



Accounting theories, practices, education and human capital formation trends

EMPIRICAL AND CONCEPTUAL INSIGHTS



Edited by Martha Matashu, Lilian I Nwosu & Calvin Mahlaule

Accounting theories, practices, education and human capital formation trends



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Accounting theories, practices, education and human capital formation trends

Empirical and conceptual insights

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The publisher (AOSIS) endorses the South African 'National Scholarly Book Publishers Forum Best Practice for Peer-Review of Scholarly Books'. The book proposal form was evaluated by our Social Sciences, Humanities, Education and Business Management editorial board. The manuscript underwent an independent evaluation to compare the level of originality with other published works and was subjected to rigorous two-step peer-review before publication by two technical expert reviewers who did not include the volume editors and were independent of the volume editors, with the identities of the reviewers not revealed to the volume editors or authors. The reviewers were independent of the publisher, volume editors and authors. The publisher shared feedback on the similarity report and the reviewers' inputs with the manuscript's editors to improve the manuscript. Where the reviewers recommended revision and improvements, the volume editors and authors responded adequately to such recommendations. The reviewers commented positively on the scholarly merits of the manuscript and recommended that the book be published.

Research justification

This book aims to provide empirical and conceptual insights into contemporary accounting theories, practices, education and approaches adopted to advance human capital formation in the discipline. Although new accounting practices have emerged in the modern world, there is still a scarcity of conceptual and empirical research that provides a holistic and comprehensive understanding of these evolutions and the human capital approaches used to promote capability formation in accounting.

The need for human capital formation arises from the growing demand for highly skilled accounting professionals who can improve accounting and financial management-related practices in different economic sectors. Contemporary studies that focus on developing a framework for integrating accounting practices and human capital developments are limited. Instead, research strands on accountancy and human capital are growing separately without providing a comprehensive empirical and conceptual framework for integrating the two concepts. Scientific research-based evidence is considered critical for knowledge creation and informed decision-making in any discipline. Empirical and conceptual insights on accounting practices and human capital developments are necessary for building a holistic understanding of the new practices and the need for education and training to equip people with the requisite new knowledge and skills. Such insight is necessary for promoting a holistic understanding of accounting practices and promoting effective human capital development approaches in the discipline where research is growing in silos with limited focus on adopting an interdisciplinary approach. The findings in this book advocate for the development of highly skilled generations capable of meeting the accounting and financial requirements of the modern global economy.

This scholarly book adopts both conceptual and empirical methods to address the gap in the literature regarding the need for research that focuses on human capital formation in the accounting and finance disciplines. The benefits of conceptual and empirical approaches applied by scholars in the various chapters enriched the scientific rigour of the knowledge presented throughout the book.

This book, entitled *Accounting theories, practices, education and human capital formation trends: Empirical and conceptual insights*, aims to contribute to human capital formation and the development of accounting and finance skills. It offers an interdisciplinary perspective on the intersection of accounting practice and the human capital formation of individuals who possess the requisite knowledge. Few, if any, studies have examined the connection between the accounting discipline and the development of its human capital.

The volume editors and authors confirm that no part of the work has been plagiarised and that this book contains original content, following resolution of similarities and overlaps detected using the iThenticate plagiarism detection software. The following chapters are based on revised Doctor of Philosophy (PhD) theses, with more than 50% reworking of each applicable thesis, and an appropriate acknowledgement is provided per the requirements stipulated by the Department of Higher Education and Training's (DHET) *Research Policy of 2015*: Chapter 3, 'Human capital measurements: A case of listed Zimbabwean mining companies', by Queen Mpofo, Wedzerai Musvoto and Danie Schutte; Chapter 4, 'The role of institutional theory in enforcing environmental management compliance within the Zimbabwean gold mining sector', by Moses Nyakuwanika, Huibrecht Margaretha van der Poll and John Andrew van der Poll; Chapter 6, 'Influence of teachers and instructional methods in the classroom on accounting learners' performance'

by Viné Petzer and Veruschka Pelser-Carstens; and Chapter 7, 'Improving the information technology capabilities of accounting teachers through professional development', by Takalani Elizabeth Tshiovhe and Ratau John Monobe.

This book is written by scholars for scholars, specifically targeting fellow researchers in accounting science.

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Dedication

This book is dedicated to God Almighty, the Father, Son and Holy Spirit, for His immense knowledge given to all the authors.

Abbreviations and acronyms, figures and tables appearing in the texts and notes of contributors

List of abbreviations and acronyms

4IR	Fourth Industrial Revolution
ACCA	Association of Chartered Certified Accountants
AGBA	Academy for Global Business Advancement
<i>AJBER</i>	<i>African Journal of Business Economic Research</i>
API	Africa Polling Institute
BCom	Bachelor of Commerce
BoDs	board of directors
BP	business performance
BSc	Bachelor of Science
CA(SA)	Chartered Accountant (South Africa)
CA	chartered accountant
CAPS	<i>Curriculum and Assessment Policy Statement</i>
CARs	corporate annual reports
CAS	College of Accounting Sciences
CD-ROMs	compact disk read only memory
CFOs	Chief Financial Officers
CFP	Certified Financial Planner
CHE	Council on Higher Education
CIMA	Chartered Institute of Management Accountants
CISI	Chartered Institute of Securities and Investments
CITN	Chartered Institute of Taxation of Nigeria
COMZ	Chamber of Mines of Zimbabwe

CPDC	continuous professional development centres
CPRC	Certified Professional Retirement Coach
CPRR	Competitive Programme for Rated Researchers
CSP	corporate social performance
CSR	corporate social responsibility
DEd	Doctor of Education
DBE	Department of Basic Education
DBL	Doctor of Business Leadership
DCom	Doctor of Commerce
DOAJ	Directory of Open Access Journals
DVDs	digital video disks
EIA	environmental impact assessments
EMA	environmental management accounting
EMA	Environmental Management Agency (Chapter 4)
FB	financial behaviour
FDI	foreign direct investment
FET	Further Education and Training
FGDS	focused group discussion student
FL	financial literacy
GAAP	Generally Accepted Accounting Principles
GDP	gross domestic product
HBU	historically black universities
HC	human capital
HCD	human capital development
HED	Higher Education Diploma
HEIs	higher education institutions
HND	Higher National Diploma
HoD	head of department
HoDs	head of departments
HRDC	Human Resource Development Council
IAC	Institute of Accounting and Commerce

IC	intellectual capital
ICAN	Institute of Chartered Accountants of Nigeria
IFRS	International Financial Reporting Standard
IIRC	International Integrated Reporting Council
IOSCO	International Organization of Securities Commissions
IR	integrated reporting
IRBA	Independent Regulatory Board for Auditors
IT	information technology
JBS	Johannesburg Business School
<i>JGBA</i>	<i>Journal for Global Business Advancement</i>
JSE	Johannesburg Stock Exchange
<i>JSSM</i>	<i>Journal of Sustainability Science and Management</i>
LANs	local area networks
LTSM	learning and teaching support material
MANCOSA	Management College of South Africa
MBA	Master of Business Administration
MBL	Master of Business Leadership
MCom	Master of Commerce
MPhil	Master of Philosophy
MRTQ	minimum requirements for teacher education qualifications
MSc	Master of Science
NCE	Nigerian Certificate in Education
NDP	National Development Plan
NGOs	non-governmental organisations
NQF	National Qualifications Framework
NRF	National Research Foundation
NWU	North-West University
OECD	Organisation for Economic Co-operation and Development
OECD/ INFE	Organisation for Economic Co-operation and Development/International Network on Financial Education
PBL	problem-based learning

PD	professional development
PGCE	Postgraduate Certificate in Education
PGDA	Postgraduate Diploma in Accounting
PGM	platinum group metals
PhD	Doctor of Philosophy
PUCHE	Potchefstroom University for Christian Higher Education
RDM	relational and decision-making
RQs	research questions
SAAA	Southern African Accountancy Association
SAACE	South African Association of Commerce Education
SADC	Southern African Development Community
SAIBA	Southern African Institute for Business Accountants
SAICA	South African Institute of Chartered Accountants
SAIPA	South African Institute of Professional Accountants
SBL	School of Business Leadership
SMEs	small and medium enterprises
SMTs	school management teams
SPSS	Statistical Package for Social Science
TEAPR	teaching, engagement, assessment, professional development and research
TELIT-SA	Technology Enhanced Learning and Innovative Education and Training in South Africa
TPB	theory of planned behaviour
TRA	theory of reasoned action
Unisa	University of South Africa
UTEA	University Teaching Excellence Award
WANs	wide area networks
WiR	women in research
WoS	Web of Science
ZEMA	<i>Zimbabwe Environmental Management Act</i>

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Introduction

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Human capital has long been recognised as a critical driver of organisational productivity. The major challenge is that accounting theories have focused solely on establishing processes, structures and procedures without extending to encompass human capital formation within the discipline. Accounting practices play a central role in ensuring the effective management of an organisation's scarce financial resources. Establishing sound financial management and accounting systems is important for fostering the sustainable development of both the organisation and the economy. This book presents an argument for human capital formation accounting. Human capital formation is essential for developing individuals with the necessary accounting and financial skills, knowledge and

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capabilities vital for fostering effective accounting practices. This book, entitled *Accounting theories, practices, education and human capital formation trends: Empirical and conceptual insights*, aims to extend understanding beyond traditional practices to include human capital development within the accounting and finance research disciplines. The chapters in this book are divided into three themes. The chapters in 'Part 1: Theoretical, conceptual, empirical and contemporary insights into accounting practices: Human capital theory perspective' explore the contemporary intersectionality or absence thereof of conventional accounting theories, practices and human capital formation. Accounting theories have primarily focused on processes, structures and procedures, often overlooking the development of human capital in individuals with the necessary skills. The chapters highlight an incongruence between accounting theories, practices and human capital, which they examine and attempt to reconcile. The chapters in 'Part 2: Accounting education and human capital formation' provide empirical insights into the commonly adopted teaching and learning approaches in accounting education. The influence of capabilities in managing the teaching and learning of accounting in tertiary and higher education institutions is examined as a foundational pillar for human capital development. Lastly, 'Part 3: Financial literacy and accounting human capital formation' underscores the need to develop systematic approaches for promoting human capital formation in the field of accounting.

PART 1

**Theoretical, conceptual,
empirical and contemporary
insights into accounting
practices: Human capital
theory perspective**

Accounting theories, practices and human capital formation trends

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■ Abstract

This study presents a conceptual review of selected accounting theories with the view of integrating human capital formation into the practice and discipline of accounting. Accounting is a dynamic field that requires expert professionals with skills to enhance financial management practices across

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various sectors of the economy. However, the financial and regulatory environments are constantly changing, necessitating a re-evaluation of established practices and educational curricula to ensure their relevance and effectiveness. While several studies have been conducted on accounting in the African context, a notable gap exists in the integration of human capital formation trends within accounting research. This study adopts a traditional literature review approach to examine accounting theories and their inclusion of human capital formation in the discipline. Findings from the literature review reveal that existing theories primarily focus on explaining accounting processes and procedures, with limited attention given to integrating human capital formation. The findings also suggest that applying a human capital perspective yields insights that extend beyond the understanding of accounting practices and principles, fostering approaches for human capital development, professional growth, education and training within the field. The study concludes that effective accounting practices require an integration of human capital formation approaches into both accounting practices and education. Furthermore, the study of accounting theories should be extended to integrate these human capital formation approaches.

■ Introduction

The accounting professional practice and academic education are shaped by the complex interplay between the ever-evolving accounting landscape, theory and research evidence (Bérubé & Gendron 2022). Accounting is a dynamic discipline, and therefore, it is not static in its methods, principles or scope (Maran, Bigoni & Morrison 2023). Resultantly, the growing demand for highly skilled accounting experts has created a need for the development of human capital that can enhance financial management practices across various sectors of the economy. The financial and regulatory environments continually transform necessitating a constant re-evaluation of established standard practices and educational curricula to ensure their relevance and effectiveness (Alsharari & Daniels 2023). Scholarly explorations that delve into the intricate fabric of improving human capital formation in accounting practices and education remain limited. Most studies focus on using theoretical, conceptual and empirical approaches to understand developments and phenomena in accounting. Each research dimension contributes a unique perspective and insight into the challenges and opportunities that emerge within the intersection of accounting practice and education. Arguably, awareness of such intersectionality can contribute insights that better ground the development of human capital required in the modern-day accounting world.

Addressing the human capital formation gaps in accounting practices and education requires a tripartite analysis to integrate theoretical,

conceptual and empirical dimensions. The theoretical dimension involves examining the foundational principles, paradigms and underlying theoretical frameworks of accounting (Vitale 2023). Theoretical analysis may address the question of whether the existing theories adequately capture the complexities of contemporary accounting practices in terms of the integration of human capital formation in the discipline. Additionally, it exposes the theoretical underpinnings that hinder the evolving accounting environment. Turning to the conceptual dimension, researchers explore how accounting concepts are understood and applied within professional contexts and educational settings to ensure the formation of human capital across the accounting discipline (Kroon, Do Céu Alves & Martins 2021; Tsiligiris & Bowyer 2021). The conceptual analysis involves a contemplation of whether disparities exist between the theoretical ideals and the practical realities of accounting (Al-Htaybat, Hutaibat & Von Alberti-Alhtaybat 2019). Conceptual analysis enables an examination of the challenges and ambiguities between accounting theories and practices. The conceptual perspective can provide valuable insights into how bridging the gaps between conceptual knowledge and practical application enhances human capital in the accounting discipline (Bhimani 2020).

The empirical dimension explores the real-world application of accounting practices and the influence of educational methods on the development of professional competence (Dellaportas, Nguyen & Luo 2023). Accounting researchers investigate empirical evidence regarding the effectiveness of current educational methods used in preparing accountants for their roles in a dynamic business environment (Handoyo & Anas 2019; Kroon et al. 2021; Maali & Al-Attar 2020; Poje & Zaman Groff 2022; Tavares et al. 2023; Tettamanzi, Minutiello & Murgolo 2023; Thaller et al. 2024). They also explore whether evidence exists to support or challenge the relevance of traditional accounting practices in contemporary industries (Abdullah et al. 2022; Grossi et al. 2023; Kroon et al. 2021; Retolaza & San-Jose 2021). By analysing empirical data, the objective is to identify areas where existing practices and educational paradigms may be misaligned with the needs of practitioners and the expectations of stakeholders (Babalola et al. 2022; Fiandrino, Tonelli & Devalle 2022). A tripartite analysis has the potential to foreground human capital formation approaches that could be adopted to improve human capital development across various practices in accounting.

■ Relevance of human capital in accounting practices and research

According to Deming (2022), human capital theory assumes that investing in education is essential to acquiring skills and training, which, in turn, will increase individual capital. Deming (2022) further adds that this knowledge

and skills will enhance an individual's productivity in the workplace. The human capital theory is used to ensure that organisations develop their employees' skills and capabilities in the workplace (Deming 2022). Human capital is a driver of maximising shareholders' wealth and improving a country's economic growth (Sarwar et al. 2021). It implies that developing skills relevant to accounting practices requires organisations, school leaders and managers to adopt the human capital theory by providing activities that enhance the development of skills and knowledge in the field.

Human capital is necessary for effective functionality and performance in the organisation. The human capital theory posits that investment increases the value of the marginal labour product (Ling et al. 2024). A fundamental belief of human capital theory is that increased productivity in modern accounting is a result of investments in education and training (human capital formation), leading to a higher quality of labour that is appropriately compensated in the field of contemporary accounting practice (Leoni 2023). It can be inferred that human capital formation is central to ensuring the development of effective and efficient accounting practices in the modern world.

■ **Applicability of accounting theories within the African context**

Theories are fundamental aspects of the accounting practice, and therefore, they are important to the managing of finances within the African nations' context (Lassou, Hopper & Ntim 2021). African countries face unique challenges and opportunities that require a specialised research investigation that focuses on the theoretical foundations of accounting (Engelbrecht 2020; Jayasinghe et al. 2021). One distinctive characteristic of accounting theory in Africa is its historical association with colonial legacy and cultural influences (Lassou et al. 2021). The adoption of Western accounting practices during colonial rule has left a lasting imprint on the accounting frameworks in many African countries, shaping the theoretical foundations that underpin the field (Bakre, McCartney & Fayemi 2022; Silova, Rappleye & Auld 2020). The adaptation of international accounting standards and theories to local contexts requires significant theoretical exploration (Baskaran et al. 2020; Jayasinghe et al. 2021). Findings from studies that examine accounting theories and practices may assist with identifying country context-specific human capital formation needs. African nations often face challenges in aligning global accounting standards with their distinct economic, social and political realities. Scholars are actively scrutinising the applicability of existing accounting theories in these unique settings (Ashraf et al. 2019; Norris et al. 2023).

As some African nations transition into emerging economies, the theoretical aspects of accounting are increasingly becoming intertwined with issues related to human capital formation among other elements (Samkin & Wingard 2021). These developments indicate that there is a need for accounting research not only to focus on the practices but also to encompass the human capital formation needs in the field. The role of accounting theory in promoting responsible and human capital practices is a growing field of research in the African context (Qian, Tilt & Belal 2021). Additionally, rapid technological advancements and the widespread influence of digital transformation are reshaping the accounting landscape globally (Tsiligiris & Bowyer 2021). Applying accounting theory to navigate these changes and ensure that accountants harness technology's potential in the African setting represents a burgeoning area of interest and enquiry (Kan et al. 2021; Lassou et al. 2021).

■ Empirical and conceptual frameworks in accounting research

Accounting research in the African context is a multifaceted domain that relies on empirical and conceptual frameworks to explore the intricacies of accounting practices and their theoretical underpinnings (Ipek 2021; Ndemewah & Hiebl 2022). African nations face distinctive challenges and opportunities in the accounting field, which require a specialised focus on integrating empirical and conceptual elements (Qian et al. 2021). One salient feature of accounting research in Africa is its historical association with colonial legacy and cultural influences, which has significantly shaped the empirical and conceptual frameworks used in the region (Lassou et al. 2021). The adoption of Western accounting practices during colonial rule has left an indelible mark on empirical research methodologies and conceptual paradigms that influence the direction of accounting research (Lassou et al. 2021). The adaptation of international accounting standards and theories to local contexts is a key area where empirical and conceptual frameworks interact (Ipek 2021). However, building accounting frameworks without considering building systems for developing human capital formation in the discipline might amount to a futile activity.

Most countries face challenges in aligning global accounting standards with their unique economic, social and political landscapes and that demands empirical investigations and conceptual rethinking (Marufu 2022). African nations transition into emerging economies, and empirical research is increasingly coupled with conceptual frameworks to explore

issues related to sustainable development and socio-economic growth (Hosan et al. 2022). Researchers employ empirical methodologies to gather data on accounting practices, and then, they use conceptual frameworks to analyse and interpret these data within the context of sustainable development (Dragomir 2011). The rapid technological advancements and digital transformation affecting global accounting practices (Saeed et al. 2023) also require a dual approach involving empirical research and conceptual frameworks. Scholars use empirical data to examine the impact of technology on accounting practices in African countries and concurrently develop conceptual frameworks to interpret the implications and possibilities that technology presents (Bonsu, Roni & Guo 2023). While research has explored many different aspects of accounting, there is limited focus on integrating the aspects of human capital formation.

■ Problem statement

Research has attempted to shed light on the gaps in the realms of accounting practices and education, offering a holistic perspective that incorporates theoretical, conceptual and empirical viewpoints (Di Vaio et al. 2023). Studies investigate these various dimensions to understand the challenges and opportunities for the accounting profession and its academic education. The goal is to shape accounting practices; however, there is a limited focus on human capital to navigate its future. There is a deficiency in indigenous theoretical developments tailored to the unique circumstances of African nations (Lassou et al. 2021). The reliance on Western accounting theories, rooted in historical legacy, hinders the development of context-specific frameworks (Laaksonen 2022). There is insufficient comprehensive exploration of the challenges faced in adapting global accounting theories to the specific socio-economic and cultural conditions within African countries (Al-Adeem 2020; Lassou et al. 2021). This gap limits a nuanced understanding of how accounting theories can be effectively contextualised and how human capital formation can be undertaken.

Although accounting research in the African context actively employs both empirical and conceptual frameworks, there remain notable gaps in the academic literature (Ndemewah & Hiebl 2022). The gap between empirical evidence and conceptual understanding in this context limits a nuanced understanding of the integration of the development of human capital. Addressing these gaps is crucial for fostering the development of more relevant context-specific accounting research in African nations. This can be achieved through accounting research that focuses on the integration of human capital formation.

■ Objectives

The objectives of the study are:

- To examine the relationship between accounting theories, practices and human capital formation
- To explore approaches that can be adopted to promote human capital formation in accounting.

■ Methodology

In this study, a systematic approach was used to identify and analyse various theories employed to address complex challenges in the fields of accounting practices and education. The primary goal of this study is to examine the intersections between accounting theories, practices and human capital development. A traditional review of the literature is the most suitable method for this study because it offers a systematic and rigorous approach to achieve the primary objective of examining linkages between accounting theories and human capital. Literature review enables a synthesis and critical analysis of existing knowledge from a wide array of sources, including academic research, empirical studies and practical applications (Whittemore & Knafel 2005).

Through literature review, a study may identify and evaluate key accounting theories, frameworks and empirical evidence that have been used in the African context (Ndemewah & Hiebl 2022). A holistic understanding of the theoretical foundations, empirical insights and practical implications, all of which are essential components for addressing business, social and educational challenges, might be gained from a review of the literature (Paul & Barari 2022). Literature reviews also identify gaps in existing research, assess the adaptability of accounting theories and consider interdisciplinary approaches (Snyder 2019). Ultimately, this approach provides a structured and evidence-based foundation to enable the development of practical recommendations and policy implications for stakeholders in African nations.

Therefore, the researchers conducted a literature review using a structured search strategy that included multiple databases such as Inderscience, ScienceDirect, Wiley Online, Routledge and Google Scholar. To select papers for review, inclusion and exclusion criteria were pre-defined. Peer-reviewed articles, books and reports focusing on theoretical frameworks used to address complex accounting and educational issues were eligible for inclusion. Non-English publications and studies that did not align with the scope of the research were excluded. A detailed data

extraction was performed to extract relevant information from the selected papers. This included details on the theoretical frameworks used, the specific conundrums addressed and key findings. To ensure consistency in the process, a structured data extraction form was created. Based on the context of their application, the identified theoretical frameworks were classified into distinct thematic groups, such as organisational theories, sociological theories and educational theories. A systematic comparative analysis revealed how specific theoretical frameworks were adapted to address unique challenges in each field.

■ Results and discussion

This study reveals that various theories can be employed to understand accounting practices, theories and human capital development. This section provides a detailed explanation of these results.

■ The key accounting theories and human capital formation

□ Human capital theory

One of the main theoretical concepts explored in studies on labour market returns is the human capital theory (Xu & Fletcher 2016). The human capital theory, initially proposed by Becker (1962) and Rosen (1976), suggests that individuals possess a set of skills that can be enhanced through education and training. This theory, which is relatively new in the fields of finance and economics, suggests that companies are motivated to acquire and enhance the human capital of their workforce (Tadić & Barać 2022). As individuals, such as accounting students preparing to enter the workforce, acquire more human capital, their value in the job market is expected to rise because of their increased expertise and efficiency in performing tasks (Poláková et al. 2023). The theory posits that as individuals gain more education, their market worth should also increase in correlation with the level of education they attain, often measured by the total number of credits earned (Xu & Fletcher 2016).

Numerous studies support the idea that human capital theory is a valid explanation for the job outcomes of accounting graduates in contemporary accounting practices (Dellaportas et al. 2022; Hutahayan 2020; Kwarteng & Mensah 2022; Mhlongo 2020; Tavares et al. 2023; Twyford & Dean 2023). This suggests that formal schooling is necessary to acquire specific cognitive skills required for contemporary accounting practices. One of the main ideas in human capital theory is that education enhances people's skills by increasing the value of an educated worker compared to one with

less education (Gillies 2015). However, the validity of these assumptions is uncertain, which challenges the traditional explanation of the value of education in human capital theory (Chattopadhyay 2012). Additionally, the neoclassical economic framework of human capital theory makes it difficult to prove that education enhances individuals' skills and competencies required for the contemporary work environment (Chattopadhyay 2012).

□ Legitimacy theory

According to Fernando and Lawrence (2014), legitimacy theory is a theoretical perspective used in accounting studies to understand how businesses respond to social expectations and maintain their legitimacy while creating human capital. This theory posits that organisations fulfil their social contract and gain recognition for their objectives by making voluntary disclosures about environmental and social issues. According to Suddaby et al. (2017), legitimacy is the widely held view or sense that an entity's activities are suitable, legitimate or acceptable within a socially constructed system of definitions, norms, values and beliefs. The literature on legitimacy theory in accounting research emphasises the importance of understanding and explaining how organisations behave regarding the disclosure of social and environmental issues. To enhance human capital in corporate, social and educational settings, it is recognised that organisations operate within a broader social system and must adapt to evolving social expectations. This can be accomplished by engaging socially with staff members and assisting them in meeting their social obligations.

□ Institutional theory

The seminal work by Meyer and Rowan (1977) laid the groundwork for institutional theory. Organisations argue that they adopt formal structures that align with rationalised institutional rules. These rules serve as guiding principles that organisations adopt to facilitate the growth of employees, enabling them to embrace and implement institutional theory to gain legitimacy, resources, stability and survival opportunities. By understanding how institutions influence accounting practices, we can gain a deeper understanding of the dynamics within organisations and the broader socio-economic context in which they operate. Accounting research has embraced institutional theory as a framework to understand how institutions can enhance human capital to shape accounting practices, disclosure choices and the adoption of accounting standards (Lakhani & Herbert 2022). By applying institutional theory, researchers gain insight into the behaviour of accounting professionals, organisations and regulatory bodies within the institutional context (Berthod 2018). This perspective sheds light on the processes of change, resistance and adaptation in accounting systems.

Carpenter and Feroz (2001) apply institutional theory to investigate how institutional pressures influenced the decisions of four US state governments to adopt or resist the use of Generally Accepted Accounting Principles (GAAP). The study highlights the role of resource dependence as a form of coercive institutional pressure and identifies factors that may lead to initial resistance against institutional pressures for change. Scapens (2012) further discusses the application of institutional theory in management accounting research. He distinguishes between different types of institutional theory, such as new institutional economics, new institutional sociology and old institutional economics. These perspectives provide insights that management adopting institutional theory needs to be well-informed about the nature and applicability of this theory in accounting practices.

Consequently, Guerreiro, Rodrigues and Craig (2021) explore the application of institutional theory to the adoption and implementation of the International Financial Reporting Standard (IFRS). The study emphasises the role of institutional entrepreneurs, institutional work and institutional logic in understanding the institutional dynamics of change processes associated with accounting systems. To enhance human capital through institutional theory, management should understand the need to develop people with skills and knowledge that enhance accounting practices.

□ Stakeholder theory

Stakeholder theory posits that organisations should consider the interests of all stakeholders, not focusing solely on maximising shareholder value (Mahajan et al. 2023). Stakeholders are individuals or groups who have a vested interest in or are affected by the activities, decisions and results of an organisation. They include employees, customers, suppliers, local communities, government agencies and more. Effective stakeholder management is essential for organisational success and longevity. By improving human capital development in accounting practices, management should recognise and prioritise stakeholders' interests in organisations to build strong relationships, enhance trust and improve overall performance (Hutahayan 2020). Stakeholder-oriented approaches lead to improved decision-making, innovation and long-term value creation.

Empirical studies have examined the relationship between corporate social performance (CSP) and financial performance from a stakeholder theory perspective. For instance, Ruf, Muralidhar and Brown (2001) investigate the association between changes in CSP and financial accounting measures. Their findings supported the tenet of stakeholder theory, which asserts that shareholders benefit financially when management is

enlightened and functions well in their financial performance. This has been attracting attention in industries to ensure the alignment of sustainability accounting with conventional accounting practices. Accounting studies have also explored the role of stakeholder theory in financial decision-making processes (Deng, Kang & Low 2013; Hörisch, Schaltegger & Freeman 2020). They have emphasised the importance of considering stakeholder interests, including CSP dimensions when making financial decisions and developing human capital.

□ Capital structure theory

Capital structure theory focuses on understanding the optimal mix of debt and equity financing for a company (Ardalan 2017). It emphasises how companies make financing decisions while considering factors such as risk, cost of capital and agency conflicts. To ensure human development, capital theory plays a crucial role in describing how firms select the appropriate capital structure (i.e. debt versus equity). This involves the trade-off theory and the pecking order theory (DePamphilis 2022) to improve accounting practices within the organisation. The trade-off theory posits that companies strive to balance the tax advantages of debt financing with the costs and risks associated with increased leverage (Myers 1984). According to this theory, firms have a target capital structure that balances the benefits of debt (such as interest tax shields) with the costs (such as financial distress costs and agency conflicts). Trade-off theory suggests that firms will adjust their capital structure based on changes in their risk profile, profitability and tax environment (Modigliani & Miller 1963).

The pecking order theory, proposed by Myers and Majluf (1984), posits that firms prefer internal financing over external financing. According to this theory, firms prioritise internal financing (retained earnings) as the most preferred source, followed by debt issuance and, as a last resort, equity issuance (Bui, Nguyen & Pham 2023). The pecking order theory argues that firms prefer internal funds because they have lower information asymmetry costs and do not signal negative information to external investors (Guizani 2020).

Accounting studies frequently investigate the relationship between capital structure and various financial performance indicators. Capital structure theory offers a theoretical framework for interpreting these empirical findings. For instance, Opoku-Asante et al. (2022) analyse 425 cross-sectional firm-year samples from companies in Ghana and Nigeria between 2014 and 2019 to examine the impact of debt maturity on the relationship between capital structure and financial performance. The study finds that a negative relationship between capital structure and financial performance aligns with the pecking order theory. This suggests

that when applying capital structure theory in an organisation focused on enhancing human development, firms should prioritise internal financing and opt for lower levels of debt to maintain financial flexibility in the business.

Kumar, Colombage and Rao (2017) provide a comprehensive review of capital structure determinants by analysing 167 papers published from 1972 to 2013. It highlights the dominance of the pecking order theory in explaining the capital structure of firms and identifies gaps in the literature, such as the under-examination of firms in emerging markets and small-sized firms. Kumar et al. (2017) suggest recommendations for future research, providing valuable information for accounting scholars. Guo et al. (2018) examine the applicability of capital structure theories to Chinese listed companies during a transition period. The authors compare the performance of the trade-off theory and pecking order theory models, finding that Chinese firms exhibit characteristics aligned with the pecking order theory. The study provides insights into the financing behaviour of Chinese firms and enhances the understanding of capital structure theory in diverse economic contexts. In contrast, Bajaj, Kashiramka and Singh (2021) analyse 183 articles published between 1999 and 2019 to identify existing gaps and themes in capital structure theory. They reveal the dominance of the trade-off theory in explaining capital structure, regardless of economic status, and highlight the need for more sector-specific studies and primary research in the field.

□ Agency theory

To enhance profit maximisation, agency theory examines the relationship between principals (e.g. shareholders) and agents (e.g. managers). It explores the conflicts of interest that can arise in these relationships, which may affect the business (Cuevas-Rodríguez, Gomez-Mejia & Wiseman 2012). Agency theory was founded by Michael C. Jensen and William H Meckling in the late 1970s (Jensen & Meckling 1976). They introduced key concepts such as principals, agents, conflicts of interest, incentives, human development and monitoring mechanisms within the agency relationship. This theory provides a framework for understanding the behaviours and decision-making processes of agents, as well as the mechanisms employed by principals to align the interests of agents with their own.

Hiebl (2015) investigated the agency and stewardship attitudes of Chief Financial Officers (CFOs) in private companies, considering the influence of agency theory and stewardship theory. The study explores how CFO attitudes are influenced by factors such as reporting structure, management appointments, the presence of owner-managers and CFO maturity. The findings provide insights into how the theory of agency can explain and

help understand the varying attitudes of CFOs in private companies. Beal (2022) conducted an integrative review of supply chain management from the agency theory perspective. The study applies the theoretical framework of agency theory to analyse the dynamics within supply chain management. Researchers conducted an integrative review, analysing various articles that explored the application of agency theory in the context of supply chain management. The review highlights the insights provided by agency theory in areas such as performance dynamics, risk management, sustainability, inter-firm relationships and supplier management within the supply chain.

