced staff turnover, reduced absenteeism, improved corporate image and improved chances of winning contacts.

This provision shows that ergonomics is important, and it becomes the responsibility of the employer (institutions) to ensure that ergonomics is implemented to ensure a safe and healthy working environment is available to employees. Muin and Sapri (2013) insist that Ergonomics promotion and training should be done at every organization in a way that implements ergonomics efficiently.

Methodology

Research Design

The paper adopted qualitative research methodology and exploratory as there are limited or lack of studies about creating awareness of the role of ergonomic and its effect on productivity to investigate ergonomics awareness in a workplace at the University of Venda in Limpopo province.

Participants

Purposive sampling was adopted to select 12 participants from a list of 26 staff members of the University of Venda. The purposive sampling was used, and 12 participants were selected to complete the questionnaires by virtue of by designation in various structures, the roles they play in their working stations and their experience of the subject matter. Participants who were sampled were staff members who readily

were available at work and willing to participate in the study as others were committed in the university businesses. The sample consisted of 6 males and 6 females. The total number of participants was 12. All 12 participants were in the age of 25-30 category. 5 participants were in the age of 25 and 26 whereas 7 were at the age of 27 and 30 of age. The participants were administrators and middle managers of the University of Venda.

Data Collection Procedure

An open-ended questionnaire was appropriate to collect data as the paper adopted qualitative research design. The questionnaire comprises of two sections. Section 1 was the biographical data of the participants whereas section 2 comprises of open-ended questions pertaining issues such as ergonomics awareness, occupational ergonomic injuries, and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs). The questionnaire was pretested by 7 students before the actual data was collected. The questionnaire was pretested to assist to improve the quality of questions in this study. The questionnaire was developed based on the research objectives. The questions were developed based on the main research questions. The researchers distributed the questionnaires to the relevant participants to complete and return on the stipulated period. Writing pens were also distributed to assist the participants to complete the questionnaires. The participants were informed to complete the consent form prior completing the questionnaire.

Data Analysis

Content analysis was used to analyse data in this paper. Du Plooy-Celliers emphasised that content analysis entails a stringent and orderly set of measures or processes that are to ensure rigorous analysis, examination, and verifications of the contents of the written data. The narratives were read several times to identify units of meaning and common patterns.

Results

This paper found out that despite the University of Venda having policies such as Workman Compensation and the People Management Strategy, the level of knowledge on the importance of ergonomics is still low. The institutions of higher learning should be aware of the importance of

ergonomics and its relationship to productivity. The Wellness Unit at the University of Venda focused more on physical fitness with less regard to the holistic approach towards ensuring job satisfaction through the design of the workstation as enabling mechanisms for efficient and effective processes. Although the People Management Strategy puts the human factor at the centre of the University's productivity, the challenge is that the Strategy is silent about the role of ergonomics and its impact on human capital. This has led the University's employees and decision-makers not to tap into the benefits of ergonomic design and its effect on individual performance. The researcher, through systematic observations over the years, witnessed that unawareness of ergonomic design as part of the planning, contributed to some of the factors of staff turnover.

The employees experienced a high employee burnout due to physical strain, and injuries due to posture problems. Universities are highly prone to digital technology which requires long hours of sitting and operating computers. For example, most of the academic staff due to workload had undergone eye operations, wear glasses, living with strained wrists and painful spines. During marking time, some lecturers wear neck support material or admitted to hospital. The challenge is that staff members know that ergonomics design is the cause but sweep this under the carpet without reporting it to the Department of Human Resource for the employer to be aware.

Some of administrative employees, due to the high volume of work, spend long hours seated and are laid off due to sicknesses, to an extent of being admitted in hospitals. The consequence of not taking cognisance to the impact of ergonomics in working environment is less productivity, high staff turnover and low staff morale.

The Department of Health has conceptualized Ergonomics as being transformative and developmental and addressing its principles, which are applied in a workplace through the design of workstations. Ergonomics is the science of fitting the job to the worker and adapting the work environment to the needs of the communities and this is necessary. Although due to the ushering of technology, the ergonomic condition of the work system seems improving, but not according to the expectations of the employees. Most employees still need to expand their knowledge about work ergonomics, and this is supported by Žabińska (2020). The managers at institutions of higher learning must be aware that any office provisions (including furniture fittings, level of noise, workstations, lighting, temperature etc.) that make employees uncomfortable in the short or long period, can affect productivity.

Ergonomics design is necessary in the working environment as it increases employee productivity and reduces physical and mental stress. Also, it is beneficial in improving employees' productivity as well as job satisfaction. It also reduces costs, improves employees' engagement with job responsibilities and improves quality services, whereas poor ergonomics promote frustrations. Lack of awareness of ergonomics design results in negative consequences on health, poor ergonomic practices influence injuries and illnesses such as musculoskeletal disorders, carpal tunnel syndrome and eye strain.

Discussions

The following strategies are recommended to improve the awareness of ergonomics input into the University's human capital strategy:

Training

Literature review and systematic observation from researchers confirm that employers' workplace health promotion (WHP) interventions make an important contribution to employee wellbeing. Employee health or well-being is linked to ergonomic concerns. Institutions of higher learning should ensure educational awareness for employees to acquire knowledge and skills towards the importance of organising their workstations for optimal performance. Job satisfaction is regarded as one of the employee motivators and should embrace the design of workstations to enable the flow of processes.

South African Broadcasting Corporation (SABC) Programme, Moja Love channel 157 dated 11 February 2024, covered the topic of "factors that cause the work environment to be toxic". Inadequacy of ergonomics was cited as one of the contributory factors. A medical practitioner who was interviewed confirmed that she had seen people who had injuries, musculoskeletal disorders, and chronic headaches amongst others. Faisting & Sato (2019) supports the aforementioned view that work-related musculoskeletal disorders are associated with awkward postures, excessive force, manual material handling and repetitive movements. Employers must ensure that ergonomics is implemented to ensure a safe and healthy working environment for the employees.

Leadership

A competent leader must conduct a workplace risk assessment, with the consideration of the ergonomic risks of the workplace. Employees must undergo on-entry medical, a prodical and an existing medical. Du Toit *et al.*, (2013, p.181) view that the ability of managers to be sensitive to personnel needs is particularly important in changing circumstances like institutions of higher learning where employees are prone to diversity of knowledge which acquire the totality concentration of the employee as well as operation. The leader should include ergonomics in the risk register as there is a relationship between job satisfaction and physical and mental health. The challenge is that in some institutions, risk management is defined in terms of institutional governance with its external environment, with less consideration of internal factors in realising their vision and mission.

Procurement Management

Procurement management is at the focal point of ergonomics. Managers in procurement must give opportunity to end-users such as academics, administrators, and service workers to come up with plans for organizing their workstations. Du Toit, *et al* (2013); (maintains that the process of procuring goods and services is part of planning, organizing, directing, coordinating and control of all activities related to procuring materials and services from suppliers to achieve the objectives of the institution. For example, holistic data capturing is another area that increases the workload of academics and administrators, as such, workstation ergonomics should be designed in a manner that allows flexibility and operations. Olabode, Adesanya & Bakare (2017) referred to a case study where the University of Lagos bought uniform furniture in a bid to reduce costs without consulting the end-users and found out employees have to adjust their postures in search of comfort. The University of Venda, after installing refurbished offices to augment space, went into a procurement spree of buying uniform furniture which was of poor quality. Some of the desks bent and fallen which result in uncomfotability of employees and reduces the level of commitment.

Integration of Human Element into Work Design

According to Mello (2014), “strategic values are no longer built around product or services, but around human capital”. This implies that the

management should know that people define the character of organizational performance through work processes which require quality implementation of ergonomic design. The human capital strategy, like the University of Venda's People Management Strategy (UNIVEN People Management Strategy), should consider how tasks are carried out to achieve optimal productivity. The vision, mission, and management strategic planning require the human office to carry out activities to achieve the intended result. In this manner, the resource allocation should take cognizance of the assets required to perform the tasks. Mello (2014) contends that resources are key to organizational effectiveness, which means that inadequacy of resources is a challenge towards an individual's ability to accomplish tasks effectively and efficiently. Inadequacy of resources puts pressure on the person who has responsibility for the task.

Conclusions

The ergonomic condition of the work system is improving, but it is still not satisfactory since most employees still need to gain or expand knowledge about work ergonomics. Therefore, ergonomics is designing things better, or integrating better work methods, work practices, and equipment with humans. Institutions of higher education need to be aware of the value of ergonomics for their competitive advantage and how it impacts health, safety, and the overhaul of organizational productivity. Both employees and employers should acquire knowledge and skills through training on the awareness of ergonomics and its effects. The University should invest in office ergonomics for the benefit of employee's health and morale.

Acknowledgement

I would like to extend my gratitude and appreciation to the following people that contributed significantly to the completion of paper:

- Dr S.T. Matloga;
- Dr P Lavhelani; and
- Dr A Singo

Their continuous academic guidance, constructive criticisms, motivation, perseverance and positivism throughout is competent. They have the zeal and expertise towards putting together a scientific document. In view thereof, a positive attitude emerges always when in a team spirit and work.

Declaration

I declare, as a corresponding author that this paper has been composed all the mentioned authors and that it has not been submitted, in whole or in part, in any paper. Except where states otherwise by reference or acknowledgment, the work presented is entirely our own.

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Making a Career in Politics: The Dangers of Officialdoms' Personalization of the South African Public Administration

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Abstract

Although engaging in a political career can be fulfilling and influential, it is not without its set of difficulties and possible risks in South African public administration. The objective of this paper is to critically analyze and critique the dangers of public servants' decorum in personalizing South African public administration. It thus, argues that the current crop of the officialdoms have a tendency of personalizing their positions in government through political arrangements. Since the dawn of democracy from 1994 to date (2024) some political heads of the governing party are still in public administration only because they "fought for freedom". Yet, it is the same individuals who are collapsing the state. Because of the tendency of personalizing public administration, officialdoms frequently encounter public skepticism and lack of confidence. The belief that politicians prioritize personal benefits or party objectives at the expense of their constituents' well-being can undermine public trust and creating challenges in implementing substantial changes. Personalizing public administration to individual needs and preferences may concentrate on specific requirements rather than tackling broader systemic problems impacting the poor and proletariat. This approach might impede the administration's capacity to confront urgent societal issues (particularly service delivery). This is exacerbated by political infiltration in public administration wherein political deployment becomes the order of the day by the governing party. This is a conceptual paper which has relied on critical analysis of literature to achieve its objectives. It has adopted a CDA to give the gist, meaning and suggestions to the reviewed literature. This paper reveals that the dangers of making a career in politics is that it tends to weaken the provision of

basic services, perpetuate corruption, violate ethical principles and undermines the rule of law. It recommends that the merit system of personnel should supersede politics and top the agenda in government for effective service provision.

Keywords: corruption; officialdom; politics; service provision; South Africa.

Introduction

In the modern-day politics in South Africa, being an official in government requires one to be a comrade. Be a comrade who is able to chant slogans of the struggle and be close to those with power, thus, it will be easy to get into government offices. Hence, one could infer that public administration has been intruded and marred with hegemony of comrades rather than building agglomerate public sector. There is no manual labour required when one is a comrade, the only thing that is required is being an orator and a public speaker. However, the danger of making a career in politics and personalizing positions in public administration is that there is no job security. Meaning that political power is temporary in public administration. This perception of personalization is widely held and leads to the concentration of political power in the hands of a select few leaders (Balmas, Rahat, Sheaffer & Shenhav, 2014).

Personalization in public administration refers to the amplification of the leader's personal occupations within a specific department, such as the cabinet or a political party and it is very prominent at the local sphere of government (Balmas et al., 2014; McAllister, 2015). Meanwhile, Pedersen and Rahat (2021) indicate that personalization of public administration will hurt democracy because it will inject irrational decisions, promote populist decorum and put more emphasis on personal charisma rather than public administration. It is very clear that comrades make a career in politics which paves a way to government positions. This paper discusses making a career in politics and the unfortunate behaviour of personalizing public administration in South Africa.

The personalization of the South African public administration presents considerable risks for individuals aspiring to pursue a career in politics. This occurrence pertains to the liking of government officials to prioritize their own personal interests and agendas above the well-being

of the citizens they are entrusted to serve (Wauters, 2024). Such a trend can have adverse consequences on the effectiveness, transparency, and responsibility of the public administration framework (Wauters, 2024). When officials give precedence to their personal gains and ambitions, it detrimentally impacts the overall functionality of the public administration. Decisions may be influenced by personal affiliations or loyalties rather than being based on merit or the best interests of the public (Wauters, Bouteca & De Vet, 2021). Therefore, this can result in corruption, favoritism, and an absence of impartiality in the distribution of resources and opportunities. Against this background, this paper argues that there is a growing tendency of comrades who want to make a career in politics and thereby personalize public administration, such is reflected in the growing number of political parties in the country, including independent candidate. currently the country has recorded 356 parties registered for 2024 general election (Boonzaaier, 2024). At the center personalization of public administration is cadre deployment which will be discussed in literature to support its support its arguments.

Aim of the Paper

This paper aims to examine how the current crop of leaders in politics attempt to make a career in politics by infiltrating and personalizing public administration to fulfil their needs.

Problem Statement

Public administration and politics are not a new subject phenomenon; it has been subject of discussion throughout the world which is highly contested in literature by scholars. Hence, literature is replete with public administration and politics and the relationship between public administration and politics has been linked in length through a discussion on how politics may influence the functioning of public administration. However, what is not discussed or perhaps there is a little discussion (if any) on how comrades in the current space of public administration seek to make a career in politics. What prompted this paper is because there is currently growing interest of comrades who want to ascend to the positions of authority in public administration simply because they are comrades and wish to make a career out of that without considering the merit system of personnel in public administration. Moreover, making a

career in politics affects the functioning of public administration because personalization of public administration is likely to occur, ethical challenges may arise, corruption and other challenges such as conflict of interest factorises buy cadre deployment also come into the picture undermining the voice of section 195 of the Constitution 1996. The paper aims to explore this research gap that the syndrome of making a career in politics leads to the weakening of public administration. The paper aims to explore the research gap that suggests the syndrome of pursuing a career in politics leads to the weakening of public administration.

Methods and Materials

This paper adopted a literature-based methodology to analyse the subject under investigation. In other words, this is a theoretical paper. It has collected its data through the perusal of literature. In essence, it has utilized secondary sources which were accessed through literature review. Secondary sources included published materials such as journal articles, books, government reports and publications and other internet sources. These materials enabled the researcher to understand the concepts used in the paper and therefore, make some suggestive inferences. It has employed a Critical Discourse Analysis (CDA) in order to give meaning to the established themes under the literature review section. Mullet, (2018: 116) understands CDA as “a qualitative analytical approach for critically describing, interpreting, and explaining the ways in which discourses construct, maintain, and legitimize social inequalities”.

Literature Review

Challenges of Making a Career in Politics and Public Administration

Ethical Dilemmas

Those who believe that ethics cannot be taught argue that ethics involves interdisciplinary nature and therefore, many other subjects must also be taught, such as sociology, philosophy, psychology and others (Puii, 2015). Trevino and Nelson (2011) understand that the problem of teaching ethics not just in schools, but also at the institutional level. So, the authors appreciate that employers have a responsibility to teach their

employees how to recognize ethical dilemmas and problems and learn how to deal with them. Same applies to government institutions wherein, the officialdom ought to be taught ethical principles by the National School of Government (NSG). The challenge in government over the recent years is that the officialdom may infringe some ethical principles and get away with it, without consequences, or punishment of some sort. Therefore, consequent management appears to be weak in South African public administration. Hence, Gildenhuys (2004) recognizes that the most significant concerns in the public administration are corruption and maladministration. Puiu (2015) contends that the actual issue in ethics management is not a lack of appropriate tools or instruments that leaders should use in their organizations to avoid or mitigate unethical behaviour, but rather a lack of sufficient communication and distribution of these mechanisms. However, through observations in public administration, the challenge is not communication, it is simply ignorance and arrogance of public officials who violate ethical principles for their own selfish interests and to a larger extent personalize their positions of service.

A constitutional principle of public administration in South Africa is that “a high standard of professional and ethics must be promoted and maintained” (The Constitution of the Republic of South Africa, 1996). Sebola (2018) thus, indicates that this being a fundamental norm implies that not only government institutions, but also municipalities, public bodies, and businesses doing business with the government, must function on strong ethical moral basis. On the same breath Mital’ (2016) opines that implementing ethical and moral values may strengthen, stabilize, and protect our fragile democratic society. As a result of their unfamiliarity and frustration with public administration ethics, Buye (2021: 1) shows that public officials are becoming more immoral than ever before. Be that as it may be, Jorasia (2023: 453) proffers that “ethical challenges in public administration encompass a wide range of issues, including corruption, nepotism, favouritism, and conflicts of interest in the context of Jammu, a region in India. These challenges can erode public trust, hinder effective decision-making, and compromise the overall integrity of public institutions”. These are the same challenges that haunt the South African public administration.

Undermining Meritocratic System of Personnel for Party and Personal Interests

Understanding the concept of meritocracy is critical to comprehending the myriad issues and disputes regarding this ideology. Meritocracy is a

system of government in which people are honoured and given promotions based on their capabilities, skills, and diligent work as opposed to their social status, income, or connections (Sethi, & Somanathan, 2023). It is frequently regarded as an ideal that encourages justice, equal opportunity, and social mobility (Geromichalos & Kospentaris, 2022). This permits the finest and brightest people to climb to positions of influence and authority, resulting in a more effective and prosperous country. Of course, the system is without some critics. Hence, critics claim that this weakens social cohesiveness, perpetuate elitism and fosters dissatisfaction and animosity among those who are excluded from the meritocratic class (Mijs & Savage, 2020; Moreira & Pérez, 2022). Be that as it may be, in the context of this paper, meritocracy system is undermined in South African public administration because of cadre deployment policy of the ANC. The use of cadres in South Africa has been morally linked to "partialism," "nepotism," "political meddling," "favouritism," "cronyism," and "partisanship" by the governing party which is the ANC (Swanepoel, 2022).

Because of this cadre deployment policy, Swanepoel (2022) reckons that the government grants financial favours to people, businesses, and organizations based not on their qualifications but rather on their affiliation with the ruling party. Clearly, this cadre deployment policy seeks to enrich the comrades of the ANC and their alliance partners, thereby circumventing the merit system. The cadre deployment weakens the functioning of public administration in South Africa because the unprecedented, alarming levels of corruption, incompetence and poor service delivery are all offspring of cadre deployment. The deployment mechanism is also linked to political patronage which have some negative repercussions on the functioning of public administration. The consequences of bias and political patronage in government can be far-reaching. Hence, Gallo and Lewis (2012) insist that political patronage, which involves appointing individuals to government positions based on their political support rather than merit, can lead to a lack of expertise and experience in key roles, potentially resulting in lower government's performance.

Weakening Accountability

Accountability, or the idea of holding governments accountable for their deeds, is at the core of any decent government. In contemporary political discourse and among scholars examining political structures, accountability has emerged as a fashionable term. In South Africa, there

is no shortage of mechanisms and legislations aim to salvage dire and unfortunate behaviours of the officialdom in terms of fostering accountability. All the spheres of government have forest and nests of legislations that aim to uproot high levels of corruption and other unethical decorum. Public accountability is still a catchphrase and is undoubtedly not taken seriously by anyone, especially municipal officials, in spite of these actions and measures. This is amply demonstrated by the recent protest marches conducted nationwide by the local populace in opposition to inadequate service delivery (Sikakane & Reddy, 2009). There is a sense that weakening accountability leads to complications in service delivery poor service delivery. In the context of this paper, the tendency of the officialdom thinking that they own positions in public administration, forgetting that they occupy the positions of honour and privilege is tantamount to “intellectual adolescent thinking behaviour” which is inconsistent, unstable, haunts and violates the processes of accountability. To recapitulate on the purpose of this paper, making a career in politics and personalizing public administration is susceptible to weakening accountability processes.

Ineffectiveness and Inefficiency is Service Delivery Provision

A career in politics and personalizing public administration can result in a number of problems when it comes to providing services. These problems include inefficient human resources, which can lead to poor communication services provided by the government, ignorance of benefit eligibility, and inadequate service delivery. Public servants are often judged more critically by the public when it comes to providing public services, and corruption, poor management, a lack of resources, and a lack of transparency can all lead to inefficiency and ineffectiveness (Van den Bekerom, Van der Voet & Christensen, 2021). Personal attachment to public administration is dangerous because it erodes the legitimate functioning of public administration. Hence, Oliveros (2016) shows that since public administration and service delivery are reliant on individual efforts about what and how to provide services to the public, personal relationships are frequently seen as obstacles to task completion. For example, Oliveros (2016) demonstrates that mayors in Argentina have considerable authority to add or remove individuals from a food assistance program's beneficiary list. This is the peril of “making it personal” because it excludes certain group of people when it comes to service delivery provision. South Africa is no exception, because Masiya, Davids and Mangai (2019:20) find that the “dissatisfaction with service

delivery is influenced by factors such as perceptions of relative deprivation and inequality, unfulfilled political promises, uneven access to services, provision of substandard services and high levels of poverty including disparities which emanate from the post-apartheid regime”.

Making Public Administration “Friends Like These”

“Friends like these”, a popular phrase that characterizes the current public administration in South Africa, has brought the government under siege. The phrase is oiled by political patronage, cadre deployment and clientelism, which seek to erode the legitimate functioning of public administration (Oliveros, 2016). It is only through personal connections that facilitates certain functions done for personal interests. It is vital to remember that although friendship has been hailed as an example of cooperation despite political differences, interpersonal ties should not serve as the exclusive foundation for decision-making in public administration. Because conflicts of interest arising from personal relationships can make it challenging to remain impartial and objective in the execution of public duties. Meanwhile, Ball and Gibson (2024) indicate that dependence on personal connections may result in decisions being made behind closed doors without enough supervision, which can also lead to a lack of accountability and transparency. There is a sense in which “friends like these” behaviour weakens the functioning of public administration. Makgoba (2023: 109) characterize the culture of ANC individuals as the parcel of eating together, frenzy and sharing the gravy train.

Perpetuation of Weakening Public Administration due to Egoistic Decorum

The enthusiasm experienced in South Africa following independence was promptly subdued as a result of the continued deterioration of public administration. Since the advent of democracy, delivering adequate public service has been an issue of discomfort (Schoeman & Chakwizira, 2023; Lamb, 2021). The South African public sector has been encroached by debacles ranging from incompetent workforces and conflict of interest. This has questioned the authenticity of public sector on lack of institutional capacity (The conversation, 2022; Mazzucato, Qobo & Katte, 2022). The ANC inability to execute their own land policy according Xaba and Akinola (2023), has contributed to their reputation

for exploiting state and economic resources through black capitalism (Mlambo, 2023). While only the minority of the population lives comfortably compared to the larger population. Reflecting true highest income inequality in the society in terms of wealth distribution in the world (Joseph, 2023; Tshishonga, 2019). Following the collapse of state-owned entities and unending service delivery protests has led to the South African public sector exhibiting signs and symptoms of a failed state (Boraine, 2014). However, the secretary general of the ANC Fikile Mbalula has strongly disputed the allegation (BBC Africa, 2023).

Heyhood (2013), accentuates that the implementation of new public administration as the modus operation is that it permitted the expansion of patronage from ministers and thus results in the centralisation of political authority. That enabled politicians to run public administration like the honchos of their own houses, negating the voice of section 195 of the Constitution of South Africa 1996. This resulted in raising the bar on corrupt practices, including swindling state funds, implicating politicians in state capture, managing irregular tenders, and engaging in fraud, especially in local government. The ANC government has been campaigning on an anti-corruption commitment (De Klerk & Solomon, 2019). However, the Ramaphosa's administration has failed to curb corruption (Mlambo, Mubecua & Mlambo, 2023). In addition, as correctly observed by Patel and Govindasamy, (2021), numbers unveil that during Ramaphosa's tenure as president, corruption has escalated. Might this apprehension stem from the potential loss of their authority and impact, given that their positions will be jeopardized upon the ousting of the ANC and the absence of an alternative employment plan? Consequently, they are engaging in increased acts of theft to guarantee their sustenance through illicitly acquired resources.

This is necessitated by the inability to impose consequences management on public officials accused of corrupt activities. Undoubtedly, the ANC has undermined the integrity of public administration through their unethical habit of soliciting public resources without proper authorisation. The purpose of public administration and management is to support service delivery effectively and efficiently, while also promoting the establishment of a transparent and ethical administration (Sofyani, Riyadh & Fahlevi, 2020; Farazmand, 2023). When the government of ANC took over in 1994, it has instilled optimism for socio-economic transformation and effective governance, particularly benefiting those who were historically marginalized. Counting 30 years of serving the country, the ANC government has failed to satisfy its constituency. Public organizations are currently struggling

to fully comprehend the optimal relationship between administration and politics to achieve their defined goals (Ndudula, 2013).

Ideally, the goal was to replace the inequalities established by the apartheid regime with proficient public services (Twala & Lues, 2017). In contrast, Cameron (2009) contends that the adoption of new public management reforms has transformed service delivery into a commodity, with individuals being perceived as customers. Since a significant portion of ANC supporters are black, they face increasing poverty, joblessness, and insecurity. Communities find themselves compelled to express their concerns through violent demonstrations before obtaining basic services.

The fact remains that the public service has not demonstrated evidence of effective governance (Thusi, & Selepe, 2023). The magnitude collapse of municipalities and government entities has been centred of debate and much drawn attention to local and global context. The weakening of public administration is characterised by ranging from corruption, slow economic growth, high unemployment, loadshedding and collapse of state entity (Shava, 2023; Mathebula, & Masiya, 2022; Tleane, 2020).

In case of improving those problems, the public administration continues to deepen to extend where it is now impossible to rescue it under the single party system. Public administration bears the brunt of being labelled failed state (Strydom, & Bradley, 2020). The fundamental constitutional changes implemented post-1994 through the adoption of the new Constitution in 1996 aimed at enhancing democracy, primarily due to the failure of a considerable number of individuals in the public service to uphold the human rights principles embedded within it (Tshandu & Kariuki, 2010).

The constituency on the ground feel betrayed when only few enjoy democracy, while the majority are left dependent on social grants and drugs. Ramaphosa's administration focus is on preventing corruption and ensure effective governance (Mahlala, Juta, Chigova & Zweni, 2023). Additionally, working towards prioritizing economic growth, employing various initiatives to diminish unemployment, poverty, and socioeconomic inequality and enhancing education and healthcare while striving to unite a society that is divided along socioeconomic, geographical, and racial lines (Cook, 2020). Focus should be applied to the commitments of building capable public services as alluded by the president Ramaphosa, rather than blaming the delay to launch total transformation on the government of iron fist, despite taking in to account the traumatic historic event of the country.

Dangers of Cadre Deployment and Personalizing Public Administration

The personalization of public administration in South Africa is a tangible reality, not merely a fragment of imagination. Politicians have turned public administration into their playground, wounding public service by personalizing it for their own gain. South African public sector is heavily politicized and dominated by the ANC comrades, who bear the brunt of weakening the normative values and foundation of public administration through nepotism and unethical interference. Mehlape (2018) asserts that the public sector consists of both political figures and administrators, emphasizing the need for collaborative and mutual efforts to advance the collective well-being of all citizens. A multidisciplinary approach is vital in ensuring that sound public policies are promulgated and implemented. However, the well-executed policy by the ANC is cadre deployment, which has done nothing besides hurting the day-to-day functioning of public administration by enabling politicians to have prolonged stays in government positions.

Cadre deployment is not a new phenomenon in South Africa as it was inherited from the crushed apartheid government. The ruling party embraced cadre deployment policy as a framework to strategically position devoted party members in roles aimed at implementing government policies and program imperatives (Bless, 2023; Mlambo, 2023; Tshishonga, 2014). The primary goal of cadre deployment is to protect the new government from potential sabotage by opposition parties (Shava & Chamisa, 2018). According to Hartley (2011), as cited by Shava and Chamisa (2018), this form of political patronage, executed through state appointments, has led to poor performances both within government institutions and at the national level. Politicians has now made cadre deployment the promise land of milk and honey. This, in turn, leads to maladministration, tarnishing the image of the public sector and worsening service delivery.

The public sector is infiltrated by political office bearers who are elected by their party to occupy positions of power and influence (Mbandlwa, 2023). Through cadre deployment the leadership of ANC has failed to build the capacity of the government and often deviates from the core values and principles guiding public administration despite being the architects of these principles. Furthermore, they continue to endorse individuals who have profited from colonialism, apartheid, and capitalism.

This statement is supported by Noxolo Kiviet, the former Minister of Public Service and Administration, who disclosed that numerous officials in government departments are engaged in business with the state (The Africa, 2023). Ramaphosa, in his statement in 2023, asserted that corruption is fundamentally damaging democracy (Department of Public Services and Public Administration, 2023). The commitment of the current ruling party to establish a professional, ethical, and competent public service has been compromised by practices such as patronage and cronyism, inadequate training leading to skills shortages, suboptimal governance performance, and a lack of transparency and accountability. Cadre deployment is identified as one of the factors contributing significantly to the widespread corruption and theft that has become ordinary in the South African public sector (Swanepoel, 2022). The approach which cadre deployment is implemented in the South African public service has eroded the government's ability to enhance the quality-of-service delivery and necessitates a thorough reassessment (Kaizer, 2022).

Swanepoel (2022), suggests that the root causes of inadequate service delivery lie in entrenched nepotism, blatant politicization, and the hiring of unqualified personnel. Stealing becomes uncomplicated in a dysfunctional environment, as ANC comrades perpetuate the protection of their colleagues from unethical behaviour in municipalities. Consequently, this leads the collapse of municipalities due to inability to approve budget as attributed by corruption, thus facilitate intervention. Many municipalities are coerced to be placed under section 139 of the Constitution of South Africa 1996 (Auditor General of South Africa, 2023; Madumo, & Koma, 2019). The adoption of cadre deployment in South African democracy has facilitated the overlooking of meritocracy. People who are not trained and qualified to performed in position of power in government are absorbed because of their loyalty to the party not the skills and best interest of the public (Mlambo, Zubane, & Thusi, 2022). This has motivated individuals to become members of political parties, as they perceived chances for employment and the potential to misappropriate public resources. As alluded by Maserumule (2022), a professional public service optimises state efficiency through the promotion of meritocracy, which involves employing the most intelligent, highly qualified, and competent personnel with a strong ethical orientation.

Public administration in South Africa is widely recognized for the recycling of politicians from one position of power to another at various level of government. These politicians are appointed to strategic positions

without proper qualifications and interfere in the day-to-day functioning of the public sector (Mlambo, 2023). The practice of ethics and moral standard is totally ignored by political office bearer. The vision of building a better life for all has been substituted by nepotism, also known as 'connections'. Hope, trust, and solidarity have been replaced by the reigning self-enrichment, corruption, and mismanagement. The practice of cadre deployment not only demolished effective governance but also promoted political assassinations, specifically targeting individuals deployed to influential positions within the government ranks, particularly in local government. The idea of personalization of the South African Public Administration and making a career out of politics emanates from this policy. Even though it was adopted with a clear vision, it got distorted due to the abuse by politicians. This abuse is observed in a rapidly growing number of political parties in the country, where its initial purpose has been defiled. As reported by SABC (2023), The Democratic Alliance (DA) has recently initiated legal proceedings challenging the cadre deployment policy, seeking its reversal from implementation. This move is driven by concerns about the policy's tendency to exacerbate and undermine the effectiveness of public administration.

All economic activities are concentrating within municipal districts, therefore, the alarming dysfunctional in public sector has repels rather than attract business, (Business Leadership SA, 2022). Most municipalities struggle to establish robust local economic development due to issues of maladministration. According to Mlambo (2023), a surge in corruption, insufficient service delivery, subpar performance, and a diminishing political impact have failed to yield positive outcomes for grassroots communities. This can be attributed to the presence of inept individuals, a lack of qualifications, corruption, an excessive focus on tenders, preferential treatment for political allies, and a deficiency in managerial foresight at the local government level. Despite political self-interest, it is imperative to enable meritocracy to govern public service without political interference in administrative affairs. Furthermore, prioritizing service delivery and good governance, as outlined in the 1996 Constitution, is crucial for the well-being of the citizenry.

Politics-Administration Dichotomy

The interference of politics in public administration could be viewed as a 'crime scene'. The champion of public administration Woodrow Wilson, in his writings about politics and administration

(1817), believes that the substitution of politics for administration would reject stormy governance, based on the notion that government should be run like a business. Mixing politics and administration bears no thrilling outcome; instead, it stirs a conflict of interest, leading to concerns in public service, such as awarding tenders to undeserving friends and family. Wilson's statement, "Government should be run like a business," opened up loopholes for capitalist exploitation of the government (Rosenbloom, Kravchuk, & Clerkin, 2022; Kim, 2021). The calamitous conduct of politicians in administration has negatively impacted public services in terms of service delivery (Mlambo & Masuku, 2020). Politicians in higher hierarchy are known for pilfering public goods, where lip services become common practices, and consequences management fails to manifest for those held accountable.

Woodrow Wilson's framework presented one of the initial notions of checks and balances, a prevailing mechanism of democratic accountability designed to alleviate mismanagement within public services (Cook, 2000). As outlined by Venter (2000), cited by Mehlape (2018), there exists an interconnected yet separate relationship between politics and public administration. Adetiba (2020) reinforces this perspective by endorsing the idea that the separation of powers principle signifies a political system in which the three branches of government (legislature, executive, and judiciary) operate independently while remaining subject to checks and balances imposed by one another. The difference between the two concepts can remain unnoticed, but both aim to ensure service delivery to the public. Politics and administration are inherently complex, with elected politicians creating laws, and administrators tasked with policy implementation (Nyadera & Islam, 2020; Sager, Rosser, Ladner & Sager, 2022). Sager et al. (2022), believe that a dichotomy exists within the executive to distinguish between the level of political control and the level of operational control. In the words of Okhonmina and Ogbuagu (2022) Woodrow Wilson acknowledges that absolute separation of politics and administration is not possible; however, keeping public administration free from the ills of politics and institutionalizing the practice of effective administration is essential.

This system of political dichotomy has often been non-prevalent in public service. Despite the ANC advocating for good governance since 1994, the realization of good governance remains elusive. Politicians continue to interfere with the administration's agenda (Quah, 2021). As indicated by the Auditor General, the public service is entangled in a thorny and ineffective service delivery system led to an annual decline in municipal performance (News 24, 2023). Service delivery is politicized,

with politicians utilizing public resources to promote their parties and shield party members from the unethical conduct. Political dichotomies promote clear hierarchies of reporting lines and accountability, and further minimize the creation of career opportunities out of politics.

Unpalatable and Unprecedented State of Corruption in Public Administration: The Consequences of Personalizing Public Administration

Corruption has reached a state of calamity in South Africa. It has reached a point where it is uncontrollable and has been normalized in South African public administration. The question is: what happened to the taboos, values and principles governing public administration? Is it true that certain cadres who are at times referred to as “bishops” of political factions have destroyed, weakened and reduced public administration into their own personal families? If this is the case, then, the country is in peril of collapse. Selelo and Masenya (2021) characterize the state of corruption in South Africa as “looting”. Tengtenga and Soyoyo (2020) further indicate that this level of corruption impedes development.

It is unfortunate circumstances that the level of corruption has become so pervasive such that even the law enforcement agencies which are supposed to uproot corruption are now party to corruption. Law enforcement agencies such as the South African Police Service (SAPS) and the Justice System have become so weak and susceptible to malicious acts of corruption. To corroborate the aforementioned assertions, Nortje (2023) shows that between 2012 and 2019, more than 1 440 corruption cases by police officials were reported to Corruption Watch. The author further stipulates that two Limpopo police officers were charged for allegedly taking a bribe of R15 000 to make a docket disappear. Professor Omphemetse Sibanda asks a question: Why pay a lawyer when you can buy the judge?

In essence, Sibanda (2020) characterizes the state of corruption within the judicial system as a threat to democracy. One example of notorious corruption which transpired in the judiciary recently, is a case of the Western Cape concerning Judge President Hlope who has been excused from his position because he allegedly tried to influence a verdict that was presided over by justice Nkhabinde and Justice Jafta in a case of French armaments company Thint (Gumede, 2022). However, there are many instances of corruption in the public service, however, the paper brings to the attention of the reader that such instances at times occur because of attempting to personalize public institutions. Once, one is

involved in corrupt acts, then, that person will do everything in the power to camouflage their corruption.

Conclusions

This paper believes that to journey towards curbing the personalization of public administration, strengthening of the framework overseeing cadre deployment in South Africa is essential. These austerity measures will impede the arbitrary deployment of individuals into critical government positions. The legislative structure should give precedence to superior qualifications, competency, and a robust ethical orientation, prioritizing these factors over the duration of years served within the political party. Rather than being deployed, politicians should be recruited and appointed on a merit basis to guarantee optimal performance. This strategy seeks to prevent them from attributing their poor performance to the constraints of a limited five-year tenure, considered inadequate for the fulfilment of satisfactory tasks. It is important to build and harness conducive public sector through echoing the condition of accountability to remedy the ongoing debacles.

Evidently, the government that operates based on friendships often leads to the departure of politicians from the ruling party to form their own political entities during disputes. This phenomenon underscores that politicians have turned politics into a lasting source of employment, remaining without sustainable income whenever they lose favour. The prevailing context suggests that politics is primarily about power, lacking a genuine commitment to serve the public wholeheartedly. It is challenging for the people to have faith in the government's structure when the administration is personalised and grapples to address issues such as high unemployment, crime, and poverty, and citizens do not receive meaningful services. Neglected streets, water shortages and the absence of clinics in villages contribute to public discontent, prompting both revolt and a growing reliance on self-sufficiency for survival. Just as politicians exploit public resources for personal gain. The South African public administration needs to adopt different approaches to advance leadership and public service delivery.

In the words of St. Augustine of Hippo, an unjust law is not law at all. This assertion is contested within the South African context, prompting civil society organizations to take to the streets and protest the consistent violation of the rule of law by political office bearers. The prevalence of corruption is not a camouflage; rather, it is highly notable,

as individuals in all spheres of existence desire to adopt it for survival, compelled by the actions of politicians. Contributing to a deficit in good governance and ethical leadership in the South African public sector. Instead of serving the public interest, the impetus of cadre deployment is geared towards self-enrichment, failing to strengthen the capabilities of the developmental state and fostering socio-economic transformation. Despite its bad records, the ANC continues to defend and justify cadre deployment. Loyalty over competency has been favoured, negating the reality of service delivery on the ground. Preferring loyalty over competency erodes the quality of public administration and democracy, as power becomes centralized, depriving voters of their voice. Public administration appears to be in the brink of collapse as individuals lack the qualifications to implement government policies are assigned crucial responsibilities. The nation continues to reference the 'nine wasted years' under former President Jacob Zuma, with these challenges persisting in the South African administration. Apparently, it appears that they fail to draw lessons from historical events.

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Constructing the Paradigms and Principles of Information Systems Resilience

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Abstract

Resilient Information Systems (RIS) are pivotal in ensuring uninterrupted functionality during crises while facilitating organisational objectives. The motivation for this research originates from the lack of literature detailing the resilience of information systems (IS). The goal is to apply an IT service management lens to elucidate the underlying principles of IS resilience. A systematic literature review was conducted to analyse various forms of literature that highlighted IS resilience concepts and theories supporting resilience within other business sectors and disciplines. The PRISMA framework guided the analysis of recurring keywords and concepts to identify principles and paradigms for constructing IS resilience. The analysis yielded results allocated to two levels of business: strategic and operational levels of IS resilience. Three paradigms emerged within the strategic level of IS resilience: availability, continuity, and security. At the operational level of IS resilience, four principles were constructed: ICT engineering and analysis, information security and risk management, technology and resilience, and information ecosystem. The findings have significant implications for understanding that IS Resilience can be achieved by addressing the three paradigms on a strategic level before applying the four principles of IS resilience on an operational level. Real-world applications include medium to large-scale organisations using these paradigms and principles

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to evolve their current IS infrastructure to cater to fewer incidents and increased productivity. By leveraging continuous service delivery mechanisms, organisations can fortify their systems against disruptions, ensuring sustained functionality and alignment with overarching business objectives.

Keywords: resilience; resilience engineering; information systems resilience; systematic literature review; PRISMA.

Introduction

Within the realm of Information Systems (IS), growth is constant. And with this growth, varying levels of complexities arise, such as IS disruptions and failures. IS disruptions and failures often originate from human, process, and technology dimensions (Nuru Aisyah Sim et al., 2014). Resilience is a proposed solution to addressing IS disruptions and failures. Resilient Information System (RIS) is a philosophy that stems from the design of the overall IS architecture catering to business continuity and ensuring IS are operational and able to defend themselves against threats (Heeks & Ospina, 2019). Defined as the ability of an organisation to maintain service levels during and after a crisis, resilience aids in combating IS disruptions and adapting to them by focusing on specific areas of awareness, protection, discovery, preparedness, recovery, review, and improvement (Continuity central, 2016). Hosseini et al. (2016) defined IS resilience by describing four characteristics: withstand, maintain, recover, and adapt. A caveat is that IS resilience can be developed by reflecting on how it is conceptualised within other domains, such as the organisational environment (Harsanto & Firmansyah, 2023), supply chain (Gu et al., 2021; Juan et al., 2022), and geographic information systems (Mir et al., 2022).

A mechanism for addressing and implementing IS resilience in practice is the information technology (IT) service management (Mora et al., 2024). ITSM involves a set of structured processes and best practices aimed at delivering high-quality IT services (MacLean & Titah, 2023) and ensuring the efficient and effective delivery of IT services to support organisational operations (Nuru Aisyah Sim et al., 2014). Widiyanto & Subriadi (2021) and MacLean & Titah (2023) assert that the main purpose of implementing ITSM is to accomplish enhanced performance and high service quality. Specifically, Nuru Aisyah Sim et al. (2014) emphasise the importance of stable and uninterrupted IT services for public service agencies responsible for providing essential services to

citizens. ITSM is a logical lens through which to elucidate IS resilience as it provides context and foundations for IS-related information and processes. Furthermore, the ITSM lens assists with conceptualising the paradigms (assumptions and beliefs) and principles (guidelines) of IS resilience within an operational environment. This research aims to apply an IT service management lens to elucidate the underlying principles of IS resilience. The following research questions are posed:

- RQ1. What are the paradigms for IS resilience within an organisational operations context?
- RQ2. What are the principles underpinning the paradigms of IS resilience?