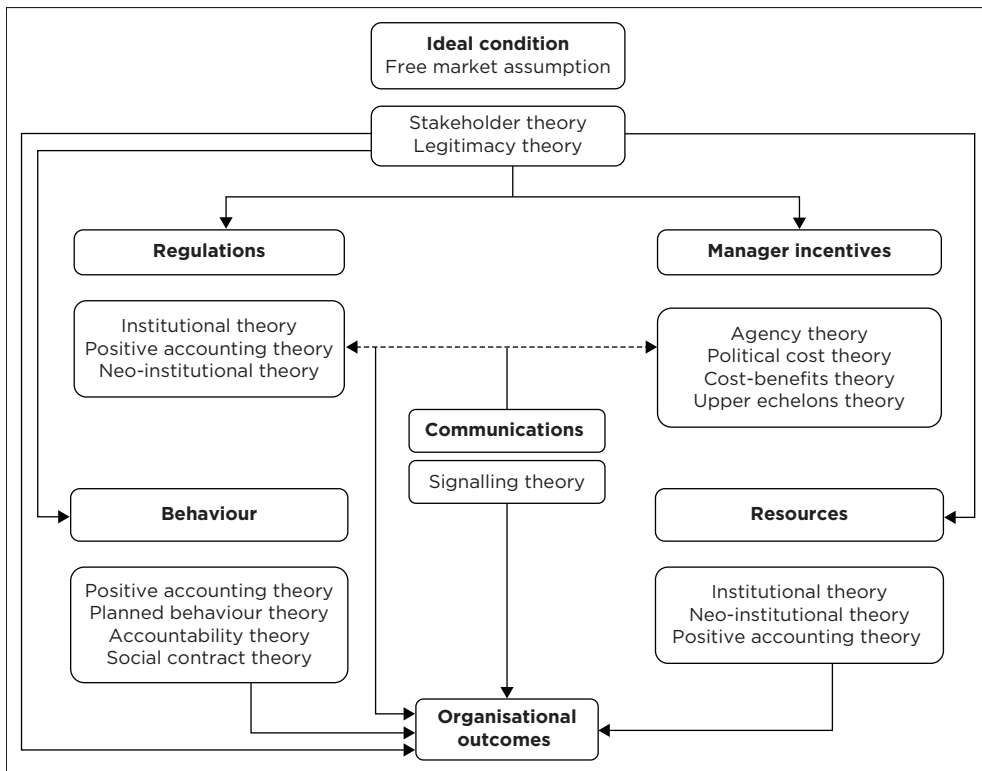
Consequently, Antwi (2021) examined the presence and application of agency theory in accounting research. The analysis demonstrates the relevance of agency theory in explaining the contractual relationships between principals and agents and its integration into financial and management accounting. Based on these reviews, it can be affirmed that agency theory offers unique insights into information systems, outcome uncertainty, incentives and risk. Additionally, it emphasises the importance of incorporating complementary perspectives to enhance the understanding of agency relationships and the need to develop highly skilled professionals who can meet the requirements of both shareholders and managers.

■ **Applicability and adaptability of accounting theories**

The applicability and adaptability of accounting theories to human development within the unique business, social and educational contexts of African nations face a multifaceted challenge posed by both theoretical frameworks and practical constraints (Lassou et al. 2021; Ndemewah & Hiebl 2022). Often rooted in Western contexts, accounting theories may not be seamlessly aligned with the intricate economic, cultural and institutional nuances prevalent in African environments (Goddard et al. 2016). Theories such as legitimacy, signalling and the IFRS have been adopted with the aspiration of fostering transparency and comparability in financial reporting. However, the diverse economic structures and resource limitations within African countries pose challenges to their effective implementation and the ability to enhance knowledge in the industry (Nnadi & Soobaroyen 2015; Owolabi & Iyoha 2012). Moreover, the social and educational domains require a nuanced adaptation of accounting theories to meet the unique needs of the region (Agana, Zamore & Domeher 2023; Nurunnabi 2021; Ovharhe & Abada 2023). Practical constraints may include resource limitations, uneven infrastructure and governance issues that impede the full realisation of accounting standards (Crawford 2019; Kimeli, Okiro & Iraya 2022).

Nevertheless, the adaptability of these theories remains evident in the growing body of empirical research conducted in African contexts, which aims to reconcile theoretical constructs with practical realities (Kimeli et al. 2022). Such research not only enriches our understanding and knowledge of the applicability of accounting theories but also illuminates potential solutions that consider the intricacies of the African business, social and educational landscape. Thus, researchers posit that the effectiveness of accounting theories in African settings is contingent on their flexibility and responsiveness to the dynamic challenges and opportunities that the continent presents (Dagestani, Qing & Abou Houran 2022), underscoring the importance of context-specific adaptations and further scholarly exploration. Figure 1.1 presents the theoretical map for the most common theories applied in the accounting literature.

Figure 1.1 illustrates that most accounting theories have a limited focus on the development of human capital. While these theories emphasise principles related to free market assumptions, regulations, manager incentives, behaviour, communication and resources, they do incorporate aspects of human capital formation.



Source: Authors' own work.

FIGURE 1.1: The theoretical map for the theories applied in the accounting literature.

■ Gaps in accounting theories in human capital formation

Within the academic literature, notable gaps persist in the application of existing accounting theories to adequately address the specific needs for improving human capital development and addressing challenges faced by African countries (Areneke et al. 2022; Ndemewah & Hiebl 2022). A significant gap exists in the limited contextualisation of accounting theories to the distinctive economic, cultural and institutional landscapes of African nations (Sell et al. 2023; Waweru, Peng & Hopper 2023). Many prevailing accounting theories have been formulated in Western contexts. Their direct transfer to African settings without due consideration for regional idiosyncrasies may lead to misalignments and misunderstandings of what is required for human capital in an organisation to be fully equipped with the theories and their application in business, society and educational environments (Waweru et al. 2023). Furthermore, the availability of resources, infrastructure and regulatory capacities in African countries differs substantially, necessitating a more tailored approach (Breen, Cordery & McConville 2023; Nachum et al. 2023).

Although scholars have increasingly recognised these gaps, there is still a dearth of comprehensive studies that provide robust frameworks for accounting practices that are theoretically sound and pragmatically suitable for African contexts (Waweru et al. 2023). The extent to which these gaps have been addressed is gradually expanding, with a growing body of empirical research aiming to bridge the gap between theory and practice, thus offering practical insights and adaptations (Waweru et al. 2023). However, the journey towards a holistic reconciliation of existing accounting theories with the specific needs of developing human capital remains an ongoing scholarly endeavour, with the potential for further exploration and refinement in future research initiatives (Musundwa 2022; Sell et al. 2023). Human capital formation in accountancy needs further investigation from the human capital perspective.

■ Professional development of accountancy in South Africa

Professional development encompasses a variety of activities and strategies aimed at enhancing knowledge, skills and competencies, empowering professionals to excel in their roles and adjust to the changing demands of their fields (Mallillin & Laurel 2022). The theory recognises that continuous learning and development are essential for individuals to remain effective and contribute meaningfully to their organisations and industries. Some of the accredited professional accounting bodies in charge of professional

development of accountancy in South Africa are the Institute of Accounting and Commerce (IAC), South African Institute of Professional Accountants (SAIPA), Southern African Institute for Business Accountants (SAIBA), South African Institute of Chartered Accountants (SAICA), Association of Chartered Certified Accountants (ACCA) (South Africa) and Chartered Institute of Management Accountants (CIMA).

Mallillin and Laurel (2022) explored the impact of professional development system theory and skills on the pursuit of quality education, focusing on various skill areas. Their findings reveal that professional development contributes to knowledge acquisition, adherence to standard requirements, observed model skills, implementation effectiveness and reflective teaching. However, they did not find a significant correlation between respondents' profiles and the impact of professional development on the quality of education.

In the context of accounting education, professional development theory plays a crucial role in preparing aspiring accountants and finance professionals for their careers (Maradona, Chand & Lodhia 2024). Accounting educators can apply the principles of professional development theory by designing curricula and learning experiences that foster reflective thinking, problem-solving abilities and adaptability to changes in accounting practices and regulations (Mintchik, Ramamoorti & Audrey 2021). Furthermore, offering internships, workshops and networking events provides students with opportunities to participate in practical experiences and ongoing learning, which aligns with the theory's focus on lifelong learning and personalised growth. In accounting management practices, professional development theory can guide leaders in supporting the growth and advancement of their accounting teams (Alsharari 2024). Managers can cultivate a culture that values continuous learning and offers resources for employees to engage in training programmes, certifications and conferences. Encouraging employees to engage in reflective practices and setting clear goals for skill development helps foster a motivated and skilled accounting workforce.

Subsequently, professional development leads to improved human capital development in an organisation through lifelong learning. Professional development emphasises that learning is not limited to formal education but is a lifelong process that encourages professionals to continuously seek opportunities for learning and growth throughout their careers (Scales 2002). Reflective practices are a central tenet of the professional development theory. Professional development involves the concept of reflective practice, in which professionals critically analyse their experiences, actions and results to gain insights and improve their performance (Anani Sarab & Mardian 2023). Forman et al. (2021) argue

that continuous improvement also promotes the idea that professionals should constantly strive for enhancement, refining their knowledge and skills to stay current and relevant in their fields. Therefore, professional development is a crucial approach that can be adopted to enhance human capital development in accounting. This is because professional development emphasises personalised and tailored development plans to meet the specific needs of each professional.

■ Towards integrating accounting theories, practices and human capital formation approach

The use of accounting theories to address challenges within the African context is an emerging field of academic research, indicating an increasing recognition of the necessity for adaptations tailored to the specific context (Jayasinghe et al. 2021). Knowledge is also a crucial component of human capital development, characterised by both advancements and persistent gaps, providing a nuanced understanding of the business environment (Norris, Kutubi & Greenland 2022). On the one hand, there has been substantial recognition of the limitations of applying accounting theories predominantly formulated in Western contexts to African nations (Olojede et al. 2020). African economies exhibit distinctive characteristics, marked by diverse cultural, social and institutional elements (Cao & Shi 2021; Nunn 2020). A notable development is the adoption of IFRS in many African countries (Ezenwoke & Tion 2020; Kurauone et al. 2021; Tawiah 2019).

■ Human capital formation

The core of this research focuses on human capital formation and contemporary accounting practices. Many companies nowadays derive their competitive advantages primarily from human capital (Boon et al. 2018). Human capital formation is a broad concept that encompasses an employee's education, expertise, experience and skills (Xu & Fletcher 2016). It plays a crucial role in developing dynamic capabilities that help organisations adapt to significant technological changes (Poláková et al. 2023). Poláková et al. (2023) further suggest that individuals with higher levels of knowledge, skills and experience are better equipped to acquire and apply new valuable knowledge. This, in turn, facilitates the rejuvenation of an organisation's resources.

It is argued that effective human capital formation in accounting education can positively impact graduates' ability to enhance dynamic

sensing, learning, integration and coordination capabilities in practice (Tavares et al. 2023). From the human capital theory perspective, Poláková et al. (2023) define sensing as the graduates' ability to recognise and pursue opportunities in the work environment. Learning involves updating skills with new knowledge; integration refers to the ability to combine personal knowledge with new working skills; and coordination involves organising and deploying tasks, resources and activities in alignment with new working practices.

A common trend observed in the accounting job market for recent graduates is the increasing rate of unemployment among them. This trend can be attributed to the insufficient development of human capital at universities, which fails to align with modern accounting practices (Mainga et al. 2022). This situation seems to challenge the core principles of human capital theory. If human capital theory is considered the primary foundation for the demand for accounting education, it is crucial to evaluate whether the human capital development of university graduates aligns with the demands of contemporary accounting practices. Dellaportas et al. (2022) discover that effectively developing human capital involves more than just the knowledge acquired through learning. It also involves shifts in students' views on accounting practice, white-collar crime and the expectations of a professional accountant.

■ Education and training

In developing human capital within the accounting education environment, Twyford and Dean (2023) invite students to discuss how industry-led experiences contribute to the development of employability skills in accounting education. The findings reveal that students perceived the approaches used in accounting education for human capital formation as effective for developing employability skills such as teamwork and communication and for aligning theory with accounting practice. Mhlongo (2020) asserts that accounting programmes implemented in South African universities have significantly enhanced students' workplace readiness, their comprehension and utilisation of accounting principles, the cultivation of generic skills and their dedication to pursuing accounting as a career. Mhlongo (2020) further ascertains that in practice, employers generally specified pervasive skills. Oral and written communication and critical thinking were identified as the most sought-after skills for accounting-related employment in South Africa.

The above findings suggest that accounting education is meeting the human capital requirements for accounting practices and the expectations of professional accounting bodies. These studies exemplify the application of human capital theory and professional development theory in accounting

education and management practices. By recognising the importance of continuous learning, personalised development and reflective thinking, accounting professionals can stay at the forefront of their field, provide high-quality services and contribute positively to their organisations, enhancing the learning experience for students studying accounting in schools (Dellaportas et al. 2022).

■ Student-centred teaching and learning approaches adopted in accountancy

Constructivism is an educational theory based on the principle that individuals, or learners, do not acquire knowledge and understanding passively through direct transmission. Instead, they develop or construct new knowledge through experience and social interaction, integrating new information with their prior knowledge. The origins of this theory are linked to the cognitive development work of Swiss psychologist Jean Piaget (Piaget 1952). His research on cognitive development and observations of children's learning processes laid the foundation for the constructivist perspective.

At the heart of constructivism is an early concept called trial constructivism, as explained by von Glasersfeld (1990) and based on Piaget's ideas. This concept suggests that learners should actively shape their development of knowledge rather than passively take in information. This shift in mindset represents a significant departure from traditional learning methods, transitioning individuals from passive recipients to active knowledge generators. Learners use knowledge as a tool to shape their evolving thoughts, transitioning from perceiving reality as objective to creating their meanings. It does not reject the reality of an objective but provides learners with potential learning outcomes during the learning process. The role of knowledge in radical constructivism is determined by the cognitive needs of learners. Thus, this helps to create an environment in which the capabilities of educators and learners are developed.

The following aspects should be considered when applying constructivist theory to enhance human capital development in accounting education and management practices. In accounting education, constructivist theory emphasises student-centred learning approaches that actively engage learners in the process of constructing knowledge (Mapuya 2021). Instead of relying on traditional rote memorisation of accounting principles, educators can implement the following constructivist strategies: The problem-based learning (PBL) approach presents students with real-world accounting scenarios or case studies, encouraging them to apply their existing knowledge and seek new information to solve problems (Tan 2021).

Problem-based learning approach fosters critical thinking, problem-solving skills and a deeper understanding of accounting concepts. Isohätälä et al. (2020) observe that collaborative learning, on the contrary, involves group discussions and activities that promote social interaction and knowledge sharing among students. This encourages active engagement and the co-construction of knowledge, enabling students to learn from each other's perspectives. Consequently, reflection and metacognition enable students to think critically about their learning experiences, identify knowledge gaps and make connections between theory and practice. Metacognition, or thinking about one's thinking, helps students become more self-regulated learners. This is also applicable to management practices. In management practices, constructivist principles can enhance employee learning, problem-solving and decision-making (Ensslin et al. 2020). Lastly, experiential learning can also encourage employees to learn through hands-on experiences, challenging projects and simulations. This allows individuals to construct knowledge in a contextually relevant and meaningful manner. The aforementioned statement emphasises that decisions regarding teaching and learning practices should be aligned with a student-engaged, collaborative and consultative approach to curriculum implementation, actively seeking regular feedback from students about their learning experiences.

■ Conclusion

This study proposed to examine accounting theories, practices and human capital formation. It concluded that accounting theories have a limited focus on developing human capital, instead prioritising organisational processes, procedures and structures to ensure profit maximisation. The study explored how these theories and frameworks contribute to the advancement of human capital in accounting practices and education, highlighting existing gaps in the literature. By anchoring accounting standards and policies in solid theoretical underpinnings, these frameworks foster consistency and efficacy in accounting practice.

The study concluded that the relevance of human capital theory to accounting practice and research should be revisited. Such a reappraisal is necessary for promoting a holistic understanding of accounting practices and promoting effective human capital development approaches in a discipline where research is increasingly isolated, with limited emphasis on adopting an interdisciplinary approach. The study resolved by providing approaches towards building human capital development in accounting. Such an understanding of accounting practices while acknowledging the importance of cultivating highly skilled generations capable of meeting the demands of the global economy is important.

The study found evidence that accounting theories have gaps in improving human capital and professional development within the business environment. It recommends that further research is required to achieve human capital development in the business, social and educational context in Africa. Based on these conclusions, the study suggests incorporating human capital accounting practices into existing accounting theories and practices. Additionally, the grounded theory approach can be used by accounting researchers to establish foundational theories, concepts and ideas that would support the positivistic orientation of mainstream accounting.

Diffusing integrated reporting into South African university Accounting curricula: A human capital approach

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■ Abstract

Integrated reporting (IR) has emerged as the standard corporate reporting system in recent years. However, there is a gap in the existing Accounting curriculum in South Africa that needs to be bridged to address the human capital needs of IR knowledge, competencies and skill sets. This chapter analyses the extent to which IR is integrated into the existing Accounting curriculum of universities in South Africa. It recognises the role that human capital formation plays in the development of highly skilled accounting professionals who can enhance contemporary corporate reporting practices across various sectors of the economy. The theoretical robustness

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of human capital theory was employed to gain a comprehensive understanding of the human capital gap between what accounting programmes offer and what accounting practices in the corporate world require in terms of IR. The research methodology involved qualitative document analysis through external online desktop research. The author examined the Accounting curriculum of all 26 public universities in South Africa for the 2022 academic year. The findings reveal that only two public universities in South Africa offer a full-fledged academic programme in IR. However, other universities have included IR as either a short course or an additional elective stand-alone module. The findings further reveal that the Accounting curriculum in South Africa has incorporated some components of IR, such as governance, risk and strategic management. This study offers implications for Accounting education in South Africa to enhance their current Accounting curriculum. The aim is to address the specific human capital needs related to IR knowledge, competencies and skill sets that are essential in modern accounting practice. This approach will not only raise graduates' awareness of IR but also equip them early with the human capital required for their future roles as integrated report preparers or advisors. This study also offers opportunities and a framework for prospective scholars and researchers to conduct future research.

■ Introduction

Accounting education has long been criticised on a global and national level for inadequately teaching the practical real-world context and not developing graduates with the contemporary human capital needs required by employers (Carvalho & Almeida 2022, p. 11; Fouché 2020, p. 1). These criticisms originated from various perspectives, including an outdated and narrow curriculum, limited exposure to globalisation, technology and ethics, a lack of graduate skills desired by employers, a teaching style that promotes memorisation, absence of a clear strategic plan and poor engagement with the labour market during the training period (Carvalho & Almeida 2022, p. 11; Dellaportas 2019, p. 121). Existing literature has highlighted a growing gap between the expectations of employers, entities and the knowledge and performance of recent accounting graduates (Ahmed 2019; Aryanti & Adhariani 2020; Asonitou & Hassall 2019; Oben & Van Rooyen 2023; Tan, Laswad & Chua 2022). The goal of accounting education is to equip graduates with the necessary technical knowledge and skills based on human capital required by modern accounting practice (Viviers & De Villiers 2020, p. 27). Modern accountants are transitioning from focusing solely on financial accounting to encompassing business and sustainability reporting. This shift involves managing stakeholder relationships, effectively communicating information to all relevant

stakeholders in a comprehensible way and enhancing the value of the generated information (Fontaine & Khemakhem 2020, p. 159; Terblanche & De Clercq 2021, p. 326).

Nowadays, stakeholders are demanding more non-financial information and greater transparency from companies. This call for change in corporate reporting to include sustainability information by companies resulted in the emergence of an innovative corporate reporting framework 'integrated reporting' (IR) (Rodrigues & Morais 2021, p. 1). This new corporate reporting framework is rapidly gaining acceptance as an innovative tool for companies to communicate a comprehensive view of how their strategies, governance, performance and prospects contribute to the creation of value over time (International Integrated Reporting Council [IIRC] 2021, p. 10; South African Institute of Chartered Accountants [SAICA] 2020). To supply the human capital-based skills of IR needed by contemporary accounting practice, higher education institutions (HEIs) must participate in this innovation by playing a strategic role in integrating IR into the current Accounting curriculum.

The concept of 'human capital' relates to a person's intangible economic value, including the level of education, technical expertise, experience and skills needed to perform a given task (Ross 2023, p. 1; Tadić & Barać 2022, p. 162). In accounting education, there is a human capital knowledge and skills gap concerning IR that needs to be bridged to prepare future accounting professionals for the demand of users of corporate reports (Cunha et al. 2020; Maali & Al-Attar 2020; Shaban 2018). The IR framework can be adopted and implemented by an organisation if its annual report preparers possess adequate knowledge and competence in this reporting framework (Oktorina et al. 2020, p. 70).

From a human capital perspective, Accounting students, as future accountants, need to have the skills and competencies required to communicate a high-quality, well-structured and well-planned integrated report (Asabeh et al. 2023, p. 3). The notion of the diffusion of innovation theory suggests that IR is adopted and implemented faster when the country's level of accounting competence and the perceived benefits to both the adopters and potential users are higher (Adelowotan & Udofia 2021, p. 110; Oktorina et al. 2020, p. 3). Accounting education must cultivate the human capital-based competence and skills required by professional accountants to compete in a sustainable, knowledge-intensive and diverse global economy (Tavares et al. 2023, p. 2).

It is evident that many companies in South Africa, including state-owned entities, public sector entities, non-profit organisations, privately held and smaller companies, are publishing integrated reports (Biondi & Bracci 2018;

Myeza, Ecim & Maroun 2023; Nkonki 2023). Furthermore, it is a mandatory requirement for all companies listed on the Johannesburg Stock Exchange (JSE) to prepare integrated reports (Corvino et al. 2020, p. 11; De Villiers, Venter & Hsiao 2017, p. 957; García-Sánchez et al. 2020, p. 2). An integrated report provides stakeholders with a more comprehensive understanding of how a company operates and addresses social and environmental issues (IIRC 2021, p. 1). The preparation of quality integrated reports requires accounting professionals to act and think beyond financial information. As a result, to face this new era, accountants must quickly adjust to the new reality and develop the unique skills and competence necessary to be competitive (Ellitan & Anatan 2020, p. 236). For accounting professionals who wish to ensure their employability with sustainability, the key is to update and develop new abilities, especially communication soft skills related to IR (Tavares et al. 2023, p. 2). Considering this need, accounting education in South Africa needs to fully incorporate IR into its existing curriculum. This will improve human capital and bridge the gap between accounting education and the skills required by modern-day accountants (Dolce et al. 2019, p. 58; Rodrigues & Morais 2021, p. 1).

In response to the human capital-based knowledge and skill gaps in accounting education and the need to prepare future accountants for modern accounting practices, certain accounting certification and accreditation bodies have implemented initiatives to enhance the competence and skills of accountants through seminars and training related to IR (Cunha et al. 2020; Muthaiyah, Phang & Sembakutti 2021; Oktorina et al. 2020; Shaban 2018). For example, the Association of Chartered Certified Accountants (ACCA), headquartered in IIRC in the United Kingdom, has integrated more IR content elements into its syllabuses, especially at the professional level, starting in December 2014 (ACCA 2014). The Chartered Institute of Management Accountants (CIMA) has also included IR in its revised syllabus for 2015 (Babajide, Imoleayo & Uwalomwa 2015, p. 64). In 2015, the SAICA and University of Johannesburg collaborated to introduce a short course aimed at enhancing the skills of practising accountants. The course was designed to enable accountants to prepare integrated reports and develop integrated thinking abilities (SAICA 2020).

Human capital theory suggests that formal education and training enhance the productivity capacity of individuals (Van der Merwe 2010, p. 107). In South Africa, professional accounting education is primarily taught by HEIs rather than professional accounting bodies (Fouché 2020, p. 1). The accounting profession in South Africa is regulated by accounting professional bodies such as SAICA, the South African Institute of Professional Accountants (SAIPA), CIMA and ACCA. These professional bodies largely specify the structure, knowledge field, minimum requirements

and credits within each field in the Accounting curriculum for South African universities (Kwarteng & Servoh 2023, p. 2).

It can be affirmed that the concept of IR is emerging and has increasing significance in academic research (Adams 2015; Dumay et al. 2016; Reimsbach, Hahn & Gürtürk 2018; Rodrigues & Morais 2021). However, there is a lack of evidence available regarding the integration of IR into the Accounting curriculum. Although there has been significant progress in recognising the skills and competencies required by contemporary accounting practices, very little is known about the link between contemporary accounting practices and human capital development. Furthermore, little research has provided satisfactory analytical evidence to understand and promote these two needs. Moreover, Hossain, Bose and Shamsuddin (2022, p. 2519) advocate for future research to investigate the diffusion of IR in the Accounting curriculum as IR evolves to meet the information needs of various stakeholders. The current study addresses this issue by examining the extent to which IR is integrated into the Accounting curriculum of universities in South Africa, focusing on the human capital perspective.

This study makes a significant contribution in terms of theory and practice. It contributes to the literature by enhancing the understanding of contemporary accounting practices related to IR while acknowledging the necessity of cultivating highly skilled accountants capable of meeting the skill demands of the global economy. Employing human capital theory, the author focuses on defining the knowledge and skills gaps in IR within the Accounting curriculum. This study also contributes to practice, specifically for HEIs that offer accounting courses, by providing evidence on the skills that accountants will need in the future to meet market demands.

The rest of this chapter is organised as follows. Firstly, the research problem and objectives are discussed. Secondly, a literature review and theoretical framework are presented. Thirdly, the research approach is outlined. Fourthly, the results and discussion are elaborated upon. Finally, the chapter concludes with remarks, implications of the study and recommendations.

■ Research problem and objectives

The conventional financial reports, which only include historical financial information, are no longer sufficient to meet the accounting information needs of modern society (Fülbier & Sellhorn 2023, p. 1106). There is a gap between what accounting education offers and what accounting practice in the corporate world needs from accounting graduates (Perego,

Kennedy & Whiteman 2018, p. 55). Carvalho and Almeida (2022, p. 11) argue that the theories taught in accounting education at the university level are not closely linked to real-world accounting practices. This disconnect prevents graduates from developing more solidified conceptions, hindering their ability to earn degrees. The Accounting curriculum, viewed from the human capital perspective, should be structured to equip students for the professional environment (Mhlongo 2020, p. 49). This can be achieved by ensuring that the knowledge and skills transferred through the Accounting curriculum meet the demands of employers. However, scholars have questioned the capacity of current accounting programmes in South Africa to adequately prepare graduates to meet the human capital requirements of contemporary accounting practices (Handoyo & Anas 2019; McGuigan & Kern 2016; Mhlongo 2020; Nomlala & Sibanda 2020). Carvalho and Almeida (2022, p. 7) contend that there is a shortage of Accounting lecturers and a weak connection between the job market and the theory and practice taught in Accounting education during the training phase. Others perceive Accounting education as one-dimensional, focusing exclusively on technical material and vocational approaches that are disconnected from the complexities and human capital requirements of the real-world workplace (Barac, Conradie & De Klerk 2020; Saravanamuthu 2015). The gaps in the university Accounting curriculum are a major problem that might result in graduates lacking the skills required in the industry (Perego et al. 2018, p. 55).

The research problem for this study arises from the lack of conceptual insights into the diffusion of IR in the existing Accounting curriculum of universities in South Africa and the approaches adopted by HEIs to enhance human capital formation in the IR discipline. The research problem is supported by evidence from Mhlongo (2020, p. 49), who indicates that the current Accounting education in South Africa does not address the human capital knowledge, competencies and skill sets required for accounting-related employment in the country. It is argued that if IR is not integrated and recognised as a relevant discipline in the Accounting curriculum, the IIRC is unlikely to achieve its vision of establishing IR as the global standard for corporate reporting (Hossain et al. 2022, p. 2522). Hence, the call to action is for accounting education to develop an IR human capital-driven Accounting curriculum to ensure that graduates acquire the necessary IR knowledge and skills required in contemporary accounting practice.

This chapter considers the following question: How can Accounting education in South Africa advance human capital-based competencies and knowledge of IR to meet the needs of contemporary accounting reporting practice?

■ Research objectives

The research objectives of the study are:

- To analyse the extent to which IR is included in the existing Accounting curriculum of universities in South Africa from the human capital perspective
- To examine the role of human capital formation in the development of accounting professionals who can improve contemporary corporate reporting practices in different sectors within the economy.

■ Literature review and theoretical framework

This section provides a critical review of relevant literature and the theoretical framework.

■ Integrated reporting fundamental

Integrated reporting is considered an emerging corporate reporting framework in the field of corporate disclosure (Iredele 2019, p. 1). Compared to traditional financial reporting systems and sustainability reporting, IR has created a paradigm shift. It involves a single report that encapsulates the entire story and performance, providing a holistic representation of how the entity creates and sustains value over time (Moloi & Iredele 2020, p. 2). Although the IIRC aims to establish IR as the standard for corporate reporting worldwide, its adoption has not been as rapid as anticipated because of its inability to gain traction and engagement in the key global markets of the United States of America (USA) and China (Sabelfeld, Dumay & La Torre 2023, p. 2).

An integrated report, in its simplest form, presents an entity's performance and future projections based on financial, human, intellectual, natural, social and production capital as opposed to producing annual financial reports and a separate, detached sustainability report (Cooray, Gunarathne & Senaratne 2020, p. 1). Among the many voluntary and mandatory approaches to corporate reporting, IR is considered a disruptive innovation in accounting practices to assist companies in understanding how they create value and be able to effectively communicate with external stakeholders (Sabelfeld et al. 2023, p. 2). An integrated report may be either a stand-alone report or part of another report or communication (IIRC 2021, p. 5). An integrated report incorporates both financial and non-financial elements that can help stakeholders understand how a company creates value over time (De Villiers et al. 2017, p. 937).

As a new corporate reporting standard, IR has drawn a lot of interest in the previous decade from both academia and industry, with South Africa leading the way for its ongoing development (Sabelfeld et al. 2023, p. 1). In March 2010, South Africa became the first country globally to formally institutionalise IR as a standard element of corporate governance and a prerequisite for JSE listing (Mokabane & Du Toit 2022, p. 1). Furthermore, it has been noted that many South African companies, including public, private, non-profit and state-owned enterprises, have made IR their primary method of corporate reporting. Although IR is a requirement of JSE Limited (Roberts 2017, p. 1), Borghei, Leung and Guthrie (2016, p. 111) argue that it appears to be complex, time-consuming and costly to produce. This is because the integration of both financial and non-financial information in a single report is more advanced (Borghei et al. 2016, p. 112). Atkins and Maroun (2015, p. 201) contend that many JSE-listed companies have voiced their difficulties in understanding the structure, guiding principles and content elements of the mandatory IR. Therefore, the academic Accounting curriculum must be reviewed and modified to ensure that students have the skills and information necessary for their future professions as IR preparers or consultants (Ibiamke & Ajekwe 2020, p. 34).

Integrated reporting has attracted the interest of researchers for some time (Chikutuma 2019; Cooray et al. 2020; Eccles, Krzus & Ribot 2014; Gunarathne & Senaratne 2017; Iredele 2019; Shahria 2022), and Accounting education scholars are following suit (Barac et al. 2020; Boulianne, Keddie & Postaire 2018). However, limited research can be found in an international context that has investigated the inclusion of IR in Accounting curricula.

■ **The diffusion of integrated reporting in university Accounting curricula**

Higher education institutions are centres of learning and hubs for researchers, innovators and leaders. The development of knowledge and skills of accounting professionals mainly occurs through an integrated Accounting curriculum designed exclusively for HEIs (Cunha et al. 2020, p. 11). Owen (2013, p. 341) advocates for Accounting education to prioritise elements of IR like strategy, governance, risk and performance, corporate performance and business outlook. Mburayi and Wall (2018, p. 293) recommend that the academic fields of accounting and finance consider integrating IR principles into the current curriculum, either as a short course or as an optional stand-alone module.

In the past, accounting programmes have focused heavily on teaching for-profit financial accounting aimed at maximising profits, often neglecting the impact of the company's operations on other stakeholders

(Mburayi & Wall 2018, p. 293). As companies have evolved their corporate reporting models and practices, universities need to recognise and be part of this change by incorporating IR into their Accounting curricula (Rodrigues & Morais 2021, p. 4). Ibiameke and Ajekwe (2020, p. 28) urge colleges to enhance their existing Accounting curricula by incorporating learning outcomes that align with content elements and guiding principles of IR.

Diffusion is a process through which innovation, such as new ideas, knowledge, beliefs, technology and practices, is communicated to members of a social system through specific channels over time (Robertson & Samy 2015, p. 13). Changes in accounting standards and reporting frameworks are the direct and indirect impacts of the diffusion process. Integrated reporting is considered a novel concept and innovation in corporate reporting. It promotes integrated thinking by converting different forms of capital to facilitate more sustainable value creation and decision-making compared to traditional accounting reporting (Gunarathne & Senaratne 2017, p. 528).

Integrated reporting has been regarded as an innovation in corporate reporting. The adoption and implementation of IR by a corporation may be influenced by the level of expertise of professional accountants with this reporting framework (Oktorina et al. 2020, p. 3). According to IIRC (2021, p. 40), a company's ability to create value is partly influenced by the leadership structure of the organisation, which includes the knowledge, skills and experience of those responsible for governance. Through accounting education, these professionals can acquire skills and competencies related to IR. In this regard, the inclusion of IR education into Accounting curricula is necessary (Rodrigues & Morais 2021, p. 4). According to Adhariani and De Villiers (2019, p. 129), 'accounting academics do not possess superior knowledge of IR compared to other stakeholder classes; hence, it is essential to develop specific learning models for teaching IR'.