Background and Research Context

MacLean & Titah (2023) emphasised four key aspects of ITSM: improved alignment and enhanced contributions, increased efficiency on both customer and supplier lanes of the organisation, improved productivity, and increased transparency. ITSM enhances the alignment of IT resources with both present and future customer requirements, thereby resulting in increased contributions of these resources to business processes and operations. Serrano et al. (2021) share this notion and highlight the benefit of alignment, by stating that ITSM was developed to concentrate on IT operations and drive focus towards the management and delivery of IT services. The effects encompass heightened productivity, transparency, customer focus, control, and enhanced customer satisfaction and IT service responsiveness. These outcomes can ultimately culminate in enhanced organisational performance. ITSM enhances cost-effectiveness in providing IT services by boosting productivity by enhancing service quality. This idea is further emphasised by Wan & Chan (2008), who state that by ITSM prioritising service quality based on business objectives and user importance, customer satisfaction is improved further. ITSM can also enhance the clarity of IT function operations. Defining processes monitored by automated systems offers management enhanced insight into daily IT activities, fostering greater transparency. Additionally, ITSM facilitates increased visibility of IT operations to other business units and external customers. Increased transparency can also aid in business continuity planning, a process requiring much analysed information. The process includes multiple stages of analysis, the first being identifying products and services of the organisation (Wan & Chan, 2008); this is relatively simple if management

and other individuals involved are fully aware of daily IT activities and operations.

Resilience is a known subject with multiple definitions sharing similar concepts. Hosseini et al. (2016) argue that resilient IS can withstand disturbances, recover from disruptions, and adapt to unpredictable changes, while simultaneously maintaining functionality. This is constructed through reflection on other domains. Table 1 provides an overview of resilience definitions and characteristics within other domains.

Table 1. Resilience domains

Domain	Definition	Characteristic	Limitation	Reference
Organisational	An organisation's ability to continue operating during and post-crisis	Dynamic interaction between the organisation and its environment	Does not acknowledge the role of digital resources despite their importance in responding to shock.	(Harsanto & Firmansyah, 2023)
Supply Chain	The ability of the SC to recover and maintain the continuity of material, information, and cash flow in the presence of supply chain disruptions	The model has five dimensions: visibility, velocity, flexibility, robustness, and collaboration.	Not much research was conducted around internal resilience, mainly external resilience	(Gu et al., 2021; Juan et al., 2022)
Geographic	Maintain system performance in the	Geographical Information system	Much of the challenges faced stem from typical	(Mir et al., 2022)

	presence of fault, and recover from a crisis in the minimum possible time while maximizing availability by minimising downtime	(GIS) with large amount of geospatial data.	IT aspects: distributed infrastructure, data management, communication latency and system scalability	
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Central elements that emerge from Table 1 include information, systems, processes, and people. These elements form the daily operations of the IS, where *systems*, and *people*, use *processes* that require *information* (David-Simanoff, 2023). Each domain of resilience requires information for various tasks not to mention survival. Regarding organisational resilience, disaster recovery planning, and continuity planning are contributors but rely on information to exist (Harsanto & Firmansyah, 2023). For supply chain resilience, the first dimension, visibility, details the ability of the supply chain to collect and share operational information (Juan et al., 2022). Geographic resilience details a distributed infrastructure that requires information to enable its fog computing capabilities (Mir et al., 2022). ITSM is known for efficient information management and can provide facilities for sharing/using this information (Bigelow, 2023).

ITSM does not explicitly administer or implement specific systems. However, it can provide services to monitor and track issues that arise. Mir et al. (2022) stated that anti-fragility and resilience work hand-in-hand to recover in the minimum possible time. ITSM frameworks can keep track of every incident that occurs and allow for improvements that can strengthen procedures and prevent reoccurrences.

The main processes of ITSM include change, asset, project, knowledge, incident and problem management (Bigelow, 2023). These processes aid an organisation with its daily IS operations. Within the resilience context, change and knowledge management are explicitly discussed for organisational resilience (Harsanto & Firmansyah, 2023). While project management is prevalent for organisational and geographic

information system resilience (Harsanto & Firmansyah, 2023; (Mir et al., 2022), it is surprising that project management is not explicit with supply chain resilience (Gu et al., 2021; Juan et al., 2022). The remaining management practices are prevalent in the three resilience domains depicted in Table 1, which implies they are imperative regardless of the resilience domain.

The people element cannot be ignored as it plays a pivotal role across all disciplines. People perspectives can be interpreted from two directions: within the IT function and outside the IT function (MacLean & Titah, 2023). Within the IT function, delivering high service quality requires transparency and robust control mechanisms supporting customer orientation for ITSM (MacLean & Titah, 2023; Mora et al., 2024). Outside the IT function, client satisfaction and responsiveness are paramount (Serrano et al., 2021). The challenge is the emphasis placed on priority within an organisation's (Iden & Eikebrokk, 2013). For example, prioritising service support implies customer satisfaction and production stability, while prioritising service delivery emphasises economic benefits.

ITSM contextualises the information, systems, processes and people elements required to realise IS resilience. Hypothetically applying resilience concepts from other domains to IS resilience implies specific attention must be paid to conceptualising resilience within the IS context. However, IS resilience has no clear definition regarding the assumptions and beliefs underpinning it. This would translate into determining the paradigms for realising IS resilience as a paradigm poses the assumptions and beliefs the embody a concept. Establishing IS resilience paradigms is not enough as the practical implementation of the concept should be directed by principles. Principles would provide the guidelines for realising IS resilience in an organisational operational environment. This research aims to apply an IT service management lens to elucidate the underlying principles of IS resilience.

Research Methodology

A systematic literature review (SLR) using secondary data (journals, articles, conference papers) as the source of research and analysis was utilised due to its effectiveness in synthesising and evaluating existing research to inform decision-making, theory development, and the advancement of knowledge within various academic disciplines. SLRs assist in assessing and mapping existing knowledge to gaps surrounding

specific concepts to develop and contribute to the knowledge base (Mengist et al., 2020).

There are multiple secondary data sources when conducting a SLR, including, Scopus, Elsevier, Science Direct, MDPI Open Access Journals, and IEEE Xplore. Scopus was used for this research and the SLR methodology followed a similar approach outlined by Mengist et al. (2020).

1. SLR methodology step 1

In this step the most challenging task is determining research (Mengist et al., 2020), by looking back at the environment and requirements of ITSM. We noticed that ITSM frameworks require specific IS architectures and infrastructures to be implemented successfully, and focusing on the continuity aspect of ITSM, the scope included ITSM resilience within an IS.

2. SLR methodology step 2

Step 2 involved designing the search strategy. The following keywords served as domains and guided the retrieval of literature: “Information”, “System”, “Resilience”, ”IS ”, ”Continuity”, ”Infrastructure”, ”Architecture”, and “ITSM” which stemmed from an architecture and infrastructure perspective. The search strategy followed 3 stages, Stage 1: Basic Search, Stage 2: Conditional Search strings with AND operator, Stage 3: Exhaustive conditional search string containing AND operator, and varying combinations of keywords, with various inclusion and exclusion criteria. The following search strategy was developed to ensure specificity was being applied to the search. Table 2 illustrates the three-stage search strategy.

Table 2. Keywords and operators for search strategy

Keywords and operators
Stage 1: Basic Search
Information”, “System”, “Resilience”, ”IS ”, ” Continuity”, ”Infrastructure”, ”Architecture”, and “ITSM”
Stage 2: Conditional Search strings with AND operator
“Information AND System AND Resilience”, “Information AND System AND Architecture AND Resilience”, “Information AND System AND Infrastructure AND Resilience”, “ITSM AND Infrastructure AND Resilience”, “ITSM AND Architecture AND Resilience”.
Stage 3: Exhaustive conditional search string containing AND operator, and varying combination of keywords
“Information AND System AND Resilience AND Continuity”, “ITSM AND Resilience AND Architecture AND Continuity”, “Information AND System AND Infrastructure AND Continuity”, ” Information AND System AND Architecture AND Resilience AND Continuity”, ” Information AND System AND Infrastructure AND Resilience AND Continuity”, ” ITSM AND IS AND Infrastructure AND Resilience AND Continuity”.

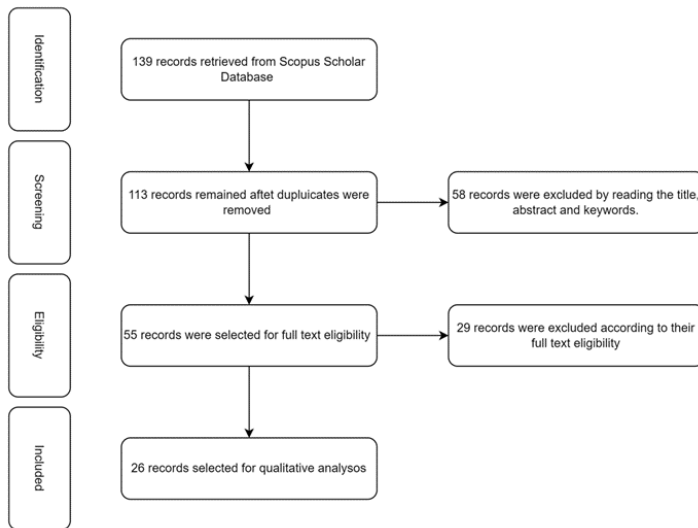
3. SLR methodology step 3

This stage involved evaluating the articles that met the inclusion and exclusion criteria, using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. Mengist et al. (2020) utilised a similar approach however they did not mention of the name of the approach. PRISMA has been widely used, in approximately 200 journals and systematic reviews, and evidence from observational studies suggests that PRISMA is associated with more complete reporting of systematic reviews (Page et al., 2021).

Illustrated in Figure 1, the first stage identifies the total number of records (literature) retrieved from database searches and removes ineligible and duplicate records. The next stage is the screening phase, which involves indicating what records have been retrieved, and screened, and what will be eligible for the

study. The final stage involves defining the total number of initial and new studies. A total of 139 records were retrieved from the Scopus database, after duplicates were removed there was a total of 113 records. Upon initial screening, 55 records were selected by reading the title, abstract, and keywords. The number of records was reduced by approximately 47%. The 26 articles were analysed using the analysis tool VoS Viewer to assess themes and patterns that could potentially exist.

Figure 1. PRISMA diagram



The first screening started with 113 records and it was clear that not all articles met the inclusion criteria. Many focused on resilience as a minor advantage, whereas more focus was placed on cost savings and no IS systems. A noticeable discovery was that although “Information” and “System” were included in the title, the authors did not focus on Information System architecture and infrastructure. Instead, they saw Information Systems as the process of transferring information between individuals.

Second screening focused on the abstract and keywords. The total records decreased from 113 to 55. 58 records were removed due to their focus being resilience within tools, in the healthcare sector (15 records), and the agriculture sector (10 records). Thirty-three records highlighted resilience within the abstract and keyword section but did not document how to explicitly achieve it. The articles documented resilience as a by-product of keeping the system running through organisational and supply chain continuity.

The final screening included an eligibility screening, the next reduction that occurred involved removing records that only contained resilience within the abstract and keyword section. After an in-depth screening, it was discovered that the word “resilience” and its concept were not addressed afterward, it was placed in the introduction to notify that resilience can be achieved but is not the primary result desired. Twenty-six Records were eligible for inclusion as illustrated in Table 3.

Table 3. Eligible literature

Authors	Title	Source journal	Research method	Citation count (Scopus 27 04 2024)
Rioli L., Savicki V. (2003)	Information system organizational resilience	Omega	Qualitative	129
Lukas L. (2015)	Risk management in military mobile communications	International Journal of Mathematics and Computers in Simulation	Quantitative	0
Andergassen R., Nardini F., Ricottilli M. (2015)	Emergence and Resilience in a Model of Innovation and Network Formation	Networks and Spatial Economics	Quantitative	7
O’Kelly M.E. (2015)	Network Hub Structure and Resilience	Networks and Spatial Economics	Qualitative	57
Teodorescu H.-N., Pickl S.W. (2016)	Computing and optimizing the index of resilience of networks and information systems	Romanian Journal of Information Science and Technology	Quantitative	2

<p>Fernandes S., Tareco E. (2016)</p>	<p>Health information systems as quality indicators. A review of approach levels [Sistemas de informação como indicadores de qualidade na saúde. Uma revisão de níveis de abordagem]</p>	<p>RISTI - Revista Iberica de Sistemas e Tecnologias de Informacao</p>	<p>Quantitative</p>	<p>6</p>
<p>Winarno I., Okamoto T., Hata Y., Ishida Y. (2016)</p>	<p>A resilient server based on virtualisation with a self-repair network model</p>	<p>International Journal of Innovative Computing, Information and Control</p>	<p>Quantitative</p>	<p>7</p>
<p>Azadeh A., Foroozan H., Ashjari B., Motevali H., Haghighi S., Yazdanparast R., Saber M., Torki Nejad M. (2016)</p>	<p>Performance assessment and optimisation of a large information system by combined customer relationship management and resilience engineering: a mathematical programming approach</p>	<p>Enterprise Information Systems</p>	<p>Quantitative</p>	<p>8</p>

Bernus P., Goranson T., Gøtze J., Jensen-Waud A., Kandjani H., Molina A., Noran O., Rabelo R.J., Romero D., Saha P., Turner P. (2016)	Enterprise engineering and management at the crossroads	Computers in Industry	Qualitativ e	39
Azadeh A., Salehi V., Salehi R. (2017)	A resilience- based model for performance evaluation of information systems: the case of a gas company	Enterprise Information Systems	Quantitati ve	5
Chronopoulos M., Panaousis E., Grossklags J. (2017)	An Options Approach to Cybersecurity Investment	IEEE Access	Quantitati ve	26
Vieru D., Rivard S. (2018)	The Resilience of Pre-Merger Fields of Practice During Post- Merger Information Systems Development	International Journal of Technology and Human Interaction	Qualitativ e	2
Hamid N., Chang V., Walters R.J.,	A Multi-core architecture for a hybrid	Computers and Electrical Engineering	Quantitati ve	5

Wills G.B. (2018)	information system			
Fraile F., Tagawa T., Poler R., Ortiz A. (2018)	Trustworthy Industrial iot Gateways for Interoperability Platforms and Ecosystems	IEEE Internet of Things Journal	Qualitative	47
Templier M., Paré G. (2018)	Transparency in literature reviews: an assessment of reporting practices across review types and genres in top IS journals	European Journal of Information Systems	Qualitative	107
Idrees A.M., El Seddawy A.I., El Moaaz M. (2019)	A proposed mining based business continuity information system for educational institutes	Journal of Computer Science	Quantitative	4
Draĝoicea M., Léonard M., Ciolofan S.N., Militaru G. (2019)	Managing Data, Information, and Technology in Cyber Physical Systems: Public Safety as a Service and its Systems	IEEE Access	Quantitative	6

Heeks R., Ospina A.V. (2019)	Conceptualising the link between information systems and resilience: A developing country field study	Information Systems Journal	Quantitative	81
Annarelli A., Nonino F., Palombi G. (2020)	Understanding the management of cyber resilient systems	Computers and Industrial Engineering	Quantitative	32
Fertier A., Martin G., Barthe- Delanoë A.- M., Lesbegueries J., Montarnal A., Truptil S., Bénaben F., Salatgé N. (2021)	Managing events to improve situation awareness and resilience in a supply chain	Computers in Industry	Quantitative	11
Floetgen R.J., Strauss J., Weking J., Hein A., Urmetzner F., Böhm M., Krcmar H. (2021)	Introducing platform ecosystem resilience: leveraging mobility platforms and their ecosystems for the new normal during COVID-19	European Journal of Information Systems	Quantitative	70
Mir T.S., Liaqat H.B.,	Antifragile and Resilient	Sensors	Quantitative	0

Kiren T., Sana M.U., Alvarez R.M., Miró Y., Pascual Barrera A.E., Ashraf I. (2022)	Geographical Information System Service Delivery in Fog Computing			
Papaioannou P., Antoniadis R., Assimakopoulos N. (2022)	Organisational resilience through the adaptation of process-aware information systems – a System Dynamics approach	International Journal of Applied Systemic Studies	Quantitative	0
Spring J.M. (2023)	An analysis of how many undiscovered vulnerabilities remain in information systems	Computers and Security	Quantitative	1
Nakash M., Bouhnik D. (2023)	The influence of covid-19 on employees' use of organisational information systems	Interdisciplinary Journal of Information, Knowledge, and Management	Quantitative	0

Characteristics of Selected Studies

The selected sources were selected from 2 periods, 2015 to 2019 and from 69.2% of the records, 2020 and 2023, and 30.8% of records, 2003 was included as well, as it was the earliest evidence of IS organisational resilience. The domains of resilience appear within articles between 2003 and 2023. Between 2015 and 2019, most articles came from 2016

Clusters of Resilience

Cluster one includes computer architecture, data envelopment analysis, information management, sensitivity analysis, and resilience engineering.

Computer Architecture

Involves designing hardware systems that can withstand failures. Techniques include redundancy, fault tolerance, and error correction mechanisms. Spring (2023) hints at design faults resulting in vulnerabilities. Annarelli et al. (2020), approach computer architecture from a separate perspective, and focus on technologies that aid in enhancing cyber resilience, such as intrusion detection systems, security information and event management (SIEM) tools, and encryption. Idrees et al. (2019) present a detailed architecture for the Business Continuity Information System (BCIS), comprising of data collection modules, data preprocessing, data mining, risk assessment, and decision support components. It emphasizes the integration of real-time data feeds to enable proactive risk management.

Data Envelopment Analysis

A technique used to assess the relative efficiency of different units or entities, Spring (2023) suggests utilising “Program Verification”, to analyse properties of software at the build stage to assess security vulnerabilities. Papaioannou et al.(2022) propose another type of analysis including the framework “Event Management Framework”, where event analysis can assess the significance and potential consequences of detected events, considering their impact on various aspects of the supply chain. Draǒoicea et al.(2019) highlight the importance of real-time analytics in making informed decisions and optimizing public safety services. Various data processing techniques and algorithms are discussed in detail.

Information Management

Each article utilises information for all of the various tasks that they highlight, Spring (2023) references the National Vulnerability Database (NVD), where logs such as intrusion detection system (IDS) logs are housed and used for vulnerability response. Lukas (2015) refers to IoT

devices as the administrator of the supply chain to track the movement of goods, present information surrounding it, and ease the other administrative actions associated with the supply chain.

Sensitivity Analysis

Identifies how variations in inputs affect system outputs. Sensitivity analysis can enhance resilience by analysing how changes in various parameters affect system performance. Papaioannou P. et al. (2022) implement this approach by designing the system dynamic methodology to allow for simulations of complex dynamic systems, simulations can provide multiple scenarios where different inputs can be applied to validate the effect on the system and its outputs.

Resilience Engineering

An effective method to enhance resilience within the IS, is to design process-aware information systems (PAIS). PAIS is a type of IS that is specifically designed to support and manage an organisation's business processes and can be critical in enhancing an organisation's adaptability and resilience (Papaioannou et al, 2022). Papaioannou et al. (2022) describe "System Dynamics", a methodology, that allows for the simulation of complex dynamic systems, making it suitable for studying how changes in PAIS impact resilience over time.

Cluster two includes cyber and network security, risk assessment, and uncertainty analysis.

Cyber and Network Security

Security operations should include vulnerability detection in daily tasks to detect illicit vulnerability responses, which in turn mitigates/remediates risks due to consistent detection (Spring 2023). Annarelli et al. (2020) promote cyber resilience from a "planning" perspective. They discuss the importance of incident response plans, business continuity plans, and disaster recovery plans while maintaining employee awareness training to strengthen an organisation's cyber resilience.

Risk Assessment

Annarelli et al. (2020) stress that risk management should be an ongoing process to adapt to the evolving threat landscape, and conducting

comprehensive risk assessments to identify vulnerabilities and potential threats is imperative.

Uncertainty Analysis

Spring (2023) does not address uncertainty analysis directly, but does highlight its existence within the cybersecurity landscape, in the research Spring (2023) discusses various factors that contribute to the uncertainty of vulnerability, such as unknown vulnerabilities, complexity of software systems, and the dynamic threat landscape.

Cluster three includes COVID-19, organisational, information systems and computer networks.

COVID-19

Served as an accelerating force for remote work, some argue that the crisis appeared as an incentive to shift the organisational perspective to a more digital one, namely Digital Transformation (Nakash & Bouhnik, 2023). Weber & Hacker(2021) emphasise COVID-19's impact on uncertainty and sensitivity analysis, the discussions surrounding resilience in IS inherently involve considering uncertainty and sensitivity of various factors affecting organisational responses to disruptions.

Organisational Resilience

Papaioannou et al. (2022) highlight that organisational resilience is increasing in importance to due to the rapidly changing environment. The organisation in every record is impacted by challenges and solutions, from Weber & Hacker(2021) discussing uncertainty and sensitivity to Nakash & Bouhnik (2023) emphasising the contribution of information as a strategic asset for decision-making in the organisation.

Information Systems

Papaioannou et al. (2022) discuss the role of technology and tools within the IS, such as supply chain management software, sensors, data analytics, and artificial intelligence, in enabling better event management, situation awareness, and resilience. The platform described by Fraile et al.(2018) is housed within the Information System.

Computer Networks

Fraille et al.(2018) discuss a relatively new platform, named virtual factory open operating system(vf-OS). Within the vf-OS, interoperability mechanisms are implemented. These mechanisms are made of input-output components that have been designed to interact with physical devices and business software applications.

Cluster four includes knowledge management, information use, and external shocks.

Knowledge Management

Information use can also benefit future experts through proper knowledge management procedures such as the preservation of information to build expertise as well as encourage innovation through knowledge and information sharing (Nakash & Bouhnik, 2023).

Information Use

Information is seen as a strategic asset for decision making and performance improvement, this revelation indicates that effective solutions are required to effectively handle, store and present it (Nakash & Bouhnik, 2023). Within records from Papaioannou et al. (2022) and Annarelli et al. (2020), information is emphasised heavily for role within planning and data analytics

External Shocks

Mir et al. (2022) emphasise anti-fragility cooperation with resilience to combat unforeseen shocks by preventing it in the first place, to ensure that the fog computing system is operational throughout the crisis. *COVID-19* served as one of the largest external shocks, impacting every organisation and IS (Nakash & Bouhnik, 2023)

Strategising Resilience: Paradigms for Enhancing IT Infrastructure

At the strategic level, three themes emerged: *Availability*, *Continuity*, *Security*. IT is an essential component of a firm's business-level strategy, as business success is connected to IT as it directly impacts the avenues by which companies generate and retain value to achieve profitability

(Drnevich & Croson, 2013). Hermawan et al., (2021) described *Availability* of information technology as the facilitation of accessing IT resources at all times. Results indicated that IT availability positively influences computer efficacy, the ability of a user when interacting with computers to accomplish tasks. Bajgoric (2006) described *Continuity* from a business continuance perspective stating that business continuance is ability of the organisation to continue operating throughout a disaster. Denning, (2003) approached *Security* from cyber security perspective and documented how cyber-attacks can impede IT availability and continuity. Table 4 provides an overview of the mapping of clusters to paradigms and principles.

Table 4. IS resilience cluster mapping to paradigms and principles

Paradigm	Cluster	Cluster element	Principles
Availability	1	Data Envelopment Analysis	1. Enhancing IT Resilience through Architecture and Information Management 2. Strengthening Cybersecurity and Risk Assessment 4. Leveraging Information and Knowledge Management for Resilience
	1	Sensitivity Analysis	
	2	Risk Assessment	
	2	Uncertainty Analysis	
	4	Knowledge Management	
	4	Information Use	
Continuity	1	Computer Architecture,	1. Enhancing IT Resilience through Architecture and Information Management 3. Adapting IT Resilience to Organisational Challenges and Technological Shifts
	1	Cyber and network security	
	3	Computer Networks	
	4	External Shocks	
Security	2	Cyber and network security	4. Leveraging Information and Knowledge Management for Resilience

	2	Risk assessment	
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Operationalising Resilience: Principles for Enhancing IT Infrastructure

Principle 1: Enhancing IT Resilience through Architecture and Information Management

In addressing the multifaceted challenges of modern IT infrastructure, operationalising resilience requires a comprehensive understanding of principles and strategies across various domains. This paper explores the operational aspects of IT resilience by analysing key scholarly articles. By examining the principles and strategies outlined in these articles, we aim to elucidate how different operational clusters contribute to enhancing the resilience of IT systems. Through an exploration of cybersecurity risk assessment methods, system architecture design, organisational adaptability, and information management techniques, this study delves into the foundational principles and practical strategies that underpin the operationalisation of IT resilience (Chen & Zhao, 2018; Zhang & Chen, 2018; Dasaklis & Tsiatsos, 2019; Zhao & Wang, 2018; Solaimani et al., 2019; Wang et al., 2018; Jiang & Liu, 2019; Tang et al., 2019). Zhang & Chen (2018) discuss cybersecurity risk assessment methods, which are essential for identifying vulnerabilities and enhancing IT resilience through informed decision-making about system architecture and information management. Zhang & Chen (2018) investigate cyber-physical system architecture and reliability analysis, which are fundamental aspects of IT infrastructure design aimed at ensuring resilience and robustness in the face of operational challenges.

Principle 2: Strengthening Cybersecurity and Risk Assessment

Dasaklis & Tsiatsos (2019) propose a game theoretic approach to mitigate DDoS attacks, addressing cybersecurity threats and enhancing resilience in cloud computing environments through proactive risk management. Zhao & Wang (2018) focus on cybersecurity risk assessment methods for power information systems, providing insights into evaluating and mitigating risks using attack trees and fuzzy analytic hierarchy process, which is relevant to Cluster 2's emphasis on risk assessment.

Principle 3: Adapting IT Resilience to Organisational Challenges and Technological Shifts

Solaimani et al. (2019) propose an algorithm for virtualised network function placement, addressing organisational challenges in software-defined data centers and enhancing resilience through efficient resource allocation and management. Wang et al.(2018) present a framework of resilience engineering for smart grids, offering insights into how organisations can adapt to technological shifts and enhance IT resilience to ensure reliable and sustainable operation of critical infrastructure.

Principle 4: Leveraging Information and Knowledge Management for Resilience

Jiang & Liu (2019) and Tang et al. (2019) discuss cybersecurity risk management techniques for networked control systems, emphasising the importance of leveraging information and knowledge management strategies to enhance resilience against cyber threats. Tang et al.(2019) present an insider threat detection model based on deep belief networks in cloud computing, highlighting the significance of information management and analytics in identifying and mitigating insider risks, which is relevant to Cluster 4's focus on leveraging information for resilience.

Based on the extensive research and analysis presented in the document, several implications and conclusions emerge regarding the paradigms and principles of information systems resilience.

Implications and Conclusions

Firstly, it is evident that achieving resilience in information systems requires a multifaceted approach that integrates various domains, including cybersecurity, risk assessment, organizational adaptability, and technological innovation. By synthesizing insights from scholarly articles across different clusters, organizations can develop holistic strategies to enhance their resilience in the face of evolving threats and disruptions.

Secondly, the COVID-19 pandemic has underscored the importance of organizational resilience and the role of information systems in facilitating remote work and digital transformation. The crisis has accelerated the adoption of resilient practices and highlighted the need for agile and adaptive IT infrastructure to withstand external shocks.

Moreover, the integration of IT service management frameworks, such as COBIT and ITIL, can provide organizations with structured approaches to manage and enhance their IT resilience. By adopting best practices in service delivery, risk management, and business continuity, organizations can build robust IT systems capable of maintaining operations in the face of adversity.

Additionally, the research emphasizes the significance of leveraging emerging technologies, such as cloud computing, IoT, and artificial intelligence, to bolster information systems resilience. These technologies offer opportunities to improve situational awareness, automate response processes, and optimize resource allocation, thereby enhancing the overall resilience of IT infrastructure.

The paradigms and principles outlined in the research paper provide valuable insights into the operationalization of information systems resilience. By understanding the interplay between cybersecurity, organizational dynamics, and technological innovation, organizations can develop proactive strategies to mitigate risks, adapt to disruptions, and ensure the continuity of critical business operations.

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Smart Payment Solutions for the Spaza Economy in South Africa: Insight from Systematic Review

Mpho Mzingelwa¹

Abstract

There is little academic focus on smart payments solutions in the spaza economy in South Africa, but the industry developments are happening at quite a fast pace with different solutions emerging. It is for this rationale that this research gathers, synthesizes and analyses data on smart payment solutions being promoted, developed, deployed, adopted or used in the South African spaza economy. This research aims to provide insights into smart payment solutions targeted at the spaza economy in South Africa. To fulfil this aim, the research covers four objectives: i) To identify the types of smart payment solutions targeted at the spaza economy; ii) To identify the key features of smart payment solutions; iii) To investigate challenges associated with the smart payment solutions; iv) To explore the gaps in the literature, and the potential future research directions that emanate from the gaps. The research is qualitative in approach using the PRISMA framework. The existing secondary data sources such as books, journal articles, reports, business cases, and conference proceedings are the sources of information and data for this research. Mobile card readers and card machines dominate cashless payments in the South African spaza economy. Mobile app-based smart payment solutions are being used. Vending machines have been promoted in the spaza economy. The use of cryptocurrency, QR codes, payment links, and e-wallets in the spaza economy has been reported in the literature. Some smart payment solutions have unique features such as embedded business insurance, social grant pay-out, etc. A complex interplay between infrastructure, economic, social-cultural, and technological challenges exist. The research

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contributes by providing valuable insights on the current state of smart payment solutions targeted at the spaza economy in the country. The research concludes by proving recommendations for future research studies.

Keywords: spaza economy; Fintech; smart payment; South Africa.

Introduction and Background

The informal micro enterprises in South African include corner groceries, spaza shops, containers, restaurants, tavern operators, liquor shops, beauty parlours, clothing stores, hardware outlets, educare providers, mechanics, and transport providers (Mastercard, 2023). Informal retail in South Africa ranges from hawkers and table-top operators to fixed structure, hole-in-the-wall stores, known as spaza stores/shops, and to small supermarkets (Gastrow, 2019; Alcock, 2018). The boundary of this research is the ‘spaza shops’. The research focuses on smart payment solutions within the South African spaza economy. In the South African context, the term ‘spaza economy’ refers to a retail sub-sector of informal and small-scale businesses known as spaza shops, often found in South Africa (Brown, 2023; Charman et al, 2020). In the context of this research, the term ‘smart payment solutions’ refers to technology-based and electronic systems that allow customers to make payments through digital platforms rather than cash (Goldfinch, 2018). The spaza shops provide essential goods and services to local communities, particularly rural areas and townships. Technology-based payment systems are a crucial component of the spaza economy. Yet, the role, impact and use of technology-based payment solutions in the South African spaza economy remains under-researched.

Ramos et al (2023) states that “as society evolves, the payment systems used by citizens also change. User behavior has shifted rapidly in recent years, moving away from more traditional payment systems, such as cash. This is in favour of alternatives such as payment via mobile devices (m-payment) using Near Field Communication (NFC) or Quick Response (QR) codes”. PwC (2021) predicted that, globally, cashless payments will increase by more than 60% by 2025. Mutheiwana (2021) observed similar developments: “Cashless economies are growing rapidly around the world. Many countries are adopting cashless payment solutions that aim to provide consumers with convenient and advanced methods of fulfilling their transactions without cash. Compared to other countries in Africa, South Africa has progressed the most with cashless economies providing consumers with various cashless payment options like debit and credit card payments, mobile wallets, Samsung Pay, Apple Pay and instant money transfers”. Mastercard (2023) reported similar patterns: “South Africa’s informal economy shows signs of movement to switch away from cash”. According to Neto (2017), there is little or no academic focus on technology-based payment

systems, but the industry developments are happening at quite a fast pace with different solutions emerging in Africa. For, instance, in South Africa alone, there are more than five mobile point of sale (mPOS) solutions available in 2017 (Neto, 2017).

Although cash-based payments and transactions are still dominant in the South African spaza economy, there is a growing interest in smart payment solutions (Mutama, 2023). The literature reviewed indicates that there are several kinds of technology-based payment systems that can be deployed into the spaza economy as an alternative to cash. Several reports in the news (Hamilton, 2024; TymeBan, 2024; iKhokha, 2023) and literature (Tanndo, 2022; Matsietsi, 2020) indicate a growing recognition of the potential of smart payment solutions to address the challenges faced by the spaza economy in South Africa. This creates opportunities for research in various aspects including exploring the use, adoption, deployment, role and impact of smart payment solutions in the spaza economy. Hence this research aims at synthesizing and analyzing data on technology-based payment solutions being promoted, developed, deployed, adopted or used in the South African spaza economy. This aim is achieved by gathering information and data from existing sources such as books, journals, reports, websites, databases, and other published materials.

This paper is organized as follows: The introductory and background section states the scope and context of the research paper. The definitions of the topic's key terms: 'spaza economy', and 'smart payment solutions' are provided in the same section. The Aim and Objectives section outlines the main focus of the research paper. An overview of South African spaza economy is presented as a 'standalone' section. Similarly, an overview of smart payment technologies is also provided. In the methodology section, a description of how data and information was gathered and analyzed is provided. The literature review section provides a synthesis of information about similar topics. In the findings section, I provide an illustration of results from the gathered data, and interpretation of results. The contribution and significance of the topic is provided in this research paper as a separate section. Recommendations are provided in a separate section. The last section concludes the research.

Aim and Objectives

The aim of this research paper is to provide a synthesis and an analysis of smart payment solutions being promoted, developed, deployed, adopted or used in the South African spaza economy. In order to achieve this aim, the research paper covers the following four research questions:

- i. To identify the types of smart payment solutions targeted at the spaza economy;
- ii. To identify the features of smart payment solutions;
- iii. To investigate challenges associated with the smart payment solutions;

- iv. To explore the gaps in the literature, and the potential future research directions that emanate from the gaps.

A Brief Overview of the South African Spaza Economy

There are many techniques or approaches that can be used to present an overview of the retail sub-sector of informal or small-scale businesses known as spaza shops. For instance, historical evolution and geospatial mapping can be used. A Political, Economic, Social, Technological, Environmental, Legal, Ethical (PESTELE) analytical framework can be used to provide an overview of the South African spaza economy. Similarly, a Strength, Weakness, Opportunities and Threats (SWOT) analytical framework can be used. Another approach can be visual representation using charts, images, etc. In this research paper, my approach is based on summarizing the nature, scale, characteristics, significance, and dynamics of the spaza economy. I focus on key indicators such as legal framework, market size, business models, Gross Domestic Product (GDP), employment potential, etc. Collectively, these indicators provide a synthesized and summarized overview of the South African spaza economy. This synthesis is illustrated in table 1 below.

Table 1. An overview of the South African spaza economy

Indicators	Specifics
Defining ‘spaza economy’	A predominantly informal retail sub-sector comprised of spaza shops (Brown, 2023; Charman et al, 2020; Hadebe, 2023); Tanndo, 2022; Matsietsi, 2020; Matjomane, 2019).
Defining a ‘spaza shop’	Small, and convenience store that serve local communities, particularly in townships and rural areas (Nieuwoudt, 2020; Mzingelwa, 2019).
Two broad categories of spaza shops	According to Alcock (2018), the South African spaza shops can be broadly classified into two, namely: survivalist and networked. Survivalists are owner-operated spazas, mostly trading from the owner's home. Networked tend to belong to a broader trader community network which facilitates more effective trading (Petersen et al, 2019; Alcock (2018).
Historical context of the spaza economy	The Spaza Economy has its roots in the apartheid era when black South Africans were restricted from running businesses. To survive and meet their needs, many turned to informal trading. Over time, this informal retail sub-sector has persisted and evolved into a significant part of the economy (Gastrow, 2019; Jeeva, 2017).
Informal nature of the spaza economy	Spaza shops are considered informal as they tend not to be registered with state authorities (Gastrow, 2019).
Typical building structure of a spaza shop	Container, shack, garage, free-standing building or small house (Gastrow, 2019; Mzingelwa, 2019; Mangaung

Indicators	Specifics
	Municipality, 2018; Sustainable Livelihoods Foundation, 2016).
Importance of the spaza economy	The retail sub-sector is a vital component of the informal economy, serving as crucial sources of employment and economic activity in the rural areas and townships. The informal retail sub-sector provides essential goods and services to local communities, particularly rural areas and townships (Theron, 2023; Charman et al, 2020; Sustainable Livelihoods Foundation, 2016).
Contribution to the country's GDP	The informal economy contributes about 5.2% to South Africa's GDP, and spaza shops and informal grocers make up one of the largest sectors (IRR, 2023; SME South Africa, 2022; Rogerwilco, 2021).
Big players that have an interest in the spaza economy	Pick n Pay, MTN, Standard Bank, Nedbank, FNB, Capitec, Government, etc. (IRR, 2023; Rogerwilco, 2021).
Political situation in the spaza economy	Home Affairs Minister 'calls' for by-laws to prevent undocumented people running spaza shop businesses. The Minister 'calls' for the audit and registration/documentation of all spaza shops in the country (Motsoere, 2024; SABC, 2023).
Regulatory framework for the spaza economy	Businesses Act 71 of 1991 (Mangaung Municipality, 2018).
Support programmes and Government initiatives for the spaza economy	Spaza shop support programme. Spaza Shops and General Dealers. Support Scheme. Township and Rural Entrepreneurship Programme (Department of Small Business Development, 2024; Sefa, 2024).
Supply chain dynamics in the spaza economy	Spaza shops typically source their products from wholesalers and distributors. With limited space to stock products in bulk, spaza shops tend to purchase their goods in smaller quantities, which limits the opportunity to grow spaza shops into more larger enterprises (Nieuwoudt, 2020; Mzingelwa, 2019; Jeeva, 2017).
Estimated number of spaza shops in the country	More than 150 000 in 2023 (AKELO; 2023; Brown, 2023; Hadebe, 2023).
Estimated market size of the spaza economy	Informal retail trade constitutes about 30% in the country, of which spaza economy is largest informal retail sub-sector (Masojada, 2021). The spaza economy was estimated at R178 billion in 2023 (Brown, 2023; Hadebe, 2023).
Common business models and pricing strategy	Retailer-driven model focused on single customer segment. Mark-up prices (Mzingelwa, 2019; Gumbo & Bokolo, 2014).
Distinction between spaza shops and formal SMEs	Spaza shops trade seven days a week. They open from early morning (around 6 am) until about 10pm (Mzingelwa, 2019; Gumbo & Bokolo; 2014).
Common products sold in the spaza economy	Basic household items such as soft drinks, toiletries, bread, milk, eggs, fruits, vegetables, cigarette, etc. to nearby residents (Gumede, 2020; Gastrow, 2019; Mzingelwa, 2019).
ICT adoption patterns in the spaza economy	Mobile phone is the most widely adopted technology (Mzingelwa, 2019; Biyela et al, 2018; Afolayan, 2014;

Indicators	Specifics
	Matlala et al, 2014; Odendaal, 2014; Makoza and Chigona, 2012).
Employment potential in the spaza economy	Estimated at more than 2 million jobs in 2020 (Jooste, 2020).
Challenges experienced by the spaza economy	Fake and expired goods being sold at some spaza shops pose massive threats to public health. Lack of collateral security, lack of sufficient capital required for expansion, crime, and electricity loadshedding (Nkosi, 2023; Mzingelwa, 2019; Mukwarami, 2017). Lack of official data to measure the spaza economy (Gastrow, 2019).

Source: Author’s illustration based on citations (i.e. sources of data and information) indicated in the table column

A Brief Overview of Smart Payment Solutions

There are many techniques or approaches that can be used to present an overview of smart payment solutions. For instance, visual infographics or use case scenarios can be used. In this section, a simple approach through providing descriptions and specific examples of smart payment solutions has been adopted. The researcher’s approach for presenting the overview of smart payment solutions relevant for this research is illustrated in table 2 below. As already stated in section 1, for the context of this research, the term ‘smart payment solutions’ refers to technology-based and electronic payment systems (Chishti et al, 2019; Goldfinch, 2018). In some countries, they are referred to as fast payment systems (FPS) (Word Bank Group, 2021). The systems allow customers to make payments and businesses to accept payments without using cash (Masi, 2024; Singh et al, 2023; Goldfinch, 2018; MasterCard, 2017). These technology-enabled payment systems include mobile browser-based payments, in-app mobile payments, mobile or wireless card readers and contactless mobile payments or wallets (MasterCard, 2017; Hamiton, 2024; TymeBan, 2024; iKhokha, 2023; 2017; Kalan, 2016; Slade, et al., 2015). Virtual currencies, biometric-based payment systems, and wearable payment device are also classified as smart payment solutions.

Smart payment solutions offer multiple benefits such as reduced costs, improved sales, improved security, reduced cash handling, convenience, competitive advantage, and enhanced customer experience (Brown, 2023; Singh et al, 2023; Ntando, 2022; Neto, 2017). For instance, the benefits of QR code payment system include: low cost of acquisition and maintenance, user-friendliness, enhanced customer experience, flexibility to invoke peripheral services, and limiting person to person contact and thus facilitating social distancing (Word Bank Group, 2021). While smart payment solutions offer numerous benefits, they also pose challenges. Some challenges include data

security, privacy, standardization, regulatory compliance, adoption and trust (IoT Business News, 2023).

In the literature, there is a general consensus that the expansion of mobile telecommunication networks across the world is one of the key drivers behind the penetration and adoption of smart payment solutions in Africa. Mobile and portable devices such as smartphones are also the key drivers for the adoption of smart payment solutions (World Bank Group, 2021).

Table 2. A brief description of smart payment solutions

Smart payment solution	Description	Specific Examples
Card machine	It is a point-of-sale (POS) device that enables businesses to accept payments from customers using debit cards, credit cards, loyalty cards, or prepaid cards (Singh et al, 2023).	Verifone V400c is an example of a card machine used across the world (Verifone, 2024).
Mobile card reader or wireless card reader	It is similar to card machines. It differs from card machines in form factor and deployment. It is a compact, wireless devices with built-in SIM card for internet access anywhere (Singh et al, 2023).	Verifone e355 is an example of a wireless card reader (Verifone, 2024).
Mobile app-based (In-app)	It allows customers to make purchases and payments with the mobile app (Singh et al 2023).	Globally, most modern banks have developed mobile apps that facilitate in-app payments.
Contactless mobile payment or mobile wallet also referred to as device-based digital wallet	It allows users to store payment card information on their smart phones, thus enabling them to make contactless payment by simply tapping their smartphones or scanning QR codes (Dwyer, 2024; Singh et al, 2023).	Apple Pay, Google Pay and Samsung Pay are some of the examples of mobile wallet (Apple, 2024; Dwyer, 2024; IoT Business News, 2023).
Contactless Quick Response (QR) code payment	QR code is a two-dimensional (2D) barcode. It consists of black squares arranged in a square grid on a white background (World Bank Group, 2021). To make a payment, customers using a smartphone or other mobile device equipped with a camera and a QR code reader app can scan the merchant's QR code (Beck et al, 2022).	FPS QR code system, PromptPay QR code system, PayNow QR code system, and Osko QR code system (World Bank Group, 2021).