Leading academics and educators in the field of accounting have recognised several issues that need to be resolved in the South African accounting education system (Fouché 2020, p. 1). Some of these challenges include the demand for a 'new generation of students, continual changes in accounting and auditing standards and legislation, [*the rapid*] growth in technology, students' inadequate schooling backgrounds, and even [A]ccounting educators' resistance to change' (Viviers & De Villiers 2020, p. 27). Barac et al. (2020, p. 3) argue that present-day accounting professionals are often educated and trained as financial reporting experts, lacking sufficient knowledge and skills to report on non-financial information. Oktorina et al. (2020, p. 71) urge accounting certification and

accreditation bodies to enhance accountants' competence through seminars and training on IR.

■ Theoretical framework

The theoretical robustness of human capital theory was employed to gain a comprehensive understanding of the human capital gap between what accounting programmes offer and what accounting practices in the corporate world require in terms of IR. The concept of human capital is relatively new in the fields of finance and economics. Human capital is defined as the skills, abilities and expertise crucial for performing a specific task (Tadić & Barać 2022, p. 164). The human capital theory assumes that organisations are required to seek and develop the human capital of their existing workforce (Ross 2023, p. 1). Human capital theory is well-founded both theoretically and empirically. It can be generalised and adapted to provide a solid framework for examining gaps in knowledge, competence and skills required in the workplace (Nerdrum & Erikson 2001, p. 127).

The theory of human capital is a product of neoclassical economics, which derives its metaphysical assumptions from the 'hard core' of conventional economics research programmes (Nerdrum & Erikson 2001, p. 127). The fundamental tenets of the human capital theory include individualism, complete knowledge, rationality, private property rights and the market economy (competition) (Van der Merwe 2010, p. 107). The theory of human capital holds that individuals can boost their efficiency in a particular area by acquiring additional education and acquiring new abilities (Mahoney & Kor 2015, p. 299). Ironically, the challenge of demonstrating the supposed direct relationship between formal university education and productivity, as proposed by human capital theory, is at least partially a result of what some would call fundamental weaknesses in neoclassical economic theory. Blaug (1987) argues that the central principle of human capital theory is that education leads to a net positive marginal product of labour. However, this principle can only be tested under challenging, albeit implausible, circumstances.

Human capital theory postulates that productivity may be increased by investing in human capital, which provides a rationale for the significance of education (Tadić & Barać 2022, p. 166). It posits that education makes people more productive, increasing the marginal output of educated workers compared to less educated ones (Van der Merwe 2010, p. 107). This indicates the widely held human capital theory notion that each job requires a specific set of cognitive talents that can only be acquired through formal education (Blaug 1992, p. 211). Investing in accounting education and training will lead to the development of human capital, fostering a

comprehensive understanding of new practices and enhancing the skills and knowledge of individuals.

There should be a greater acknowledgement that individuals frequently act based on limited knowledge (Van der Merwe 2010, p. 107). If human capital theory is considered the primary theoretical foundation of higher education demand, it would be reasonable to assume that accounting graduates from higher education have post-school employment experiences that align with the expectations of modern accounting practice. In this regard, accounting education in South Africa plays a significant role in the formation of human capital, producing highly skilled accounting professionals capable of enhancing financial management practices across various sectors of the economy.

■ Research approach

Using qualitative document analysis, this study employed an external online desk research approach to analyse the current Accounting curriculum of all 26 public universities in South Africa. Desktop research involves gathering and analysing data from secondary sources that are readily available, such as reports, scholarly publications and other materials that are accessible online or in libraries (Sileyew 2020, p. 1). This study's methodological approach was divided into two phases.

In the first phase, the researcher consulted the website databases of each of the 26 public universities and conducted a search using the keyword 'IR'. The term 'integrated reporting' was identified in faculty brochures, course outlines, prospectuses, curricula, programmes, research focus areas, seminars, annual reports, annual research reports, research articles and other university publications like campus news. For this study, only the information related to IR found in the faculty brochure, course outline, prospectus, curriculum and programmes was considered for further analysis.

In the second phase, the contents of all detailed courses, prospectuses and curriculum programmes offered by the Department of Accountancy at each of the 26 public universities in South Africa for the 2022 academic year were examined. The goal was to determine whether IR is included in the existing curriculum as a full-fledged academic programme, a short course, an elective stand-alone module or simply as a topic or subject.

■ Results and discussion

As explained in the introduction section, unlike in many countries, in South Africa, most HEIs, not professional accounting bodies, provide professional accounting education (Fouché 2020, p. 1). Professional accounting bodies

largely specify the structure, knowledge fields, minimum requirements and credits within each field in the Accounting curriculum for South African universities. Apart from the third university, all the other 25 public universities offer Accounting programmes and courses. The results of the analysis are presented in Table 2.1.

TABLE 2.1: Results of the content analyses.

University	Programme offer	Level of studies	Duration	Faculty	Subject areas
1	None	None	None	None	None
2	MBA programme	Postgraduate stand-alone module	120 hours	Management and law	Module: Integrated Accounting
3	N/A	N/A	N/A	N/A	N/A
4	None	None	None	None	None
5	Postgraduate Diploma in IR	Postgraduate	1 year	Economics and Management Sciences	Six subject areas: IR Framework, Assurance, Corporate Communication, Information and Knowledge Management, Business Strategy and Responsible Leadership
6	Master's in Accounting Sciences	Postgraduate: Added elective stand-alone module	1 year	College of Accounting Sciences	IR
7	None	None	None	None	None
8	<ul style="list-style-type: none"> • IR for professionals in business • Preparation of integrated reports for accountants 	Continues education (short course)	8 weeks	College of Business and Economics	History and development of corporate reporting, integrated thinking, using the IR framework, fundamental principles, guiding principles and content elements
9	Financial and IR	Postgraduate	1-2 years	Commerce, Law and Management	Coursework and research report Coursework: Sustainability Accounting and IR, Theory of Finance and Corporate Policies, and Cases in Corporate Reporting
10	None	None	None	None	None
11	None	None	None	None	None
12	None	None	None	None	None
13	None	None	None	None	None
14	None	None	None	None	None
15	None	None	None	None	None
16	Graduate School of Business	Executive Education (short course)	2 weeks	Graduate School of Business	Background to IR, benefits of IR, the international IR framework, status of IR, as well as several other issues, such as assurance and the links to other frameworks

Table 2.1 continues on the next page→

TABLE 2.1 (cont.): Results of the content analyses.

University	Programme offer	Level of studies	Duration	Faculty	Subject areas
17	Chartered Institute of Management Accounting	Short course	2 weeks	Graduate Centre for Management	Introduction to IR, ethical awareness and corporate governance
18	None	None	None	None	None
19	None	None	None	None	None
20	None	None	None	None	None
21	None	None	None	None	None
22	None	None	None	None	None
23	None	None	None	None	None
24	None	None	None	None	None
25	None	None	None	None	None
26	None	None	None	None	None

Source: Author's own work.

Key: MBA, Master of Business Administration; IR, integrated reporting.

■ Objective 1: To analyse the extent to which integrated reporting is included in the existing Accounting curriculum of universities in South Africa from the human capital perspective

Results from Table 2.1 reveal that only two public universities in South Africa offer a full-fledged academic programme in IR. This indicates that there is a gap between what accounting departments are teaching and the expectations of employers regarding the IR human capital-based skills required by graduates. The results of this study confirm the research by Pippin et al. (2016, p. 1), which states that less than 2% of colleges in the USA now offer embedded or stand-alone accounting courses in sustainability reporting and IR.

In the realm of academic accounting and business courses, only three public universities in South Africa have integrated IR principles into their current curricula, either as a short course or as an additional elective stand-alone module. This result is consistent with research by Mburayi and Wall (2018, p. 308), which found that academic disciplines in accounting and finance should consider integrating sustainability reporting and IR principles into existing curricula or adding an optional stand-alone module. This conclusion conflicts with the research conducted by Ibiameke and Ajekwe (2020, p. 34), which states that no Nigerian postsecondary institution has updated its curricula to incorporate the latest developments in IR.

A point to note is that accounting departments in public universities in South Africa do offer modules that cover basic principles of IR, including governance, risk and opportunities, business model, strategy, performance and sustainability, value creation, stakeholder relationships and the six broad bases of capitals (financial, manufactured, intellectual, human, social and relationship and natural) (IIRC 2021, p. 2). This indicates that at least some components of IR are offered in the commerce, business and management faculties. This is in line with other professional institutions such as ACCA, which has integrated more IR content elements into its syllabuses, especially at the professional level, starting in December 2014 (ACCA 2014).

Although not reflected in Table 2.1, it was found that the majority of the 25 public universities in South Africa offer IR as a research interest. Table 2.2 presents the different components of IR offered as a study unit in Accounting curricula.

TABLE 2.2: Components of integrated reporting offered as a study unit in Accounting curricula.

Integrated reporting content elements	Module in which the component is included
Organisational overview and external environment	Corporate Governance
Governance	Corporate Governance
Business model	Financial Accounting (IFRS* 9)
Risks and opportunities	Financial Management
Strategy and resource allocation	Financial Management
Performance	Financial Accounting
Outlook	Financial Management
Basis of preparation and presentation	Financial Accounting

Source: Author's own work.

*International Financial Reporting Standards.

■ **Objective 2: To examine the role that human capital formation plays in the development of accounting professionals who can enhance contemporary corporate reporting practices across various sectors of the economy**

When viewed from the perspective of human capital development, accounting professionals play a crucial role in the economic advancement of South Africa (Ngepah, Saba & Mabindisa 2021, p. 3). Given that only two public universities in South Africa offer a full-fledged academic programme in IR at the time of this study, it is evident that there will continue to be a lack of stock of talent, competence, expertise and knowledge in IR among accounting professionals in the nation at some point in time. The shortage of accounting skills has been highlighted as

one of the problematic factors of doing business in South Africa and may indeed remain unaddressed for some time (Mohamed, Yasseen & Omarjee 2019; Oben & Van Rooyen 2023).

To enhance the development of IR-focused human capital, prominent accounting certification and professional bodies (e.g. ACCA, CIMA and SAICA) have introduced short courses designed to equip practising accountants with essential skills for creating integrated reports and fostering integrated thinking. The results of this study show that only a few public universities in South Africa have incorporated IR into their existing curriculum, either as short courses or as stand-alone elective modules. These results are consistent with earlier studies (Babajide et al. 2015; Barac et al. 2020; Oktorina et al. 2020) that highlight the need for a major change in university Accounting curricula because of the widespread adoption of IR.

■ Implications for Accounting education and practice

This study was strategically designed to challenge the existing status of IR in the Accounting curriculum of South African universities, a discrepancy that has not been addressed in current research on IR and accounting education. The findings of this study could inform accounting education by explaining the gaps in human capital formation in IR within South African universities' Accounting curricula. To ensure that students have the skills and information necessary for their future professions as IR preparers or consultants, the accounting department should focus on and enhance the quality of teaching in understanding both financial and non-financial reporting, which is critical for employers.

The increased importance and recognition of IR worldwide may have significant implications for accounting education, affecting both university Accounting curricula and professional qualifications (Owen 2013, p. 341). The implications may include changes to the traditional structure of the Accounting syllabus, the inclusion of IR as a topic or as a course, and how they are assessed. This will significantly enhance the human capital-based competencies of accounting graduates as future integrated reports preparers or advisors.

The quality of integrated reports produced by companies can be influenced by the knowledge, skills and competence of those responsible for preparing integrated reports. Knowledge, skills and competence in IR can be considered a source of normative isomorphism in institutional theory. These professionals can disseminate the skills and competencies related to IR, which can consequently enhance the quality of the

information included in integrated reports. Today, investors are shifting their investment decisions towards sustainable organisations that can generate value over the short, medium and long terms. Companies are also transforming their corporate reporting practices to IR, which is a more efficient and holistic reporting approach. Future accountants are expected to have a higher IR profile and more cross-disciplinary talents. In this context, accounting education must assess whether its curricula and pedagogical strategies are adequate to address the human capital needs of this new reporting practice.

Accounting education in South Africa should further enhance their Accounting curriculum by incorporating topics such as disclosures of non-financial information and IR. This initiative will not only increase students' awareness of IR but also prepare them early with the skills and competencies necessary for their future roles as IR preparers or advisors. This research also has implications for accounting certification and accreditation bodies to enhance the competence and skills of accountants through seminars and training related to IR. The results of this study can be used by standard setters, including the IIRC, to predict the impact of country-level IR skills and competence, as well as IR adoption and implementation. This study might assist the employer in realising that learning is a continuous process (Aryanti & Adhariani 2020, p. 656). The gap between what accounting departments teach and what employers expect of graduates in IR skills can be closed by providing on-the-job training. In this regard, accounting graduates will have the opportunity to gradually acquire the skills and knowledge that employers seek from them.

■ Conclusion

The purpose of this study was to analyse the extent to which IR is included in the existing Accounting curriculum of universities in South Africa from a human capital perspective. The study found that there is a gap between what accounting departments are teaching and the expectations of employers regarding the IR human capital-based skills required by graduates. However, other universities have included IR as either a short course or an additional elective stand-alone module. The findings further reveal that the Accounting curriculum in South Africa has incorporated some components of IR, including governance, risk and strategic management.

Integrated reporting is a new corporate reporting practice that emphasises the preparation of reports to communicate the value-creation process over time and link the company's performance with its strategies. To a certain extent, the quality of integrated reports issued by companies

depends on the knowledge and competence of the professionals preparing the reports. These professionals can disseminate the human capital-based skills and competencies related to IR through accounting education. These results support the concept of human capital theory, which elucidates the knowledge, skills and competence of individuals responsible for preparing integrated reports. In other words, professionalism can be considered as normative pressure from investors, regulatory bodies and indirectly from other stakeholders, demanding quality disclosure of financial and non-financial information. The integration of IR in the Accounting curricula of universities can produce competent graduates with the skills necessary to prepare quality integrated reports, which will aid in alleviating the normative pressure on companies.

The results obtained in this study allow the researcher to conclude that integrating IR into mainstream accounting education is one way that accounting graduates could acquire the skills and competence needed to effectively communicate a high-quality and well-structured integrated report.

Several organisations, such as the IIRC, the JSE Limited and other international accounting organisations, have actively promoted IR as a communication tool that offers providers of financial capital and other interested parties concise, forward-looking and strategically relevant information. Integrated reporting integrates financial, social and environmental elements. In an event where IR becomes widely accepted, it is recommended that professional and academic Accounting curricula be reviewed and modified to align with the recommended corporate reporting standards and principles.

This study suggests that professional accounting bodies, standard setters (e.g. International Federation of Accountants [IFAC] and International Accounting Standards Board [IASB]) and reporting committees (e.g. King Report, Global Reporting Initiative [GRI] and IIRC) should consider developing IR into a stand-alone profession. This can be achieved by establishing an IR professional organisation that will outline the educational, training and practical criteria necessary to become a member of the professional body. Within the South African context, close collaboration between Accounting education and current accounting professional bodies such as SAICA, SAIPA and the Independent Regulatory Board for Auditors (IRBA) will be critical to ensure the necessary legitimacy (University of Pretoria 2019). The objective is to create a pool of accountants with the required skills and knowledge to support the IR drive in the future.

The results indicate that at least one component of IR is offered in the commerce, business and management faculty. Given that the field of IR

involves a multidisciplinary approach, key professions such as accounting, law, information technology, business management, corporate communication and other related fields will play a vital role in the practice of IR. This study suggests that other academic departments should consider incorporating IR into their curricula. This will ensure that future preparers of annual integrated reports are complete professionals equipped with the necessary competencies and capabilities. These attributes reflect integrated thinking that is embedded within mainstream business practices, enabling them to thrive in today's sustainable capitalism, which demands a more comprehensive approach to corporate reporting norms.

Human capital measurements: A case of listed Zimbabwean mining companies¹

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1. This chapter represents a substantial reworking of more than 50% of Mpofu, Q 2021, The measurement and disclosure of human capital in the financial statements by the Zimbabwean listed mining companies, PhD thesis, North-West University, Mahikeng, with supervisor Professor W Musvoto and co-supervisor Professor DP Schutte, Economic and Management Sciences with Accountancy, viewed 23 January 2025. <<https://repository.nwu.ac.za/bitstream/handle/10394/38825/Mpofu%20Q%2031932525.pdf?isAllowed=y&sequence=1>>

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■ Abstract

This chapter aims to establish metrics for the human capital of mining companies in Zimbabwe. Human capital is widely recognised as the primary engine of value creation, financial performance and organisational competitiveness, particularly in emerging economies. However, the reporting of human capital aspects in corporate annual reports has been hampered by the uncertainty surrounding the measurement of these aspects. To establish human capital measurements, a mixed-method research approach and sequentially exploratory mixed-method research design were adopted. Data were obtained in two stages. The first stage involved the gathering of qualitative data through semi-structured interviews, and the second stage involved the collection of quantitative data using a questionnaire survey. The study population consisted of three stakeholder groups from the mining industry: Management, professionals and technicians. Thematic analysis was used to analyse qualitative data, while factor analysis was employed to analyse quantitative data. The results demonstrate that the following characteristics are included in human capital measurements: workforce demographics, return on investment in human capital and return on investment in education and training. This study suggests the adoption of universal metrics when reporting on human capital in financial statements.

■ Introduction

The purpose of this chapter is to establish clear measurements for human capital. This need arises from the uncertainty surrounding human capital metrics, which are rarely included in corporate annual reports (CARs). Human capital is a key resource for achieving sustained development and growth (Yong et al. 2019). Although human capital is worthy of recognition as an intangible asset, companies often cite the difficulties of measuring and managing it (Charlwood, Stuart & Trusson 2017). Hence, the reporting of human capital measurements by companies in the CARs remains context-dependent. Considering human capital as a context-dependent social phenomenon means that its functionality and outcomes are influenced by the dynamics of the systems in which it exists. In other words, human capital and its outcomes are determined by the interaction of internal components with subsystems and external settings.

■ Background to the research problem

The absence of human capital reporting in CARs deprives various stakeholder groups, such as shareholders and investors, of significant information when making investment and economic decisions. Also, the

lack of human capital value disclosure in the CARs leads to information asymmetry between management and investors, which accelerates the difference between the company's market and book values, which is referred to as the hidden value. Literature also shows that few metrics are utilised by different organisations to establish human capital value (Charlwood et al. 2017). It also follows that there is a cause for concern that the identified metrics are based on contextual settings, and some are riddled with flaws.

Mpofu and Nemashakwe (2023) attest that organisations are currently functioning in the digital economy, and human capital contributes to the adoption of new technologies known as Industry 4.0. It is, therefore, imperative to identify the metrics of human capital and bring them to the CARs. Human capital is described as the possession of relevant knowledge, skills, expertise and ability by individuals to add value within an organisation and to the overall economy (Becker 1964). This phenomenon under study is one of the critical resources for value creation, success and sustainability in any organisation. This means that skilled personnel are required to operate and maintain advanced systems to gain a competitive advantage. Mhlanga, Mhaka and Mbohwa (2020) ascertain that some organisations in both emerging and developed economies have fully adopted new technologies as a strategy to increase their value and productivity. In the same vein, Davenport and Rananki (2018) adduce that organisations that invest in re-skilling and upskilling their employees are more likely to succeed in the digital economy.

Considering the points made, in the fourth industrial technology, the growth, sustainability and success of the organisation is dependent on attracting and retaining a skilled workforce. Although few companies provide their stakeholders with detailed information about this resource, they do not adequately assess the value of such reporting. However, against the background of the triple bottom line discussion, Baily, Bosworth and Kennedy (2021) outline that providing human capital information is becoming increasingly important as a key driver of economic growth. This implies that human capital reporting can also be regarded as a vessel that has a positive correlation with a company's financial performance and ultimately maximises shareholders' wealth. In agreement, Mkumbuzi (2015) mentions that the disclosure of human capital in CARs enhances accountability and increases investors' and other key stakeholders' confidence. It can be deduced that human capital, through its attributes such as knowledge, skills, abilities, entrepreneurial spirit and qualifications, creates value that separates top achievers from losers. In conclusion, human capital has led to increased value creation and financial performance. However, the quantification of human capital value remains a bone of contention.

■ Mining industry in Zimbabwe

Chamber of Mines of Zimbabwe (COMZ) (2022) adduces that the Zimbabwean mining sector plays a crucial role in anchoring the country's economy. It is highly diversified, encompassing nearly 40 different minerals. Some of the predominant minerals include platinum group metals (PGM), chrome, gold, coal, lithium and diamonds. Notably, Zimbabwe boasts the second-largest platinum deposit and high-grade chromium ores globally, with approximately 2.8 billion tonnes of PGM and 10bn tonnes of chromium ore. It is noteworthy that the sector contributes 65%–70% of Zimbabwe's export earnings and between 12% and 15% to the gross domestic product (GDP), making it the largest contributor (COMZ 2022). In addition, the sector attracts more than 50% of foreign direct investment (FDI) into the country. However, Zimbabwe is described as one of the worst jurisdictions for mining investment because the *Mines and Minerals Act (Chapter 21:05) No. 1 of 1965*, which regulates the mining sector, is old and archaic (Mtisi, Dhliwayo & Makore 2014). The mining sector needs effective corporate governance systems to ensure growth and support for large mining investments.

The mining sector performs relatively well because of its labour intensity, which can also be described as its knowledge intensity. Its value relies on the expertise of skilled workers. April, Bosma and Delgon (2003) state that the mining industry is a human capital-intensive industry. The human capital reporting of mining companies should be high because human capital immensely contributes to their financial performance and value creation. Nyamubarwa, Mupani and Chiduuro (2013) emphasise how mining companies formulate and assign responsibilities that influence the performance and loyalty of employees. The performance and sustainability of companies depend on their access to skilled labour and technological advancements. The growth of mining companies and the achievement of their strategic objectives depend on the adoption of a philosophy that regards human capital as an asset of value and not a cost that must be minimised. Adelowotan (2021) postulates that companies become competitive when they adopt different methods of labour relations. Companies should align the individual needs of employees with their strategic objectives. Such initiatives show that human capital is a valuable intangible asset and a key source of competitive advantage. It is not a disposable liability.

■ Problem statement

The annual reports of listed Zimbabwean mining companies reveal that many of them are aware of the importance of human capital. Despite the consideration of human capital as a crucial driver in value creation,

its practical measurement and disclosure as an intangible asset remain challenging in the Zimbabwean mining industry (Mkumbuzi 2015). This is because mining companies fail to align the concept of human capital with current measures of asset value. This lack of human capital reporting, in CARs, deprives various stakeholder groups such as shareholders and investors of significant information needed for making informed investment and economic decisions. The lack of human capital value disclosure in CARs, as noted by Gamerschlag and Moeller (2011), results in information asymmetry between management and investors. This discrepancy accelerates the gap between the company's market and book values, known as hidden value. Against this backdrop, this chapter examines the human capital measurements that are essential for establishing the value of humans.

■ Research objective

To establish measurements of human capital used by Zimbabwean mining companies for assessing and disclosing the value of human capital.

■ Research question

Which human capital measurements are used by Zimbabwean mining companies to measure human capital?

■ Literature review

From the economists' perspective, people are an important resource of the nation's wealth (Becker 1964; Schultz 1961). This means that human capital is a driver of a country's economic growth as well as the maximisation of shareholders' wealth. Mpofu and Sebele-Mpofu (2023) describe human capital as the knowledge and skills embodied in people and not in tangible physical assets. On the contrary, a review of literature indicates that nowadays human capital has increasingly attracted both academic and public interests. This has been evidenced by multiple studies that have been conducted on human capital (Abeysekera 2008; Abeysekera & Guthrie 2004; Adelowotan 2013; April et al. 2003; Massingham & Tam 2015; Nyamubarwa et al. 2013). The aforementioned studies have established that human capital can enhance growth through stimulating technological creation, invention and innovation as well as facilitating the uptake and imitation of new technologies in the fourth industrial era. Even though human capital can enhance economic growth in some scenarios, it is important to note that positive results have failed to prevail in others. In the same vein, as much as human capital contributes to economic growth and sustainability, its role is not validated empirically.

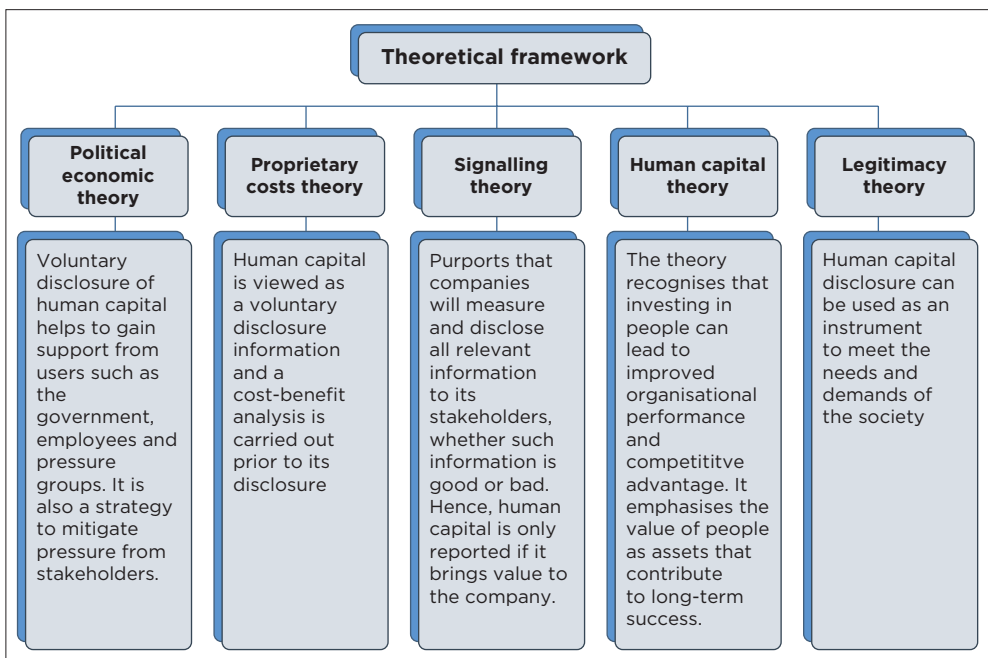
From the analysis of the literature, this study outlines companies that have been lobbying for human capital reporting, and these include Indian Infosys, the Canadian Imperial Bank of Commerce, Skandia Group, Dow Chemicals, Telia and Buckman Laboratories. However, the reporting has been based on contextual settings, leading to multiple flawed results. In addition, the key aspects of human capital are not known with certainty. As a result, the metrics used have failed to identify these critical elements, and in other cases, the proxies employed have inherent flaws, as mentioned earlier. Subsequently, the failure to appropriately measure human capital value has resulted in mixed evidence on the relationship between human capital and the value of the organisation as well as economic growth at large. Currently, human capital is recognised in the statement of profit or loss as an expenditure of a revenue nature and this is inadequate (Pasban & Nojedeheh 2016). This is after taking into account that the majority of organisations' success is anchored on their human capital. This means that it accelerates their competitiveness and growth, thereby allowing them to fulfil their visions and goals of being leading champions in their respective industries.

Scholars such as Baron and Armstrong (2007) state that to manage a resource, there is a need to fully measure it and establish its value. This entails that it is a pipedream to manage a resource without measuring it. Furthermore, since the adoption of Industry 4.0 technologies, the measurement of human capital has become contemporary and this allows organisations to evaluate if their human capital is adequately prepared for these technologies. Supporting the above arguments, the World Bank Report (2021) suggests that organisations should commit to the development of human capital through training and development programmes to achieve positive economic growth and sustainability. It can be deduced that training and development are key to attracting and retaining a competitive workforce. However, literature reveals that across continents there is limited reporting of human capital, both qualitatively and quantitatively.

Content analysis revealed limitations in both statistical and qualitative information that is related to human capital in CARs. This is evidence that human capital information is not adequately reported, and this is because the key aspects of human capital are not known with certainty. In addition to this, the failure to fully disclose human capital may mean that the heterogeneous needs of different stakeholder groups are not met, and it can be deduced that missing information provides incomplete and unreliable financial statements for making informed investment and economic decisions (Tessema 2015). It is imperative to establish human capital measurements. This is because human capital measurements might provide stakeholders with a new window into how a company manages its workforce and the extent to which it invests in its people to create long-term value.

■ Theoretical framework

According to Becker (1964), human capital refers to the knowledge, skills, education and health possessed by an individual. The author further explains that human capital encompasses both tangible and intangible attributes that contribute to an individual's productivity and earning potential. This section presents theories that underpin human capital measurements and disclosure in financial statements. These theories include the human capital theory by Becker (1964); proprietary costs theory by Healey and Palepu (2001); signalling theory by Morris (1987); political economy theory by Gray, Adams and Owen (2014); and the legitimacy theory by Zijl, Wöstmann and Maroun (2017). Figure 3.1 presents a summarised theoretical framework.



Source: Authors' own work.

FIGURE 3.1: Theoretical framework.

■ Methodology

This chapter adopted a pragmatic approach that draws heavily on inductive and deductive reasoning. This is because to fully analyse the phenomenon, it is ideal to support the inductive approach with deductive thinking. A sequential exploratory mixed-methods research design was selected. Three groups from the six listed mining companies in Zimbabwe

(management, professionals and technicians) with relevant information on human capital were identified using the exploratory technique. The convenience sampling method was adopted for both qualitative and quantitative data collection. This is because this sampling method uses the accessibility, availability and willingness of participants to participate in the study to generate useful data for the research. Data were collected in two phases. The qualitative data were collected in the first phase using interview guides, while the quantitative data were collected in the second phase using survey questionnaires from the six largest mining corporations in Zimbabwe. A semi-structured interview format was utilised in the mining industry context. According to Kallio et al. (2016), the semi-structured interview technique allows reciprocity between the interviewer and the interviewee. In some instances, the researchers followed topical trajectories in the conversation when they deemed it appropriate, and this is in line with the writings of Cohen and Crabtree (2006). This was a strategy to provide the opportunity for identifying new ways of seeing and understanding the existing human capital measurements reported by the mining companies in their CARs. Data were collected until a saturation point was reached after conducting 12 interviews with management from six large mining corporations in Zimbabwe. This resulted in reliable, insightful and comparable qualitative data. Sebele-Mpofu (2021) adds that a point of saturation can be reached from two different perspectives, which are when the study cannot establish new codes and themes and when there is no further significant information arising from the data findings.

A questionnaire survey was administered to the Zimbabwean management, professionals and technicians' stakeholder groups to collect quantitative data in the second phase. To attain a high response rate from the respondents, both the pick-and-drop technique and electronic mail were used in this regard. Morima (2019) mentions that questionnaires make it possible for researchers to fully understand their study because a large sample size is involved. A large sample size enhances the reliability and validity of the results, and it also allows the study to generalise findings. Qualitative data were analysed and interpreted through the use of thematic analysis as guided by Braun and Clarke (2006), and quantitative data were analysed using factor analysis.

■ Discussion of the findings

This section of the study discusses the findings from both the qualitative and quantitative phases. The study will first unpack the qualitative results and then follow with the quantitative findings.

■ Qualitative data analysis

The research findings are discussed in this section using the responses from participants coded as P1–P6 (P for participant). From the findings, the research participants indicated that retention rates, return on investment in training, employee demographic information and human capital return on investment were useful human capital attributes; and the majority of the users utilised them to make informed decisions. This section discusses the sub-themes in detail.

□ Workforce demographics

Human capital plays a pivotal role in many organisations, and its contribution towards value creation and financial performance is invaluable. According to P6, '[p]eople are central to our business'. P6 added:

'The disclosure of human capital attributes in corporate annual reports is still at the infancy stage since our human capital disclosures are currently limited to the total number of employees.' (P6, Finance Manager, male, 17 January 2020)

P6 further stated, 'Our organisations are committed to team building, alignment of individual needs with the company's strategic objectives and the creation of a representative workforce'. On the contrary, P4 stated:

'The human capital-related information disclosed in our corporate annual report is only limited to our Board of Directors and the following information is disclosed: the names of independent and internal directors, the size of the board, its composition and their competencies.' (P4, Acting Finance Director, male, age undisclosed)

According to P2,

'Our company has an internal policy to report on the total number of our workforce and they are categorised based on their educational qualifications, position in the company, gender and race'. (P2, Assistant Finance Director, female, age undisclosed)

This is consistent with the findings obtained from P6. Similar to P4, the study established that P3 also only disclosed information that was related to the board of directors (BoDs) in their CARs and that was the age, skills and expertise of the BoDs that were disclosed.

According to P1, 'People are the foundation of our business'. P1 further stated:

'The company has a policy of reporting on the gender diversity of executives as a strategy to enhance social cohesion. In addition, women are prioritised in the occupation of top positions within the organisation to meet gender equity.' (P1, Finance Director, male, age undisclosed)

From the responses above, it may be inferred that board-related information is considered essential by many companies. This is because BoDs have a

mandate to establish systems and policies that aim to increase the company's growth and they are the stewards of the shareholders' wealth. Other stakeholder groups, other than BoDs, are not considered worthy of being reported on. This is true even though these are the same employees who work tirelessly to achieve the company's visions and strategic objectives.

□ Return on investments in human capital

Channar, Talreja and Bai (2022) present that investing in human capital reflects the importance of human capital and its significance to value creation, sustainability and economic growth. It is one of the critical components that distinguish a company from its rivals. Hence, we find that the majority of companies are fully committed to skill set development through training and development programmes by spending enormous sums of money. This shows the value that human capital has for the success of many organisations. They have become pillars of many companies. Companies are investing more in their human capital compared to other tangible physical assets (Mayo 2001). This is because it is the people employed by the company who generate ideas, provide services and enhance a company's innovation capacity. The workforce brings value to the company as they can make things happen. Hence, there is a need to establish human capital measurements that will act as a benchmark in establishing its value.

The study obtained the following findings from the research subjects: According to P6, 'Our company invests in employees to increase its value and success'. P5 agreed that '[t]echnology contributes significantly to improving our employee return on investment; hence, that allows our company to generate more profits'. This implies that human capital is considered a critical factor in value creation as well as the achievement of key strategic company goals. Companies go the extra mile to align employees' individual needs with their strategic objectives. In particular, the mining sector companies offer lucrative packages to their technicians, professionals and management stakeholders' groups as a strategy to retain them within their premises and utilise their critical skills to remain successful across the globe. According to Muza (2018), companies are convinced that fat paychecks are the only way to increase workforce productivity. Little attention is put on the individual needs of belonging as well as self-actualisation. Employees want to feel at home and recognised because of their commitment and loyalty towards company goals and they perform at their full potential only if their efforts are fully recognised by authorities. However, in some cases, toxic and poor working conditions in certain companies lead to poor performance. According to P3:

'We invest in our workforce for them to exert their full potential, improve loyalty, enhance relations and assist the company in achieving set goals. How the return

on employee investment is calculated is dependent on those charged with governance and it is only disclosed in the management reports and not the financial statements.’ (P3, Accountant, female, age undisclosed)

P3 added:

‘The non-disclosure of the return on employee investment is a measure of not giving out much information to their rivals as they will copy their strategies and lure their technicians and professionals.’ (P3, Accountant, female, age undisclosed)

Similarly, P2 added that ‘[/]investing in our employees has a positive bearing on minimising costs’. According to P2, these costs include ‘[c]osts of absence, sick leave, medical costs, resignation and workforce turnover’. It can be deduced that the failure to provide a conducive working environment to employees has consequences for the company’s performance in the long run. Companies that seek excellence engage themselves in a psychological contract where both the employer’s and employee’s expectations and needs are effectively communicated and met. This kind of contract has a positive impact on employee productivity, and this is because happy and satisfied employees tend to go the extra mile to meet the goals of their employers and vice versa.

In addition, P1 stated that ‘[/]investing in employee engagement results in increased retention rates and reduced costs of turnover, absence and resignations’. P1 added that:

‘If employees are aware of their value and are considered as the largest investments, they tend to remain with the same company for a longer period. Also, investing in skilled and talented employees has a greater effect on the earnings per share of a company.’ (P1, Finance Director, male, age undisclosed)

Similarly, ‘investing in employee management allows us to minimise costs, such as workforce turnover and absence costs’ (P4). The labour costs that are associated with human capital such as turnover, sick leave, resignation and absence costs are incredibly costly to organisations. Hence, it is imperative that companies have a mandate to invest in human capital because it reduces unnecessary voluminous costs. P1, P2, P3, P4, P5 and P6 agree that investment in human capital leads to high returns, and this information is critical and aids in investment decisions. Charlwood et al. (2017) state that a return on investment in employees can turn a struggling company into a winner. This is an acknowledgement that human capital is an important asset. However, with positive responses on the returns from human capital, this information is hardly identified in the CARs, and this has led to human capital information being utilised only for internal affairs. The study concludes that, through stakeholder engagement, it is possible to identify human capital measurements that will act as a guide in the development of a universal framework and enforce mandatory disclosure.

□ Employee retention rate

The fourth industrial technologies have resulted in technology-driven businesses as well as stiff competition among companies. Because of the complex nature of their businesses, more opportunities have been created for the skilled workforce, and at the same time, companies have faced some skills shortages. This means that the majority of companies are experiencing acute challenges in attracting and retaining their desired employees. According to Mir and Mufeed (2016), an organisation's effectiveness and survival depend on its employees' satisfaction; hence, in order to retain talent, businesses must satisfy employee demands. This demonstrates that attracting and retaining employees require more than just offering competitive pay scales. The ability of a company to keep its human capital is essential for value creation, financial success and sustainability. In light of the above, companies have adopted a business model that focuses on developing strategies and implementing measures to attract and retain the desired workforce. This approach aims to achieve their strategic objectives while ensuring that retained and attracted employees are motivated and have their individual needs met.

P6 said, 'We enhance value by attracting and retaining skilled and talented people'. P6 further added:

'For us to attract and retain skilled employees, our employee relations policy is top notch and has been approved by the Board and our remuneration policy is well-aligned with the strategic objectives of the organisation.' (P6, Finance Manager, male, 17 January 2020)

This implies that the company has a remuneration committee which is responsible for establishing a satisfactory policy and practices aligned with all the key stakeholder groups. The remuneration policies that are designed by companies have a direct influence on the attraction and retention of the desired skills and competencies. If companies practice fair remuneration activities, there is a high probability of them achieving their set goals as well as enhancing the company's growth. However, P6 stated that they could not disclose the methods used to calculate the retention rate because they believed that the calculation of the retention rate should remain private and confidential. It is important to note that the retention rate is a key aspect in devising human capital measurements. Hence, information related to employee retention is essential for investment decision-making, and this is true even though this kind of information is hardly identified in other CARs. According to P3:

'The success of our business would not be possible without the dedication of our workforce; hence stringent measures are put in place to remain with a skilled workforce for our strategic objective.' (P3, Accountant, female, age undisclosed)

P3 added that value creation is achieved when their workforce is provided with an enabling environment as well as the alignment of individual goals with the company's strategic objective. P5 stated, 'Our ability to create value is determined by the state of their physical tangible asset and the competency of the workforce'. P5 made it clear that in order to be a world-class mining company, quality is not compromised, and as a result, the company aims to attract and retain management, technicians and professionals with the skill set that matches the company's strategic policy. P5 added that their remuneration policy was fair enough to attract and retain their desired employees with the required skills that will set the company above board, and performance appraisal strategies have also been put in place as a mechanism to motivate both the committed and loyal employees, and in turn, the company is guaranteed of increased productivity. Furthermore, share option schemes are also made available for the top management. Similarly, P4 brought out that:

'Our company's policy is to create value through the utilisation of our workforce and in order to create the value, measures have been put in place to attract and retain competent staff and the reduction of workforce turnover.' (P4, Acting Finance Director, male, age undisclosed)

P4 also highlighted that they have adopted the following strategies to retain the pool of a talented and capable workforce so as to gain a strategic edge over their rivals: Provision of a conducive and enabling environment, creating a feedback culture that enhances existing high-performance standards with a clear and consistent focus on values and leadership behaviours. P4 added that their organisation enhanced behavioural reviews, which include a self-assessment component for most of the top management. This behavioural review has a clear link with the incentive structure, thereby sending a clear message to employees regarding the behaviours that are valued by the organisation. Following that, P4 revealed that stakeholder engagement is one of the key policies the company prioritises, as it is always ready to welcome the views and opinions of its employees. The company ensures that individual employee needs are aligned with its goals. They also have a remuneration policy in place that is governed by the Board through the remuneration committee. In light of the above, it can be inferred that companies are working tirelessly to retain their skilled, dedicated and results-oriented employees. According to Mir and Mufeed (2016), gaining a competitive advantage requires luring in and keeping talented and competent staff. This indicates that businesses can grow by attracting and keeping top talent.

P2 stated, 'Our company has laid down a strategy and action plan on how to retain and attract a skilled workforce for gaining a strategic advantage in the [I]ndustry 4.0'. This is an acknowledgement that

companies are dependent on critical skills in achieving their set goals. Also, P1 agrees that:

‘Our source of competitiveness and sustainability is derived from retaining talented and capable employees and this is attained through training and development programmes and the performance of employees is enhanced through training programmes, talent management, skills development and job rotation opportunities.’ (P1, Finance Director, male, age undisclosed)

This implies that training programmes and other related attributes are aimed at meeting both the interests of the company and individual employees. P1 added that:

‘Our company has a remuneration committee that gives feedback to the Directors on the issues aligned with remuneration policies. The committee ensures that the group attracts and retains motivated, qualified, diverse and skilled personnel and the remuneration policy aims to provide competitive rewards to attract, motivate and retain highly skilled executives and staff that is vital to the success of the organisation.’ (P1, Finance Director, male, age undisclosed)

Based on these findings, the study concluded that remuneration packages and employee option schemes play a pivotal role in the retention rates of employees. This means that lucrative salary and wage packages are the best way to motivate and retain skilled and capable staff. In addition, out of all the rewards and benefits that an employee receives, compensation is the most crucial motivator for arresting the commitment and loyalty of employees. Also, P1-P6 attest that the compensation plans as well as the promotional and incentive schemes that are given to high performers are drivers of increased productivity and loyalty. In particular, P5 said that ‘[c]ompensation is a critical factor in reducing employee turnover and increasing the commitment of manpower’. It can be concluded that a culture of excellence can be achieved if the retention rate of critical skills is high as well as low workforce turnover, and this can be because of various factors. Some of the factors include competitive remuneration packages, a conducive working environment and a sound compensation plan, which assist in enhancing productivity and sustainability. These help to communicate the vision and the mission statement of the company as well as its strategic plan.

□ Return on investment in training and education

Based on P6’s narratives:

‘The training and development of our employees is based upon three objectives: one, to align leaders with the firm’s strategic priorities; two, to ensure knowledge and resources that will enable them to make good progress towards their aims and three, to provide opportunities for personal growth and development.’ (P6, Finance Manager, male, 17 January 2020)

The aforementioned objectives are fulfilled through leadership, workshops, team-building programmes, induction and orientation as well as upskilling programmes. The participant mentioned, in passing, that companies do not hesitate to spend large sums of money to equip employees with a skill set that enhances their productivity and the value creation of the company. On the contrary, according to P5:

‘Investing in programmes that help our employees realise their full potential at work will boost their job happiness and productivity. We do this by offering our staff training, learnerships and bursaries so that they can earn official credentials or have prior learning recognised.’ (P5, Finance Director, male, 09 January 2020)

In addition, P5 stated:

‘We have allocated millions for retraining workers in preparation for potential downsizing and layoffs. Also, the company started a programme for developing future human resources to build a pipeline for middle and junior managers.’ (P5, Finance Director, male, 09 January 2020)

P5 also mentioned a talent management programme:

‘We identify crucial roles and designate mentors and coaches to solve the gaps in individual development plans. Pupils and mentors or coaches have quarterly performance discussions. It is crucial to keep people in critical positions, prepare them for future leadership roles, find talent for new positions that will arise in the future and make sure that the business has proper succession planning.’ (P5, Finance Director, male, 09 January 2020)

This means that employees can identify a competency profile to which they aspire, and the company helps them realise this goal by offering the required training and leadership development programmes.

From the aforementioned, it is clear that human capital is essential for enhancing total factor productivity and assisting businesses, and the nation at large, in embracing and adapting to emerging fourth industrial technologies. Hence, it is imperative to disclose the total amount spent on employees’ training, the number of training days per annum, the number of employee training sessions, the average employee training hours per day and so on. P4 added that:

‘Our company’s main focus after the company value has been generated is to invest in training and education programmes. The programmes aim to equip our employees with the required industry skills that match the new technologies. The most important predictors of whether an employee will stay with his/her current employer is the employee’s satisfaction with the opportunities provided for learning and development.’ (P4, Acting Finance Director, male, age undisclosed)

This implies that a company’s ability to retain its skilled workforce is, in turn, a fundamental determinant of several important outcomes such as customer satisfaction, sales per employee and market capitalisation. The literature further reveals that there is a positive correlation between

discharges and the level of training. This means that in a company where training and development programmes are put in place, employees are less likely to be retrenched or fired. In agreement, Tessema (2015) concurs that workforce turnover can only be minimised through effective training and development programmes. It can be inferred that human capital training and development add value both to the company and the individual employees, and if these programmes are well-developed, more investment returns are likely to follow. In affirmation with the above statements, the disclosure and measurement of returns on investment in training and education programmes should be considered useful for decision-making purposes. In addition, P3 had this to say:

‘We recognise that our image as a company that operates morally and honourably depends on the choices and actions that we make every day. When presented with an ethical or corporate integrity challenge, we encourage our employees to seek advice to avoid incidents and to safeguard themselves and other individuals. We have created a virtual training programme that puts our workers through a series of interactive situations that test their ethical judgment to help them traverse murky waters and identify indicators of compromised company credibility.’ (P3, Accountant, female, age undisclosed)

P3 also stated that ‘[i]nvolved employees are essential towards our performance’. On the contrary, P2 stated that:

‘We strive to bring in, hire, promote, motivate and keep the best people. Health and safety are our primary concerns, which is why we invest in technological advances as well as cutting-edge and successful approaches to control risk, automate operations and increase efficiency. This enables our employees to work at their finest levels. To increase competence and enhance performance, we provide competitive wages and make investments in training and development initiatives. The company’s theme on the future of work is to enhance human capability and social inclusion through education, vocational training and skills development.’ (P2, Assistant Finance Director, female, age undisclosed)

The study also established that in the company where P2 worked, they have a policy that supports employees’ enrolment in courses such as digital technology, leadership and problem-solving initiatives. Their Board reviews these programmes periodically intending to maximise productivity and ensure that employees’ needs are met. Again, this shows that companies are prepared to spend on their employees with a mindset of enhancing productivity and value creation. The maximisation of shareholders’ value is also enhanced through investment in training and education programmes, and in turn, these programmes should focus on the required skill set.

According to P1, ‘millions of dollars are spent on training and development programmes’. P1 further revealed that there is a risk of an acute shortage of critical skills because of the failure to attract and retain talent and skills that are considered crucial. The prospects for business and growth may be hindered by the inability to recruit and keep people with the appropriate

expertise and abilities. The efficient functioning of our business and the strategic delivery of the company's objectives is contingent upon having appropriate individuals who possess the right abilities. The following actions were initiated by P2's company to alleviate the risks:

'[/]implemented growth planning and implementation initiatives to ensure internal skills building and a future pipeline; increased training capacity for scarce artisan skills; implemented short and long-term incentive schemes; conducted employee engagement surveys and acted on feedback; enabled flexible working functionality to attract a diverse workforce and developed a global mobility strategy.' (P2, Assistant Finance Director, female, age undisclosed)

Based on the findings, it is apparent that returns on investments in training and development programmes are essential for the decision-making process. Nonetheless, the majority of companies fail to measure and disclose this information in their CARs.

As aforementioned, human capital development increases the knowledge and skill sets of employees, which drives them to be more productive in their respective workplaces. The development of employees is achieved through training and educational programmes that are aligned with the company's aims and strategic objectives. According to Imran and Tanveer (2015, p. 28), 'types of training include, but are not limited to, on-the-job training, apprenticeship training, job-instruction training, teamwork, lifelong learning and simulation'. In the psychological contract, which is the relationship between the employer and the employee, the training and development of employees increases their loyalty to the company as well as their commitment, and as a result, this strengthens the company's competitiveness and sustainability in the long run. This implies that there is a positive correlation between employee training and productivity as well as individual growth. Further, training and development programmes reduce employee turnover and increase the morale of the employees, who then develop positive attitudes towards the achievement of the company's strategic objectives. It can be concluded that human capital value is dependent on the training and development programmes initiated by companies. Also, human capital resources are critical factors in value creation and a company's financial performance. It is essential to establish human capital attributes that can be used to determine the value of human capital and reported in CARs through a universal measurement and disclosure framework. The human capital metrics related to return on investment in training and education include, but are not limited to, the average number of training hours per employee, average training hours per day, the amount spent on training programmes and productivity ratios.

According to P6, 'Value-added statements provide our employees with feedback, and employees use this information to evaluate their strengths

and weaknesses'. From this statement, it is apparent that employees, if given a chance, can measure the value they create on behalf of their companies. However, it is important to note that value-added statements are context-based and their preparation and disclosure are voluntary and not regulated by any government and/or professional bodies. In addition to that, unregulated reports can be easily manipulated by management because of information asymmetry. Nonetheless, the human capital measurements that are discussed above were considered useful by the participants (P1-P6), and the majority of them indicated that employee productivity was measured, and the information was for internal purposes only. They measure the extent to which the company depends on competent, skilled and talented professionals and technicians. This is because skilled workforce information is critical information for investment decisions. The 'Implications for quantitative analysis' section discusses the quantitative results.

■ Implications for quantitative analysis (variables)

The study found that more important questions should be included in the questionnaire based on the qualitative findings. The identified themes and sub-themes helped pinpoint suitable individuals to participate as respondents in the questionnaire survey. The target groups were (1) management, (2) professionals and (3) technicians. Also, the constructs established in the qualitative phase gave guidelines for developing the instrument and its elements, and the findings also reflected the need to make a confirmatory analysis to confirm if the established human capital measurements are decision-useful aspects.

■ Quantitative data analysis

The philosophical approach for this study is pragmatism, which aligns with the mixed-methods research approach. An exploratory sequential design was utilised using the guidelines provided by Creswell (2013). The first phase of data collection brought out qualitative data that were analysed using the thematic analysis process, and in phase two, quantitative data were collected and analysed using factor analysis therefore building up to the qualitative findings. The quantitative data were collected using the questionnaire surveys. This section validates the findings obtained in the first phase of research (the qualitative phase), by measuring if the human capital attributes obtained during the qualitative research are useful in the decision-making process. The results presented in tabular format were established, and one factor was established and named human capital measurements.

□ Factor analysis results

A factor analysis was conducted to identify the attributes used to measure human capital. The quantitative data collection and analysis build on the results of the qualitative phase. This approach means that the study utilised quantitative data and results to aid in interpreting the qualitative findings. The focus of the study was on Zimbabwean mining companies.

□ Human capital measurement metrics

The following human capital measurements were established in the qualitative phase and validated in the quantitative phase: Workforce demographics, return on investments in human capital, employee retention rate and return on investment in training and education. Comments on the abilities of key employees, including their qualifications, experience and skills, were also included in the questionnaire survey for validation as human capital measurements. The main objective of the quantitative phase was to establish if the human capital measurements are useful to various stakeholder groups to make informed decisions. It is also important to note that the metrics are company-specific. The obtained results were presented in a tabular format, and the factor established was named human capital measurements. The Kaiser-Meyer-Olkin (KMO) human capital measurement factor was 0.865, and Bartlett's test of sphericity of $p \leq 0.00$ was considered statistically significant. The obtained mean from the factor analysis was 4.33. The instrument was tested for validity using Cronbach's alpha, and the obtained score of 84% indicates that the elements included in the questionnaire are reliable.

The mean of 4.33, shown in Table 3.1, indicates a tendency towards the higher end of the five-point Likert scale used in the quantitative phase of this study. This suggests that the response rates fell between 'very useful' and 'useful', implying that the established human capital measurements are valuable for decision-making. This aligns with the findings of Baily,

TABLE 3.1: Human capital measurement factor.

Narration in the survey questionnaire	Human capital metrics
Cost of resignation	0.753
Workforce turnover	0.752
Return on employee investment	0.74
Return on investment training	0.732
Comments on the abilities of key employees	0.704
Cost of absence	0.671
Employees' qualifications, experience and skills	0.656
Mean and standard deviation	4.33 ± 0.4887

Source: Authors' own work.

Bosworth and Kennedy (2021). However, some of these attributes are disclosed in the CARs of other mining companies voluntarily. It is noteworthy that the disclosure of these human capital measurements is context-dependent. This means that the metrics are company-specific, and not all six companies recorded all the established measurements. This is true even though they are useful for making investment and economic decisions.

■ Conclusion

The chapter focused on establishing human capital measurements for the mining companies in Zimbabwe. In the qualitative phase, the study established factors such as employee demographics, retention rates, returns on human capital investment and return on investment in training and development programmes. The study findings revealed that the aforementioned factors are critical for inclusion in CARs across industries. However, reporting on these metrics is rarely found in such reports, and those that do include them do so voluntarily. The reports that are available lack guidelines on how to incorporate human capital information into financial reporting, leading to haphazard reporting. For instance, some human capital information can be found in the employee engagement or relations report, the chairman's report, the six capitals in integrated reporting, the directors' report and reports on employee health, wellness and safety, among others. Nonetheless, a few have a specific section in the CARs that discloses human capital-related information, such as employee demographics, the average number of training hours per employee, the average training hours per day, the amount spent on training programmes, productivity ratios and retention rates. It can be deduced that the inconsistency among companies in the disclosures of the human capital measurements in their CARs is because of the nature of the information, which was highly regarded as confidential by the study participants. This study concludes that the measurement and disclosure of human capital affect a company's value, growth and competitiveness. Consequently, these processes are complex and require scholars and practitioners who are knowledgeable and well-prepared.

This study recommends that companies in Zimbabwe work collectively towards adopting universal human capital measurements. There is a need for industry coordination to provide stakeholders with both quantitative and qualitative human capital information for decision-making. The Chamber of Mines, management, lobby groups and key employees should participate and provide input on human capital measurement and disclosure in collaboration with both the government and professional bodies.

The role of institutional theory in enforcing environmental management compliance within the Zimbabwean gold mining sector²

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■ Abstract

The global community is increasingly concerned about the environmental impacts of business operations. Mineral demand has risen because of population growth. While the gold mining sector has contributed to the expansion of the Zimbabwean economy, literature indicates it has also led to environmental degradation. This apparent gap inspired the researchers to investigate the potential contribution of institutional theory to environmental management in the Zimbabwean gold mining industry. An interpretive research philosophy was adopted for this chapter because it assumes that our understanding of reality is constructed subjectively through our perception of the social world. In-depth interviews were conducted with seven selected employees from five selected gold mines, and the forthcoming data were analysed using thematic analysis. It was established that gold mining organisations operate within a social network, with a motivational force underlying their behaviour. The results also reveal that the government and other regulatory bodies with rich resources exert coercive pressure on mining organisations to adopt greener practices. The study recommends that the government develop a framework to promote compliance with environmental management, as this is an emerging phenomenon.

■ Introduction

Concerns about the environmental impact of organisations are rapidly gaining global importance (Epstein 2017). When practised responsibly, mining can enhance the lives of citizens and boost the economies of host countries (Mbilima 2021) by balancing the utilisation and distribution of resources. Mining organisations promote social advancement by creating jobs, paying taxes, fostering industry and transferring technology (Anzolin & Pietrobelli 2021), thereby contributing to human capital development. However, the growing demand for mineral commodities drives substantial economic activity globally. The Southern African Development Community (SADC) has experienced risks associated with natural resources in the area being depleted, and these have impacted the health and safety of the surrounding communities despite the economic benefits of mining for communities (Githiria & Onifade 2020). Health is a crucial element of human capital which could be potentially impacted by the environmental impact of mining activities. Hence, owing to the environmental damage linked to business operations, several academics have called for a change in manufacturing philosophy (Pooe & Mhelembe 2014).

Local populations in many mining nations experience significant socio-economic effects from mining (Epstein 2017). Pollution of the air, soil,

water and noise negatively impacts the community (Mandal & Pal 2020), with mining accidents, pit closures, migration and poverty also impacting mining communities. These factors are not exclusively related to the environment (Antwi-Boateng & Akudungu 2020; Githiria & Onifade 2020). Consequently, governments, cultures and commercial groups worldwide are concerned about the harm to the environment (Armstrong & Li 2022) caused by organisations through their activities (Farrukh, Mathrani & Sajjad 2022). This is why improved environmental management governance is required because it has broad negative impacts on humanity and its environment.

Because of various tasks and circumstances, Zimbabwe's mining and processing sector is complex. Along with large-scale mechanised miners, small-scale miners and alluvial panners impact the environment adversely (Hwende 2020). By disobeying environmental protection rules and taking advantage of their weaknesses, Zimbabwe's mining industry contributes to environmental degradation (Bansah, Acquah & Assan 2022). Environmental requirements are known to businesses; however, some contend that adhering to them raises manufacturing costs, making some projects unprofitable (Mintzberg, Ahlstrand & Lampel 2020).

The *Zimbabwe Environmental Management Act* (hereinafter ZEMA) of 2002 governs how the country manages the environment (Saunders & Caramento 2018). The ZEMA is designed to promote the responsible management of Zimbabwe's physical and natural resources, and it mandates environmental impact assessments (EIAs) for organisations. However, corruption in the mining sector is a widespread contradictory practice. Corruption encourages the theft of mineral resources by national and multinational agencies (Banyera 2021). Even though a new draft of the *Mines and Mineral Act* has been created, the 1961 version, enacted during the colonial era, arguably remains the weakest link and hampers economic growth because it focuses on extracting mineral resources with little to no consideration for sustainable development. Additionally, the previous Act does not support open access to information, accountability, transparency, value addition or benefit, and it does not acknowledge the potential contribution of several other key stakeholders, such as community groups and civil society organisations (Dhliwayo 2019), again not paying attention to human capital development in these communities. However, the researchers were inspired by the environmental harm caused by the gold mining industry, which led them to investigate how institutional theory could be used to enforce environmental management and compliance in Zimbabwe's gold mining industry.

Age, education, physical and mental health, as well as other factors, all affect a person's capacity for productivity or human capital (Khayrulina,

Savrasova & Zhidkova 2020). Human capital reflects an individual's creative talent, which shapes, employs, distributes and reproduces the society, family, organisation and individual (Khayrulina et al. 2020). The process by which natural resources have an impact on long-term economic development is through the accumulation of human capital because high remuneration to mining personnel could encourage private investment in education as there is a possibility it could enhance the opportunity to study (Mejía 2020). This author also mentions that generalised elements like public spending or violence may operate as a buffer between mining and its impact on human capital. According to research, educational spending and enrolment tend to rise in areas close to mining centres (Benshaul-Tolonen et al. 2019; Mamo, Bhattacharyya & Moradi 2019). That said, most illegal and small-scale gold mining occurs in cities in developing nations, and there is still scant information on how mining in these settings affects human capital (Mejía 2020). Further, child labour in gold mining regions tended to rise, and school attendance fell throughout the mining boom years (Santos 2018).

The chapter is organised as follows: Firstly, the research questions (RQs) are stated. Next, the literature review is presented, followed by the research methodology of the study. The findings, based on a survey, are then discussed, concluding with future work initiatives.

■ Research questions

The following questions were raised:

- What is the role of institutional theory in enforcing environmental management and compliance within the gold mining sector of Zimbabwe?
- To what extent has institutional theory been used in environmental management and compliance?

■ Literature review

Institutional theory, its use, the theory related to environmental governance, institutional pressures and environmental management, and the role of pressure groups and the community towards the environment are discussed.

■ Institutional theory

Institutional theory was initially proposed as a challenge to theories that presupposed organisations as autonomous, logical actors (Bouilloud et al. 2020), asserting that interactions between people produce a shared social

reality on which social order is built (Scott 2013), aimed at building capacity through empowering individuals by enhancing their skill sets. Organisations that society recognises as genuine can readily access the necessary resources like labour and money (Bouilloud et al. 2020; DiMaggio & Powell 1983). Organisations are driven to adapt their organisational structures and adopt ethical environmental practices by fears about legitimacy to prevent social processes from becoming institutionalised (Comyns 2018). Formal and unofficial social norms are represented through institutional theory, whereas designated organisations uphold these standards (Andrews-Speed 2016). Organisations are governing, normative and culturally aware of elements that provide social life with stability, significance, and associated activities and resources (Scott 2013). Hence, organisations control behaviour and foster change because of the inherent ambiguity that might encourage actors to try new things and learn from their mistakes (Jackson 2010). The researchers contend that trying new things and learning from past mistakes are valuable processes in enhancing one's skill set, thereby building an organisation's human capital.

According to the institutional theory, social networks are a major contextual environmental driving factor behind an organisation's activity (Zou et al. 2019). The institutional theory offers a theoretical framework for investigating the forces that uphold the legitimacy and continuation of organisational practices by considering elements such as culture, social environment, rules, tradition and history, as well as economic incentives, and recognising the significance of resources (Scott 2013; Simoni, Bini & Bellucci 2020). Institutional theory can be used to describe how judgements concerning environmentally friendly actions and environmental management are influenced by shifts in cultural values, technical improvements and legal changes (Latif et al. 2020). Institutional contexts may impact organisations through the logic, governance and social action principles they uphold (Scott 2013; Zou et al. 2019). Hence, various elements, such as social and cultural norms, legitimacy concerns and rational efficiency goals, impact organisational decisions (Fligstein 2021). The importance of human capital for the gold mining industry, as viewed through the lens of institutional theory, is determined by its capacity to generate added value (Khayrulina et al. 2020).

The institutional theory could be especially useful for developing industry-level related explanations because it incorporates widely held ideas, values and beliefs in the analysis, in contrast to neo-classical driven theoretical assumptions that regard industrial producers as monolithic and economically rational actors (Carnevali & Pedersen Ystehede 2023). Through isomorphism, businesses operating in the same industry may well adopt comparable organisational structures and procedures (Comyns 2018) by how entities mimic the actions of other entities (Zou et al. 2019)

owing to the social transmission of isomorphism, either knowingly or unwittingly (Wang 2023). Coercive, normative and mimetic pressures or drivers are the three categories claimed by institutional theory to lead to isomorphism in organisational strategies, frameworks and procedures (DiMaggio & Powell 1983). This explains how the dissemination and institutionalisation of best practices lay the foundation for the growth and construction of institutions (Dedoulis 2016). Organisations acquire similar structures, strategies and procedures because of institutional isomorphism (DiMaggio & Powell 1983). Hence, entities interacting within the same organisational setting (gold mining sector) may exhibit comparable behaviour. Investigating the function of institutional theory should, therefore, aid in spreading gold mining techniques and encourage environmentally friendly mining techniques. In this regard, human capital can potentially increase the governance of the gold mining industry using institutional theory and its value and consequently acquire the capacity to generate more money through environmental management. As an organisation's human capital is expanded, so does the skill set of the individual employee, collectively making up the larger pool of skilled individuals with requisite capabilities that gravitate towards greener gold mining.

A growing body of research indicates the institutional theory's proliferating body of work (Davis 2015) and the problems the theory can address and explain (Alvesson & Spicer 2018). However, the major issues in the philosophy of science concern the role that theory can play in defining scientific progress (Akson, Zhylinska & Gaidai 2020), which was the issue that this study sought to address. Theories pose and respond to various questions, which help to focus on a certain area (Akson et al. 2020). Scholars claim that using theories to comprehend a phenomenon suits the aim of solving issues, which would help interpret empirical results (Davis 2006; Suddaby 2010). This study contends that institutional theory can be used to promote, explain and project the approach for the implementation of environmental management accounting. Arguably, a theory cannot provide a complete understanding of phenomena; it can only provide an abstract representation of reality (Deegan 2014). For example, institutional theory is one of the theories used to describe how sustainability is being adopted (Deegan 2014). Governments hold much power, as Mahmud (2020) contends that no person has a more consistent or meaningful ability to affect society than the government. Therefore, institutional theory can help Zimbabwe's gold mining industry enforce environmental management and compliance.

Institutions require human capital in the form of individuals having certain skills, including the skills they have learned through training and experience (Khayrulina et al. 2020). The primary way that gold mining can

influence human capital development is through labour engagement. However, it has been highlighted that in most mining regions, children and young adults make up many of the participants (Mejía 2020). The impact of mining on human capital can be mitigated by contextual and institutional factors (Mejía 2020), as evidence suggests that the surge in gold mining has increased violence (Dube & Vargas 2013), which could impact student enrolment and academic performance in schools (Minoiu & Shemyakina 2014). Therefore, the benefits of increased revenue and investment in mining could be negated if mining worsens local institutions' quality and encourages corruption (Asher & Novosad 2018).

■ The use of institutional theory

To understand patterns of invention dissemination, studies have among others used institutional forces (Fligstein 2021; Hassandoust, Subasinghage & Johnston 2022). The institutional theory be used to ascertain the government's impact on organisations (Dunlop & Randaelli 2016) and trends in industrial development (Pattit, Raj & Wilemon 2012). Some studies have examined how an organisation's competitive goals are the impetus for implementing an environmental strategy (Delmas & Pekovic 2013), while others have concentrated on the legal and regulatory structures (Christiansen & Verdun 2020; Jepperson & Meyer 2021). Institutional theory has influenced corporate green management (Andrews-Speed 2016; Comyns 2018; Farrukh et al. 2022) and is frequently employed in research on environmental management in organisations (Epstein 2017). It is agreed that it explains why some actions are chosen when there may be no clear financial advantage (Alvesson & Spicer 2018). Additionally, institutional theory has impacted the adoption of accounting standards (Judge, Li & Pinsker 2010; Nurunnabi 2015). As institutional forces have been demonstrated to be effective in other industries, they ought to be effective in gold mining. The adoption of greener measures by the gold mining industry, which has been highlighted as having a negative influence on the environment, may be enforced by institutional means.