Smart payment solution	Description	Specific Examples
Internet-based digital wallet	It lets customers add credit or debit card information to a personal account or profile, which is kept on secured file. It allows customers to pay for online purchases without providing their card details to the website from which they're shopping (Dwyer, 2024).	PayPal, Google Wallet, and Apple Pay are some examples of internet-based digital wallets, because they do not require purchasing through an app or with a phone, instead using a customer's online profile and saved card information to pay (Dwyer, 2024).
Digital currency	Also known as virtual currency or cryptocurrency, is a type of digital asset that operates as a medium of exchange. Unlike traditional currencies issued by governments, digital currencies are decentralized and typically rely on blockchain technology and cryptographic techniques to secure transactions (Singh et al, 2023; Hårdle et al, 2020).	Bitcoin and Ethereum are some of the examples of digital currency (Hårdle et al, 2020).
Biometric-based payment system	It is a point-of-sale (POS) technology that uses biometric authentication based on physical characteristics (e.g. face, fingerprints, iris patterns, etc.) to identify the paying customers and authorize the deduction of funds from the bank accounts (Luna et al, 2024).	Apple Pay Face ID, and Samsung Pay Fingerprint are some of the examples of biometric-based payment system (Savvides & Orellana, 2019).
Wearable payment device	It is a gadget or an accessory equipped with technology that enables users to make contactless payments at point-of-sale terminals. Categories of wearable payment device include, but not limited to smartwatches, wristbands, and fitness trackers (Hayat et al, 2022).	Apple Watch, Garmin and Fitbit are some examples of wearable payment devices (Apple Inc, 2024; Fitbit, 2024; Garmin; 2024; Nezhad et al, 2022).
Internet of Things (IoT)-based payment	It is a system that leverages IoT technology through integrating connected devices, sensors, and software to facilitate transactions without the need for payment cards (Global Open Network, 2021).	No specific example was found in the literature.
Voice Payment	It is a system that supports voice-activated payments, making it easier for users to complete transactions using only their voice commands	Bharat BillPay Connect, and Amazon Pay with Alexa Fitbit are some examples of voice-

Smart payment solution	Description	Specific Examples
	(IoT Business News, 2023; GoCardless Ltd, 2021).	enabled payment systems (Amazon, 2024).
Augmented Reality (AR) payment	It is a system that enhances the shopping experience, allowing users to virtually try on products and make purchases and payments through immersive, interactive interfaces (Russell, 2024; IoT Business News, 2023).	No specific example was found in the literature.

Source: Author’s illustration based on citations (i.e. sources of data and information) indicated in the table columns

Methodology

The research is qualitative in approach using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The research follows the established protocols of PRISMA framework for literature search, identification, screening, inclusion, exclusion, and synthesis. This is illustrated in table 3 below. Relevant online databases such as Google Scholar, JSTOR, Web of Science, and Scopus were systematically searched using predefined keywords related to the spaza economy, smart payments, and South Africa. The PRISMA framework was used in the systematic review to assess written and published non-scholarly records (sometimes referred to as ‘grey literature’) and scholarly records. The existing secondary data sources such as books, journal articles, reports, business cases, conference proceedings, news, magazines, and websites are the sources of information and data for this research. The author conducted data extraction and synthesis to identify key research themes, and gaps in the literature. The author used categories, tables and a figure (chart) to analyze, synthesize and summarize the gathered data.

Table 3. Inclusion criteria and exclusion criteria

Criteria	Inclusion Criteria	Exclusion Criteria
Publication Date	Published within the last 14 years.	Published before 2010.
Literature	Online scholarly literature and online non-scholarly literature ('grey literature').	No printed material was consulted for this research.
Alignment with research topic, and keywords	Must have at least these key phrases: 'smart payment', 'mobile payment', 'technology payment', 'spaza shop', 'informal retail', 'fintech', 'spaza economy'.	Not correlating with the research topic.
Language	Written in English	Non-English.
Geographic Relevance	Mostly South African, but can be internationally relevant.	Strictly formal SMMES across the world.
Payment methods	Strictly cashless payment methods, systems or technologies.	Cash payment methods.

Source: Author's own illustration based on PRISMA framework

Literature Review: Related Research

The purpose of the section is to critically evaluate existing research relating to the topic at "hand". The section provides an overview and synthesis of related research studies (i.e. previous research conducted by other authors and researchers). As already stated in the methodology section, the scope of this research was narrowed down to 'spaza shops/stores and spaza economy'. Formal Small Medium and Micro Enterprises (SMMEs) were excluded. As a result of this exclusion criteria, most of the related research found in the literature were conducted within the African continent, particularly in South Africa. This is because the concept of 'spaza' is better understood in South Africa than other countries. The results yielded from the literature search are synthesized, summarized and presented in table 4 below.

Limited literature exists on the intersection of smart payment solutions and the informal spaza economy. Some related research focused on the adoption factors (Dieman & Berg, 2023; Ntando, 2022; Chingapi, 2021; Mhlongo et al, 2017; Neto, 2017). Others focused on Fintech developments and digitizing the spaza economy in the country (Mastercard, 2023; Memela & Chindeng, 2023; BANKSETA, 2020; Matsietsi, 2020). Very few related studies researched the adoption of smart payment solutions – these were conducted by Dieman & Berg (2023), Memela & Chindenga (2023), and (Mzingelwa, 2019).

While the study by Neto (2017) sheds light on cashless payment methods for informal traders in Cape Town, a research gap exists because of the lack of focus on spaza shops. Similarly, a research gap exists from the study carried out by Memela & Chindenga (2023) on FinTech mobile payment models,

because of the lack of focus on spaza shops. Mzingelwa (2019) found that card machines were being used by the spaza shops to accept payments from customers. Masojada (2021) found that there have been a number of efforts to provide cashless payment solutions for spaza shops. Mutheiwana (2021) reported similar patterns. The study by Mzingelwa (2019) was conducted in one rural municipality, while the study conducted by Mutheiwana (2021) was limited in one province. While Dieman & Berg (2023) reported lack of accessible technology and strong preference for cash transactions as some of the challenges in the spaza economy; a research gap exists because their research study was carried out in one township in Cape Town.

Research gaps exist on the insights into smart payment solutions targeted at the spaza economy in South Africa. Research gaps exist on the investigation of the features of smart payment solutions. Research gaps exist on the exploration of the challenges associated with the smart payment solutions. Empirical studies are also lacking on the topic of smart payment solutions specifically targeted for the spaza economy in South Africa. This research seeks to fill these gaps through focusing on the four objectives outlined in section 2.

Table 4. Summary of preliminary literature on related research

Authors	Research Aim	Theoretical framework	Methodological perspective	Data Collection Method	Key findings	Gaps
Dieman & Berg (2023)	Limited adoption of digital payments by spaza shops.	Technology Acceptance Model and the Theory of Planned Behaviour.	Empirical study.	Interviews.	Lack of accessible technology. Strong preference for cash transactions.	The study was carried out in one township in Cape Town. A large-scale empirical study would be ideal.
Forbes Insights & Mastercard (2023)	Financial Inclusion in South Africa's Informal Economy.	None.	Empirical study	Interviews	Various technological payment options have been adopted in the informal economy.	A specific focus on spaza economy would be ideal.
Memela & Chindenga (2023)	FinTech mobile payment models.	Organizational Creativity theoretical approach.	Literature survey.	Secondary data.	FinTech promises to improve financial inclusivity in the spaza economy.	An empirical study through data gathering from spaza shops would be ideal.
Ntando (2022)	Factors influencing the adoption of payment technologies.	Value in design, technocratic model of control, and democratic model of communication.	Empirical study.	Interviews.	Spaza shops operators have a moderate understanding of payment technologies and financial products in general. They are open to alternative methods of payment, other than cash.	The study focused on two metropolitan cities. A rural study would be ideal.
Chingapi. (2021)	Mobile payment adoption.	Technology Organization and Environment (TOE)	Empirical study.	Interviews, survey and focus groups.	Factors impacting mobile payment adoption are risk, convenience, ease of use, trust in service providers, system features, device features and issues, cost of fees, technology provider image and credibility, Bluetooth connection, customer service and integrated systems.	A specific focus on spaza economy would be ideal.
Masojada (2021)	Informal retail sectors: landscape analysis	None.	Desktop Research.	Secondary data.	Since around 2014, there have been a number of efforts to provide cashless payment solutions for spaza shops. This is driven by the emergence of Fintech providers in the country.	An empirical study through data gathering from spaza shops would be ideal.
Mutheiwana (2021)	Cash to cashless: transitioning to a cashless economy.	Technology Acceptance Model (TAM).	Empirical study.	Questionnaires.	The adoption of cashless payment methods is growing.	This was a generic study focused on one province. A specific focus on spaza economy would be ideal.
BANKSETA (2020)	Fintech developments in South Africa.	None.	Desktop Research.	Secondary data.	There are over 100 Fintech companies in South Africa.	A specific focus on spaza economy would be ideal.
Matsietsi (2020)	Digital Spaza-shops	Network Diversity Value Framework.	Convergent parallel method.	Secondary data.	The potential to digitalize the spaza economy resides in partnership among various stakeholders.	An empirical study through data gathering from spaza shops would be ideal.

Authors	Research Aim	Theoretical framework	Methodological perspective	Data Collection Method	Key findings	Gaps
Mzingelwa (2019)	Exploration of the adoption of ICTs by the spaza shop managers	OECD Model Survey on ICT Usage by Businesses and (UTAUT).	Empirical study.	Questionnaires	Spaza shops use card machines to accept payments for Lotto, DSTV, airtime, data, etc.	The study was carried out in one local municipality. A large-scale empirical study would be ideal.
Mhlongo et al (2017)	Factors that inhibit or promote the adoption, diffusion and use of mobile payments	Not specified.	Empirical study.	Interviews	Opportunities to trial the mobile payment solution at no cost. Ease of use supporting existing users' devices.	FinTech companies could conduct empirical pilot studies to trial the mobile payment solution at no cost from spaza shops.
Neto (2017)	Cashless payment methods for informal traders.	Customized conceptual framework.	Empirical study.	Interviews, observations and secondary dat.	Cashless payment methods proved to be superior to cash in some aspects such as security.	A specific focus on spaza economy would be ideal.

Source: Author's illustration based on various literature sources

Findings

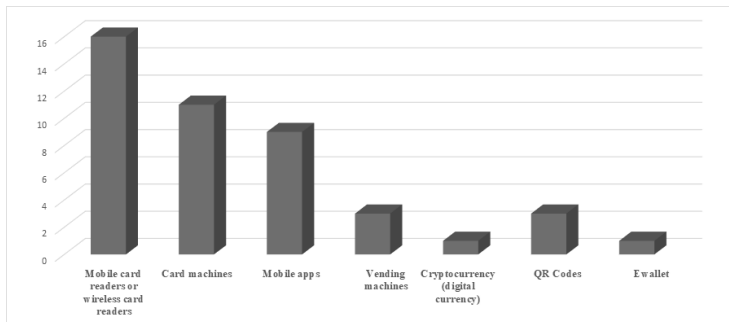
This section is organised according to the research objectives outlined in section 2. The section presents an analysis, illustration, interpretation and synthesis of what has been found from the gathered data and information. An illustration of the main findings is presented in descriptive/narrative format and table format. A chart was also used. To aid the discussion of the main findings, important commonalities, discrepancies and exceptions in the gathered data are identified and described. The analyzed data and information lead to key findings and implications. Implications are drawn from key findings, and discussions and recommendations are provided.

For this section, much of the information and data was obtained from ‘grey’ literature. This is because of the limited empirical research on smart payment solutions for the spaza economy. In the literature, there is a lack of peer-reviewed journal articles, conference papers, and scholarly books that have specifically addressed the four objectives outlined in section 2.

Types of Smart Payment Solutions Targeted at the Spaza Economy

The gathered data reveals that there is a growing interest in leveraging smart payment technologies in the spaza economy. This finding is consistent with Forbes Insights & Mastercard (2023), Memela & Chindenga (2023), Ntando (2022), Masojada (2021), Mutheiwana (2021), BANKSETA (2020), Mzingelwa (2019), and Neto (2017). Several types of smart payment solutions are being promoted, developed, deployed, adopted or used in the spaza economy. These can be grouped into five categories, namely: (i) card machines; (ii) mobile card readers or wireless card readers; (iii) mobile apps; (iv) vending machines; and (v) cryptocurrency (digital currency). The types of smart payment solutions found in the literature are shown in figure 1 below. They are discussed below figure 1.

Figure 1. Types of smart payment solutions being promoted, developed, deployed, adopted or used in the South African spaza economy



Source: Author’s illustration based on data gathered and synthesized from various literature sources

The mobile card readers and card machines dominate cashless payments in the South African spaza economy. The finding on card machines is consistent with Mzingelwa (2019). The gathered data and information revealed that there are more than fifteen (15) mobile card readers that have been promoted to the spaza economy. There are more than ten (10) card machines that have been promoted or used in the spaza economy. Mobile apps for accepting payments from customers by the spaza shops are being used in spaza economy. The gathered data and information revealed that there are more than eight (8) mobile apps that have been promoted to the spaza economy. For instance, Yoco (2024), Ikhokha (2024), Hello Group (2024), Kazang, (2024), Flash Group (2024), iQRetail (2024), Hamilton (2024), Tabbs (2024), ITWeb (2023), Finmark (2022), Mungadze (2022), and BANKSETA (2020) reported the deployment of card readers, card machines and mobile apps in the spaza economy in the country. DA (2022) reported the use of eWallet and ‘Send Money’ transaction platforms backed by First National Bank (FNB). The finding on e-wallet payments is consistent with Forbes Insights & Mastercard (2023). Data and information gathered revealed that vending machines have been promoted in the spaza economy in the country (Vending Solutions, 2024).

Interestingly, cryptocurrency also known as digital currency has been deployed in the spaza economy. The use of QR codes has been reported as well. For instance, DA (2022) reported the launch of Bitcoin

Ekasi (an NPO that is enabling the adoption of Bitcoin by local spaza shops). DA (2022) reported that Bitcoin Ekasi has supported over 10 local spaza shops in the Western Cape province to accept Bitcoin as payment. It is also interesting to note that QR codes are also emerging in the spaza economy. For instance, DA (2022) reported the use of the innovative custodial Satoshi e-wallet, which allows users to simply scan a QR code and send Bitcoin over the Lightning Network. Business Tech (2024), Forbes Insights & Mastercard (2023, and Letsebe (2027) reported the use of QR code for payments in the spaza economy.

The majority of smart payment solutions are promoted, developed and deployed by FinTech providers. Most of the FinTech providers promoting smart payment solutions in the spaza economy are based in South Africa (BANKSETA, 2020). The specific brands and providers along with the types of smart payment solutions being promoted, developed, deployed, adopted or used in the South African spaza economy can be found in the appendices.

The findings obtained suggest several implications regarding smart payment technologies targeted at the spaza economy in South Africa:

- **Growing interest and adoption of smart payment technologies:** The data indicates a growing interest among spaza shops in leveraging smart payment technologies. This suggests a recognition of the potential benefits of such solutions in enhancing financial transactions and improving business operations within the spaza economy.
- **Diverse range of payment solutions:** The presence of multiple types of smart payment solutions, including card machines, mobile card readers, mobile apps, cryptocurrency and vending machines reflects a diverse landscape of technological innovations catering to the needs of spaza economy. This diversity offers flexibility and options for spaza shops to choose solutions that best suit their operational requirements and customer preferences.
- **Dominance of mobile card readers and card machines:** The dominance of mobile card readers and card machines underscores their popularity and widespread adoption within the South African spaza economy. This may be attributed to factors such as affordability, ease of use, and compatibility with existing infrastructure. Some of these factors were discovered by Ntando (2022), Chingapi (2021), Mutheiwana (2021, and Neto (2017).

- **Rise of mobile apps:** The increasing adoption of mobile apps for accepting payments from customers signifies a shift towards digital and mobile-based payment solutions. This trend aligns with broader advancements in mobile technology and reflects efforts by FinTech providers to offer convenient and accessible payment options to spaza shops in the country.
- **Emergence of cryptocurrency:** There is an interest towards integrating cryptocurrencies into informal economies like the spaza economy in the country. Investigating the benefits and challenges of cryptocurrency (digital currency) in the spaza economy may be a topic of interest to researchers, academics and scholars.
- **Role of FinTech providers:** This highlights the significant role of financial technology companies in driving innovation and facilitating the adoption of digital payment solutions in the spaza economy. Collaborative efforts or partnerships between FinTech providers and spaza shops may be crucial for promoting further adoption and addressing barriers to deployment/implementation of smart payment technologies.

Key Features of Smart Payment Solutions

Data and information gathered show that smart payment solutions targeted at the spaza economy have a wide range of features. The author has synthesized and classified the features into: payment processing features, connectivity and communication features, hardware features, security feature, integration features, customer support, and business features. The key features obtained from the gathered data are briefly illustrated in table 5 below. They are discussed below table 5.

Table 5. The key features of smart payment technologies obtained from the gathered data

Features	Examples
Payment processing features	Debit, credit, prepaid, loyalty cards. Tap & Pay. Electronic receipts. Payment links.
Connectivity and communication features	3G, 4G, Wi-Fi, Bluetooth, NFC.
Hardware features	Built-in printers. Touch screens. Wireless charging stations.
Security Features	PCI DSS, EMV, encryption, tokenization, 3D-Secure technology, biometric technology.
Integration features	Pairing with mobile phones and tables, and desktop computers. Integration with online portals.
Business features	Accepting payments for airtime, data, electricity, water, electricity, Wi-Fi, gaming and lotto vouchers and DSTV. Embedded business insurance, on-demand security services, medical response, and government social grants payout service. Tracking sales history

Source: Author’s illustration based on data gathered and synthesized from various literature sources

Payment Processing Features

Accepting various types of cards (e.g. debit, credit, prepaid, loyalty, etc.) by card machines and mobile card readers is a common trend across different brands (Yoco, 2024; Ikhokha, 2024; Flash Group, 2024). Modern card machines and mobile card readers that have been deployed in the spaza economy have a contactless payment feature known as ‘tap & pay’ (Hello Group, 2024; Mungadze, 2022, iQRetail, 2021). Some of them have built-in functionality for generating electronic receipts and sending the receipts to customers via SMS and email. Payment links via SMS, email, social media and instant messaging are also common (Ikhokha, 2024; Yoco, 2024).

Connectivity and Communication Features

Because of limited Wi-Fi internet access in the rural areas and townships in the country, most of smart payment technologies targeted at the spaza economy rely on Global System for Mobile Communication (GSM) networks. Visual data from nPerf (2024) shows 3G/4G/5G coverage maps and developments in the country, including rural areas and townships. It is for these 3G/4G/5G developments that most of smart

payment technologies targeted at the spaza economy connect to the network via 3G and 4G. The data gathered revealed that some smart payment devices have built-in Wi-Fi capabilities to connect to the Internet for payment processing. Built-in Bluetooth and Near Field Communication (NFC) functionalities are common among the smart payment devices (Business Tech, 2024; Flash Group, 2024; Ikhokha, 2024; Yoco, 2024; Mungadze, 2022).

Hardware Features

The data gathered revealed that built-in printers for issuing receipts are common among card machines and mobile card readers across different brands. These brands include Khumo Print, iK Flyer, HelloPay Touch, Tabbs, Kazang Pay, Flash Tap2Pay, VodaPay Max, WAPPoint (BANKSETA, 2020). Touch screen capabilities are common (Ikhokha, 2024; Yoco, 2024). Interestingly, some devices come packaged with wireless charging stations, also known as wireless chargers or charging pads or charging base (Ikhokha, 2024; Yoco, 2024). These are devices that enable the charging of electronic devices without the need for physical connections through cables

Security Features

Yoco (2024) reported that their card machines are Payment Card Industry Data Security Standard (PCI DSS) compliant and adhere to Europay, Mastercard, and Visa (EMV) certification. The data gathered revealed that this is also common to other card machines and mobile card readers targeted at the spaza economy. The implementation of encryption, tokenization and 3D-Secure technology have been reported as some of the major security features to protect customer data and spaza shop data (Ikhokha, 2024; Yoco, 2024; iQRetail, 2021; Letsebe, 2017). Biometric technology for card machines, mobile card readers and mobile apps has emerged in the spaza economy. For instance, Hamilton (2024) reported a partnership between Postbank, Tembo Investment Group (TIG) and Flash shop (a one-stop spaza shop) to streamline the process of collecting SASSA social grants wherein beneficiaries present their smart IDs at participating Flash spaza shops and approving the transaction on their mobile phone to access their grants. The smart IDs contain a microchip embedded with biometric security features, including the applicants' fingerprints, photo and personal information.