■ Institutional theory and environmental governance

More ecological changes caused by human activity have been observed in the past 50 years than at any other point in history, marking a point when such activities transitioned from having little effect to a large impact on how the earth's system functions worldwide (Steffen et al. 2015). While there is comprehensive scientific research on environmental aspects, there remains a lack of social science knowledge and understanding of how to alter trends (Sjöstedt 2019). To find ways to manage the modern world's

complex ecosystem, research on sustainability has recently shifted its focus to aspects of governance (Schoon & Cox 2018; Young 2017).

Institutional theory casts doubt on the widely held assumption that efficient production is a proper and necessary organisational objective, challenging the widely held belief of understanding organisations and management practices as the result of social rather than economic pressures (Suddaby 2015). For instance, institutional theory has gained popularity because it can account for organisational actions that defy economic rationalism (Suddaby 2013). The theory claims that our interpretation of reality is what creates it (Suddaby 2015). Using a socio-cultural perspective to understand the world, which is believed to provide the foundation for humanity, is consistent with the interpretivist philosophy used in this study. The institutional theory makes the case that organisations form social environments where accepted notions of correct conduct shape the standards of proper behaviour (Meyer & Rowan 1977).

Literature observed that environmental management practices draw on perspectives from legitimacy, stakeholder and institutional theories (Comyns 2018). The institutional context in which organisations operate has an impact. As a result, institutional forces – whether regulatory, normative or cultural-cognitive – dictate how environmental plans are implemented and followed (Higgins & Larrinaga 2014). Studies have demonstrated that the adoption and implementation of environmental management solutions are impacted by both internal and external pressures (Beddewela & Herzig 2013; Islam & Deegan 2010).

When combined with related activities and resources, institutions are described as ‘comprising of regulative, normative, and cultural-cognitive elements that provide stability and meaning to social life’ (Scott 2013, p. 56). The focal point of the regulatory pillar is the development, supervision and application of laws and regulations; the normative pillar emphasises goal setting and the proper means of achieving them; and the cultural-cognitive pillar emphasises how cultural frameworks influence each person’s responses to their environment (Akson et al. 2020; Armstrong & Li 2022). Notably, institutionalised procedures are not subject to an organisation’s judgement (Meyer & Rowan 1977).

The isomorphism process causes organisations operating in the same industry sector to adopt comparable structures and procedures (Comyns 2018). Institutional pressures force organisations to modify their processes to fit their institutional setting (De Villiers & Alexander 2014). There are institutional pressures on environmental management in both the formal (regulatory) and informal (normative and cultural-cognitive) realms (Comyns 2018; Delmas & Pekovic 2013). Furthermore, the number of formal environmental management regulations at national and regional levels has

increased (Bartels et al. 2016). Using concepts from the theory of organisational ecology – a powerful analytical tool for examining the processes of organisational diversity and evolution over time – research has shown that these processes are influenced by structural and ideological fit with the environment (Comyns 2018). There is evidence from institutional theory to support the idea that this fit depends on institutional settings, which in turn may promote or prevent organisational evolution (Cui, Jiao & Jiao 2016).

Human capital in the form of employees would, arguably, evolve in tandem with that of the organisation. Institutions, therefore, reflect formal and unofficial game rules created to regulate and monitor organisational actions that influence the environment (Oliver 1997). Organisations are (necessarily) made up of employees, and hence, human capital development is at least pseudo-isomorphic to encourage a country's adoption of environmentally friendly and energy-efficient technologies, that is, it should be recognised that sustainable resource usage can hardly be achieved without educated and competent labour (Zafar et al. 2019). The development of human capital is essential for reducing ecological disasters and conserving the planet for future generations (Ahmed, Asghar & Nawaz 2020).

■ Institutional pressures and environmental management

Institutional forces within an underlying institutional framework are thought to impact how organisations manage their environmental impact as they help establish and disseminate shared ideals for long-term environmental viability (Jansson et al. 2017). Organisations that experience isomorphic pressure likewise exhibit isomorphic behaviours because these habits are driven by a need for legitimacy from external institutions (Andrews-Speed 2016; Bansah et al. 2022). For example, there was little evidence that institutional forces restricted organisations' ability to establish legitimacy (Lawrence & Buchanan 2017). Studies on institutional environments indicate that organisational strategy, activities, and proactive and reactive strategies (Alvesson & Spicer 2018; DiMaggio & Powell 1983) are the most popular types of strategic heterogeneity (Christiansen & Verdun 2020). As a result, institutional theory may lead to isomorphic behaviour, as gold mining organisations seek legitimacy from external institutions, particularly those that purchase gold. Therefore, it is likely that companies in the gold mining sector will respond favourably to institutional restraints. Adhering to institutional restraints links with a law-abiding mindset of decision-makers in an organisation, in turn linking directly with the human capital development of employees with such capabilities to comply with environmental management.

The importance of institutional forces in adopting proactive environmental strategies has received much attention in the literature, especially external factors that influence organisations to voluntarily adopt environmental strategies that go beyond what is required by environmental law (Delmas & Pekovic 2013; Jansson et al. 2017). Institutional pressures can drive organisations to behave differently concerning environmental strategy owing to several internal organisational traits, a complex organisational structure and different management approaches (cf. human capital development) (Crilly, Zollo & Hansen 2012). A competitive strategy, environmental concerns and financial or social pressures could all impact the drivers (Granly & Welo 2014). The two basic methods that can be utilised to explain drivers emanate from inside and outside an organisation (Akson et al. 2020). The need for third-party certification to enhance the organisation's standing with external stakeholders has been cited as an example of external motivation (Nazari, Herremans & Warsame 2015). Therefore, coercive pressure to implement greener measures may come from legislation and other stakeholders within the gold mining industry.

Because of increased knowledge of concern over how organisations affect the environment, organisations are becoming more proactive in decreasing their exposure to environmental hazards and approaching environmental management from a proactive standpoint (Phan & Baird 2015). Previous studies have examined how institutional pressures from various stakeholders, such as the government, affect institutions, customers and the community (Akson et al. 2020; Mintzberg et al. 2020; Zhu, Cordeiro & Sarkis 2013) on environmental management initiatives.

■ Institutional theory and the government

Numerous studies have looked at how enforcing rules and regulations affects whether an organisation adopts environmental management practices (De Villiers & Alexander 2014; Delmas & Pekovic 2013; Sjöstedt 2019). Governments have a key role in spreading cutting-edge techniques that are brought in internationally (Latif & Saari 2023; Walker, Kalathil & Ludwing 2020). Because of the possibility of government incentives for organisational change, the capacity of each nation's state to apply coercion is a crucial element in the dissemination of innovation across national boundaries (Schmidt 2020). One of the key determinants of corporate environmental management in China has emerged as coercive government institutional participation. China has passed and implemented laws, principles, rules and policies in response to the seriousness of its environmental challenges since the 1970s (Karplus, Zhang & Zhao 2021; Lazarus 2023). Chinese organisations were observed to adhere to unwritten government rules even when manipulating or disobeying regulations,

demonstrating the power of the government (Karplus et al. 2021). Therefore, government pressure on gold mining organisations may result in them enacting laws favouring a greener environment. The more dedicated the government is towards protecting the environment, the more likely organisations will adopt environmental management.

As political power is recognised to impact organisational life, it is crucial to acknowledge that institutional processes are worth considering while studying public environmental management (Rowe & Guthrie 2010). Even though the actual legal environment is more complex, most literature portrays government pressure as repressive and monolithic (Akson et al. 2020). We argue that institutional pressure from the government and society on the gold mining industry would enhance compliance and influence the human capital.

■ **The role of pressure groups and the community towards the environment**

Local groups can coerce local organisations by participating in federal and municipal elections, environmental protection and citizen lawsuits (Delmas & Pekovic 2013). Additional pressure from neighbourhood groups and a desire to live in harmony with others (Coglianese 2001; McKean 2022) encourage organisations to implement greener practices. Non-governmental organisations (NGOs) in the local community may pressure organisations to follow certain practices to promote ideas among their member countries (Delmas & Montes-Sancho 2011). The authors add that NGOs in the global village are also viewed as change makers and have developed into very powerful communicators. An example is how the World Wide Fund for Nature impacted the environmental reporting of an Australian mining organisation (Pellegrino & Lodhia 2012). Therefore, informing the people about their proper participation in environmental management practices is necessary. For instance, NGOs might establish a support network to help Zimbabwean gold miners adopt sustainable mining techniques. Establishing such (social) networks collectively builds the human capital of those participating in the network.

Coercive, isomorphic and governmental pressures may also be supported by organisations (Alvesson & Spicer 2018; Delmas & Pekovic 2013). While other organisations may imitate the strategies of their competitors, certain organisations may use coercive pressure on their suppliers (Li & Ding 2015). For instance, it might be required for organisations doing business with countries to adopt the standard for such countries in an attempt to have their goods and services accepted (Delmas & Montes-Sancho 2011). Furthermore, institutional scholars claim that organisations are more prone to imitate the actions of other organisations they deal with in a value chain

(Yawar & Kauppi 2018). Along with meeting the customer's needs, organisations may also adopt the methods of successful organisations (Andrews-Speed 2016; Delmas & Pekovic 2013). For the spread of environmental management innovation, pressure on gold mining organisations may need to come from various groups. Such groups may be organised into social entities working together.

■ Research methods

The study investigated how institutional theory could be used to enforce environmental management and compliance in Zimbabwe's gold mining industry. Following the research approach proposed by Saunders, Lewis and Thornhill (2019), the researchers adopted a qualitative research choice aligned with an interpretivist research philosophy while developing their research methodology. The researchers applied reason, specifically an inductive research approach to theory development, and collected primary data from seven in-depth interviews of personnel drawn from five gold mines from the Kadoma, Bindura and Gwanda towns of Zimbabwe. After reading a participant information sheet that described the research's objectives and interview subjects' rights before participation in the study, participants were required to sign an informed consent. In addition, the interviewees had to be assured that their answers would remain anonymous. The interview findings were synthesised into the themes discussed in the 'Findings and discussion' section of this chapter.

■ Findings and discussion

Data were gathered through conducting in-depth interviews. Seven interviews were conducted and transcribed. Interviewees were asked how institutional theory might be used to enforce environmental management and compliance within Zimbabwe's gold mining industry. This was necessary to determine how institutional theory would enforce environmental management and compliance within the gold mining industry, known for having the most impact on the environment.

Next follows a discussion of the interview findings regarding the potential contribution of institutional theory to enforcing environmental management and compliance within the Zimbabwean gold mining industry.

The first question was, 'How does the environment in which you operate influence your organisation to adopt greener initiatives?'

A synthesis of the interviewees' responses highlighted the following themes.

■ Impact of the sector on the environment

The nature of the sector and the type of work influence mining organisations to adopt greener initiatives. By nature, the mining sector is destructive to the environment. In addition, owing to its environmental impact, the mining sector is continuously under the spotlight from the government and other interest and pressure groups. Hence, mining organisations are forced to adopt greener initiatives to avoid a bad reputation and punitive fines.

■ Type of mining

The type of mining being undertaken is a factor that influences the mining organisations to adopt greener initiatives. Open-cast mining tends to have a more visible negative effect on the environment when compared to shaft mining. With open-cast mining, large excavations are being done, with extensive environmental destruction.

■ Location of the mine

The location of the mine is a factor which influences the organisation to adopt greener initiatives. Some gold mining organisations are in protected areas such as game parks, which call upon them to adopt greener initiatives to preserve the surrounding environments. Those gold mining organisations located closer to urban centres or human locations are forced to work towards reducing dust emissions. Gold mining organisations operate equipment that uses hydraulic oil and diesel and are always working on investing in new capital equipment with lower carbon dioxide emissions, affecting the ozone layer. Interviewee P2, located within a farming community, had this to say:

‘We generate a lot of waste, and if you look at our location, you can see we are surrounded by farms, which means we are in a farming community. We draw our water for our mining purposes from the Muzvezve River, which the local community also depend upon. When we leach our gold within the facility, we produce effluent water that contains certain dangerous chemicals like the cyanide we would have used there. Before releasing that effluent water downstream, we must make sure that we reduce the cyanide to safe levels. Some of the cyanide is destroyed chemically, while some of it is naturally destroyed by exposure to sunlight.’ (P2, male, 14 years’ working experience, environmental management)

■ Stakeholder pressure

Participants suggested that they are operating during a decade when there is a lot of stakeholder pressure through social media, despite technological advancements having been made. Organisations should adopt greener

initiatives to build a good reputation and avoid punitive fines. Interviewee P3 indicated that:

'Right now, as you can see, we have invested in the solar systems. We have drastically reduced firing some of our equipment using diesel which pollutes by releasing carbon dioxide and hence reduced air pollution. This is an initiative we took due to stakeholder pressure and the need to avoid a negative reputation. The use of solar and ZESA means that we have an interest in the future of planet Earth. We are also doing some planning in terms of reforestation in areas where some trees were cut down, and hence, we have our environment at heart.' (P3, male, 12 years' working experience, environmental management)

■ Organisational culture

Culture was also suggested as a factor influencing organisations to adopt greener initiatives. Participants stated that an enabling environment can be identified by an organisation's culture, which includes its willingness to provide qualified individuals in charge of environmental management and human resources. They argued that having competent personnel in charge of the environment would necessitate the adoption of greener initiatives. It was, however, noted that it would take time to influence overall organisational culture. Still, once that becomes a norm, the organisation would have created an enabling environment to adopt greener initiatives.

■ Waste generation

Mining by nature produces large volumes of waste in terms of toxic chemicals, waste rock and containers, which, if not regulated, pollute the environment. This calls for proper waste management if organisations are to avoid contaminating the environment. Participants indicated that many mining organisations are forced to adopt greener initiatives because of the amount of waste rock and toxic chemicals produced, which, if left unchecked, aggravate environmental pollution. Tails of waste rock, for example, are built in a way to curb environmental waste. To emphasise the foregoing, P6 stated:

'[...] being in a mining environment, we use a lot of chemicals. We use acids, the containers for the acids after use must be stored in secured places, and some of them we take them back to the manufacturers, whilst some, after doing proper cleaning, we just give them to our employees to use maybe as water containers and other stuff. We also generate some plastic paper that comes from explosives and other stuff that are used in mining sites, as these come packaged in cardboard boxes and plastic papers. Plastic papers are burned from time to time. That's what we have been doing.' (P6, female, 11 years' working experience, environmental management)

The preceding discussion pointed to the type of mining, location, stakeholder pressure, waste generation and organisational culture as factors that would

influence an organisation to adopt greener initiatives. These themes align with Bose and Luo (2011), who argue that environmental concerns influence an organisation's strategy. In addition, Liu and Yuan (2015) support the idea that organisations are operating during a decade when there is a lot of stakeholder pressure, facilitated through social media, despite technological advances to address environmental concerns. Consequently, gold mining organisations should be careful about how they operate and respond to the concerns.

The responses also link with both internal and external human capital development. The interviewees pointed to pressure groups which, through social grouping, leads to the building of external human capital as previously discussed. The interviewees also touched on the skill sets of employees, pointing to internal human capital development.

The second question was, 'Do you think governments and other regulatory bodies must exert coercive pressures on organisations to adopt greener initiatives? Kindly explain your answer'.

Although the answers to this question varied, when responses were synthesised, the following themes emerged.

■ Coercive pressure

Most participants agreed that the government should exert coercive pressure on gold mining organisations to adopt greener initiatives, as they are likely to cause significant environmental destruction if left unchecked. Participants noted that the environmental impact of the gold mining industry is the most severe of any economic sector, underscoring the need for regulation by the government and other advocacy groups. This was consistent with Phan and Baird's (2015) claim that mining organisations react to coercive pressure more than other types.

However, a few participants argued to the contrary. They indicated that coercive pressure needed to be applied only to small gold mining organisations as large gold mining organisations had the resources to comply with environmental management. P3 believed that large gold mining organisations were proactive in environmental management and need not be pressured regarding environmental protection. It was argued that applying coercive force would reduce their compliance with the regulation, thereby compromising environmental entrepreneurship within the gold mining sector. P4 indicated only those gold mining organisations that were not complying with environmental management and were not proactive on their own had problems with the regulator. In response to the issue under discussion, P4 stated:

'[...] We have what we call "pollute affairs principles" in environmental management, which state that for a person to be impacted by a government

agency, they must be polluting. If this concept is not followed, anyone can emit it. It is only those that are polluting that are facing challenges with the regulator.’ (P4, male, 10 years’ working experience, environmental management)

■ Rewarding framework

Some participants indicated that using coercive techniques and regulations might lead to reduced compliance among gold mining organisations. They argued that if the government wanted these organisations to adopt proactive approaches to environmental management, it needed to develop a framework that rewards environmental entrepreneurship. This, in the long term, would motivate organisations to embrace environmental initiatives that help protect the planet for future generations. Participants indicated that the government was supposed to spend its effort motivating gold mining organisations to adopt greener initiatives rather than applying coercive measures. P5 had this to say:

‘Pressure is okay, but the challenge with regulations is usually a minimum standard, so people will just do to comply, but I think the greatest effort should be put on components or developers to appreciate or rather create the market which is motivating enough for mining organisations to be innovative regarding environmental management. We need a society which does appreciate, and by that, I think it is just wise for the regulator to put indirect incentives just to promote greener initiatives. Otherwise, if you just throw your legislation, people will comply just to comply, and you know the society we live in, people will just end up concentrating by ensuring that they do things for the sake of doing it. So, I think the best thing is about creating a market economy which is motivating, and which creates incentives for the people to comply.’ (P5, female, eight years’ working experience, environmental management)

■ Environmental impacts

Several mining organisations indicated that gold mining organisations, by nature, are very destructive to the environment. Participants indicated that with the advent of artisanal miners in Zimbabwe, the majority of whom are concerned with making a profit and not caring how their actions affect the environment, the government needed to exert coercive pressure on them if they were to comply. Participants indicated that artisanal miners do not respect regulations and infrastructure such as roads and should, therefore, be monitored. In addition, participants indicated that artisanal gold miners are still using toxic chemicals such as mercury to extract gold, which has long been banned. Further, most artisanal miners work on riverbanks, and the mercury enters water reservoirs. As is well-known, mercury is very harmful to people’s health; hence, the government should use coercive measures to move small miners to comply. In support of the above sentiment, P6 had this to say:

‘With the advent of artisanal mining in this country, we discuss miners who don’t give a damn about the environmental effects of their operations, miners who

are after profits. Like in this area, we have running battles with artisanal miners who are poaching in our claims, digging everywhere, including on roads, if they discover gold ore passing through roads. In addition, they are still using bad substances for their extraction purposes, like mercury, which has long been banned. Further, most of these artisanal miners do their mining on riverbanks, and the mercury being used is finding its way into water reservoirs. We must not forget that mercury is very harmful to the health of the people.' (P6, female, 11 years' working experience, environmental management)

■ Mining interest

Several respondents pointed out that gold mining organisations are naturally interested in areas where gold ore still exists. It was argued that, if left unchecked, gold mining organisations are never going to be involved in undertaking environmental initiatives, and when the gold ores are exhausted, they will leave the area without having done any land reclamation and with pits scattered in the area, thereby posing a danger to the future of planet earth and future generations. Participants stated that pressure should be applied during the life cycle of the mine when the mineral ore is still in existence and the miner still has mining interests.

The preceding discussion reveals that the gold mining sector is rather destructive to the environment, which puts it under the spotlight from interested parties. This results in coercive pressure on the sector to adopt greener initiatives. This aligns with the view by Comyns (2018) that organisations do respond to environmental pressure and adopt green initiatives to avoid stakeholder pressures. In support of the above, Higgins and Larrinaga (2014) note that the institutional environment in which an organisation operates affects its behaviour. Ultimately, institutional forces dictate how environmental plans are implemented and adhered to. Above that, Latif and Saari (2023) claim that the government plays a role in spreading technology and importing ideas from other countries that could assist the sector.

Regarding human capital development, the researchers note that coercive pressures on (smaller) organisations may lead to such organisations adjusting their mindsets and policies, leading to good citizenship in the long run, in turn promoting human capital development.

The third question posed was, 'When you look at key stakeholders of the gold mining sector, which one exerts the highest amount of force and why?'

The synthesis of the responses highlighted the following themes.

■ The regulator

All the participants (P1-P7 from environmental management) pointed to the regulator (Environmental Management Agency [EMA], Ministry of

Mines and National Parks and Wildlife) as the major players in the gold mining industry who most strongly influence the industry. The government was argued to be providing the highest amount of force because it could keep the gold mining sector accountable for its actions. These include regulation, imposition of fines and withdrawal of certain rights or incentives.

■ Environmental impact assessment

Most participants indicated that before any mining venture is approved, a gold mining organisation must have sent the EMA plans to comply with environmental management. Ministry of Mines and National Parks and Wildlife should conduct the project's EIA before approval. In addition, participants pointed out that the EMA would be expected to conduct numerous follow-ups and check compliance progress with EIA plans. However, they have not been doing that lately owing to the unavailability of financial resources caused by the economic meltdown.

■ Fundraising

Some participants indicated that the pressure from the regulator was excessive. Because of the economic meltdown, they perceive the fines imposed on them as a fundraising strategy. They argued that the regulator does not assist or support gold miners but rather seeks out shortcomings to impose excessive fines, which the interviewees felt was unfair. Participants indicated that the regulator's actions have reduced many gold mining organisations' compliance with the regulation, which is not good in the short term and has compromised environmental innovation. Participants argued that the amount collected from them by the regulator was not being used for environmental stewardship. To emphasise the significance of the issue under discussion, P3 had this to say:

'[...] although the pressure they put sometimes is good, EMA and the Ministry of Mines are at most very forceful and go beyond the expected exertion. We expect a certain level of exertion, but they end up exceeding that, which becomes a problem with them. Instead of coming back to help you, they come to look for money by charging exorbitant fines and fees. They look for weaknesses instead of compliance, which to us is a very bad governance strategy.' (P3, male, 12 years' working experience, environmental management)

■ The goal of the gold mining organisation

Some participants indicated that the major goal of a mining organisation was attaining a profit, and environmental management is secondary; hence, the government needs to exert pressure on them and keep an eye on their operations. With its profit maximisation objective, a gold mining organisation

would want to avoid additional costs that come as fines by adopting greener initiatives. In this case, participants argued that gold mining organisations dictate how their operations are conducted and create the environment to achieve their objectives to avoid incurring additional costs in the form of fines.

The themes above align with the belief that the regulator exerts the most force (Delmas & Montes-Sancho 2011). This was attributed to it holding political power, which could affect organisational well-being as it is repressive and monolithic (Rowe & Guthrie 2010).

Possible sinister motives of government alluded to above leave much room for human capital development. Arguably, a gold mining organisation can do very little to mitigate these issues, except by reporting these actions to the relevant authorities. Taking responsibility inside an organisation leads to individual growth and maps to internal human capital development. Changing the mindset of the government officials to be fair in their reporting on mining organisations likewise leads to individual growth, in turn, mapping onto external human capital development concerning the mining organisation.

The fourth question posed was, 'Are you registered at any board that prescribes operating standards for the gold mining sector? If not, why not? If yes, how has the gold mining organisation benefited from the board?'

A synthesis of responses from interviewees highlighted the following themes.

■ Being registered to boards

Most gold mining organisations (P1, P2, P3, P5 and P7) are affiliated only with the regulator (EMA, Ministry of Mines and NASSA) and rely on the regulator to prescribe operating standards. Participants indicated they did not have the financial resources to affiliate with international boards, which hindered their progress in environmental innovation. In addition, participants argued that the regulator would provide operating parameters within which the gold mining organisations must operate; these would take time to be changed and aligned to international standards. In addition, some of the large gold mines were affiliated with the Zimbabwe Chamber of Mines, a board concentrated on mining and economic policy advocacy, promotion of investment in new technology, labour and industrial relations management, environmental management and research, among others.

The above aspect aligns with the view that, because of the possibility of government incentives for organisational change, each nation's state's capacity to apply coercive pressure was essential if the change was

accepted (Schmidt 2020). It was noted by Lazarus (2023) that government participation through regulation is coercing organisations to observe and adhere to such regulation, even when manipulating the regulation. In addition, Rowe and Guthrie (2010) note that government power influences organisational life, and consequently, institutional processes ought to be taken seriously.

The researchers believe similar considerations as for the third question regarding human capital development hold here as well.

The fifth question posed was, 'What role is played by NGOs and other essential stakeholders in the diffusion of ideas and assisting the gold mining organisations to adopt environmental management initiatives?'

A summary of interviewees' responses pointed to the following themes.

■ **Non-governmental organisations and environmental management**

Several participants indicated that, in Zimbabwe, NGOs were only in humanitarian activities and were not active in environmental management issues. Participants indicated that, within the gold mining sector, NGOs are limited to social issues and work towards improving the livelihoods of rural communities by assisting with food provisions and contraceptives for women. P3 emphasised this by saying:

'Except for those who visit and inform of ZAZIC [a Zimbabwean association of church-related hospitals] in the health [*care*] section, we don't have any NGOs that come and help us with environmental management issues. These are the individuals who support our employees with matters such as blood testing, cancer screening, and other health-related issues.' (P3, male, 12 years' working experience, environmental management)

As indicated, participants responded that NGOs were not involved in environmental management within the gold mining sector, though in rural community areas, they are partially involved. Among others, they tried raising awareness by making the rural community appreciate the value of trees as these rural communities depend on firewood for cooking.

■ **The political environment**

Several participants indicated that the political environment could hinder NGOs from actively engaging in environmental management. They noted that most gold mines in Zimbabwe are owned by politicians or individuals in high offices, who are responsible for degrading the environment. Participants pointed out that, ultimately, these politicians would prevent NGOs from playing an active role in the gold mining sector for fear of being

exposed to the international community as perpetrators of environmental degradation in the country. In addition, as enactors of the regulation, which the regulator then uses in enforcing compliance, these politicians are not in a hurry to change the regulation because they are beneficiaries of a lax regulation.

This aspect of the study found that NGOs are not playing an active role in environmental management within the gold mining sector. However, this was contrary to the views of Delmas and Pekovic (2013), who indicated that pressure groups could coerce local mining organisations to engage in environmental management initiatives. In addition, Delmas and Montes-Sancho (2011) indicated that NGOs play a major role in pushing local organisations to adopt best practices as they are viewed as change agents who have developed into very powerful communicators.

The researchers believe that the aspects of human capital development related to pressure groups, government-related organisations (e.g. NGOs), and officials are significant for the themes that emerged from this question.

The last question posed was, 'Do you think stakeholder engagement helps in building lasting beneficial relationships? If so, how often do you engage stakeholders, and which among your stakeholders do you mostly engage? And if not, why not?'

The following themes were identified after a synthesis of responses from interviewees.

■ Surrounding community

Most participants indicated that they operate within the community affected by the operations of the gold mining organisations, and therefore, stakeholder engagement was essential in building a lasting and beneficial relationship. Participants indicated that their activities may affect animals and humans within their operating areas. Participants gave an example of toxic chemicals discharged from mining that can accidentally find their way into the environment and pollute water bodies, endangering animals and humans. Participants viewed stakeholder engagement as key because it would make all parties find each other and move everyone to take action that would help save lives. Some participants indicated that some of the challenges they had with the regulator stem from regulations in use which were a copy and paste from other countries and thus did not apply to the Zimbabwean situation. P4 had this to say:

'We must participate since some of Zimbabwe's legislation is simply copies of British or American laws, which is why we find it difficult to comply with them. In coming up with a regulation for the mining sector, I think we are a stakeholder as the gold mining organisations that need to be consulted. It is very important to

engage so that we find each other along the way of the engagement. This, in the end, would help in not coming up with conflicting policies or with a policy which does not go address the Zimbabwean situation.' (P4, male, 10 years' working experience, environmental management)

■ Corporate social responsibility

Several participants indicated that it was through stakeholder engagement that they learned about their challenges and how they could assist. Through community engagement, most gold mining organisations have built roads to improve accessibility for surrounding communities, constructed clinics, donated medication and provided clean drinking water by drilling boreholes for local schools and the community.

The finding from this aspect of the study agreed with Awuah et al. (2021), who indicate that it was essential to engage stakeholders as a strategy for gaining legitimacy from all key stakeholders as well as a decision-making strategy because that would avoid embarking on controversial activities. The authors noted that the major challenge the gold mining organisations faced regarding the issue under discussion was the lack of community participation and support during the engagement. Still, they would rather wait until a problem arose before registering their voice. In addition, Kepore and Imbun (2011) indicate that owing to the nature of the business, which affects both the environment and its inhabitants, it was essential to engage in corporate social responsibility (CSR) initiatives and act as good citizens. This is made possible through community engagement to bridge the gap between the community expectations and the goals of the mining organisation.

As before, stakeholder engagement builds external human capital as indicated in earlier discussions.

As alluded to above, enhancing the implementation of the institutional theory principles to promote environmental management compliance is possible through human capital formation, both internal to the gold mining organisation and externally, for example, stakeholders and government. The presence of educated human capital in the mining industry raises the demand for a better environment, which in the long run is linked to the effective use of natural resources, resource conservation and the adoption of cutting-edge technology at the individual and collective levels. This aligns well with Lan, Kakinaka and Huang (2012) who believed that concerns with environmental management were related to human capital. Education, which contributes to higher labour productivity, is the primary component of human capital. Consequently, the level of qualification of an organisation's workforce, based on educational attainment and job experience, is one of the primary qualitative traits of its human capital (Khayrulina et al. 2020),

because it improves the skill sets of individuals. Furthermore, a rise in mining operations and a surge in commodity prices have been found to impact human capital growth negatively.

■ Conclusion

The chapter examined how institutional theory can be applied to enhance environmental management and compliance in Zimbabwe's gold mining industry. It was found that the gold mining industry poses significant environmental risks. To encourage adherence to environmental management principles, coercive measures should be implemented. However, the chapter suggests that these measures should be targeted primarily at smaller gold mining organisations that are not proactive in their environmental efforts. It was found that exercising pressure needs to be applied with caution as it could reduce mining organisations' compliance with the regulations, which in the long term would destroy environmental innovation.

It was indicated that gold mining organisations should be willing to invest in key individuals and make available knowledgeable personnel, that is, human capital on environmental management concerns, as culture was highlighted as a factor in the decision of those organisations to implement greener initiatives. It was also found that the regulator was applying coercive measures to the gold mining organisations as an apparent strategy of raising funds through the imposition of fines.

Based on the findings and discussion of the research, it is recommended that the government develop a framework to reward those environmentally innovative gold mining organisations, which in the long term would motivate the sector to be entrepreneurial in environmental management issues. It is recommended that gold mining organisations invest in human capital development and ensure that qualified individuals oversee environmental management issues. Additionally, the regulator should prioritise enhancing the capacity of the gold mining sector instead of focusing on fault-finding and should avoid pressuring the industry to secure funding. Furthermore, a supportive political framework should be established to facilitate the participation of NGOs and all other stakeholders in addressing environmental management concerns. As part of the framework, the researchers could explore the benefits of engaging all stakeholders as an all-inclusive strategy for environmental management of the gold mining industry.

It should be highlighted that careful human capital investment is necessary as a lack of human capital development is a factor limiting the growth of gold mining investment. Because human capital plays a positive role in institutional theory, education will be crucial in promoting

environmental sustainability in the gold mining industry. To encourage a sustainable society, it is advised that all levels of the Zimbabwean education system be expanded to include an environmental context. Training and awareness programmes are necessary in gold mining communities to educate the workforce about the value of environmental management and to provide them with information on how to cut back on unnecessary resource consumption. Additionally, human capital development should focus on both internal and external stakeholders, including pressure groups, government and NGOs.

PART 2

**Accounting education and
human capital formation**

Implications of constructivist theory to building human capital approach in first-year Accountancy students in South African universities

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■ Abstract

The journey for Accounting students to become chartered accountants begins in high school and continues through university. Therefore, high school and first-year Accounting students require effective teaching

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methodologies to establish a solid foundation in accounting. However, the high failure rate in accounting at both high school and university levels has raised significant concerns globally. This prompted the current study to investigate the implications of constructivist theory for developing human capital in first-year Accounting students. A pragmatic paradigm was employed for this study. The pragmatic paradigm refers to a worldview that focuses on 'what works' rather than what might be considered absolutely and objectively 'true' or 'real'. The study started with reviewing the literature on specific concepts and moved towards the development of a framework on a set of themes developed throughout the study. The study found that the main challenge emanates from numerous teaching and learning gaps between high school and first-year Accounting syllabi. This means the high failure rate in Accounting starts from high school progresses to first-year high school and progresses to the first year at the university. Among other factors, poor teaching methods employed by high school Accounting teachers negatively impact students' pass or fail rates. Additionally, first-year Accountancy lecturers often lack exposure to innovative teaching methods, which further affects student performance. The study recommends that first-year Accounting syllabi should build on the foundation laid by Grade 12 syllabi and that Accounting teachers should be trained and equipped with the necessary skills and capabilities for teaching first-year Accounting students to bridge the gaps experienced at high school. The study concludes that the use of the constructivist theory approach for human capital formation in first-year Accounting students is paramount to enhancing students' performance.