Integration Features

Pairing with mobile phones and tables via Bluetooth was found to be a common feature among different brands of card machines and mobile card readers (Ikhokha, 2024; Yoco; iQRetail, 20221). Some devices are capable of pairing with desktop computers. Some devices can be integrated with online portals for sales tracking (Ikhokha, 2024).

Business Features

The data gathered revealed that accepting payments for airtime, data, electricity, water, electricity, Wi-Fi, gaming and lotto vouchers and DSTV using mobiles apps, card machines, mobile card readers is common in the spaza economy (Flash Group, 2024; Ikhokha, 2024). BANKSETA (2020) and Mzingelwa (2019) found similar patterns. Some devices and mobile have embedded business insurance, wherein local communities and spaza shops can sign up for life insurance and funeral insurance (Issuu Inc, 2024; IT Web, 2023). IT Web (2023) also reported that two South African tech start-ups - Hello Pay and Aura were targeting the spaza economy for on-demand security services and medical response. Hamilton (2024) reported the emergence of embedded government social grants payout service – wherein SASSA beneficiaries can collect their grant money by presenting their smart IDs at participating Flash spaza shops. Tracking sales history using mobile apps and card machines is also common (Ikhokha, 2024).

Customer Support

Responsive customer support from technology providers to assist spaza shops with inquiries and issues promptly is crucial. The data gathered revealed that most of smart payment solutions targeted at the spaza economy have this feature. For instance, Ikhokha (2024) guarantees a “24 hours and 7 seven days a week” support. The findings regarding the features of smart payment solutions targeted at the spaza economy imply several key points:

- **Diverse payment options:** The use of various types of cards (debit, credit, prepaid, loyalty, etc.) indicates a recognition of the diverse preferences in the spaza economy. This suggests a shift towards inclusivity and accessibility in payment

processing, accommodating different payment methods to cater to a broader customer base.

- **Utilisation of mobile networks for connectivity:** These smart payment technologies are leveraging mobile networks to overcome challenges related to internet access and connectivity in rural areas and townships.
- **Broadening of the scope of smart payment solutions:** The findings suggest a broadening of the scope of business features within smart payment technologies in the spaza economy, offering opportunities for revenue diversification, risk management, innovation, financial inclusion, and data-driven business optimization.
- **Enhanced efficiency and productivity of spaza shops:** The integration and compatibility features in smart payment technologies play a crucial role in facilitating smooth and efficient transactions, empowering spaza shops to leverage technology to enhance their business operations.

Challenges Associated with the Smart Payment Solutions in the South African Spaza Economy

The data gathered revealed a wide range of challenges associated with associated with the smart payment solutions in the spaza economy. Internet connectivity issues and electricity issues are persistent challenges. Accessibility, cost of fees, strong preference for cash transactions, and risks have been found to be common challenges. Dieman & Berg (2023), Ntando (2022), Chingapi. (2021), Mzingelwa (2019) and Neto (2017) obtained similar findings. To aid the analysis, the author has synthesized and classified the challenges associated with associated with the smart payment solutions into: infrastructure limitations, economic limitations, social-cultural challenges, and device limitations. This is illustrated in table 7 below.

Table 6. Challenges associated with the smart payment solutions

Infrastructure limitations	Economic limitations	Social-cultural challenges	Device limitations
<ul style="list-style-type: none"> • Internet connectivity in the rural areas and townships. • Mobile network coverage in some rural areas. • Electricity loadshedding. 	<ul style="list-style-type: none"> • Costs of smart payment solutions. • Costs of data. • Costs of Wi-Fi. • Limited access to financial service providers. 	<ul style="list-style-type: none"> • Preference for cash transactions (cash dependency). • Limited awareness about smart payment solutions. • Security concerns. • Language and literacy issues. 	<ul style="list-style-type: none"> • Devices rely on battery for power. • Devices rely Internet connectivity or GSM network to process payment.

Source: Author’s illustration based on data gathered and synthesized from various literature sources

Overall, these challenges highlight the complex interplay between infrastructure, economic, social-cultural, and technological factors shaping the promotion, deployment, and adoption of smart payment solutions in the spaza economy. Addressing these challenges would require a holistic approach that involves stakeholders from government, spaza shops, Fintech providers, and civil society working together to improve infrastructure, reduce costs, raise awareness, and enhance the functionality and accessibility of smart payment technologies.

Gaps in the Literature, and the Potential Future Research Directions that Emanate from the Gaps

- Lack of empirical research and large-scale research on the topic at “hand”: There is a lack of large-scale empirical studies on the adoption of smart payment solutions in the country. There is a lack of empirical research on use cases of smart payment solution in the spaza economy. There is a lack of large-scale empirical studies on the challenges experienced and derived benefits associated with smart payment solutions. Awareness and readiness of spaza shops

regarding smart payment solutions has received less attention. There needs to be a large-scale and empirical research in these specific areas: ‘adoption, usage, impact, benefits, challenges, awareness, readiness’. Data should be empirically gathered from the spaza shops owners, managers or operators.

- Lack of frameworks on the topic at “hand”: No proposed or developed frameworks regarding smart payment solutions for the spaza economy were found in the literature. Amidst the emergence of artificial and machine learning, there is a lack of research on how these two computer science branches would impact smart payment solutions for small and informal businesses in Africa. These gaps highlight opportunities for future research in the areas of ‘machine learning’, ‘big data’, ‘IoT’, and ‘artificial intelligence’. This kind of research could be undertaken at a higher level such as Postdoctoral, PhD, or even Masters. When conducting these kinds of research, data should be empirically gathered from the spaza shops.
- Lack of research on the intersection of 4IR technologies and smart payment solutions: Both in the scholarly literature and ‘grey’ literature, the deployment, adoption or use of these 4IR-related smart payment solutions in the spaza economy has not been reported: wearable payment devices, IoT-based payments, voice payments, AR payments. This highlights a significant gap in the existing literature regarding the implementation and utilization of these above-mentioned smart payment solutions in the spaza economy. Researchers can identify this as an area for further investigation. There is a need for empirical studies to explore the feasibility, acceptability, and effectiveness of deploying the above-mentioned smart payment solutions in spaza economy.
- Lack of research on collaborative partnerships between various stakeholders: Research on collaborative efforts or partnerships among different stakeholders for promoting, developing and deploying smart payment solutions in the spaza economy is lacking. Collaborations between government agencies, financial institutions, technology providers, and community organizations may be essential for promoting the deployment of smart payment solutions in the spaza economy. Research can explore collaborative models and strategies, and identify stakeholders' roles and responsibilities.

Contributions and Significance

This research is important to the fields of business management and financial technology (FinTech) in South Africa from both a theoretical and practical point of view. The research contributes to academic knowledge by exploring the intersection of smart payment solutions and the informal spaza economy in South Africa. The research adds to the understanding of how technological innovations are intersecting with traditional business models and traditional financial practices in the informal sub-retail sector.

From a theoretical perspective, the findings obtained from the gathered and analyzed data provide an insight into the 'landscape' of smart payment solutions in the spaza economy. The findings can help other researchers to explore or conduct similar/related research studies. The identified research gaps can serve as basis for future. Since the concept of 'spaza shop' is not limited to the South African context, international researchers in country like Namibia and Lesotho can explore related research studies. This can help them to ascertain whether similar findings could be obtained in their countries.

From a practical perspective, the research can inform policymakers, financial institutions, and technology providers on strategies to promote inclusive FinTech solutions tailored to the needs of the spaza economy. Institutions and stakeholders concerned with smart payment solutions in the spaza economy can use the findings obtained to explore interventions for deploying or developing smart payment technologies for the spaza shops. The findings on features and challenges presented in section 7 can inform policymakers and regulators about the needed support to promote the adoption and responsible use of smart payment solutions in the spaza economy. The needed support can include policies related to data privacy, consumer protection, and infrastructure development. Entrepreneurs and technology developers can innovate new products and services that address the specific needs of spaza shops and their customers.

Recommendations

- **Integration of spaza shop support programmes with infrastructure development:** Internet connectivity and GSM network coverage are the cornerstones for processing payments with card machines, wireless card readers and mobile apps.

Therefore, this research recommends that there should be an integrated approach between spaza shop support programmes and infrastructure development in the townships and rural areas.

- **FinTech framework for the spaza economy:** A national framework with strategies, policies and guidelines to promote inclusive FinTech solutions tailored to the needs of the spaza economy could be developed.
- **Future postdoctoral, PhD or Masters research studies:** Large-scale empirical research studies on the role, adoption and impact of smart payment solutions in the spaza economy could be conducted.

Conclusions

Spaza shops represent a vital component of South Africa's economic landscape, particularly in the townships and rural areas. Cashless payments in the spaza economy have been reported in the literature. However, research on technologies facilitating cashless payments in the spaza economy is limited. To fill these gaps, the research focused on four objectives: types of smart payment solutions; features of smart payment solutions; challenges; and gaps in the literature. The findings obtained revealed a wide range of types of smart payment solutions targeted at the spaza economy. These include card machines, mobile card readers, mobile apps, e-wallets, vending machines, and cryptocurrency. The features involve payment processing features, connectivity and communication features, hardware features, security features, integration and compatibility features, and business features. The findings revealed a complex interplay between infrastructure, economic, social-cultural, and technological challenges shaping the promotion, deployment, and adoption of smart payment solutions in the spaza economy. Research gaps exist in many aspects, including empirical research, large-scale research, frameworks, 4IR-related technologies, and collaborative partnerships. Future research studies are recommended. The research further recommends an integrated approach between spaza shop support programmes and infrastructure development in the townships and rural areas.

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Appendices

Appendix A: Smart payment solutions targeted at spaza economy in South Africa

Type of Smart Payment Solution	Specific brands and providers
<p>Card machine-based smart payment solutions</p>	<ul style="list-style-type: none"> • Khumo Print developed/provided by Yoco. • iK Flyer developed/provided by Ikhokha. • HelloPay Touch developed/provided by Hello Group. • Tabbs developed/provided by Tabbs. • Kazang Pay developed/provided by Kazang. • Flash Tap2Pay developed/provided by Flash Group. • VodaPay Max developed/provided by Vodacom. • WAPPoint developed/provided by Wap Point. • Sureswipe Fixed developed/provided by iQRetail. • Bankly POS terminal developed/provided by Bankly.
<p>Mobile card readers or wireless card readers</p>	<ul style="list-style-type: none"> • Vodapay Kwika developed/provided by Vodacom. • Move HandPoint developed/provided by iQRetail. • Yoco Go developed/provided by Yoco. • Neto Touch developed/provided by Yoco. • HelloPay Pro developed/provided by Hello Group. • HelloPay Lite developed/provided by Hello Group • iK Mover developed/provided by Ikhokha. • Sureswipe Portable developed/provided by iQRetail. • Capitec Mobile Card Machine developed/provided by Capitec Bank. • PockectPOS developed/provided by Nedbank. • PocketBiz developed/provided by Standard Bank. • Speedee developed/provided by First National Bank. • SmartPay developed/provided by ABSA Bank. • Telkom Pebble developed/provided by TELKOM

Type of Smart Payment Solution	Specific brands and providers
Mobile apps	<ul style="list-style-type: none"> • Momo SA app developed/provided by MTN. • Sureswipe POS Lite App developed/provided by iQRetail. • Yoco app developed/provided by Yoco. • HelloPay SoftPOS developed/provided by Hello Group • iK Tap on the Phone developed/provided by Ikhokha. • iK Pay Link developed/provided by Ikhokha. • TymePOS developed/provided by TimeBank
Vending machines	<ul style="list-style-type: none"> • Spaza Touch developed/provided by Vending Solutions. • Flash's D2 developed/provided by Flash Group. • Spaza 24 developed/provided by Vending Solutions.
Cryptocurrency (digital currency).	<ul style="list-style-type: none"> • Bitcoin promoted by Bitcoin Ekasi.

Source: Author's illustration based on data gathered and synthesized from various literature sources

The Impact of Entrepreneurial Activity on Women's Economic Empowerment in South Africa

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Abstract

This study explored the impact of entrepreneurial activity on women's economic empowerment in South Africa. Studies have revealed that economic activities are related to women economic empowerment and evolved into South Africa's economic development strategies. A literature review was conducted by looking up revising published journal articles about female entrepreneurs in South Africa. Data were also obtained from secondary sources including books, newspaper articles, magazines, and peer-reviewed conference proceedings. The findings revealed that Black African women entrepreneurs make up the largest group of SMEs owners in the nation, which persuaded the South African government to support their economic empowerment through entrepreneurial activities and gender equality. However, women entrepreneurs face more discrimination than their male counterparts because of their gender, which puts them at a relative disadvantage when they first start businesses out of necessity. The study recommends that researchers should use feminist theories in women entrepreneurship, government should provide equal educational opportunities for both

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genders, and push for supportive policies that promote women economic empowerment through increased women entrepreneurial activities.

Keywords: entrepreneurial activity; women's economic empowerment; entrepreneurship; economic development; gender equality.

Introduction

Globally, women's entrepreneurship is considered an engine of economic growth, employment creation, and poverty alleviation, especially the main strategy for women's economic empowerment (Okeke-Uzodike, Okeke-Uzodike and Ndinda 2018). Women's contributions to economic development and poverty alleviation are the push factors in their commitment to economic activities. In most cases their businesses target to support families and operate in the informal sector. Although entrepreneurial activities are playing a crucial role in economic development, mainly women's economic empowerment, however, in developing countries, women's entrepreneurship is still categorised as informal and affected by gender inequality (Karki and Xheneti 2018:526). The absence of constructive gender policy affects women entrepreneurial activities. Therefore, the need to improve women's entrepreneurship for equal opportunities through conducive political and social stability assists them in an efficient financial system, supportive policy framework and access to resources (Ariffin, Baqutayan and Mahdzir 2020). Women-owned enterprises contribute positively to economic growth and are essential in several facets of society. Feminist epistemologies can be used to promote entrepreneurship, which yields strong foundations to develop programs and policies that boost women entrepreneurial activities (Vossenber 2014). For women to participate and benefit in economic activities, there is a need for gender policy that support economic independence, poverty alleviation, including women economic empowerment.

As the driving force behind economic growth, in the year 1994, the South African government adopted women entrepreneurship and notice the need for and importance of small medium and micro enterprises (SMMEs) sectors for women's economic empowerment as its primary economic development policies (Brière, Tremblay and Daou 2014; Okeke-Uzodike, Okeke-Uzodike and Ndinda 2018). The contribution of women entrepreneurs both informal and formal to the

economic growth is imperative and uncontroversial to South Africa. Therefore, in order to advance equitable economic opportunity and women's economic empowerment, South Africa, which has a high percentage of Black women working in economic activities, needs to address gender disparity issues.

Following the rising quantity of literature investigating the relationship between gender and entrepreneurial activities, existing studies on women's entrepreneurship still have some flaws (Sefer 2020). Although scholars are committed to engaging the impact of women's entrepreneurial activities, no study focuses on women's economic empowerment and gender equality. This current study aims to analyse the impact of entrepreneurial activities on the economic empowerment of women in South Africa as women entrepreneurial activities contribute to poverty alleviation and empower women economically. Besides, the paper critically analyses women's entrepreneurship using feminist theories. What is the effect of entrepreneurial activities on the economic empowerment of women entrepreneurs in South Africa? Is a question that is addressed in this study. To contribute to the design of women's entrepreneurship policy, we also address gender inequality and examine its impact on women's entrepreneurial activities.

Feminist Analysis on Entrepreneurial Activities

Feminist theories are widely recognized as essential for understanding the underlying causes of women's oppression and devising strategies to address the resulting obstacles. Offen (1988) characterised feminist theories as a comprehensive framework that incorporates philosophical principles and approaches to effect social and political change through a critical examination of patriarchal power dynamics and the marginalization of women. Additionally, feminist theories examine the dynamics of gender oppression by analyzing the relationship between men and women in various societal contexts (Bowden and Mummery 2014). The role of feminist theories is to focus on promoting social change by recognising the fundamental role of gender in shaping society. These theories acknowledge the historical disadvantages faced by women and aim to eliminate this inequality for social transformation especially women empowerment (Calás, Smircich and Bourne, 2009).

Some feminist authors noticed that in order to free women from the rule of men, they need education and autonomy to participate equally in social opportunities that would increase their economic empowerment (Bowden and Mummery 2014). This may be possible through economic

activities, as proposed by liberal feminist theory in addressing entrepreneurship as social change, because equal access to economic activities is a matter of equality of rights (Calás, Smircich and Bourne 2009; Tong 2013). Offering women a favourable policy in their entrepreneurial activities is, therefore, an act of justice to economic empowerment. Vossenbergh (2016) posits that the promotion of women-owned businesses for broad progress can be more impactfully supported and planned, addressing disparities in the lawful, cultural and instructive systems that frame the business background.

Feminist analysis is necessary to both analyse the structural barriers and provide an explanation of gender disparity that women entrepreneurs encounter when engaging in entrepreneurial activities (Vossenbergh 2013). Understanding the influence of gender inequality on women's economic activities requires a feminist analysis as this analysis aims to empower women entrepreneurs economically by revealing the challenges they are facing and propose feminist policies. For that reason, researchers need to investigate entrepreneurial activities to empower women (Henry, Foss and Ahl 2016). Following the contribution of feminist concepts on entrepreneurial activities of women, consideration should be given to how feminist theory may enhance the current gendered critique of women's entrepreneurship (Marlow 2020). To better understand how and why enterprises develop or graduate, how and whether entrepreneurship leads to women's economic empowerment, and how it contributes to gender-fair inclusive growth, feminist approaches might be useful (Vossenbergh 2014).

As mentioned above, the absence of feminist analysis in entrepreneurial activities affects mutually women's empowerment and economic development. According to Calás, Smircich and Bourne (2009), feminist scholars on entrepreneurship show that social change is the result of problematising and reframing women's entrepreneurship to eliminate barriers that hinder women's empowerment. This is due to the possibility that entrepreneurial endeavors that respect feminist values may lead to the financial empowerment of women. Although feminist beliefs contribute a common debate of economic development and deal with gender issues, patriarchy remains unchanged which results in imbalanced of power structure that excludes women in economic activities (Vossenbergh 2013). These economic gender issues obstruct the economic empowerment of women as researchers do not engage feminist theories in entrepreneurship.

To sum up, several feminists argue that the patriarchal political structure is a major factor in the exclusion of women from business

pursuits (Vossenbergh 2013; Calás, Smircich and Bourne (2009). It is vital to rethink entrepreneurship through feminist analytical lenses given that new theoretical frameworks are needed for analysing the many sorts of social change that entrepreneurship may bring about. Women's entrepreneurial efforts may be enhanced by gender analysis in businesses especially in a country such South Africa known with higher gender inequality.

Gender Inequality in Entrepreneurship

The entrepreneur is defined as a man of leadership qualities, logic, bravery, performance, risk-taking, competitiveness, leadership, and self-determination in mainstream academics (Sefer 2020). However, feminine characteristics such as loyalty, gentleness, sensitivity, shyness, sympathy, and compassion have been thought to be diametrically opposed to the typical masculine features associated with entrepreneurs (Marlow, 2014). Thus, gender inequality puts women entrepreneurs in a disadvantaged position starting their entrepreneurial activities out of necessity with lower educational levels and poor business skills training (Achakpa and Radović-Marković 2018). They are also excluded from entrepreneurial activities in many developing countries including South Africa as women are discriminated against based on their gender as compared to their male counterparts. Following the South Africa's segregationist and discriminatory past, Black African women frequently see themselves as "third or fourth-class citizens," burdened by the "double negative" of being both Black and female (Nambiar, Sutherland, and Brenda Scheepers 2019). Given that Black African women entrepreneurs are the largest group in the country and visible in all sectors (Witbooi and Ukpere 2011), the government decides to empower their economic activities with equal opportunities, and enterprises development (DTI 2011). Despite the value given to women, equal opportunity is still needed to promote women entrepreneurship.

Mandipaka (2014) studied women entrepreneurship in South Africa and found that women are still facing various gender inequality which denies their rights as their male counterparts. Although South African women entrepreneurs tend to engage massively in entrepreneurial activities, their proposition decreases due to the increase in the size and sophistication of the enterprises (Kelley *et al.* 2013). Due to persistent gender inequality, women entrepreneurs in many patriarchal societies including South Africa, lag behind in adopting new technologies and innovations to advance their companies. This is because, women and

men entrepreneurs are perceived as radically different according to Calás, Smircich and Bourne (2009), which creates and perpetuates gendered entrepreneurial debate. As a result, entrepreneurship is conceived within the dominant gendered order of masculinity (Ahl and Marlow 2012). In business policy assessment as Dilli and Westerhuis (2018) opined, tackling gender inequality in entrepreneurial activities plays a crucial role in equal opportunity. This opportunity assists disadvantaged people especially women with resources such as entrepreneurial skills and internship. For women entrepreneurs to develop, gender equality policy needs to provide opportunities to network with other women entrepreneurs during their economic activities (Dilli and Westerhuis 2018). However, despite the existence of policy measures that aim to empower women, gender inequality continues to be one of South Africa's most serious socioeconomic problems (Mukorera 2020). Though the female entrepreneurs outnumber male entrepreneurs in South Africa, particularly in the informal and microenterprise sectors, their ratio is still far lower than in comparable emerging economies (Herrington, Kew and Kew 2014).