■ Introduction

The high failure rates in Accounting courses at South African higher institutions are of great concern (Maali & Al-Attar 2020; Maddock & Maroun 2018; Sikhombo 2018; Van Romburgh 2014; Waples & Darayseh 2005). This may be because of various factors, including ineffective teaching techniques and strategies used in universities, the transition from secondary to post-secondary education, the teaching and assessment methods employed in tertiary education, a weak foundation in Accounting or Mathematics, a lack of student commitment or insufficient preparation provided by high school Accountancy educators (Sikhombo 2018; Van Romburgh 2014).

It could also be that students in the first year struggle to find a balance between high schools' strategies of teaching and the syllabi carried out at the university system. This is a global problem which South Africa's first-year Accounting students are not immune from. Thus, first-year students' adjustment and successful transition from high school to university is of great concern (Chidzonga 2014; Council on Higher Education [CHE] 2009). Arguably, high school Accounting education serves as a means for the

formation of requisite skills, knowledge and competencies necessary for tertiary accounting education. According to Schreuder (2014), the economy requires students to join the workforce with the accounting skills and knowledge they have learned in school. Madsen (2015) attests that the accounting community in South Africa has stated that the calibre of accounting education is deteriorating. It is important to understand that building human capital in Accounting students provides them with the ability to make decisions, monitor the use of human resources and determine the value of people to the organisation (Andrade & Sotomayor 2011).

This can also be linked to the fact that from 2015 to 2019, Accounting enrolments significantly decreased at colleges (Alexander & Nobes 2016). According to the findings of a survey conducted by the authors, top Accounting programmes appear to follow this tendency. When examining students who are enrolled in Accounting as a course, Dipa (2020) notes the decline in Gauteng province's secondary and tertiary education. The constructivist theory was used in this study to understand from a human capital perspective, what role does constructivist theory play for both the lecturers and the students in ensuring effective teaching and learning of the Accounting syllabi. Schreuder (2014) suggests that constructivist theory requires the creation of an environment that provides students and educators with opportunities to connect their understanding, utilise resources and engage in reflective thinking to construct accounting knowledge.

Applying constructivist theory to this study, Accounting syllabi should incorporate a model of cognitive development that helps to understand students' thinking capability, human capital development and learning gaps that would enable them to design effective teaching and learning methods (Wolcott 2020). The constructivist theory advocates that students need to develop stronger critical thinking skills, assimilation and constructive conceptual growth in solving complex transactions in accounting (Wolcott & Sargentb 2021). Thus, the study looked from a human capital perspective, at what role constructivist theory plays for both the lecturers and the students. This was examined through the lens of constructivist theory of learning to assess the performance of first-year Accounting students. The study aimed to address this question: What role does constructivist theory play in building human capital development for lecturers and students in South African universities' first first-year Accounting students?

■ Conceptualisation of constructivism and education

According to Mvududu and Thiel-Burgess (2012), constructivism as an educational theory holds that teachers should first consider their students' knowledge and allow them to put that knowledge into practice. Alternatively,

the authors observe that the constructivist viewpoint is one of the most influential theoretical viewpoints in education. Constructivism has been defined in a variety of ways by intellectuals, academics and researchers from a wide range of fields, including management, sociology, psychology and education (Kolb 2015; Vygotsky 1986, 1987; Zimmerman 2013). Sharing the above sentiments, Yadav (2016) observes that the constructivist approach has been viewed from many different perspectives and has also been underpinned by a host of assumptions. To mention a few, these are trivial constructivism, social constructivism, radical constructivism and cultural constructivism.

Gilakjani, Leong and Ismail (2013) observe constructivism to be a philosophical school of thought, which assumes that reality is the mental construction of individuals who believe that they were involved in its discovery and investigation. Thus, constructivist learning is regarded as a self-regulated activity in which actual experiences, reflection and discussion are used to resolve inner conflicts that surface. Constructivism encourages students to acquire human capabilities which enables them to own their knowledge, empower their analytical skills and boost workplace competencies and creativity (Mays 2015). Constructivism is grounded on the fact that students construct their theoretical understanding and specific knowledge from the instructional or learning activities carried out in the classroom (Waschescio 1998). This viewpoint is backed up by Mapuya (2021) who affirmed that the constructivist school of thought acknowledges learning as an active and socially dependent construction of knowledge, meaning and understanding.

Blake (2015) provides a broader perspective on constructivist theory by further emphasising that this construction of knowledge, meaning and understanding is not limited by age or the stage of cognitive development. It, however, emphasises the importance of student involvement and participation in their learning to develop stronger critical thinking skills, assimilation and constructive conceptual growth in solving complex transactions in accounting. As an educational theory, the teachers should consider what students know and allow their students to put their knowledge into practice. This suggests that constructivism as a teaching and learning strategy is central to the development of knowledge and skills of students, which are essential for human capital development. This indicates that understanding the knowledge process that takes place during the teaching process is the foundation for human capital formation.

Moreover, Ormrod (2014) asserts that constructivism is a theoretical viewpoint that examines how people work together to create and impose meaning on the world based on their experiences. In the same spirit, constructivism's basic tenet, according to Yadav (2016), is that students can actively create their knowledge and understanding of a subject based

on their own experiences. On the one hand, Jensen and Frederick (2016) affirm that according to constructivism, the social, cultural and historical circumstances in which students are raised and currently reside have an important impact on their ability to think critically and learn effectively in the classroom. On the other hand, Vygotsky (1987) asserts that another important aspect of constructivism is that two or more students can negotiate and come to a better understanding when working together than when working alone. Therefore, based on the above theoretical perspective, peer cooperation and collaboration are crucial factors for the successful implementation of constructivism in building human capabilities, which also advocates for socialising the teaching and learning process.

■ Accounting knowledge, skills and capabilities

The lecturer requires the ability to understand the concepts and content in accounting to develop skills that can be utilised to enhance teaching and learning. Jensen and Frederick (2016) affirm that knowledge and skills create capabilities and thus create a constructivist learning environment. Accounting professionals should possess the attributes of a constructivist lecturer. It involves the ability to construct knowledge and skills that are adequate for enhancing teaching and learning capabilities. This would ensure that they understand the thinking capabilities and integrate good assessment and teaching and learning strategies that may enhance students' performance (Wolcott 2020; Wolcott & Sargent 2021).

■ The role of the Accounting teacher or lecturer in a constructivist learning environment

The footprint of constructivist theory can be felt across disciplines such as accounting, medicine, engineering, business administration, information systems, educational science and a few others (Ertmer & Newby 2013). Constructivist theory is grounded on the fact that students construct their theoretical understanding and specific knowledge from the instructional or learning activities carried out in the classroom (Waschescio 1998). The role of the educator and lecturer is to create an enabling environment to allow students to build their critical thinking knowledge in accounting. According to Yadav (2016), in a constructivist learning environment, the lecturer can adjust to the requirements of the students and provide them the flexibility to create their own knowledge and understanding. This environment should afford students with chances to link their understanding, use resources, assimilate and experiment their thinking in the direction of constructing

accounting knowledge in the classroom (Lekganyane 2011). Based on constructivist theory, educators or lecturers of Accounting syllabi should apply a model of cognitive development that helps to understand students' thinking capability and learning gaps that would enable them to design effective teaching and learning methods (Wolcott 2020).

Sikhombo (2018) maintains that constructivist theory is based on the notion that students should be holistically involved in constructing knowledge relevant to their lives. It is imperative to understand that what students learn is not as important as the learning process, and with the help of their learning skills, students can be able to do whatever they wish to learn. Jacobs, Vakalisa and Gawe (2016) assert that learners, based on constructivist theory, bring their own understanding of reality to the classroom, which helps them facilitate their retentiveness. Therefore, the lecturer has to help them in aligning their knowledge with the emerging information through reflective thinking. Driscoll (2005) concurs that students help in constructing their knowledge; however, the external environments can influence this knowledge. Hence, the human capital formation of Accounting students through constructivism enables them to internalise learning and strengthen their skills, workplace competencies and creativity (Mays 2015).

Accounting lecturers should ensure that they guide students throughout their learning process to acquire skills that will enable them to construct knowledge from what they are taught in the classroom, so that they can be able to apply it to practice. This will enable them to acquire knowledge through classroom activities without necessarily being told answers. They become self-confident and take an active role in their learning process, which will assist them with their careers whereby they will be able to solve any arising accounting problems without entirely depending on someone to tell them what to do to solve the problems at the workplace. Accounting lecturers' role is, therefore, to facilitate an active learning process and guide students on how to get it right. In other words, a student-centred approach should always be encouraged because, according to the constructivist theory, students are expected to participate more in their learning to acquire knowledge, whereas the role of the lecturers is to facilitate that learning process.

■ The role of an Accounting student in a constructivist learning environment

In constructivism, learners' conceptions of knowledge come from a process of meaning-making in which they create unique interpretations of their experiences. According to Hoover (1996), in constructivist learning, two important notions encompass the simple idea of constructed knowledge. The first idea is that students create new understandings using their current

knowledge, which simply means that the learners' prior knowledge influences their new knowledge. The second idea is that learning is not a passive process. Instead, learning is a process that involves students actively negotiating their understanding in light of what they encounter in a new learning environment (Hoover 1996). Thus, if what students experience conflicts with what they already know, their current knowledge can change to accommodate new experiences. However, this exercise on the part of learners to balance previous experiences with current experiences shows the human capabilities found in learners as they try to create new knowledge.

Echoing the same sentiments about the role of a learner in constructivist learning, Christie (2005) asserts that learning is both an active process and a personal representation of the universe. According to this view, knowledge is created from experience and altered by diverse encounters. This philosophy places a strong emphasis on understanding and problem solutions. In this view of learning, genuine tasks, experiences, teamwork and assessment are only a few other crucial elements. According to Hare, Howard and Pope (2005), the constructivist learning approach places a strong emphasis on learner-centric instructional classroom practices. Additionally, instructors who adopt this strategy should design their curricula on the experiences of their pupils.

Bruner (1973) places a strong emphasis on the function of cognitive structures in giving experiences meaning and organising, and he advises learners to go beyond the constraints of the available knowledge. He contends that the core of effective education in a constructivist learning environment is the learner's freedom and that students' attempts to independently find new ideas can strengthen this independence. Additionally, the curriculum must be structured in a spiral so that students can build on what they have already learned. Adding to the aspect of the curriculum, Cook (1992) also advocates the use of negotiation in the curriculum with the emphasis that when learners negotiate, ask questions and diligently seek out the solutions on their own, learning will be more meaningful. With the help of this curriculum, students can develop a sense of responsibility for their work and dedication to their education. To this, Bruner (1973) adds that negotiating the curriculum means planning to invite students to contribute, and to modify, the educational programme, so that they will have a real investment both in the learning journey and the outcomes. In essence, the role of the learner in constructivism is conceived as building and transforming knowledge.

Accounting education research has highlighted the need for students to develop stronger critical thinking skills in solving complex transactions in accounting (Wolcott & Sargentb 2021), which to a very good extent develops in them human capital capabilities. According to a study by

Abbott and Palatnik (2018), first-year Accounting students lacked the critical thinking skills necessary to solve accounting problems. This suggests that lecturers should take into account the importance of students' critical thinking in an Accounting curriculum and design a teaching and learning environment where students are requested to participate in novel learning experiences. Therefore, first-year Accounting curriculum planners should give careful thought to providing first-year Accounting students with a constructivist learning environment where the human capital formation is developed to foster creativity, analytical skills and competencies through the construction of their knowledge.

In a constructivist setting, students must be able to absorb by integrating new experiences into pre-existing mental models (Mogashoa 2014). According to Brau (2020), first-year Accounting courses should be flexible enough to allow lecturers to update or amend outdated material for efficient teaching and learning. For effective teaching and learning, first-year Accounting lecturers and students must be able to adapt and find ways to replace old and irrelevant information with current accounting trends. This is because some of the concepts in the syllabi may be out of date and irrelevant.

According to the constructivist philosophy, students should create their knowledge rather than simply absorb it (Lekganyane 2011). According to Morrell and Popejoy (2014), pupils should exhibit a conceptual transformation when they can create their own knowledge and ideas. A lecturer must use new tactics that will support a constructivist teaching and learning environment if they observe that the current methodology for teaching Accounting syllabi does not encourage conceptual development among students. According to Schreuder (2014), an environment should be developed that gives students the possibility to connect their knowledge, utilise resources, make assumptions and experiment with their ideas to build accounting expertise.

■ Methodology

The study adopted a mixed-methods research approach. This method was defined by Holt and Goulding (2014) as the collection and analysis of data through quantitative and qualitative means in a single study in which data are collected concurrently or sequentially, with priority, and it involves the integration of data at one or more stages in the process of the research. The mixed-method approach enabled the researcher to collect both numeric and written evidence concerning the research questions being investigated. The research design used in this study was the explanatory sequential strategy. Explanatory design lies in its ability to explain a range of phenomena that exist in specific settings rather than a specific instance of a problem (Baskerville & Pries-Heje 2010). An explanatory sequential

design is used to explain and interpret quantitative results by collecting and analysing quantitative results in which the researcher identifies themes and constructs that have significant or no significant and contradicting responses which are followed up qualitatively (Creswell 2014).

The population for the study is all 1,289 Accountancy students at the three campuses of the selected university offering Financial Accounting in South Africa. For the first phase of the study, the Raosoft sample calculator was used to arrive at a total number of 297 students used for the study. Individual interviews were conducted with some lecturers and students in the second phase of the study until a point of saturation. The data collected are presented and analysed in the 'Results and discussion' section.

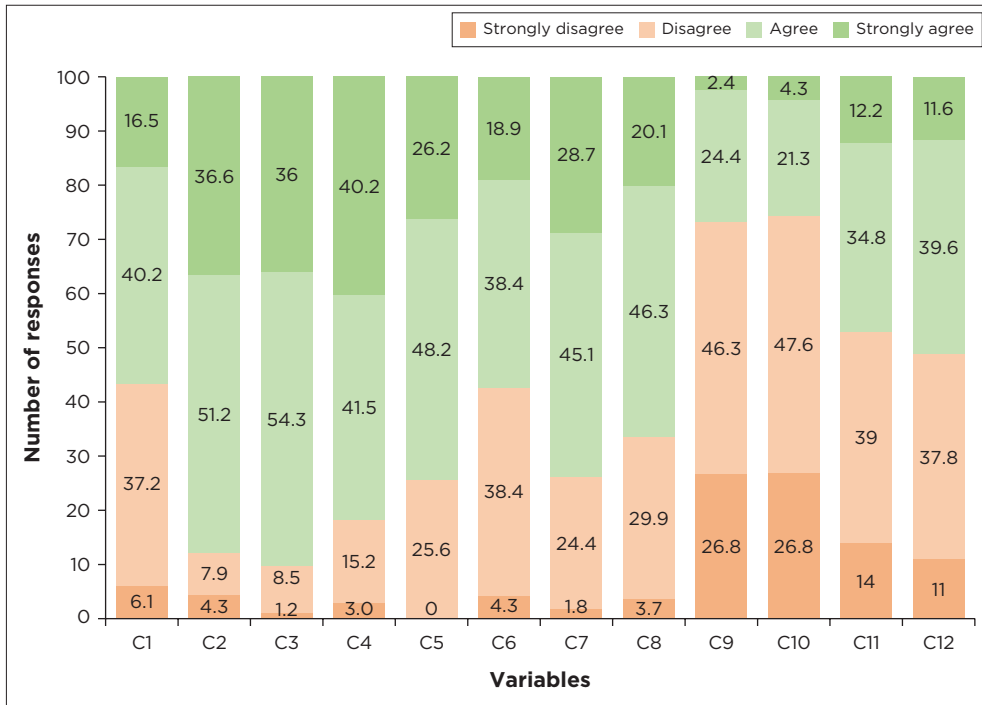
■ Results and discussion

This section presents results obtained from respondents on the teaching and learning gaps between high-school and first-year Accounting syllabi.

■ Results from first-year Accounting students

Quantitative findings follow with the use of Factor C on the implications of constructivist theory in addressing teaching and learning gaps in first-year Accountancy students. Factor C was analysed using item C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11 and C12, where C1 = Less reliance on Accounting lecturers, which is not the case at high-school; C2 = The difference in the teaching methods used at high-school and university; C3 = I am expected to be critical in my thinking at university when compared to high-school; C4 = I am expected to be more independent in my studies at university, whereas I am used to relying on my teachers to teach me all the content in high-school; C5 = Incorrect accounting knowledge from high-school; C6 = First-year content in the syllabi is linked to real-life experiences, which is not the case in the high-school syllabi; C7 = First-year Accounting syllabi promotes active listening and critical thinking, which is not the case in the high-school syllabi; C8 = First-year Accounting syllabi encourages students to innovate and solve problems, which is not the case in the high-school syllabi; C9 = Lack of exposure to innovative lecturing methods; C10 = Students' poor accounting preparation at high school; C11 = The support materials provided in first-year are better than the ones provided at high-school; and C12 = The learning environment in first-year is better than the one provided at high-school. Figure 5.1 depicts the response from the first-year Accounting students.

The application of a constructivist theory in addressing the teaching and learning gaps that exist for first-year Accounting students; from Figure 5.1, the respondents agreed that 'first-year [A]ccounting syllabi is

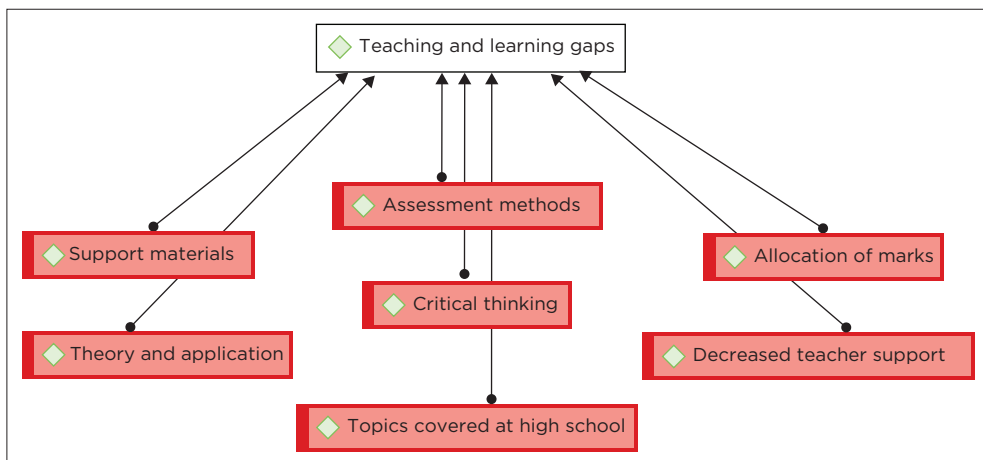


Source: Authors' own work.

FIGURE 5.1: Constructivist approach in addressing first-year Accountancy students' teaching and learning gaps.

not built on high-school [A]ccounting syllabi (56.7%)', 'there is a difference in the teaching methods used at high school and university (87.8%)', 'more critical thinking is expected at university than in high school (90.2%)', 'less reliance on my teachers in the university to teach me all the content as in high school (81.7%)', 'first-year content in the syllabi is linked to real-life experiences, which is not the case in the high-school syllabi (57.3%)', 'first-year assessment is difficult and is of a high standard, which is not the case in the high-school syllabi (74.4%)', 'first-year [A]ccounting syllabi promotes active listening and critical thinking, which is not the case in the high-school syllabi (73.8%)', 'first-year [A]ccounting syllabi encourages students to innovate and solve problems, which is not the case in the high-school syllabi (66.5%)' and 'the learning environment in first-year is better than the one provided at high-school (51.2%)'.

In the second phase of the study, qualitative data were collected to validate and provide an explanation of the constructs emerging from Factor C, as reflected in each item. The first-year Accounting lecturers' and students' views on teaching and learning gaps that determine the pass and failure rate of first-year Accounting students are shown in Figure 5.2.



Source: Authors' own work.

FIGURE 5.2: Constructivist approach in addressing first-year Accountancy students' teaching and learning gaps (students' and lecturers' perspectives).

Figure 5.2 shows the views of first-year Accounting lecturers and students on the teaching and learning gaps that determine the pass or failure rate of first-year Accounting students through the one-on-one face-to-face interviews as well as the focus groups that were conducted with the first-year Accounting students. Both first-year Accounting lecturers and students hold the view that there is a teaching and learning gap in the accounting constructivist learning environment which determines the pass or failure rate of first-year Accounting students, namely the use of theory and practice or application, accounting topics covered at high school, less reliance of teacher support experienced at the university, the inability to apply critical thinking in solving accounting problems, lack of study materials at high-schools as well as difficult and high standard assessment methods used at the university.

These responses further explained the emerging constructs from items C3 and C4. I believe that my high school does not foster a constructivist learning environment which would enable students to think critically. Instead, it produces students who are spoon-fed content and become passive receivers of information. As a result, they struggle when they reach university, where they are expected to think critically and solve accounting. The findings are also in line with the findings of the study that was conducted by Abbott and Palatnik (2018), where it was revealed that first-year Accounting students were unable to apply critical thinking in solving accounting problems. It is evident that first-year Accounting students lack innovative and critical thinking skills, and this affects their performance at the university because the university requires students to have those skills, which will make them active participants in their studies. This hinders

human capital development and creates an environment in which students struggle to engage in constructivist thinking.

L1, L2 and L5 represent responses from some of the principals who were interviewed during the qualitative data collection phase. A sample of verbatim words captured from the interviews with the first-year Accounting lecturers provides insight that further explains or validates the first-year Accounting students' view on the teaching and learning gaps that exist between high-school and first-year Accounting syllabi as the determinants of pass or failure rate of first-year Accounting students. Their responses are captured as:

'So sometimes in high school, it is mostly basic stuff they deal with and when they come to the university things are very difficult because they are not independent thinkers who can critically analyze things instead of being depended [*sic*] on their lectures [*sic*] for everything, so they struggle because it is something new to them.' (L2, first-year Accounting lecturer, n.d.)

'The problem with high school teachers is that they produce very lazy students who do not think critically to get answers to the questions they are asked because they have been spoon-fed content at high school. They are told how to do things instead of teaching and encouraging them to think critically and also be able to understand scenarios on their own and apply them to practice, so when they get to the university they don't understand when you talk about theory and its application, they fail to do it because they were never taught to apply what they have been taught, they struggle a lot.' (L3, first-year Accounting lecturer, n.d.)

'Students mostly learn independently, so high-school [A]ccounting teachers should ensure that they instil critical thinking skills in students. I think it is high-school responsibility to prepare students for the university, they need to prepare students for university and to do that, and anybody taking [A]ccounting should do Maths [*sic*] and not Maths [*sic*] literacy.' (L5, first-year Accounting lecturer, n.d.)

Analysis of the above statements clearly shows that at the high school level, students know the accounting theory, but they struggle with its application. One of the purposes of teaching accounting in high school is to develop critical, logical and analytical abilities and thought processes to enable learners to apply skills to current and new situations (Department of Basic Education [DBE] 2011). Moreover, Kwarteng (2013) emphasises that in high school, accounting is aimed at providing accounting learners with a deeper understanding of accounting, so they can be fully prepared for the real world. However, the study's findings reflect the exact opposite of what is supposed to be achieved with high school syllabi.

The quantitative results show that first-year students agree with their lecturers in this regard as they shared that first-year Accounting syllabi encourage students to be innovative, critical thinkers and solve problems, which is not the case in the high-school syllabi, as shown in Figure 5.1.

This implies that in high school teaching is more teacher-centred where teachers are the source of all the information that is being taught, and they do not teach students to be independent thinkers; hence, they struggle with their studies, especially with applying theory to practice, because they are used to being spoon-fed at high school.

Quantitative results on Item C1 and the qualitative findings in Figure 5.2 show that another teaching and learning gap that they experience as first-year Accounting students is decreased support from their lecturers as they were used to being fully dependent on their teachers at high school on content, and as a result, this affected their performance. In the group focus interview, Students 8, 11 and 12 first-year Accounting expressed their views as:

'I miss my former teacher's support at high school on my studies because I do not get it here, so I can agree with a student who said in high school we are close to our teachers and they are our support system but at the university you are so alone and have to learn things by yourself, there is no support from lecturers like we used to have in high-school, that adds to our frustrations because we don't know who to turn to especially when you don't have any study buddy.' (focused group discussion student [FGDS]8, first-year Accounting student, n.d.)

'It was tough, at high school I knew all my teachers, so when I had challenges with any of my subjects, I would go to them directly and seek help and guidance. My [A]ccounting teacher taught me from Grades 10, 11 and 12 so I was used to her and I was confident to ask her questions that I did not understand and even personal guidance because I trusted her, she has been part of my life for some time and she cared for her students, so she became more of our safe space hence learning accounting was so smooth with her. At the university, I did not get to know even one lecturer, you do not get to meet them in person and share your frustrations with them.' (FGDS11, first-year Accounting student, n.d.)

'At high-school, we know our teachers and we get too comfortable with them and we can ask for more time to submit even though a certain day was submission day, so here at the university there are negotiations or second chances, you do not know your lecturers so you fail to submit, you get your zero whether you were on the hospital bed and couldn't submit no one cares, the way the system to submit is done once the submission time passes, the university submission site closes you outside with your excuses and you have no one to explain your dilemma to.' (FGDS12, first-year Accounting student, n.d.)

The findings of the study revealed that there is a teaching and learning gap in the support afforded to high-school students and at the university in terms of content. A higher percentage of first-year Accounting students, 81%, strongly agreed that they rely less on their university Accounting lecturers to teach them all the content, which was not the case in high school. This means students at the university are expected to be active in their studies, whereas at high school, teachers provide learners with all the content and that influences their performance. Sharing the same notion, Mapuya (2021) emphasises that transitioning from high school to a higher learning institution marks a fundamental change from a very supportive

and structured learning environment for students to a demanding and autonomous learning.

The study showed that an Accountancy lecturer's lack of exposure to innovative lecturing methods influences first-year Accounting students' performance. Lecturers 3, 4 and 5 shared their views as:

'I was a teacher first but not every lecturer was a teacher, you can speak of experience, some lecturers can't even talk properly, and they lack exposure to advanced lecturing methods, and I think to address this, there should be something like an induction course not just for lecturers who are teaching first years but for all lecturers. And not even the technological side of things and even to know how to present something, how to present to the learners because you will get lecturers who just read to students and don't explain or even when reading you cannot get anything they are saying and, in such cases, students learn absolutely nothing in such classes and struggle.' (L3, first-year Accounting lecturer, n.d.)

'Lecturers, myself included need to understand the methodology of teaching. Most of the lecturers that teach first-year accounting students lack exposure to innovative lecturing methods. Even those who went for teacher training might have gone ages ago and we need to be trained frequently so we can learn new ways of teaching as things change, so sticking to the old teaching methods we know influence students' performance. For example, some lecturers still struggle with the use of technology which cannot be a good thing in this [Fourth Industrial Revolution] 4IR era.' (L4, first-year Accounting lecturer, n.d.)

'Some lecturers don't have a teaching background, so, they are not able to *proactively introduce new teaching strategies and methods into the classroom*. They learn things as they go along. They need to be provided with training that helps them understand the methods of teaching and how to teach, the didactics of teaching, when we talk of didactics teaching, when we talk about how and when and what to teach, so they must understand these things so they cannot just go and start teaching and lecturing without this important knowledge and skill.' (L5, first-year Accounting lecturer, n.d.)

These excerpts from interviews indicate that an Accountancy lecturer's lack of exposure to innovative lecturing methods influences first-year Accounting students' performance. This finding is consistent with the quantitative results in Figure 5.1, where first-year Accounting students agreed that the lack of first-year Accountancy lecturers' exposure to innovative lecturing methods influences first-year Accounting students' performance. Ozden (2008) mentions that one of the reasons behind this might be that Accounting educators are not properly trained and equipped to teach it competently. Similarly, Modisaotsile (2012) emphasises that this condition is caused by poor teacher training. The author further adds poor qualifications and a lack of motivation by Accounting lecturers as some of the reasons for their lack of innovative Accounting teaching approaches (Modisaotsile 2012). Thus, as a form of developing human capability for Accounting lecturers, constructivist theory encourages lecturers to be innovative and properly trained in carrying out their duties. In agreement,

according to Ofoegbu, Okaro and Okafor (2018), many higher education institutions fall short when it comes to teaching their Accounting students and graduates constructivist knowledge and skills, which presents significant difficulties for professionals after graduation (Seatter & Ceulemans 2017). Most of these graduates are unable to apply their academic learning to real-world situations (Jansen 2012).

On the contrary, the findings revealed that first-year Accounting syllabi seem to produce students who are innovative and creative as shown in Figure 5.1, items C6, C7 and C8. These items show that the first-year content in the syllabi is linked to real-life experiences, which is not the case in the high-school syllabi. Additionally, first-year Accounting syllabi promote active listening and critical thinking, thereby enhancing students' capabilities.

■ Discussion on constructivist learning experiences for lecturers and students

Constructivist theory is very clear on the role of a lecturer and a learner in a teaching and learning environment. Its emphasis on the role of the educator/lecturer is that lecturers should create an enabling environment to allow students to build their critical thinking knowledge in accounting. According to Yadav (2016), in a constructivist learning environment, the lecturer's main responsibility is to adjust to the requirements of the students and provide them with the flexibility to create their own knowledge and capabilities. According to the study's findings, ineffective teaching strategies in high schools impacted first-year Accounting students' pass and failure rates. This means that Accounting teachers in high school employ teacher-centred teaching strategies, whereas lecturers in higher education typically employ student-centred strategies that encourage independent learning rather than relying on the lecturer as in high school. As a result, it takes time for first-year Accounting students to acclimate to the new teaching methods utilised at the university, and this has an impact on their performance. The fact that high school Accounting teachers typically spoon-feed their students' knowledge is that they do not help them become independent thinkers, even though the constructivist theory aims to encourage students to create their knowledge rather than passively accept it (Lekganyane 2011). This is an aspect that lecturers need to improve on to ensure that their teaching methods are effective and constructive to promote students learning and development.

According to Herbert et al. (2021), one of the implications for students who lack innovative and critical skills is that once accounting students have completed their studies and have to work, they fail immensely to be creative and solve accounting problems at their workplaces. Wolcott and Sargentb

(2021) stress the necessity for Accounting students to build higher critical thinking abilities to solve accounting transactions to address this issue. The researcher concludes that this necessitates transformation, requiring effort and attention from Accounting teachers to impart beneficial knowledge and skills to their students. This suggests that if students are introduced to programmes in a constructivist learning environment from high school, their transition to university will be successful, and this would enhance their performance in accounting programmes.

Again, the findings also revealed the difficulty in applying accounting content in theoretical applications. The role of constructivist learning theory is to create an environment in which students can apply content to practice or in any given scenario. Abbott and Palatnik (2018) reveal that students in their first-year Accounting class at the university perceived a lack of ability to apply critical thinking when solving accounting problems. To this, Jansen (2012) suggests that Accounting teachers should be able to create a constructivist learning environment that will help the students understand theory and its application in resolving real accounting challenges. Therefore, it can be concluded that developing students' thinking skills in first-year Accounting syllabi is an area that needs to be considered to create a teaching and learning environment where students are asked to engage more, think critically and develop their human capabilities in their learning experiences.

The constructivist theory, which served as the study's guiding principle, highlights the significance of students participating fully in their studies so they can create knowledge that applies to their lives (Lightweis 2011). The lecturer's job in this situation is to correct or bolster the information that students have created (Gilakjani et al. 2013). In agreement, Van Wyk (2016) believes that a constructivist lecturer should take on the duty of assisting and encouraging students to recall experiences that can reinforce, grow and improve their earlier learning. Meanwhile, Yadav (2016) goes one step further by recommending that a constructivist lecturer should allow students to select learning activities, ask them to clarify questions and answers, and also encourage them to be actively involved. If Accounting teachers and lecturers can adopt constructivist learning approaches in their classrooms from high school to university, Accounting students can excel in their studies and develop human capability.

■ Implications of using constructivist learning theory to build human capital in first-year Accounting students

Students' performance depends on the efficacy of the teaching method employed in various areas, and Accountancy lecturers must apply the

principles of constructivist theory to be relevant and appropriate in teaching and learning. In doing so, Kohler (2012) suggests that the knowledge provider's teaching strategies should be specified to match the subject being taught. This implies that the lecturers' strategies for teaching Accountancy in the classroom can significantly impact how well students build their human capital development. Mogashoa (2014) stresses that both students and lecturers must be able to integrate new experiences into their existing mental models, providing a basis for the constructivist environment that lecturers must establish for effective teaching and learning strategies. This means that lecturers should be able to use the best teaching and learning strategies to match the material in the Accounting syllabi.

If lecturers notice that the approach employed to teach the Accounting syllabi does not foster change among students, constructivist theory advises them to be flexible enough to adapt to new strategies that are supposed to promote a productive teaching and learning environment. Khemiri (2021) reports that there has recently been a demand for the knowledge, skills and teaching methods thought to be essential for the teaching and learning of Accounting curricula. To close the gaps between high-school and first-year Accounting university syllabi, first-year Accounting lecturers must adopt flexible teaching methods. Only then will higher education be able to impart constructivist knowledge to its students successfully.

In the same vein, Jansen (2012) suggests that Accounting teachers should be able to create a constructivist learning environment that will help the students understand theory and its application in resolving real accounting challenges. Therefore, it can be concluded that developing students' thinking skills and capabilities in first-year Accounting syllabi is an area that needs to be considered to create a teaching and learning environment where students are asked to engage more in their learning experiences.

In addition, Abbott and Palatnik (2018) conducted a study that aligned with the findings of this study regarding the lack of critical thinking skills. Their research revealed that first-year Accounting students struggled to think critically when presented with a scenario, failing to apply what they had learned to solve accounting problems. Holmes, Weidman and Bonn (2015) state that various teaching methods applying constructivist theory have proven to be effective in developing critical thinking and questioning skills. This shows that a constructivist learning environment plays a pivotal role in determining first-year Accounting students' pass or failure rates.

On the contrary, the study established that the content in the first-year Accounting syllabi is linked to real-life experiences and requires students to be active in their learning. Equally, constructivist theory emphasises the

notion that students should be holistically involved in constructing knowledge relevant to their lives (Lightweis 2011). The lecturer's role, in this case, is to correct or confirm the knowledge constructed by students (Gilakjani et al. 2013). In addition, Van Wyk (2016) suggests that the constructivist lecturer's role is to assume the responsibility to guide and prompt students to recall experiences that can improve, develop capabilities and strengthen their prior learning.

In the same breadth, Yadav (2016) adds that the lecturer should allow students to choose learning activities, ask them to explain questions and prompt them to be actively involved. This can enhance their self-confidence and improve their academic performance. Therefore, accounting learners in high school must be taught relevant, updated accounting content so that they are kept abreast with the latest trends instead of accessing outdated accounting information that is no longer in use.

■ Conclusion

In conclusion, the study has established that the role of constructivist theory in building human capital in first-year Accounting students is of great assistance in determining the pass or fail rate of first-year Accounting students. The first-year Accounting students' learning experiences seem distinct in high school and university. High-extended schools do not seem to foster accounting students with a constructivist learning environment where they play a major active role in their studies, whereas universities practise this to a certain extent. These distinctions in practice affect first-year Accounting students as they struggle to adapt to the new constructivist learning environment when they join the university. Thus, for lecturers to use constructivist learning theory to build human capital in first-year Accounting students, they should improve their teaching and learning strategy, assessment method and support materials and apply critical thinking in the application of theory into practical scenarios. This is because constructivist learning theory fosters students' capabilities and enhances students' performance in a teaching and learning environment.

The study recommends that building human capital development through constructivist learning theory should begin with first-year Accounting syllabi based on the foundation established by Grade 12 syllabi. Additionally, it is crucial for Accounting lecturers to be well-versed in applying the principles of constructivist theory to enhance human capability, which in turn fosters effective teaching and learning. Lecturers play a key role in driving constructivist learning; by cultivating constructivist thinkers among students, they create an environment conducive to effective teaching and learning, ultimately preparing accounting students to face the future successfully.

Influence of teachers and instructional methods in the classroom on Accounting learners' performance³

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■ Abstract

This study investigates the influence of teachers and instructional methods on students' academic progress, particularly in Accounting classrooms during the further education and training phase in South Africa. Success in accounting is crucial for future career opportunities, such as becoming a chartered accountant in South Africa. This study focuses on a descriptive survey involving diverse groups of accounting students and teachers. The quantitative phase utilised semi-structured questionnaires to gather insights into the learning conditions and necessary skills needed for succeeding in accounting education. The findings highlight the importance of active learner participation in designing Accounting classroom environments. The study emphasises the significance of effective communication, critical thinking, decision-making skills and technical competence in accounting education. It underscores the need for strategic teaching practices and educational approaches to positively impact students' academic achievement in accounting. The study recommends designing classrooms that foster active learning and aligning teaching practices with the skills required for success in the field.

■ Introduction

Researchers posit that various factors within a school environment can significantly affect students' academic achievement. One critical factor is the instructional strategies employed by teachers. According to a study by Jacobs and Harvey (2010), teachers' methods of instruction had a considerable impact on students' academic performance and achievement. Academics, therefore, argue that to prepare accounting students adequately for the workplace, students need to obtain work-related skills at the school and university levels. Teachers' teaching methods, therefore, need to be amended to adhere to the workplace requirements (Pelser-Carstens & Blignaut 2018). To secure a position at a renowned accounting firm or to qualify as a chartered accountant (CA) in South Africa, an accountant must achieve exceptional grades in accounting (Botha 2014). It is therefore important to look at the pass rates of accounting at school and university levels. Consequently, teaching methodologies must ensure that students are motivated and capable of thinking critically, persisting and working accurately in accounting (Costa & Kallick 2009; Darwin 2011; Jacobs & Harvey 2010).

Furthermore, research conducted by the South African Institute of Chartered Accountants (SAICA) in 2008 identified a critical shortage of CAs and other financial and auditing professionals in South Africa (Schreuder 2014). The argument is that if the number of students taking

accounting at the school level can increase and if the students can be motivated to persist with their accounting studies, teachers can, in turn, generate greater interest in and exposure to the accounting field at the tertiary level (Hove et al. 2021). Over and above the need for amending teaching methods, studies conducted by Buckhaults and Fisher (2011) indicate that student anxiety in the Accounting classroom also affects teaching and learning. Borja (2003) discovered that a lot of students who are new to accounting think that the subject is challenging. Phillips and Graeff (2014) observed that students seem to have a rigid negative idea about the difficulty of accounting, which reflects their experience of the subject with fear and worry, resulting in anxiety and a lack of motivation. In addition, many students appear to not see the relevance of accounting to their personal lives and therefore minimise their efforts by simply memorising enough material to merely pass the examination.

When contemplating the need for amended teaching methods, the lack of interest in accounting and the fear of the Accounting classroom, it is essential that Accounting educators create more creative and positive learning environments (Phillips & Graeff 2014) that actively involve the student. However, researchers posit that not only students but also teachers experience anxiety because they do not feel confident teaching accounting content. Ameen, Guffey and Jackson (2002) and Borja (2003) explain that a major factor contributing to these anxiety-inducing feelings is the lack of an effective teaching strategy, but these feelings of anxiety can be mitigated if the Accounting teacher is well-prepared for class as this will ensure effective teaching. Preparation for class not only refers to mastering theoretical knowledge but also refers to grasping the use of suitable teaching methods, theories and philosophies, which will encourage students to be more actively involved in the subject.

■ The research problem

Scrutinising the pass rates in accounting at the school level is consequential to establish if Accounting lecturers' (at the university level) expectations and workplace requirements are met. As explained, for students to obtain a position in a leading accounting firm and become a CA(SA), they require exceptional results and workplace-related skills. Millner and Hill (2008) assume that academics are incapable of fostering appropriate skills in accounting students because of the contextual limitations of their jobs - they are bound by the contextual limitations that affect their ability to develop skills in students. Academics must recognise these limitations and take the necessary steps to amend their teaching methodologies.

The theory of human capital views students as assets with the potential for skill development and knowledge acquisition, contributing to their overall value to society (David 2000). Constructivism is portrayed as an educational approach that recognises humans' ability to better understand information when actively engaged in constructing their knowledge (Saleem, Kausar & Deeba 2021). Constructivism therefore aligns with human capital theory, as it underscores the idea that individuals, in this case, students, are not passive recipients of information but active participants in the process of knowledge construction (García-Almeida & Cabrera-Nuez 2020).

The emphasis on students becoming crafters of significant understanding supports the notion of enhancing their human capital by developing cognitive skills through active involvement (Umida et al. 2022). Constructivist teaching fosters critical thinking, motivation and independence among students - attributes that are considered valuable components of human capital (Almulla 2023). The link between constructivism and human capital is further reinforced by the emphasis on creating a classroom environment that encourages the development of skills and favourable attitudes for students (Zajda & Zajda 2021). The application of constructivism in the instructional design process aligns with the theory of human capital by recognising and promoting the active involvement of students in knowledge construction, fostering the development of cognitive skills and contributing to the overall enhancement of their human potential and abilities (Aboutajedyne, Aboutajeddine & Alj 2021; Minarni & Napitupulu 2020).

The core issue at hand therefore involves examining pass rates in accounting at the school level and understanding their implications for fulfilling university and workplace demands. The primary focus of this chapter as a result lies in evaluating the efficacy of teaching methodologies within accounting education (school level) and discerning their potential influence on students' capabilities to secure positions in top-tier accounting firms or attain the designation of CAs. Additionally, the enquiry set out in this chapter seeks to explore how the application of constructivism can contribute to resolving these challenges in accounting education.

■ Research question

To underscore the problem statement, the following research question is formulated:

What influence do educators and their instructional methods exert on students' academic accomplishments and proficiency within the accounting learning environment?

■ Literature review

■ The subject of Accounting

The subject of Accounting encompasses financial accounting, managerial accounting and auditing. According to the Department of Basic Education (DBE 2011), the curriculum emphasises the logical, systematic and accurate selection and recording of financial information and transactions. It also covers the compilation, analysis, interpretation and communication of financial statements and managerial reports for various interested parties. The content of the Accounting curriculum in Grade 10 is based on the assumption that students have mastered the basic accounting concepts in the subject of Economics and Management Sciences in Grade 9 (Schreuder 2009). Therefore, a solid foundation is essential for the successful teaching and learning of accounting from Grade 10 onwards.

A wide spectrum of accounting skills and concepts are covered in the Grade 10–12 curriculum, which aims to prepare students for a variety of career opportunities in the financial markets. Students should be able to meet the demands of the accounting profession and accurately apply the Generally Accepted Accounting Principles (GAAP) (DBE 2011). Generally Accepted Accounting Principles is a framework of accounting standards, principles and procedures that are applied in public and private entities to record and report financial statements (Ernst & Young 2017). Students are already introduced to the GAAP in Grade 10 under the topic of financial accounting (DBE 2011).

The *Curriculum and Assessment Policy Statement* (CAPS) for accounting describes the subject as a discipline focusing on:

[M]easurement of performance, processing, and communication of financial information about economic sectors. Therefore, it deals with the logical, systematic and accurate selection and recording of financial information and transactions, as well as the compilation, analysis, interpretation and communication of financial statements and managerial reports for use by different organisations in the world of business. (DBE 2011, p. 8)

The subject further encompasses knowledge, skills and values in financial, managerial and auditing fields to prepare students for a variety of career opportunities in accounting (DBE 2011). Renaldo and Sevendy (2023) assert that accounting should be taught to develop the ability to interpret rules and principles and to analyse and make judgements of financial information that is linked to the international accounting standards, which are reliable standards for financial reporting and are the primary source of GAAP and the International Financial Reporting Standards (IFRS) as

the accounting standards to be used by publicly accountable enterprises. Generally Accepted Accounting Principles (GAAP) refers to a common set of accounting principles, standards and procedures that companies must follow when they compile their financial statements and improve the clarity of the communication of financial information, whereas IFRS is a principle-based framework where there is the potential for different interpretations of similar transactions, which could lead to extensive disclosures in financial statements (Martucheli & Pereira 2021).

■ Skills needed for academic achievement

Accounting is a complex and abstract field in which financial information is used to build and sustain a successful business (Wilson 2014); it requires specific technical skills. These skills include being able to analyse financial transactions, deciding how to properly record these transactions in financial accounts and applying GAAP when preparing financial statements and reports. In addition, accountants who prepare tax and management accounting reports must also have the knowledge and skills to analyse financial records and calculate and control the management of various revenues (income) and expenses (Madhuri 2020). However, trainers in the field of accounting realised that only teaching the aforementioned technical skills is not sufficient to develop a successful accountant, as it is also necessary to address broader-based skills and competencies, which include critical thinking, verbal and written communication, teamwork, ethical awareness, technological competence, decision-making and independent thinking (Jayaprakash 2005; Kermis & Kermis 2010).

Accountants working according to IFRS need technical training, but their biggest challenge may also be mastering soft skills such as judgement, critical thinking and analysis, integrity and openness, as well as how to make transparent disclosures (Leone 2008). These skills are essential for accountants, as they must act with care and proficiency in their work. Consequently, they need to be competent in critical thinking, enabling them to process, analyse and interpret financial information across various economic sectors. Additionally, they must effectively communicate this information to relevant managers who require it to make informed decisions (Terblanche & De Clercq 2021). Emotional intelligence addresses more of the personal competencies, such as communication skills, interpersonal skills and teamwork (Kermis & Kermis 2011). For accountants to be effective and successful in their work, they must continually develop and improve their skills while also adapting to changes in their personal lives. This requires emotional intelligence to attain a more productive work-life balance (Sjoberg 2001).

Research on the accounting profession has found that the most successful accountants are both technically and emotionally competent. This means that they can record, analyse and interpret financial transactions. They also possess a strong work ethic, can work independently, demonstrate patience, show empathy and build relationships with colleagues (Akers & Porter 2003; Goleman et al. 2002; Kermis & Kermis 2011). Therefore, accounting education must attempt to develop students' emotional intelligence in addition to their technical skills. However, there seems to be little evidence that the development of emotional intelligence is addressed in the education of accounting students (Bay & McKeage 2006).

Developers of the recent South African school curriculum realised that the Accounting curriculum should not only focus on the mastery of formulas and procedures but also focus on an understanding of the interpretation of financial information and the broader implications on businesses (Kermis & Kermis 2011). Ngwenya (2014) consequently declares that the newly developed curriculum (i.e. CAPS) impacted the way the subject was traditionally taught and assessed, where the emphasis was mainly on gaining only technical knowledge and skills (Ngwenya 2014). The new curriculum gives expression to the knowledge, skills and values worth learning in South African schools and aims to ensure that students acquire and apply knowledge and skills in ways that are meaningful to their own lives (DBE 2011). Furthermore, the curriculum encourages an active and critical approach to learning rather than rote learning of given facts (DBE 2011). Accounting as a subject also needs to ensure that students become lifelong independent students by developing their thinking skills (Ngwenya 2014; Noe 2000). Bui and Porter (2010) summarise these skills as functional competencies (e.g. technical accounting expertise), broad business competencies (e.g. general business skills) and personal competencies (e.g. communication, leadership and interpersonal skills). The Accounting CAPS focuses on developing critical, logical and analytical abilities and thought processes to enable students to apply skills to current and new situations and develop the ability to identify and solve problems in the context of the various fields of accounting (DBE 2011). The curriculum also motivates students to relate skills, knowledge and values to real-world situations to ensure the balance between theory and practice, to enter the world of work and to encourage self-development. Furthermore, it demonstrates to students how to present and/or communicate financial information effectively and how to organise and manage their finances and activities responsibly and effectively (DBE 2011). However, there seems to be no clear indication that the development of emotional intelligence is addressed in the Accounting curriculum.

Accounting educators are, however, in agreement that it is not just the responsibility of lecturers (Boyce et al. 2001) to incorporate relational and decision-making (RDM) skill development into the curriculum, but teachers (Peng 2019; Schreuder 2014) also need to ensure that RDM skill development is addressed. Together, tertiary schools and universities can help to ensure that accounting graduates are well-prepared for the challenges of the accounting profession.

■ **The current scenario in South African Accounting education**

In the South African education system, matric exams and pass rates are often used as a barometer to measure the performance of the country's education system (Fengu 2017). This barometer aims to help the DBE identify schools that are performing well or that are underperforming. Therefore, it is designed to serve a threefold purpose: To assess the current state of development of critical skills in students, to show the progress of students' results over time and to allow benchmarking of the matric pass rates with different provinces in the country or other similar regions elsewhere in the world (Mushongera 2017). The DBE (2014) sees this kind of benchmarking as an ongoing process of evaluation of the school system, as well as promoting public confidence in the credibility and value of the National Senior Certificate qualification in South Africa. In terms of the benchmarking process of the National Development Plan, used by the DBE, seven critical subjects' (Accounting, Mathematics, Physical Sciences, Life Sciences, Geography, History, Mathematical Literacy and English as First Additional Language) results are used, and accounting is seen as one of the critical subjects. The purpose of this is that these critical subjects can be explicitly used to assess critical thinking and problem-solving skills, which are important skills that students must demonstrate for interpretation and critical writing in examination papers, as well as for application of the subject (DBE 2014). However, Jansen-Thomas (2017) found that any education system that uses matric pass rates alone as a barometer of the well-being of the education system is dishonest. This indicates that, in addition to calculating the throughput pass rate based on the number of matriculants who passed, it is also essential to consider the total number of students who actually reached matriculation, rather than solely focusing on the number of students who sat for the exam. An education specialist, Jansen (2014), argues that the government 'wrongly, but conveniently' uses matric as 'a barometer of the state of the school system' when all other data reveal that the education system has been stagnating and failing. According to the Council of Higher Education (CHE), 'poor academic

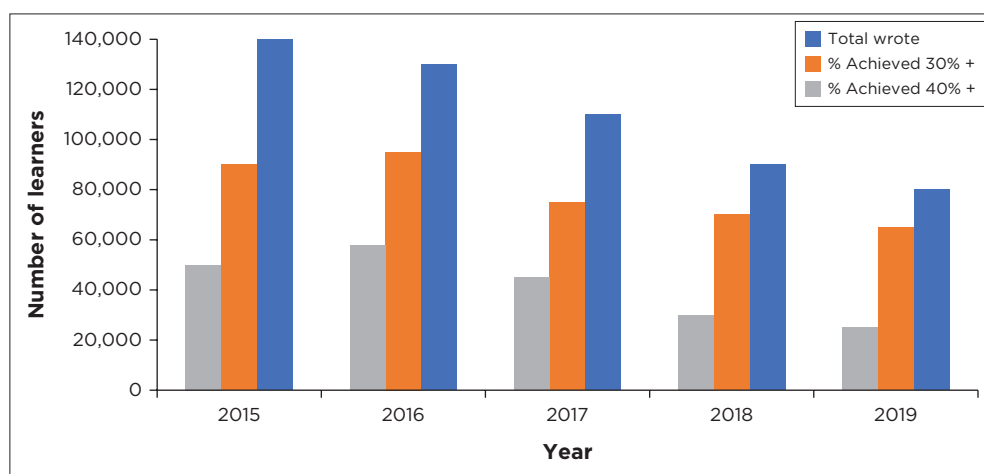
preparation at school' is the 'dominant learning-related reason' for poor university performance, but there is 'no prospect' that the school sector will be able to produce the number of adequately prepared matriculants that higher education requires in the future (CHE 2013).

In the next section, the focus is on the pass rates of accounting between 2015 and 2019. Accounting has received ongoing criticism because of the poor performance of students and the declining numbers of those opting to take the subject (Schreuder 2014). This is evident from the 2019 National Senior Certificate Diagnostic Report released by the DBE (2020). Figure 6.1 indicates the number of candidates who wrote the National Senior Certificate Accounting exam and the number of candidates who passed the examination with a minimum percentage of 30% and 40% over five years (Hendriks & Dunn 2021).

Since 2019, a steady pass rate of above 60% has been observed.

According to NSC (2023), the latest results (pass rates from 2020 to 2023) indicate a national pass rate of:

- 71.9% for the Class of 2020, which is a decrease of 6.5% from the previous year)
- 74.7% for the Class of 2021
- 75.4% for the Class of 2022
- 76.8% for the Class of 2023.



Source: Hendriks, C & Dunn, GF 2021, 'Factors that influence learners' performance in Grade 12 accounting: A case study in the Northern Cape', *Koers*, vol. 86, no. 2, pp. 1-14. <https://doi.org/10.19108/KOERS.86.1.2508>

FIGURE 6.1: National performance in Grade 12 Accounting between 2015 and 2019.

Hendriks and Dunn (2021) and NSC (2023) posit that the pass rates observed from 2019 to 2023 are a result of:

- The introduction of the new CAPS in 2012 that established a curriculum that is more rigorous and focused on the results
- The increased availability of support materials and resources for teachers and students
- The growing importance of accounting skills in the workplace that has motivated students to take the subject more seriously.

According to Stegmann and Malan (2016), accounting, specifically in auditors and CA programmes, has been taught very successfully at the tertiary level. After an intensive review conducted by SAICA (2009) of the accounting programmes at the university, a new teaching and learning strategy, which entails self-directed learning, was adopted by the university that places more emphasis on students having to take responsibility for their own learning. The core assumption of self-directed learning is active participation in learning, involving a planned series of activities by which students actively construct their own knowledge and skills (SAICA 2009).

■ **The impact of teachers and lecturers in the Accounting classroom**

The qualifications of Accounting educators and the quality of education provided are intimately interrelated (Schreuder 2009). The principals interviewed shared the opinion that the quality and qualifications of educators are critical to students' performance. Accounting is a complex and challenging subject, and teachers and lecturers need to have a significant impact on the learning experience of their students (Rebele & Pierre 2019). One of the most important things teachers and lecturers can do is create a positive and supportive learning environment (Geng, Law & Niu 2019).

Fisher (2005) affirms that teachers are the primary source of invitations and opportunities for students to think critically. How students respond to these opportunities will depend primarily on the attitudes, teaching methods and strategies that the teacher adopts. How teachers teach and students learn, as well as some other factors, including mental, physical, social and emotional factors, have a strong influence on learner outcomes. According to Hattie (2009), several interventions related to teaching and learning, such as providing formative evaluation and feedback, mutual teaching and metacognitive strategies, have a significant impact on learner performance. However, Schunk (2004) asserts that effective teaching means that the teacher should not always be at the centre of instruction

and that environments should rather be designed in such a way that students play an active role in their learning.

In addition to creating a positive learning environment and attitudes, teachers and lecturers also need to have a strong understanding of the Accounting curriculum (Butler, Church & Spencer 2019). This denotes that educators must be able to clearly explain complex concepts and being able to adapt their teaching methods to meet the needs of different students (Pelser-Carstens 2022). Furthermore, being up to date on the latest accounting developments and being able to share this knowledge with their students (Malan 2020) are pivotal for a comprehensive classroom experience.

Along with their knowledge of the Accounting curriculum, teachers and lecturers also need to be able to engage students in the learning process by using a variety of teaching methods, such as lectures, group work and problem-solving exercises (Nurkhin et al. 2020). Educators consequently must be capable of making the study and learning material relevant to students' lives, showing them how accounting can be used in the real world (Gittings, Taplin & Kerr 2020). Furthermore, teachers and lecturers must be able to assess student learning effectively (Munna & Kalam 2021). This involves utilising a variety of assessment methods, such as written tests, quizzes and projects (George 2020). Additionally, it requires providing students with feedback on their work and helping them identify areas where they need to improve (Martin et al. 2019). Su and Wood (2012) suggest that by following these principles (Table 6.1), teachers and lecturers can have a significant impact on the Accounting classroom. They can help students develop a strong understanding of accounting concepts and help them become confident and competent accountants.

Table 6.1 holds that when teachers and lecturers follow established principles, they can have a positive and lasting impact on the Accounting classroom.

■ The need to amend teaching practices

Researchers in accounting education posit that traditional teaching practices in Accounting classrooms are not always effective (Alshurafat et al. 2020; Pelser-Carstens & Blignaut 2018). One of the main problems with traditional teaching practices in Accounting classrooms is that they are often focused on memorisation of facts and procedures (Fouché 2013; Pereira & Sithole 2020). This can lead to students developing a superficial understanding of accounting, and it can make it difficult for them to apply what they have learnt to real-world situations (Annansingh 2019). Another problem with traditional teaching practices in Accounting classrooms is

TABLE 6.1: Teaching principles for the Accounting classroom.

Principle	Explanation	Examples
Use technology to enhance the learning experience (Al Ghatrifi, Al Amairi & Thottoli 2023)	Accounting is a number-orientated subject. The use of technology may help students visualise and understand complex concepts (Ballou, Heitger & Stoel 2018).	Teachers and lecturers can use software, websites and apps to create interactive learning experiences (Wolber 2011)
Connect the classroom to the real world (Alshurafat et al. 2020)	Accounting is also a very practical subject. Real-life and or workplace examples are crucial to the understanding of knowledge application (Jaijairam 2012).	Teachers and lecturers can invite guest speakers from the accounting profession and they can take students on field trips to businesses and organisations (Sin, Reid & Jones 2016)
Encourage students to be active students (Butler et al. 2019)	One of the best ways to learn accounting is through the practical application of the relevant theories (Mladenovic 2000)	Teachers and lecturers should encourage students to participate in group work and problem-solving exercises. Real-world scenarios are crucial insofar as they provide an opportunity for knowledge application (Brundiers, Wiek & Redman 2010).
Provide timely and constructive feedback (Helfaya 2019)	Feedback is essential for student learning (Clynes & Raftery 2008)	Teachers and lecturers should regularly provide students with feedback on their work. This feedback should be timely, constructive and specific (Adarkwah 2021).
Motivate and inspire students (Karlsson & Noela 2022)	Accounting can be a challenging subject, but it is also a rewarding one (Porter & Woolley 2014)	Teachers and lecturers must motivate and inspire students to succeed. They can do this by showing students the importance of accounting and by highlighting the many career opportunities that are available to accountants (Samsuri, Arifin & Hussin 2016).

Source: Authors' own work.

that they often do not engage students in the learning process, leading to students becoming bored and disengaged, and it can make it difficult for them to retain the information that they are learning (Teravainen-Goff 2022). To address these issues, teachers and lecturers must revise their teaching practices in the Accounting classroom (Fouché 2013; Pelser-Carstens 2022) by adopting teaching methods (Table 6.2) that prioritise understanding and application while also being more engaging for students.

Table 6.2 indicates that by using these teaching methods, teachers and lecturers can help students develop a deep understanding of accounting, and they can help students to become confident and competent accountants. Furthermore, by following these principles, teachers and lecturers can amend their teaching practices in the Accounting classroom and help students learn more effectively (Pelser-Carstens 2022).

TABLE 6.2: Teaching methods for the Accounting classroom.

Method	Explanation	Outcomes
Problem-based learning (Saputra et al. 2019)	Providing students with ample real-world problems to solve	It equips students to apply what they have learnt to real-world situations and it also helps them develop critical thinking skills
Case studies (Rashid et al. 2019)	Giving students case studies to read and analyse	The purpose of this course is to help students understand how accounting is used in practice, and it also helps them develop decision-making skills
Group work (Paisey & Paisey 2004)	This method involves having students work together on projects or assignments	This helps students learn from each other, enabling them to develop teamwork skills
Active learning (Fouché 2013)	Instead of lecturing for most of the class time, teachers and lecturers should use more active learning strategies, such as problem-based learning, case studies and group work	Encourage students to remain engaged and learn more effectively
Relevant personal experience scenarios (McGrath 2009)	Accounting can be a dull subject, but it can be made more relevant to student's lives by relating it to their personal experiences and interests	Allow students to form their own opinions and provide input for personal experiences

Source: Authors' own work.

■ Accounting students' expectations at the university level

Researchers posit that:

[T]he accounting education change debate and [*the*] growing national concern regarding student attrition, the perceptions of first-year students as they commence their study of accounting [*is that Accounting educators need*] to have a greater sensitivity to and a better understanding of their students' and their needs. (Byrne & Flood 2005, p. 118)

If educators actively involve and motivate their students and develop skills as needed in the workplace, 'this will enable a better-informed curriculum, teaching and assessment within the accounting discipline, aiding students' transition to higher education and leading to higher-quality' learning (in Byrne & Flood 2005; Steenkamp, Baard & Frick 2009; Van Romburgh 2014).

■ Research methodology

Participants in this study consisted of all secondary schools in the Vaal Triangle area, located in the Gauteng province, and all the Grades 10, 11 and 12 teachers and students who have Accounting as a subject. The selected schools are all governed by the Gauteng Department of Education.

The reason for purposively focusing on Grades 10, 11 and 12 Accounting learners is that these learners have chosen the subject in Grade 10 to follow a career related to accounting, therefore furthering their studies at the university level. The authors of this chapter worked within a sequential explanatory perspective of mixed methods. The quantitative phase and data are presented and discussed hereafter.

■ Quantitative data analysis

□ Section A: Learner responses

□ *Sub-construct 1: Feeling able to achieve outcomes*

From the responses obtained for this section, only 37.5% of the learners almost always feel confident that they will achieve the outcomes of this subject, even though almost half of the learners (49.8%) participated in this study indicated that they believe they can achieve 80% and above in the subject Accounting. From the findings obtained, 34.5% of the learners sometimes feel that they can do accounting successfully, and 29.2% are sometimes well-prepared for formal tests and exams. Table 6.3 also indicates that only 37.5% of the learners almost always and 21.7% sometimes have confidence that they can achieve all the objectives and learning outcomes required by the curriculum.

□ *Sub-construct 2: Teacher attitudes in the Accounting classroom*

A large number of learners (71.9%) indicated that their teachers are almost always enthusiastic about teaching Accounting and almost always (55.2%)

TABLE 6.3: Sub-construct 1: Feeling able to achieve outcomes.

Questionnaire items	Construct: Learning conditions in the Accounting classroom	Almost always	Often	Sometimes	Very seldom
1	I feel able to do accounting successfully	176 30.6%	175 30.4%	199 34.5%	26 4.5%
4	I am well-prepared for formal tests and exams	179 31.1%	190 33.0%	168 29.2%	39 6.7%
5	I believe that I can obtain good marks in Accounting	239 41.5%	191 33.2%	120 20.8%	26 4.5%
5.1	Indicate your goal % to achieve in the subject Accounting: No response: Learner 34 (5.9%)	0%–49% 19 3.3%	50%–60% 37 6.4%	60%–79% 198 34.6%	Above 80% 288 49.8%
6	I have confidence that I can achieve all the objectives and learning outcomes required by the curriculum	216 37.5%	216 37.5%	125 21.7%	19 3.3%

Source: Authors' own work.

TABLE 6.4: Sub-construct 2: Teachers' attitudes in the Accounting classroom.

Questionnaire items	Construct: Learning conditions in the Accounting classroom	Almost always	Often	Sometimes	Very seldom
2	An atmosphere of mutual respect exists between teachers and learners in the Accounting class	339 58.9%	11 20.6%	80 13.9%	38 6.6%
5	The teacher encourages me to question things	286 49.7%	148 25.7%	90 15.6%	52 9.0%
13	The teacher is enthusiastic about teaching accounting	414 71.9%	80 13.9%	54 9.4%	27 4.8%
14	The teacher treats all learners the same way	376 65.3%	83 14.4%	62 10.8%	55 9.5%
19	The teacher encourages the learners to participate in class discussions	318 55.2%	127 22.0%	79 13.8%	52 9.0%

Source: Authors' own work.

encourage learners to participate in class discussions (Table 6.4). Nearly half of the learners (49.7%) reported that the teacher almost always encouraged them to question things, while 25.7% said the teacher often did so. A large number of learners (58.9%) indicated that an atmosphere of mutual respect almost always exists between teachers and learners in the Accounting classroom. Almost half of the learners (49.7%) indicated that teachers encourage them to ask questions. It is interesting to note that 65.3% of the learners almost always feel that the teacher treats all learners in the same way, and 9.5% feel that is not the case and that it happens very rarely.

□ Section B: Teacher responses

The purpose of this section was to evaluate learning in the Accounting classroom to determine which methods and activities are used in the Accounting classroom to enhance successful learning. This section also focuses on certain factors that influence successful learning in the Accounting classroom. Table 6.5 classifies the responses obtained from the teachers.

□ *Sub-construct 1: Stimulating activities*

More than half of the teachers (58.3%) indicated that they use classroom activities almost always and often (25%) to stimulate learner's interest in the subject of Accounting and 50% almost always and often (41.7%) use activities ranging from easy to complex.

☐ **Sub-construct 2: Encouragement**

Table 6.5 shows that 66.7% of teachers almost always encourage their learners to question things in the Accounting classroom. The findings also show that 66.7% of the teachers are almost always and 16.7% often encourage the learners to participate in class discussions. Most teachers (83.4%) indicated that they almost always encourage their learners to complete their homework exercises.

TABLE 6.5: Teaching in the Accounting classroom.

Questionnaire items	Construct: Teaching in the Accounting classroom	Almost always	Often	Sometimes	Very seldom
<i>Sub-construct 1: Stimulating activities</i>					
2	I use learning activities that range from easy to complex	6 50.0%	5 41.7%	1 8.3%	0 0%
4	I use classroom activities that stimulate the interest of my learners in the subject of Accounting	7 58.3%	3 25.0%	2 16.7%	0 0%
<i>Sub-construct 2: Encouragement</i>					
6	I encourage my learners to question things	8 66.7%	2 16.7%	2 16.7%	0 0%
21	I encourage learners to participate in classroom discussions	8 66.7%	2 16.7%	1 8.3%	1 8.3%
22	I encourage learners to complete the homework exercises	10 83.4%	1 8.3%	1 8.3%	0 0%
<i>Sub-construct 3: Teacher attitudes</i>					
1	Learners and teachers respect one another in my class	8 66.7%	2 16.7%	2 16.7%	0 0%
13	I am excited to teach Accounting No response: Two teachers (16.7%)	9 75%	1 8.3%	0 0%	0 0%
14	I treat all learners in the same way	8 66.7%	1 8.3%	1 8.3%	2 16.7%
18	Good relationships exist between me and my learners	8 66.7%	1 8.3%	1 8.3%	2 16.7%
5	I allow the learners to support one another when they struggle	7 58.3%	2 16.7%	3 25%	0 0%
<i>Sub-construct 4: Rewards and feedback</i>					
15	I am patient with the learners who struggle in class	7 58.3%	2 16.7%	1 8.3%	2 16.7%
16	I reward all students for good performance	7 58.3%	4 33.4%	0 0%	1 8.3%
17	I provide feedback after the activities have been completed in class	9 75.1%	1 8.3%	1 8.3%	1 8.3%
19	I provide feedback after tests and exams (assessments)	10 83.3%	0 0%	0 0%	2 16.7%
20	I provide feedback after homework is done	8 66.6%	2 16.7%	0 0%	2 16.7%

Table 6.5 continues on the next page→

TABLE 6.5 (cont.): Teaching in the Accounting classroom.