Entrepreneurship is gaining traction among policymakers around the world as a means of promoting and achieving economic development and prosperity. However, entrepreneurship rates vary from country to country, and in many cases, the number of female entrepreneurs remains much lower than the number of male entrepreneurs. To assist women entrepreneurs to reach their economic empowerment, Bastian, Metcalfe, and Zali (2019) noticed that policymakers need to examine how country-level gender disparity indicators influence both men's and women's entrepreneurial ambitions.

Women's Entrepreneurial Activities

According to the recent Women's Report from the Global Entrepreneurship Monitor (Kelley *et al.* 2017), there are 274 million females in new or established enterprises in 74 countries. Despite efforts to engage in entrepreneurship, South Africa faces challenges due to its low entrepreneurial activities and high unemployment rate compared to other sub-Saharan countries (Herrington and Kew 2015). Consequently, the absence of prerequisites for accessing the formal economies, unskilled women entrepreneurs increase and hinder entrepreneurial development in developing economies. These entrepreneurs in developing nations work in several fields to make ends meet. Thus, they emerge in a variety of ways across so many civilisations, depending on a

variety of circumstances and locations, and women around the world have a variety of entrepreneurial situations in parity of rights to opportunities, markets, and assets (Welter 2011). Women's equal educational opportunities, employment, and especially entrepreneurial activities open economic possibilities and sustainable development in many developing economies (OECD) (2017). However, to develop the economic activities of women entrepreneurs, they require the skills and resources to compete in markets as well as the right to equal access to economic institutions to flourish and to be empowered economically (Golla *et al.* 2011). Even though women's entrepreneurial activities are significant from an economic perspective (Bouzekraoui and Ferhane 2017), an increasing number of women entrepreneurs have been observed to give up their businesses (Kelly *et al.* 2015).

According to the World Bank, the small, medium, and microenterprises (SMMEs) sector accounts for 90% of all businesses in South Africa (IFC, World Bank Group 2018), contributed significantly to 37% of GDP, and employs 68% of the population (Bradford, 2007). This explains the need to expand Black African businesses for the future of the South African economy (Preisendorfer *et al.* 2012). Although many of these businesses do not develop as expected, Black female South Africans are still deserving equal opportunities as their human rights for both economic empowerment and development of the country. However, studies revealed that small scale business collapse in South Africa is estimated to be between 70% and 80% within two years of registration. This is due to insufficient funding or markets, lack of business knowledge, burdensome red tape, poor local economic situation, labor costs, and the condensed economic structure (Fatoki 2014; Chimucheka and Mandipaka 2015). Despite the South Africa government's effort to promote women owned businesses, the performance of their economic activities is still lagging behind fellow Africans in other emerging economies (Kelley *et al.* 2013). It is important to mention that the country's efforts to increase entrepreneurial success through business growth have not yielded the desired results (Herrington *et al.* 2014). This promotes monogamous notions that women are unsuccessful or hesitant entrepreneurs who have not been socialized adequately to engage in a man's world and need to be 'fixed' by some particular legislative interventions to equip them with the means and abilities for entrepreneurial sustainability (Ahl and Marlow 2012).

Women's Economic Empowerment

Worldwide, entrepreneurial activities empower women economically. This economy as Karwati, Ansori and Mulyono (2018) observe, can be increased through the introduction of entrepreneurial activities as a means of empowering women. Women's economic empowerment is critical for achieving both women's rights and broader development goals like economic progress, poverty alleviation, health, education, and wellbeing (Golla *et al.* 2011). Accordingly, considering women's entrepreneurial activities as a strategy for women's economic empowerment entails a plan that seeks to significantly increase both the individual and group access to resources and possibilities for women (Vossenbergh 2016). Given the importance of women's empowerment to human rights involves not only women's lives but family and societies as well, its measurement consequently needs maximum attention (Richardson 2018). To empower women economically, income generation, business choice, and self-employment creation are determined to be the main economic factors influencing economic empowerment (Senapati and Ojha 2019).

Gender discrimination and economic exclusion of women continue in democratic South Africa (Masenya 2016; Finscope SA 2010). However, the chosen entrepreneurial development path is incompatible with the empowerment of women (Masenya 2016). Thus, there is a need to research women's entrepreneurship because, in contrast to their male colleagues, they do not have access to formal credit (Finscope SA 2010). In addition, women entrepreneurs face discrimination in accessing financial services based on their gender, which has an impact on how their practices are incorporated into lending models (Derera *et al.* 2014). Lack of gender equality impedes women's enterprises' access to funding and business networking since many societies do not support women economic empowerment (WEE) through resource allocation (Barber III, Saadatmand and Piece 2019). Furthermore, socialisation and cultural attributions including inequality, asset distribution, and gendered everyday activities for women entrepreneurs are obstacles to loan discussions with formal financial institutions (Sullivan and Meek 2012). The economic contribution of women entrepreneurs will not be able to contribute to economic development and gender equality as long as they face discrimination based on their gender.

Economic empowerment of women through entrepreneurial endeavors promotes gender equity because it is the foundation of economic opportunities (Okeke-Uzodike *et al.* 2018). Additionally,

gender equality may be a key factor in the financial discussion to support women's entrepreneurship and economic development (Aterido, Beck and Iacovone 2013). In light of this, the South African government has created laws and programs at all levels to encourage gender parity, women's development, and business advancement through entrepreneurship (DTI, 2011). In entrepreneurial activities gender equality is not only crucial for human rights but could also lead to economic growth (Klugman and Tyson 2016). Similarly, it is recognised at the national level that the inclusion of women in the labor force is a crucial factor in national growth (Scott, 2018).

Methodology

In this study, a literature review was conducted by examining various published journal articles, books, newspaper articles, magazines, and peer-reviewed conference proceedings about female entrepreneurs on Google Scholar. According to many experts, Google Scholar (GS) is the most significant web-based academic research engine that compiles findings from around the internet and is freely available (Haddaway et al. 2015). Following the importance of GS and the need of appropriate reading material for this study some keywords such as women's entrepreneurial activities, women's economic empowerment, entrepreneurship, economic development, and gender equality were used to search for the relevant articles utilised. Due to the study's emphasis on peer-reviewed books, papers, and magazines the literature search excluded dissertations, theses, and grey literature.

As previously mentioned, a thorough exploration of the Google Scholar database was conducted to analyse various published journal articles, magazines, reports, and studies on the influence of entrepreneurial activity on women's economic empowerment in South Africa. Specific keywords and technical terms such as "entrepreneurial activity", "women's economic empowerment", and "women entrepreneurs" were utilised in the search process. Boolean operators were employed to refine search queries. Utilising a standardized data extraction form, pertinent details from identified studies including study design, sample size, significant results, validity, reliability, and methodological specifics were extracted. Inconsistent or unreliable results were scrutinised and rectified. This study aims to provide a comprehensive and evidence-based understanding of the relationship

between entrepreneurial activity and women's economic empowerment in South Africa. To ensure data privacy and confidentiality, sensitive information was anonymised. Proper referencing was maintained throughout the research process to acknowledge the original authors and prevent plagiarism. In order to avoid plagiarism, it is imperative to engage in thorough planning and demonstrate a deep understanding of the research topic (Jitani, Mandal, & Jajodia, 2024). The outcomes of the selected studies were synthesised to identify recurring themes, trends, and patterns concerning the impact of entrepreneurial activity on women's economic empowerment in South Africa.

Results

The purpose of this study is to examine the effects of entrepreneurial endeavors on the economic empowerment of women in South Africa. Quiet number of scholars (Kelley *et al.*, 2017; Fatoki, 2014) found that entrepreneurial activities played a crucial role in the economic empowerment of women in South Africa which is validated by the work of Witbooi and Ukpere (2011) who found that Black South Africans women were the most dominated members in the field of entrepreneurship and their business created employments, alleviated poverty and encouraged other women to start their own businesses as a strategy to economic empowerment. As a result, the Department of Trade and Industry affirmed and endorsed the dedication of women in economic activities (DTI, 2011). The role and commitment of women's economic activities in the informal sector including their contributions to socioeconomic progress were observed by Kelley *et al.* (2017) and approved by Achakpa and Radović-Marković (2018) who posited that gender inequality is affecting the growth of women entrepreneurs in South Africa.

These results concurred with Brière, Tremblay and Daou's (2014) research who approved that since 1994, the SA government acknowledge the need for and importance of women entrepreneurs. Which in turn coincided with Okeke-Uzodike, Okeke-Uzodike and Ndinda's (2018) study on women entrepreneurship in South Africa. The authors confirmed that the government decided to place women entrepreneurs among the national economic empowerment policies for their contributions to SA economic improvement. Furthermore, the work of Senapati and Ojha (2019) on women entrepreneurs support the

empowerment of women entrepreneurs for equal opportunities through favorable political and social constancy. The authors demonstrated that women entrepreneurs need an effective financial system assistance and supportive policy framework to access resources. This policy was confirmed by Golla et al. (2011) who showed that women's economic empowerment was a goal of feminism, and gender policy was related to equitable chances in entrepreneurial activities. Based on the outcomes mentioned above, it has been confirmed through research conducted by Bowden and Mummery (2014), Tong (2013), and Herrington and Kew (2015) that collaboration among researchers is essential for enhancing the economic empowerment of women entrepreneurs and addressing the challenges they encounter in their entrepreneurial endeavors. Additionally, Calás, Smircich, and Bourne (2009) have validated feminist theories that simplify the complexities surrounding women's entrepreneurial activities.

In South Africa, there is a significant disparity in gender-based discrimination, with women facing more challenges than men (Mandipaka, 2014). This is supported by research conducted by Achakpa and Radović-Marković (2018), who found that women often start their own businesses out of necessity, despite having less formal education and inadequate business training. Ahl and Marlow (2012) also highlighted the struggles faced by women in business, attributing it to historical and cultural biases. Additionally, Bastian, Metcalfe, and Zali (2019) emphasized the importance of addressing gender disparities at a country-level in order to support women in participating in economic activities. Sperling and Winthrop (2015) noted that women tend to prioritize investing in their children's education, which benefits both current and future generations. Richardson (2018) suggested that supporting female networks through economic funding organizations could foster innovation in entrepreneurial cultures, as women often prioritize the financial well-being of their families. Golla et al. (2011) further stressed the significance of women's economic empowerment in achieving broader development goals such as economic progress, poverty alleviation, and improved health and education. To enhance the economic activities of women entrepreneurs, Vossenbergh (2016) recommended providing them with the necessary skills, resources, and equal access to economic institutions. This will enable women to compete in markets, thrive in their businesses, and ultimately achieve economic empowerment.

In conclusion, while women entrepreneurial activities create employments, alleviate poverty and promote gender equality, which

resulted in women economic empowerment supported by feminist theories, the South African government has to commit in gender policies that encourage women economic activities. In addition, for the success of women entrepreneurial activities, researchers in entrepreneurship need feminist perspectives to promote socio-economic development, gender equity and women economic empowerment.

Discussion

Our findings in this current study demonstrate that women's entrepreneurial activities in South Africa play a crucial role in gender equality, jobs creation, poverty alleviation and economic empowerment of women. Since 1994, the SA government has recognized the value and necessity of women entrepreneurs and has included them in its national empowerment plans (Brière, Tremblay and Dau 2014). Although the government considers the work of women in entrepreneurial studies, there is a need for a supporting policy framework and access to resources in order to empower women entrepreneurs economically (Achakpa and Radovi-Markovi 2018). In addition, the government decides to support Black African women's economic activities by providing equitable chances for enterprise growth because they represent the largest group of entrepreneurs in the nation and are present in all sectors (Witbooi and Ukpere 2011; DTI 2011). Being operating in both formal and informal sectors, policymakers need to look at how country-level gender disparity indicators influence both men's and women's entrepreneurial ambitions in order to help such a large number of economically disadvantaged women entrepreneurs achieve their economic empowerment (Bastian, Metcalfe and Zali, 2019).

These results relate to the work of Ahl and Marlow (2012) that promotes entrepreneurship research to question women subordination that is taken as normal. Our results show that policymakers need to consider how country-level gender disparity statistics affect women's entrepreneurial desires in order for women's economic activity to play a part in South Africa economies and empower themselves economically (Bastian, Metcalfe and Zali, 2019). Achieving women's rights as well as more general development objectives like economic progress, poverty alleviation, health, education, and well-being depends on women's economic empowerment. Our results show that many feminists contend that the patriarchal political system has a significant role in women's

exclusion from careers in business. Our research is based on the impact of women entrepreneurial activities on their economic empowerment and therefore does not consider the effect of women entrepreneurial skills on other enterprise competencies such as business performance and growth (Mitchelmore and Rowley 2013).

This study suggest that women owned businesses may become an instrument of economic empowerment through supportive feminist theories which guide policymakers. Our results highlight the most important concepts such as gender equality, feminist perspectives etc. that support women entrepreneurial activities and benefit not only their families but crucial to economic development and social Wellbeing (Sajjad, Kaleem, Chani, and Ahmed 2020). Based on the findings, this study has some limitations. First, many scholars found that women entrepreneurial activities have impact on the economic empowerment of women entrepreneurs. This needs assessment to avoid generalizing the findings in this study. Secondly, several constructs exist in entrepreneurial activities to measure economic empowerment although researchers decided to deal with economic activities to establish the aims of this study. Finally, as future work, researchers intended a follow up study in financial literacy skills as a strategy for the economic empowerment of women who engage in entrepreneurial activities (Dorflleitner and Nguyen 2022).

Conclusions

The results demonstrate that women entrepreneurs are a pillar of the South African economy because they engage in economic activities that encourage gender equality, employment creation, and poverty alleviation. These contributions are especially important for the empowerment of women, as many nations, including South Africa, have made a commitment to focusing on gender legislation to support women-owned enterprises. According to studies on entrepreneurship, Black South African women entrepreneurs make up the largest group in South Africa and confront numerous obstacles as they grow their businesses and companies. Therefore, it is crucial to support women-owned businesses through feminist theories so that they can access financial resources comparable to those available to men so as to advance women's economic empowerment.

As with any research endeavor, this study has certain limitations that should be acknowledged. The scope of the current study is confined to the South African context, and the findings regarding entrepreneurial activities may be generalized. Future research efforts should consider specific areas of inquiry, such as financial literacy, and may benefit from incorporating qualitative research methods to gain a deeper understanding of the challenges faced by women entrepreneurs in South Africa.

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Consumer Concerns on Adopting AI Service Robots in the South African Hospitality Industry

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Abstract

The adoption of Artificial Intelligence Service Robots (AISRs) in South Africa's hospitality industry presents both benefits and challenges. This study aims to identify consumers' concerns regarding the adoption of AI service robots in the South African hospitality industry and mitigation to increase adoption. A non-probability convenience sample of 204 South African hospitality consumers (Gen X, Y, Z, and Millennials) participated in an electronic survey, and open-ended questions explored their concerns and preferences. A descriptive analysis was used for demographics, and thematic analysis identified recurring themes and patterns in the open-ended responses. Findings show that Gen Z and Millennials, fear job losses due to AI automation and lack of information about its benefits. Gen Y and Gen X prioritize human touch and emotional connections in the hospitality industry. Data security, privacy, and AISR bias were anxieties among consumers with prior exposure to AISRs. This study emphasizes the need for a balanced approach that ethically integrates AI while prioritising human-centred hospitality and Ubuntu philosophy. This research, though limited by its qualitative nature and focus on

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consumers, paves the way for a future where AISRs can enhance guest experiences alongside a skilled human workforce.

Keywords: artificial intelligence service robots; artificial intelligence; South Africa; AI adoption and hospitality industry.

Introduction

The South African hospitality industry is poised for a revolution with the adoption of Artificial Intelligence Service Robots (AISRs), promising enhanced efficiency and guest experiences. However, unlocking these potential hinges on addressing consumer concerns (Mou et al., 2023; Limna, 2022). While South Africa is embracing Artificial Intelligence (AI) technologies and hotels like Johannesburg's Sky leading the way (Adams, 2021; Matikiti-Manyevere and Rambe, 2022; Wakelin-Theron, 2021; Reis et al., 2020), a crucial question remains: how will consumers react to interacting with robots? Few studies exist on consumer attitudes towards AISRs in South African hospitality, and existing studies often have a Western bias. Some are based on South Africa's agriculture, hospitals, banks, and educational industries, neglecting unique sociocultural factors (Kelly et al., 2023; Jembere and Moodley, 2022; Jembere et al., 2023; Sey and Mudongo, 2021; Nwankwo and Sonna, 2019; Mamela, 2021). By identifying these concerns and developing solutions, the industry can navigate ethical considerations and maximize benefits for both businesses and guests.

To ensure successful AISR integration, a balanced approach that tackles consumer concerns and sociocultural factors is crucial (Kamoonpuri and Sengar, 2023; Jembere et al., 2023). Nevertheless, taking this initial step towards the adoption of AI necessitates a deeper understanding of consumer concerns. However, consumers in the industry are receptive to AI and have seen its potential to improve service quality; striking a balance between digital and human interactions remains a challenge. This highlights the need to find a balance between the efficiency of AI and the importance of human connections in hospitality (Elliott et al., 2021).

Additionally, limited research on consumer perspectives and effective mitigation strategies exists despite predictions of a significant rise in the global AI market by 2026 (Damiani et al., 2021; Reis et al., 2020). Current research on AI adoption in the South African hospitality context is scarce, and Western-centric studies often fail to account for

unique sociocultural factors influencing attitudes towards AISRs in South Africa and Africa as a whole (Kelly et al., 2023; Jembere and Moodley, 2022; Jembere et al., 2023; Sey and Mudongo, 2021; Nwankwo and Sonna, 2019; Mamela, 2021; Darangwa 2021).

Understanding these concerns and potential solutions in the South African context is critical for increasing adoption and addressing ethical considerations. Therefore, this study aims to identify consumers' concerns and mitigation measures to increase adoption and address ethical considerations.

To achieve the above aim, the following objectives have been set:

1. To identify consumer concerns regarding the adoption of AI service robots in the South African hospitality industry
2. To develop mitigation strategies to address these concerns.

To answer the research objectives, a comprehensive literature review is presented, followed by the research methodology, findings, and discussion of those findings, limitations of the study, and conclusions and recommendations.

Literature Review

This section shows the current literature on consumer concerns regarding the adoption of AISRs; there is limited research on the adoption of AISRs in Africa and South Africa's hospitality industry, the rate of which has been slow, with factors such as complexity, risk perception, and trust issues identified as contributing factors (Xing et al., 2022; Mou et al., 2023). The adoption of AISRs is influenced by innovation characteristics, AI capabilities, and sociocultural factors (Ostrom et al., 2019). In South Africa, privacy and security concerns have contributed to consumer resistance (Maduku et al., 2023; Sey and Mudongo 2021).

Black box effect, in which AI algorithms produce potentially biased outcomes, has been identified as an obstacle to adoption among consumers (Gwagwa et al., 2020; Oyekunle et al., 2024). For example, AI systems have been accused of showing a preference for male consumers or Western consumers because AI community developers are predominantly male or Western, or data inputted based on a specific community. Thus, if consumers perceive AISRs as delivering biased services (low output), potentially due to algorithmic bias, they may feel a sense of unfairness compared to human interaction (high-output-positive experience). This perception of unfairness can lead to resistance to AISRs in the industry. Equity Theory (Erasmus et al., 2019) suggests

that people expect fairness in social exchanges. Therefore, there is a need to address these concerns, particularly those related to potential bias, which is crucial for success.

Data Privacy and Transparency

Nwankwo and Sonna (2019) and Carman and Rosman (2020) argue that African AI policy discourse is still in its early stages, highlighting the critical need for inclusion. Ethical concerns regarding AI adoption, including data privacy and bias, are paramount (Tatineni, 2019; Patel, 2024). The lack of transparency in AI algorithms raises concerns about biased outcomes and undermines consumer trust (Oyekunle, 2024; Carman and Rosman, 2020). Furthermore, AI's potential of AI to exacerbate unemployment in South Africa highlights the need for ethical AI frameworks and policy interventions (Giwa and Ngepah, 2024; Okoruwa et al., 2022).

Job Displacement and Consumer Resistance

The adoption of Artificial Intelligence Service Robots (AISRs) in South Africa's hospitality industry potentially faces resistance due to job displacement fears and inequities (Giwa and Ngepah, 2024; Okoruwa et al., 2022; Mhlanga and Ndhlovu, 2023). Gruetzemacher et al. (2020) forecast that AI systems would be capable of automating 90% of human tasks in 25 years and 99% of human tasks in 50 years. Consumers worry about automation leading to unemployment, potentially boycotting hotels that use AISRs (Gruetzemacher et al., 2020). This resistance stems from a loss aversion mentality (Liu, 2023) and a sense of social identity among hotel workers (Scheepers and Ellemers, 2019). While some predict widespread job losses (Gruetzemacher et al., 2020), others see AISRs creating new opportunities (Tiwari, 2023; Acemoglu et al., 2022). This mixed message creates uncertainty and negativity towards AISRs (Adams et al., 2020), potentially hindering their adoption (Nguyen, 2020). Studies in South Africa show anxieties about job security and the future of work, with a potential job displacement of 3.3 million countered by a net gain of 1.2 million new jobs (Adams et al., 2020).

Cultural Concerns and the Importance of Localization

Consumers in South Africa's hospitality industry worry that AI service robots (AISRs) might not understand their rich and diverse cultures due

to limitations in AI's ability to handle accents and the lack of resources for local languages like isiZulu (Longoni et al., 2019; Dlamini et al., 2021). Even with localization efforts, cultural clashes and unease may arise if AISRs fail to grasp cultural subtleties, impacting the industry's focus on interpersonal connections (Maduku et al., 2023). This aligns with Cultural Dissonance Theory, where a mismatch between AI and consumer culture can lead to frustration (Singh et al., 2020). Furthermore, concerns exist about AI potentially disregarding South Africa's unique cultural landscape and local values (Maduku et al., 2023). The underrepresentation of the Global South in AI development can lead to biased datasets and impersonal interactions, as seen with chatbots criticized for lacking cultural sensitivity (Sey and Mudongo, 2021; Gwagwa, et al 2020). For AISRs to be successful, effective communication in diverse languages and a strong foundation in South African culture are crucial.

The Challenge of Humanizing AI and Anthropomorphism

The hospitality industry thrives in exceptional personalized services and memorable experiences that evoke positive emotions. Although AI-powered service robots have the potential to deliver personalized services, achieving a balance between functionality and emotional aspects remains a critical challenge. Hotels and restaurants are exploring ways to humanize AI and leverage the anthropomorphism effect; however, consumers tend to find human-like robots unsettling (Mende et al, 2022; Yoganathan et al., 2021). Interestingly, they were more receptive to animated features. As technology matures, financial and ethical concerns are predicted to decrease (Zuo et al, 2023.). However, current consumer anxieties regarding human-robot interactions persist. These concerns include a perceived lack of personal connection with AI technologies, AI's failure to understand individual preferences, the high cost of AI implementation-limiting service options, and the perceived impersonality of humanoid robots (perception of humanoids lacking warmth Lin, et al., 2022; Lin et al., 2023). Studies emphasize the need for guidelines that balance functionality and emotional aspects in human-robot interactions. This is crucial for wider acceptance and adoption of service robots in the hospitality industry.

The Path Forward: Transparency, Trust and Responsible AI

The integration of AI service robots in the hospitality industry must overcome various consumer-related barriers, including concerns about loss of control, job displacement, and psychological discomfort (Mou et al., 2023; Tiwari, 2023). Overcoming these barriers requires addressing ethical considerations, ensuring transparency, and providing consumers with control over their data and interactions with AI systems (Mercan et al., 2020). By fostering transparency, inclusivity, and responsible AI development, businesses can enhance consumer trust and facilitate the adoption of AI technologies, ultimately improving guest experience and operational efficiency in the African hospitality industry.

Methodology

This exploratory study examines the limited research and infancy of AI Service Robots (AISRs) in South Africa's hospitality industry. This study focuses on the qualitative data collected using open-ended questions from 204 conveniently selected South African consumers with varying levels of exposure to AISRs. This approach provides a comprehensive understanding of AISRs' potential impact.

Measurement

A scenario-based survey (SBS) was employed, allowing participants to engage with an AISR in a hypothetical hotel scenario via an online survey. This methodology, aligned with Reese, Ganster, and Baier (2020), provided context for responses and simulated decision-making processes in a controlled environment (Utomo et al., 2022). Critics argue SBSs may not fully capture real-world experiences (Miller et al., 2023), but follow-up questions assessed the scenario's influence on responses. Prototypical humanoid robots such as Sophia, droid, peer robot, mechanoids, and chatbot interfaces were included to represent various AISRs in the hospitality industry.

Participants were informed of the study's objectives, consented to participate, and were provided with a definition of service robots. The scenario presented a minimally detailed hotel room service interaction with an AI service robot named Siphon. Follow-up questions assessed scenario comprehension and its influence on responses. Participants also

selected their preferred AISR from visual representations to understand their preferences better.

Data Collection

The target population comprised South African consumers aged 18-65 who were customers of three-to-five-star hotels. Participants were conveniently invited via social media platforms (LinkedIn, Facebook, TikTok, WhatsApp) using a survey link. Qualifying questions ensured participants were part of the South African hospitality industry.

A self-administered questionnaire, combining open- and closed-ended questions, gathered quantitative data and qualitative insights. A rigorous pilot study involving academics, practitioners, and 50 target consumers ensured clarity and effectiveness. The focus was on open-ended questions, demographics, consumer knowledge of AISRs, and consumer preferences.

Open-Ended Questions

Open-ended questions allowed respondents to express concerns and mitigation strategies regarding AI adoption freely, providing rich data and spontaneous responses (Wang and Mulrow, 2014). This approach yielded a broader understanding of consumers' perspectives on AISRs in the hospitality industry, aiding a deeper qualitative. Given the scarcity of South African context studies, this method helped build new knowledge (Hai-Jew, 2022).

However, open-ended questionnaires can lead to varying response lengths, depth, clarity, and quality (Hai-Jew, 2022). To address these challenges, researchers used coding to categorize and compare responses (Ferrario and Stantcheva, 2022). A pretest ensured clear instructions, reducing language and phrasing issues. Some unclear questions were removed. Researchers acknowledged the inherent limitations and subjectivity of open-ended questions during data analysis.

Ethical Considerations

Ethical approval was obtained before conducting this research. In line with ethical principles, the respondents were assured of anonymity and confidentiality to encourage candid responses. Steps were taken to ensure that the respondents read and understood the case study and that responses were unbiased. For example, they were asked whether the

scenario was on a bank. A ‘yes’ response indicated that the participants had not read the scenario and were therefore excluded during the analysis stage. This study provides valuable insights into the potential adoption of AI service robots within the South African hospitality industry.

Data Analysis

A descriptive analysis of the frequency and percentage was used to determine the demographic profile of the respondents. Thematic analysis was employed to identify themes from both the data and the existing literature. The researchers familiarized themselves with responses by reading them alongside questions. Subsequently, the data were cleaned and coded based on recurring statements or themes drawn from both literature and the data itself. Coding was used to identify relevant patterns and themes within the dataset.

Transparency During Data Cleaning

To ensure that we only used data from consumers who met all the criteria, we excluded those who indicated that they did not want to take part in the study (2 respondents), did not reside in South Africa they did not reside in South Africa (10 respondents), those who did not read the scenario (36 respondents), those who did not comment (23 respondents). After data cleaning, 133 respondents were eligible for data analysis (see Table 1).

Table 1. Data cleaning

Total Respondents before cleaning	Did not want to take part in the research	Not residing in South Africa	Failure to read the scenario	No comment	The final number after cleaning
204	2	10	36	23	133

Coding Process and Theme Identification

The researcher used a codebook to code each response from the dataset. This iterative process ensured that one person coded the reliability of the study. Additionally, a word cloud was used to identify common themes. Thereafter, the most common concerns from consumers were on AISR in the South African Hospitality industry. The themes that emerged were job

losses, safety or security, quality of service, Human interaction, cultural values, Ubuntu and, anthropomorphism (see Table 2).

Code	Description	Example Response
Job Losses	Concerns about robots taking people's jobs	<i>"AI taking over everything", "People losing jobs", "It will take people's jobs"</i>
Safety/Security	Concerns about the safety of robots or the data they collect	<i>"I feel it might compromise security of data", "Malfunction can cause unexpected accidents"</i>
Quality of service	Concerns about the quality-of-service robots can provide	<i>"The quality won't be good", "They will not be Able to give you a human touch and experience"</i>
Human Interaction	Concerns about the loss of human interaction with robots replacing human staff	<i>"Lack of human contact", "The hospitality industry is one that thrives...because of another human being's extension of their humanness"</i>
Cultural	Concerns about AISRs being a threat to the culture	<i>"The use of AI will inhibit cultural and traditional dishes."; "I imagine AI would struggle with so many South African accents and that could be difficult to work with via audio."</i>
Ubuntu	Concerns about AISR being a threat to human well-being	<i>Taking over humans</i>
Anthropomorphism	Dislike for robots that appear too human	<i>It doesn't have emotions and doesn't show empathy</i>

Table 2. Themes

Word Cloud

A word cloud was done using a visual representation of the most common words. A popular visualization package, pyLDAvis was used to help interactively with:

- Better understanding and interpreting individual topics, and
- Better understanding of the relationships between the topics.

The common words were job, taking jobs, service robots, privacy, security, interaction, quality, and hacked. This shows similarity with the coding process validating the coding process.

Sample Profile and Groups

The summary describes the demographic characteristics of the respondents who participated in the survey. These were used when interpreting the findings of the study and seem to have influenced the perspectives and experiences of the respondents regarding their concerns and migrations on AI Adoption.

Of the 204 responses we received, and after data cleaning 133 respondents met all the criteria which were: residing in South Africa, used three to five-star hotel, read and understood the scenario, level of exposure to AISRs, indicated preferred AISR, responded to all the three open-ended questions. Of the 133 responses, 56% were from females and 44% were from males. The age groups were distributed as follows 18-25 years: 41%; 6-45 years: 49%, 46-58 years: 9%; and 59 years and above, 2% (Table 3). The demographic and frequency used were used to determine whether consumer concerns were dependent on age, gender, prior exposure, and preferred AI service robots.

Table 3. Demographics: age and gender

Age	No of Females	No of Males	Total	Female Percentage	Male Percentage	Total
18-25 Years	26	28	54	20%	21%	41%
26-45 Years	39	26	65	29%	20%	49%
46-58 Years	8	4	12	6%	3%	9%
59 and Above	1	1	2	1%	1%	2%
Total	74	59	133	56%	44%	100%

Results

The hospitality industry is increasingly exploring the potential of AISR to automate tasks such as pepper robots and enhance guest experience. However, alongside potential benefits, a survey of 133 consumers in the South African hospitality industry reveal the following concerns regarding the adoption of AISR.

Concerns on AI Adoption

This section presents the results of the open-ended questions. Based on the thematic analysis, six themes extracted from the thematic analysis were: job losses, safety or security, quality of service, human interaction, culture, ubuntu and, anthropomorphism.

Potential Job Losses

Respondents, particularly those aged 18–45 years, expressed significant concerns about AISRs, leading to increased unemployment in the hospitality sector. They feared job displacement, particularly in low-skilled positions. One respondent stated, *'My concern is it will leave many people unemployed. Lots of people will lose their jobs and that will increase the unemployment rate even more.'* Another respondent highlighted the potential impact on South Africa's job market, stating, *"The higher the use of AI robots, the fewer humans will be hired, so it will increase the unemployment rate in South Africa."*

Security Concerns

The 18-45-year-old respondents, particularly aware of data protection issues, expressed concerns about the security and privacy risks associated with AI adoption. They were worried about data breaches, hacking, and the potential misuse of personal information collected through AI interactions. One respondent stated, *"They will not have sufficient security measures in place to prevent hacking or protect personal information."* Another respondent expressed concern about data misuse, stating, *"I feel it might compromise the security of data given to the robot, as it is a programmed machine."* It was also noted that fear of security was common among people who had previous exposure to AISR OR AI technologies.

Service Quality

Respondents across all age groups expressed concerns regarding the reliability and accuracy of AI-powered services. They were worried about technical glitches, malfunctions, and the inability of AI systems to handle complex situations or to understand nuanced requests. One respondent expressed concern about potential safety hazards, stating, *"Errors happening that can lead to death of people."* Another respondent

questioned AI's ability to handle complex situations, stating, *"Service robots who may not understand the nuances of the questions I'm asking."*

Human Touch

Respondents aged 45 and above who valued personalized services and emotional connections expressed concerns about AI failing to replicate the human touch in hospitality experiences. They emphasized the importance of human interaction and questioned AI's ability to understand and cater to individual needs and cultural nuances. One respondent stated, *"It will not be able to give a human touch and experience, which is mostly needed in the hospitality industry."* Another respondent questioned AI's ability to cater to diverse needs, asking, *"Are they going to be multilingual? I imagine AI would struggle with so many South African accents and that could be difficult to work with via audio."*

Ubuntu Philosophy

Respondents expressed concerns about the potential impact of AI on social interaction and the Ubuntu philosophy, a South African philosophy emphasizing humanity towards others. They believe that human interaction is crucial for hospitality, fostering trust, comfort, and satisfaction. One respondent stated, *"The hospitality industry thrives on social interactions...it creates trust, comfort, and satisfaction – hospitality is because of another human being's extension of their humanness."*

Fear of Dehumanization

The findings revealed a broader concern among respondents regarding the potential loss of human interaction and jobs due to AI adoption. They expressed fear of AI taking over humanity, as indicated by statements like *"Taking over humans," "Robots becoming the enemy of humans,"* and *"Robots taking over everything."* These sentiments highlight a perceived threat to human connections and purposes in the face of AI advancement.

Impact on Others

Beyond personal concerns about job displacement, respondents also expressed concern about the broader impact of AI adoption on others in the industry, reflecting Ubuntu philosophy. Statements such as *"How to*

easily access it in rural areas" and "Will make many people redundant" demonstrate their fear of negative consequences for others, even if they do not directly affect them.

Anthropomorphism Concerns

This research revealed concerns among respondents regarding human-like features of Artificial Intelligence Service Robots (AISR). These concerns relate to emotions, appearance, and ability.

Emotion, Appearance and Ability Concerns

One respondent expressed discomfort with AISR lacking emotions and empathy, stating, *"It doesn't have emotions and doesn't show empathy."* This suggests a preference for human interaction, which fosters emotional connections. Appearance concerns were reflected by some respondents who expressed concerns about AISR looking too human, potentially leading to a loss of human experience and diversity in hospitality experience. On the other hand, ability concerns were reflected through respondents questioning AISR's ability to mimic human capabilities, asking, *"Are they going to work like human beings do?"* They worried that AISR might not be able to provide the same level of service and responsiveness as human employees, potentially impacting customer satisfaction. These concerns highlight the tension between the potential benefits of AI and the desire for authentic human interactions in the hospitality sector.

Lack of Infrastructure and Resources

Some respondents expressed doubts about South Africa's readiness to adopt AI because of infrastructure limitations, such as unreliable electricity supply and a potential digital divide. They raised concerns about the impact of AI on vulnerable populations that might lack the necessary skills or access to technology. One respondent stated, *"South Africa being a third-world country, I believe is not well equipped intellectually to adapt to the 4th industrial revolution."* Another respondent highlighted the digital divide, stating, *"Many people in SA are not technologically savvy, I fear many will be left behind."*

Discussion

Consumers, particularly the 18–45 age group, fear job losses due to AI automation, mirroring the concerns raised by Brougham and Haar (2020). This concern is amplified by South Africa's existing high unemployment rate, consumers' potential lack of sufficient information about the potential benefits of AI, and a general lack of exposure to AI technologies. Therefore, it follows that implementing AI without addressing socioeconomic instability and without providing sufficient information about AI could lead to increased resistance, as consumers may regard such behaviour as ethically and morally insensitive. It can be argued that the fear of job loss may just be a fear of the unknown and may change over time. This is supported by the finding that those exposed to AI in South Africa are more concerned about unemployment and job security, while those who have been exposed to AI outside South Africa are more concerned about the lack of human experience and diversity in interactions with AISR.

Concerns about the loss of human touch with the introduction of AI Service Robots (AISR) in the hospitality industry might reflect the value that consumers place on personal interactions and emotional connections. This is especially true considering that the industry thrives to foster social interaction and provide a welcoming experience. The prospect of AI replacing human interaction raises concerns regarding the potential loss of warmth and empathy in service delivery.

Interestingly, concerns about losing human touch are even more pronounced among older age groups, who often value personalized services and emotional connections more than younger generations. This suggests that developing AI with emotional and intuitive capabilities could be crucial for addressing this specific concern and enhancing human-like interactions (Jembere, Moodley and Kiliswa, 2023). Additionally, these concerns may be heightened if companies rely solely on AISR, without maintaining human presence in their service delivery.

Concerns regarding AI adoption in the hospitality industry extend to data security and privacy, biases in decision-making, potential job loss, and the ethical implications of replacing human workers, as supported by (Sey, and Mudongo, 2021). Additionally, concerns encompass technical glitches, the sharing of sensitive information, and the broader societal impact of AI proliferation. We argue that security and privacy are significant barriers to AI adoption as they may lead consumers to distrust AI and worry about the misuse of information. Since this concern is common across all demographics, it can be inferred that South Africa has

yet to develop more secure and concrete ethical guidelines (Doyle, 2021). What was drawn from the study is that concerns over personal information and security were more pronounced in consumers who had prior experience with AISR. This is supported by Mou et al. (2023), who posit that Chinese users, who are high in AI adoption, pay more attention to the protection of personal information and the security of AI robots.

This finding confirms Nwankwo and Sonna's (2019) assertion that Africa lags in establishing concrete ethical guidelines that instill confidence in consumers, particularly in South Africa. These concerns may result from African countries being excluded from ethical AI discussions (Carman and Rosman 2020; Nwankwo and Sonna, 2019). It can be argued that South Africa consumes more ethical guidelines than produces them. Addressing these concerns requires robust cybersecurity measures, ethical guidelines for data handling, and fairness and transparency in AI development and use. Ultimately, responsible AI adoption hinges on prioritizing ethical considerations at all stages, ensuring that technology serves humanity, and aligning with societal values.

The findings show that South African consumers in the hospitality industry are concerned about the lack of infrastructure and skills to support AI adoption. Sey and Mudongo (2021) confirm that Africa lacks the infrastructure and skills to leverage the potential of AI in terms of AI development, local production of AI-based goods and services, and the use of AI, which supports this.

Limitations

This study has some limitations. The research primarily relied on convenience sampling and purposely focused on customers, potentially neglecting the diverse perspectives of stakeholders (e.g., employees and policymakers) in the industry, which can be of value. Additionally, the study's qualitative nature limits its generalizability. Further quantitative research will be presented to validate the findings and gauge broader industry sentiment. The reliance on open-ended questions may have hindered the depth and specificity of some responses, potentially missing nuanced insights. Thus, a focus group discussion will be presented in another study by the researchers.

Future Studies

Employing diverse sampling techniques (e.g., stratified sampling) and targeting broader stakeholder groups would enhance the representativeness and generalizability of the findings. Furthermore, incorporating quantitative research methods (e.g., surveys with standardized scales) could complement qualitative findings and provide statistically robust data, which will be covered by the research that follows. Future research could investigate the specific needs, challenges, and opportunities related to AI adoption in the South African hospitality context.

Investigating the long-term consequences of AI integration on various aspects, including job creation/displacement, customer experience, and industry competitiveness, is valuable. Exploring the potential of developing and implementing AI solutions specifically tailored to the South African hospitality industry could offer unique advantages. Conducting comparative studies across different regions and industries could offer valuable insights into the best practices and lessons learned regarding AI adoption in various contexts.

Recommendations

Fostering open communication and collaboration among different stakeholders, such as policymakers, industry practitioners, and the public, is crucial for addressing concerns and ensuring responsible AI integration. Furthermore, developing clear and comprehensive regulatory frameworks for AI use in hospitality is essential for mitigating potential risks and promoting ethical deployment. Based on the findings from the consumer, companies must develop skills through training and support programs to equip employees with the necessary skills to adapt and thrive alongside AI technologies. This will increase acceptance among consumers and employees, as this study shows consumers' strong belief in the Ubuntu philosophy.

It is also crucial to develop clear Ethical Guidelines for the development and application of AI technologies in the hospitality industry, to ensure fair, transparent, and accountable practices. Thus, robust data security measures must be implemented to protect guest information and privacy is paramount when integrating AI technologies into hospitality services.

Implications

Reskilling and upskilling initiatives are essential for mitigating the potential negative impacts of AI adoption. AI adoption has the potential to automate various tasks, potentially leading to job displacement in certain sectors of the hospitality industry. AI technologies can be used to personalize guest experiences, enhance service delivery, and improve operational efficiency. However, concerns regarding the potential dehumanization of hospitality experiences and loss of human touch need to be addressed. Ethical considerations regarding data privacy, transparency, and accountability remain important and must be carefully addressed to ensure responsible AI development and implementation in the hospitality sector. Developing AI companies should ensure that they are well-informed about sociocultural problems and incorporate them to reduce biases in AI. Companies should improve the communication competence, transparency, and explainability of algorithms, as these lead to consumer trust, consumer perception of AI compatibility, and increased perceived control of AI systems.

Marketing efforts should be directed towards increasing consumer awareness of AISR's capabilities and limitations of AISR. Additionally, since social influence plays a role in consumer attitude and behaviour, companies should provide social proof of how AISR can be used to increase acceptance. Social proof theory suggests that if consumers are not certain about a decision, they look for people to provide solutions. In the age of social media influencers, marketers can use nano-social media influencers who are regarded as more authentic because of their high personal engagement and originality. Micro-social media influencers, and other types of influencers, can increase consumer acceptance of AISR.

Conclusions

While AI presents the vast potential to transform the hospitality industry, it is crucial to acknowledge and address the concerns raised by consumers to increase AISR adoption in the South African Hospitality Industry. By prioritising ethical considerations and ensuring transparency and fairness in the development and use of AISRs consumers can trust AISRs and this may increase acceptance. AISR can foster positive advancements in the South African hospitality sector, leading to improved efficiency,

enhanced guest experiences, and a more sustainable future for the industry.

Acknowledgements

The authors would like to Durban University of Technology and National Research Foundation (NRF) for providing research support.

Author Contributions

The first author contributed the most to the production of this research article as part of her PhD studies. The second author provided guidance and support. Both authors approved the final manuscript.

Data Availability

Data will be available upon request.

Compliance with Ethical Standards

Ethical clearance was obtained from the Durban University of Technology (DUT).

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical Approval

Ethical clearance was obtained from the Durban University of Technology (DUT).

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