Questionnaire items	Construct: Teaching in the Accounting classroom	Almost always	Often	Sometimes	Very seldom
<i>Sub-construct 5: Teaching methods</i>					
12.1	I use different teaching methods	2	6	3	0
	No response: One teacher (8.3%)	16.7%	50.0%	25.0%	0%
12.2	Indicate which of the teaching methods are used in the classroom:				
	Lecture method	5	2	1	1
	No response: Three teachers (25.0%)	41.7%	16.7%	8.3%	8.3%
	Discussion method	4	4	1	0
	No response: Three teachers (25.1%)	33.3%	33.3%	8.3%	0%
	Demonstration method	5	3	3	0
	No response: One teacher (8.3%)	41.7%	25.0%	25.0%	0%
	Brainstorming	2	2	2	3
	No response: Three teachers (25.0%)	16.7%	16.7%	16.6%	25%
	Role-play	1	1	0	7
	No response: Three teachers (25.0%)	8.3%	8.3%	0%	58.4%
	Group work	2	2	4	4
		16.7%	16.7%	33.3%	33.3%

Source: Authors' own work.

□ **Sub-construct 3: Teacher attitudes**

Table 6.5 shows that 75% of the teachers almost always and 16.7% often are enthusiastic about teaching Accounting. Most teachers (66.7%) almost always treat all learners the same way, and 58.3% of the teachers indicated that they almost always allow learners to support one another when they struggle. The findings indicated that good relationships exist almost always (66.7%) and very rarely (16.7%) between teachers and learners, and 66.7% of the teachers indicated that learners and teachers almost always respect each other in the class.

□ **Sub-construct 4: Rewards and feedback**

In this section, teachers were also asked how often they provide feedback to learners after class activities, homework, tests and exams. The findings indicated that 75.1% of teachers provide feedback almost always after class activities, 83.3% of teachers provide feedback almost always after tests and exams and 66.6% of teachers provide feedback almost always after homework is done. There are some teachers (16.7%) who very rarely provide feedback to learners after tests and exams. More than half of the teachers (58.3%) indicated that they almost always reward all learners for good performance, while 33.4% reported doing so often. Additionally, 58.3% of

the teachers stated that they are almost always patient with learners who struggle in class.

□ ***Sub-construct 5: Teaching methods***

From the findings obtained in Table 6.5, only 16.7% of the teachers indicated that they almost always and often (50%) use different teaching methods. As seen in the findings, most of the teachers (41.7%) use the lecturing method, 33.3% often use discussion methods, 41.7% almost always use demonstration methods, only 16.7% almost always use brainstorming and 8.3% use role-play. More than half of the teachers (58.4%) very rarely use role-play as a teaching method in accounting. Group work, which is an important method that will improve the ability to work in teams, is used very seldom (33.3%) and sometimes (33.3%) by the teachers in the Accounting classroom.

□ **Section C: The subject of Accounting**

The purpose of this section was to evaluate statements regarding aspects of the subject of Accounting and how the teachers experience it. Table 6.6 classifies the responses obtained from the teachers.

□ ***Sub-construct 1: Experiencing the subject from the teacher's viewpoint***

The questions in this section focused on how the teachers experienced the Accounting subject content and difficulty of the calculations. From the findings, 66.7% of the teachers indicated that they very seldom experience the subject content as difficult, and 75% of the teachers indicated that they almost always understand all the subject content, while 8.3% almost always experience the content as complex. Another aspect addressed in the questionnaire was the difficulty of the calculations done in Accounting, where half of the teachers (50%) very seldom and 33.3% of the teachers sometimes find the calculations complex. Teachers reported that the subject of Accounting almost always (16.7%) and sometimes (41.7%) demands critical thinking skills to solve problems. Only 16.7% of the teachers almost always and 33.3% of the teachers sometimes stated that the activities done in the Accounting classroom focus on problem-solving, and 75% of the teachers almost always believe that accounting is relevant for their learners' future studies. Although 75% of the teachers almost always have a positive attitude towards teaching Accounting, 83.4% of the teachers very seldom regret choosing Accounting as a subject to teach and 66.7% of the teachers almost always are satisfied to be an Accounting teacher.

TABLE 6.6: Teacher feedback: Section C – the subject of Accounting.

Questionnaire items	Construct: The subject Accounting	Almost always	Often	Sometimes	Very seldom
<i>Sub-construct 1: Experiencing the subject from the teacher's viewpoint</i>					
1	I experience the subject content as difficult No response: One teacher (8.3%)	1 8.3%	0 0%	2 16.7%	8 66.7%
2	The calculations done in Accounting exercises are complex No response: One teacher (8.3%)	0 0%	1 8.3%	4 33.4%	6 50.0%
3	The subject of Accounting demands critical-thinking skills from my learners to solve problems No response: One teacher (8.3%)	2 16.7%	4 33.3%	5 41.7%	0 0%
4	The activities done in the classroom focus on problem-solving No response: One teacher (8.3%)	2 16.7%	5 41.7%	4 33.3%	0 0%
5	I believe that the subject of Accounting is relevant for future studies No response: One teacher (8.3%)	9 75.0%	0 0%	2 16.7%	0 0%
9	I understand the subject content No response: One teacher (8.3%)	9 75.0%	2 16.7%	0 0%	0 0%
10	I have a positive attitude towards teaching Accounting No response: One teacher (8.3%)	9 75.0%	0 0%	2 16.7%	0 0%
11	I regret choosing Accounting as a subject to teach No response: One teacher (8.3%)	0 0%	1 8.3%	0 0%	10 83.4%
12	I am satisfied to be an Accounting teacher No response: One teacher (8.3%)	8 66.7%	3 25.0%	0 0%	0 0%
<i>Sub-construct 2: Teacher's view of learners' experiences</i>					
6	I believe that my learners experience anxiety because they struggle to complete the activities No response: One teacher (8.3%)	0 0%	5 41.7%	5 41.7%	1 8.3%
10	I think my learners feel anxious about Accounting No response: Two teachers (16.7%)	4 33.3%	4 33.3%	2 16.7%	0 0%
7	My learners experience constant failure in Accounting No response: One teacher (8.3%)	0 0%	0 0%	4 33.3%	7 58.4%
8	I get negative feedback from my learners about the content of Accounting No response: One teacher (8.3%)	0 0%	2 16.7%	3 25.0%	6 50.0%

Source: Authors' own work.

□ **Sub-construct 2: Teacher's view of learners' experiences**

It seems that 41.7% of teachers often believe that their learners experience anxiety because they struggle to complete activities in the Accounting classroom. Related to this, 33.3% of the teachers sometimes feel that their learners experience constant failure in Accounting and 16.7% often.

Regarding the teachers' experience of giving negative feedback on the content of Accounting, 25% of the teachers sometimes experience negative feedback from their learners about the Accounting content. From the findings, 33.3% of the teachers almost always and 33.3% of the teachers often believe that their learners feel anxious about Accounting.

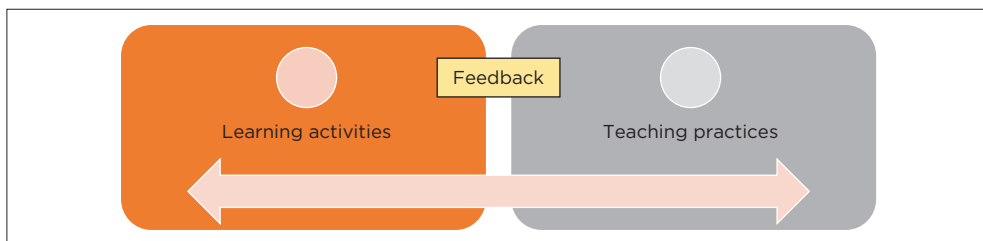
■ Interpretation of results

The study explores the impact of teachers on learning academic achievement in Accounting, considering quantitative data. It reveals that teachers significantly influence students through interactions and attitudes towards the subject. Although many teachers express enthusiasm and encouragement for learner participation, some learners perceive negative attitudes, which can affect their performance. In particular, only half of the teachers remain enthusiastic about teaching Accounting.

Despite the high expectations and teachers' confidence in their abilities, national pass rates indicate a discrepancy. Teachers expect learners to analyse and interpret information independently, encouraging them to seek help when needed. However, the findings suggest a lack of confidence in teaching complex skills, which affects learners' intellectual challenges and problem-solving abilities.

The study indicates the need for teachers to develop higher-order thinking skills in line with the learning requirements of the 21st century. Although teachers express confidence in achieving learning outcomes, their expectations for high marks are lower than learners' self-perceived capabilities. Effective teaching practices, learner-centred approaches and positive learning environments are crucial for enhancing Accounting education. In conclusion, the study emphasises the critical role of teachers in shaping learner outcomes in Accounting. Addressing discrepancies in attitudes, expectations and teaching methods is essential to foster a positive learning environment and improve academic achievement in the subject. It is suggested that teachers and lecturers can foster a thorough comprehension of accounting in their students as well as help them become competent and self-assured accountants by implementing more active teaching techniques. In addition, teachers and lecturers can amend the way they teach accounting in the classroom and help students learn more actively.

Figure 6.2 provides a visual presentation of how effective teaching practices and learning activities influence successful learning in the Accounting classroom. If the Accounting teacher comes to class well-prepared and understands the content to be presented, it will ensure



Source: Authors' own work, from Petzer, A 2019, A model towards creating positive accounting classroom conditions that support successful learning at school, PhD thesis, North-West University, Vanderbijlpark, viewed 15 August 2022. <<https://repository.nwu.ac.za/handle/10394/33072>>

FIGURE 6.2: Effective teaching and learning.

effective teaching. In turn, effective teaching will enable Accounting teachers to introduce new methods, theories and philosophies, which will consequently encourage learners to view Accounting as an interesting subject in which they will want to succeed. To help Accounting learners learn the more complex and analytical skills they need for the 21st century, Accounting teachers must learn to teach in ways that develop higher-order thinking and performance. Moreover, the teaching of Accounting should encourage learners to take greater responsibility for their own learning by making sure that their learners know what the goals of the lesson and learning programme are. This requires that a wide range of teaching methods, including case studies, group work and communication and critical thinking techniques be incorporated into the classroom. It is important to change the perception of students that studying Accounting is simply a matter of rote learning a set of rules. The learning approaches adopted by Accounting students may be a key factor influencing the quality of their academic achievements. In the Accounting classroom, more active learning techniques, including problem-solving exercises, informal small group exercises, case studies, role-playing and simulations, are beneficial to learners because they create a greater interest in the content and improve their critical thinking, analytical and problem-solving skills needed to be successful in Accounting.

■ Conclusion

In conclusion, this chapter emphasises the critical role of teachers in fostering learner success in Accounting by advocating for the establishment of high standards and clear goals. This perspective aligns with the concept of human capital, viewing learners as individuals whose development and potential contribute to the overall human capital of society. Empirical data highlight the importance of teachers in assisting learners with setting and achieving their goals, which necessitates ongoing support and

encouragement. In addressing the research problem and question, summarised as, examining pass rates in Accounting at the school level and exploring the application of constructivism, it is clear from the questionnaire responses that Accounting teachers must stay updated with new teaching methodologies and changes in the curriculum, reinforcing the idea that effective human capital development requires continuous learning and adaptation. The results obtained also underscore the influence of educators and their instructional methods on learners' academic accomplishments and proficiency within the accounting learning environment. Persistence, accuracy and the improvement of critical thinking skills are identified as crucial aspects of learners' success, linking to the enhancement of their human capital.

It has been proposed that for learners to be successful in Accounting, teachers should set high standards for learners by motivating them and actively involving them in the teaching and learning environment. Furthermore, teachers should formulate clear goals so that learners know upfront what they will learn and what they will be expected to do with the theoretical knowledge they garnered. Active learning approaches, such as case studies, group projects and problem-solving exercises, are advocated as methods to actively engage learners in the learning process. This aligns with the human capital perspective, viewing students not just as recipients of knowledge but as active contributors to their development and, by extension, to collective human capital as well. This chapter asserts that active teaching techniques can foster a deeper understanding of accounting and help develop competent, skilled accountants, thereby enhancing human capital within the accounting profession. Essentially, it highlights the transformative role of Accounting teachers in shaping learners into individuals with advanced analytical skills that meet the demands of the 21st century. The chapter emphasises the need to shift perceptions of accounting from rote learning to active engagement, which can positively influence academic achievement and contribute to the overall human capital of learners.

Improving the information technology capabilities of Accounting teachers through professional development⁴

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4. This chapter represents a substantial reworking of more than 50% of Tshiovhe, TE 2017, Professional development of accounting teachers in the integration of instructional technology in Limpopo province, PhD thesis, Department of Curriculum Studies, University of Venda, Thohoyandou, with supervisor Professor RJ Monobe, Professor NH Mutshaeni and Professor MP Mulaudzi as co-supervisors, viewed 05 March 2025. <<https://univendspace.univen.ac.za/server/api/core/bitstreams/72bbe882-da79-4945-88e5-b5d3c9046f64/content>>

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■ Abstract

The study aims to improve the capabilities of Accounting teachers in integrating information technology (IT) into teaching and learning. Professional development (PD) is envisaged to prepare teachers in their existing positions and towards the responsibilities and tasks they should perform. The biggest problem is that when Accounting teachers are being trained, initial teacher institutions do not cover almost all the aspects of using IT in the teaching and learning of Accounting. In continuous professional development centres (CPDC), there is also a problem that trainers only focus on content at the expense of new teaching methodologies. A mixed-methods research approach, combining both quantitative and qualitative methods, was adopted. Simple random sampling and purposive sampling were employed to select the study's respondents. Questionnaires were used to collect quantitative data, completed by 230 teachers. Interview schedules were used to collect qualitative data from 17 participants, including one centre manager, one deputy education specialist, one IT education specialist, four subject advisors and 10 principals. Simple random sampling was used to select participants for the quantitative data, and purposive sampling was used in the selection of participants for the qualitative data. Quantitative data were analysed using the IBM Statistical Package for Social Sciences (SPSS) version 23, and qualitative data were analysed thematically. The findings revealed that PD in the integration of instructional technology for Accounting teachers does not exist and that the centre is not performing its core function. It can be concluded that PD is presently ineffective in fostering the IT capabilities of teachers. The study thus recommends that even though in initial teacher education, student teachers are taught the technology of teaching and learning, technology is not static, and thus, teachers need to be regularly professionally developed.

■ Introduction

The education systems of several countries are currently undergoing extensive modifications. Policymakers, academics and teachers all believe that encouraging professional development (PD) is one of the keys to success during these reforms (Bautista & Ortega-Ruiz 2015). Governments spend enormous sums of money annually on teacher continuing education. According to the Organisation for Economic Co-operation and Development (Organisation for Economic Co-operation and Development [OECD] 2016), PD is ongoing and consists of instruction, practice, feedback, sufficient time and follow-up assistance. Successful PD programmes foster the creation of learning communities among teachers

and engage them in activities similar to those they would implement with their students (OECD 2016). This indicates a growing interest in changing schools into learning institutions and establishing better means for instructors to share their skills and experiences systematically. Successful PD programmes foster the formation of teachers' learning communities and include teachers in learning activities like those they would do with their students.

Humans are considered capital in the sense that they generate income and other types of necessary outputs throughout their lives. According to Ahmad Sharabati, Ibrahim Nour and Shamari (2013), people's knowledge and skills are known as human capital (HC), the core of intellectual capital (IC) that drives business performance (BP). Human capital is the intangible factor of production that brings human intellect, skills and competencies to the production and provision of goods and services. Human capital is built through PD and training to help teachers strengthen their teaching abilities. Human capital improves productivity (Human Resource Development Council [HRDC] 2016). Therefore, HC represents an individual's knowledge and skills possessed by individuals, which remain their assets and are not owned by the organisation. Instead, these attributes reside in the minds of individuals and leave with them when they depart from the organisation.

■ Human capital

According to Hussen (2016), a gap exists between the knowledge and skills taught in schools and universities and their applicability in the workplace. This gap underscores the importance of actively investing in teacher training and development to ensure the success of the workforce that supports education. Eatough (2021) indicates that HC is an intangible asset stemming from a person's talent and experience and 'is considered an economic value for a company because [*it*] empowers a company to service its clients, create its products, and innovate for new offers'. Thereby, HC can consist of several factors, such as intelligence and emotional intelligence, higher education and training, personality, hard and soft skills, loyalty to the company, employee well-being and work experience. A higher HC means employees are more capable of doing their job. However, it also means they can innovate and find creative ways to solve a crisis. This means that teachers will be able to do their jobs more efficiently if they have higher-quality resources, support systems and ongoing PD opportunities.

Investing in HC development solutions within the school sector can significantly enhance teacher's ability to achieve their training goals (Mavela, Nkosi & Dlamini 2022). The provision of chances for teachers to

learn, grow and develop to improve their performance on personal levels, as members of a team and for the benefit of the school was distinctly outlined by Belay, Melese and Seifu (2021). The South African developmental agenda recognises the need to raise educational standards because doing so will ultimately lead to the creation of a competitive national labour force, an improvement in the general level of living and sustainable economic expansion that actively incorporates the public National Development Plan (NDP) 2030 (2021).

The report by the HRDC (2016) reveals that the largest budgetary provision for any other sector in South Africa is human capital development (HCD) which received 20% of the overall budget. The nation's and the organisation's workforce productivity and competitiveness could each be improved by strategic investments in HCD at both the national and organisational levels (Gumede & Govender 2022). Activities that help a person advance their professional growth as a teacher are referred to as PD. In this instance, coaching, mentorship, group planning and teaching, as well as the exchange of effective practices, can all be used to provide development (Asanok & Chookhampaeng 2016). Thus, education can take place in both formal and informal contexts. Conferences, classes, seminars, retreats and workshops are examples of formal settings. In contrast, independent enquiry or exploration, peer learning programmes or simply interacting with a coworker in the staffroom are examples of informal settings (Van der Klink et al. 2017).

'Human capital can be broadly defined as the stock of knowledge, skills and other personal characteristics embodied in people that [*help*] them to be productive' (Gillies 2015). 'Pursuing formal education (early childhood, formal school system, adult training programmes) but also informal and on-the-job learning and work experience all represent an investment in human capital' (OECD 2023), while the PD of teachers is increasingly seen from a lifelong learning perspective. On the contrary, as initial education provides the foundations, continuous staff development offers a means for improving the quality of the workforce and retaining effective staff over time. It can help smooth new teachers' transition into their jobs and compensate for shortcomings in teachers' initial preparation. The term 'professional development' can refer to a wide range of specialised training, formal education or advanced professional learning aimed at assisting administrators, teachers and other teachers in improving their professional knowledge, competencies, skills and effectiveness (Moosa & Ramnarain 2023). Professional development by offering an opportunity for PD thus facilitates the HC development of teachers.

Professional development for teachers covers training in various disciplines. Professional development opportunities are financially sponsored by budgets and programmes from the district, school and the state as well as by foundation grants and other private funding sources (Compen, De Witte & Schelfhout 2019). The duration of PD programmes may range from a one-day conference to a two-week workshop to a multiyear advanced degree programme, and PD can also take many different forms. Additionally, PD can be facilitated in person or online, on-site or off-site, during the school day or beyond regular class hours, and in one-on-one or group settings (Compen et al. 2019; Darling-Hammond, Hyler & Gardner 2017). It is therefore imperative to note that different PD programmes should be used for building the IT capacities of Accounting teachers.

The cultural, social, political, economic and other qualities and circumstances of each context constantly mediate the many processes, behaviours and procedures involved in teacher PD. According to Mwihaki et al. (2019), PD for teachers includes learning how to learn and putting one's knowledge into action for the improvement of one's learners. Teacher professional learning is a complex process that requires teachers' cognitive and emotional commitment both individually and collectively. It also calls for the ability and willingness to examine each teacher's convictions and beliefs as well as the reading and application of suitable alternatives for improvement or change (Compen et al. 2019).

Teachers are examples of HC in the teaching profession as they possess and continue to acquire the required knowledge and skills aimed at improving their productivity (Hargreaves & Fullan 2012). Teachers, according to Hargreaves and Fullan (2012), serve as a great example of HC in the teaching profession and the ability to support learners from all backgrounds while also demonstrating emotional and social skills. Hence, for teachers to enhance their instructional methods and increase their effectiveness, they must undergo professional training in utilising IT (Evans 2021). Human capital building through PD entails that teachers continue to be equipped with competencies that enhance their performance and productivity.

■ Problem statement

This study explores the improvement of IT capabilities of Accounting teachers through PD. It is not always simple to get teacher policies quite right, and educational technology solutions can appear as an immediate solution. It is enticing to seek the ideal software that will disrupt the educational process and allow nations to move to equal, high-quality

education without having to interact with these complex humans at the core of the educational process (OECD 2016). There is no contestation that IT is here to stay and that all teachers need to build capacities to use IT in their teaching and learning to attain educational goals. However, PD in the integration of IT to facilitate teaching and learning Accounting is neither addressed nor incorporated in PD programmes. Tshiovhe and Monobe (2021) argue that the absence of PD in the integration of IT for Accounting education raises the assumption that many Accounting teachers do not use IT in their learning and teaching of the subject. However, there are certain subject areas that, to a certain extent, integrate IT into their learning-teaching such as Physical Sciences, Life Sciences and Mathematics more often integrate IT (Aguirre-Muñoz, Dang & Garro 2022). Accounting teachers must, therefore, include IT in their teaching-learning of the subject because many companies use IT in their administration. Despite the potential benefits of IT that it boosts creativity and improves learners' literacy and grammar skills (Byaruhanga 2019), several Accounting teachers have not experienced IT training. The preceding discussion prompted an investigation into ways of improving the IT capabilities of Accounting teachers through PD.

■ Objective of the study

The objective of the study is to explore the improvement of the IT capabilities of Accounting teachers through PD.

■ Theoretical-conceptual framework

This study's theoretical-conceptual framework is based on the constructivism theory. According to Kurt (2021), 'the constructivist theory is based on the idea that learners are active participants in their learning journey; knowledge is constructed based on experiences'. With the accumulation of events as they occur, each person ponders on their experience and accumulates new ideas along with their prior knowledge. This model was entrenched in learning theories by Dewey (1938), Gagne (1985), Piaget (1971), Bruner (1973) and Vygotsky (1977). Learning in constructivism is defined as a change in meaning that is constructed from experience (Ertmer & Newby 2021). This implies that the subject advisor, with their extensive experience, will guide the professional growth of Accounting teachers. Teachers may also improve the knowledge of their trainers. The process of thinking about and interpreting events results in knowledge construction. This is because each person has a unique collection of experiences. Each person creates their own body of knowledge, meaning learning occurs when our knowledge is altered in such a way that we can understand our experiences in a more complicated manner.

On the contrary, PD must be grounded in enquiry and reflection, and it must be collaborative as it also involves sharing of experimentations that are participant-driven, knowledge among teachers and a focus on teachers' communities of practice, rather than on an individual teacher (Avalos 2011). 'A constructivist approach to PD provides teachers with the opportunity to construct their own knowledge in a supportive environment [*which*] empowers them to be autonomous learners' (Al-Husban & Tawalbeh 2023). Thus, PD in IT must be connected to other aspects of school systems like administrative activities, for example, recording marks, sending assessment tasks to learners and also communicating with parents/guardians.

According to Rout and Behera (2014), this approach starts from the bottom-up approach because it begins with pre-education training and continues with teacher career and development, which focuses on deepening teachers' understanding of the processes of teaching and learning, as well as of the learners they teach. Constructivism is based on the idea of the transfer of knowledge rather than the construction of knowledge. In addition, effective PD involves teachers both as learners and as teachers, thus allowing them to struggle with the uncertainties that accompany each role (Kelter et al. 2021). With this theory, 'PD [*of*] IT must engage teachers in concrete tasks of teaching, assessment, observation, and reflection, which will illuminate the processes of learning and development' (Petersen 2020). Therefore, PD in IT of Accounting teachers should be guided not only by traditional principles but also by new teaching methodologies. Learning is determined by the intricate interplay between the learner's prior knowledge, the social context and the task to be solved, according to constructivist theory. Constructive processes place learners in a collaborative context in which they have the means and chance to develop new knowledge (Ertmer & Newby 2021). According to this theory, teachers learn through interaction with others. Therefore, teachers' relationship enables them to collaborate as peers and use their collective knowledge to solve a problem, but at the same time, training is facilitated by their trainers and even line managers through class visits and the overall assessment by their school management teams (SMTs). Therefore, constructivism emphasises the idea that you learn through collaboration with others, thus implying knowledge creation by learners depends on the teacher's competencies and capabilities to integrate technologies.

■ What role is played by technology in promoting constructivism learning in an Accounting classroom?

Teachers serve as models and guide the learners showing them how to solve a problem. Technology can enable a group of learners to interact with

one another. Not only has technological innovation created new types of demands on learners, but it has also begun to be employed in numerous ways to teach and educate learners (Evans 2021). Technology has made it reasonably straightforward and quick to acquire access to people who were previously unable to reply or have other knowledge. This means that social interaction within small group exercises can be enhanced as teachers discuss and share ideas in their training even when they are not in the same classroom. The teacher guides the learners through the process of learning based on interactive experiences (Bowe & Pierson 2008).

Accounting teachers could guide learners in providing experiences that challenge and expand their existing knowledge. Teachers may constantly persuade learners that they are doing the right thing, that their thinking is sound and that their mistakes are easily corrected (Makewa 2019). One of the key factors influencing the performance of learners is teacher competence. The experiences of the learners are influenced by a range of circumstances, and these include the knowledge, beliefs and behaviours of the teacher (Jonson & Smith 2019). Teachers should contribute to the construction of knowledge by learners by supporting the development of powerful and effective constructions. A skilled teacher is required to supervise the learning process. This is especially true when a constructivist approach is used (Smith & Johnson 2020).

The use of IT has the potential to enhance the teaching and learning of Accounting in schools. According to Clayton-Pederson and O'Neill (2005) and Rebele and Pierre (2019), IT is used in the teaching and learning process that appeals to the five senses, namely seeing, hearing, touching, feeling and tasting, and aids teaching and learning. This means that IT is a set of resources and equipment that can be utilised effectively for communication because they are an integral part of the teaching and learning process and so contribute to the production of meaningful experiences (Boss 2011). In this study, technology refers to the use of various educational technologies and devices in learning in contrast to the traditional resources such as the chalkboard and textbooks that are used in the Accounting teaching and learning process to create knowledge (Mehlinger & Powers 2015).

Audio devices and multi-sensory materials are designed for use with two or more senses, whereas visual media is designed primarily for sight. The tools and resources used in teaching and learning are referred to as IT. Examples of these technological devices include television, tape recorders, video cassettes, projectors, computers, the internet and various software. Additionally, teacher-made diagrams, transparencies, films, slides, real items, photographs, digital video disks (DVDs), compact disk read only memory (CD-ROMs) and interactive conferencing also fall under this category (Opoku-Asare 2004). Other sorts of IT help learners learn

the essential essence of a phenomenon (Filigree 2012). In other words, IT encompasses both material and physical tools. Learners should be able to comprehend, utilise and integrate IT without relying on the experience of the teacher or the many senses associated with the subject matter. Learners can also use IT to help them create their own meaning and keep their attention (Sackstein, Matthee & Weilbach 2023). This means that technology can help Accounting teachers have a greater influence on their learners. Effective communication between the teacher and the learner is required for effective teaching in the subject. For example, verbal education combined with real-world experience appears to be the most fundamental type of educational delivery method (Onasanya 2004; Sackstein et al. 2023).

Professional development in some countries is meant to include educational technology as one of the information resources to be used in topic teaching (Farrell & Shafika 2007). Any type of educational technology carrier that may be used to capture, store, preserve, transmit and retrieve information for teaching and learning purposes is considered IT. Educational technology tools are used by teachers to express, demonstrate and explain the subject content (Boss 2011). Teachers have long recognised information inherent benefits of using technology in the teaching and learning processes. Accounting instruction uses IT to achieve the purpose of instruction. Teachers can use IT to supplement their teaching in the classroom, and they should design IT to enable learners to take greater ownership of their own learning (McDonald et al. 2019). Accounting teachers are considered experts as they design, implement and assess information activities used to educate learners' learning which must be considered.

■ Educational technology, multimedia and new technologies

Educational technology is the successful application of technical instruments in educational contexts such as elementary and secondary schools, colleges and universities, and it is currently commonly used in societies (Bowe & Pierson 2008). Educational technology does not have to be the only way of teaching and learning for education to be effective (Sackstein et al. 2023). Thus, it is a theoretical perspective that considers the right application of various instruments such as media, equipment and networking devices. In Accounting, teachers can be trained to use programmes in the teaching of Accounting (Hlongwane 2020).

Any combination of two or more media elements used to construct an educational or information programme is referred to as multimedia.

Traditional and advanced audio-visual media can be incorporated into one lesson presentation. It is, however, much more than just integrating materials (Borthwick & Pierson 2008). This means that the capacities of teachers can be built to use multimedia in a single presentation for the learners' benefit when teaching accounting. The implication is that when examining technology in the educational setting, the nature of teaching and learning and the pedagogical relevance of new technologies may be valued. Educational computer and communications applications, which frequently take the shape of local area networks (LANs), internet connections and other types of wide area networks (WANs), are examples of new technologies infrastructures, according to Tamilselvan, Sivakumar and Sevukan (2012). This means that the necessary physical infrastructure that supports technology use is necessary to support the use of technology.

■ Professional development in the integration of information technology in Accounting teaching and learning

According to Harwell (2003), PD is the ongoing commitment made by teachers to take part in activities that will help them become more competent. All professional instructors can advance through PD (Darling-Hammond & Baratz-Snowden 2007). It is meant to improve their knowledge, attitudes and abilities, so that they may grasp educational concepts and build information programmes to improve classroom learning (Peterson et al. 2018). This implies that the project should be founded on needs identified at all levels, namely local, national and global, which are typically the outcome of societal changes. It entails that PD is another process of facilitating HC development for teachers.

According to Mizell (2010), PD refers to improving one's abilities to excel in a career and continuing education by attending workshops on topics, including lesson planning, teaching techniques, subject matter and formative evaluation, all of which enhance the effectiveness of instruction. Professional development is seen by Darling-Hammond et al. (2017) as being an essential component of the plan, which specifically outlines learning goals that must be met using various information media. By showing how educational media can improve learning, it also assists teachers in finding solutions to information problems. Professional development is defined by Avalos (2011) as activities for information materials that are used to provide learners with enough time for job-integrated learning experiences, demonstration, hands-on practising, planning, reflection and follow-up. Professional development is a broad word that refers to the continual learning opportunities provided by schools and districts to teachers and other education workers (Peterson et al. 2018).

Technology plays an essential role in inspiring and enabling learner growth. DiGiano, Goldman and Chorost (2008) contend that IT can help lay a solid basis for conceptual thinking while also boosting learners' attention. This shows that media may improve self-activity among Accounting learners, resulting in more lasting learning (Scheerens 2016). Because learners of varied capacities may get the same message and their unique variances can be accounted for by utilising technology, IT delivery can be much more standardised (Hanover Research 2014). Each learner perceives and comprehends the identical message, which acts as the foundation for further study, practice and appreciation. Using IT in an Accounting classroom can make learning more interesting and enjoyable. Because there is less repetition of content, key chunks of lessons can be provided, allowing for increased learning.

Changes in graphics and the usage of special effects, among other things, can assist learners avoid boredom. The use of IT guarantees that Accounting learners pay attention to the teaching and learning process (Peterson et al. 2018). The benefit of changing pictures, the usage of special effects and the impact of concepts that might generate effect stimulate learners to be thoughtful, adding to motivating learning and interest in technology (Ndovu & Lawrence 2012). Classroom interaction can be interactive if technology is used in teaching and learning. Certain states of matter would be impossible to communicate without the use of technology, and IT can also promote learner contact and teacher interaction. Learner engagement becomes exciting when pre-planning aspects such as stimulus variation, feedback, reinforcement and learner participation are included (Lolong 2013).

Information technology can be utilised to uncover the needs of the learners and stimulate their interests (Onasanya 2004). There is no doubt that IT increases the abilities of the teacher to facilitate learning, and the imaginative power of learners can be activated, sustained and stimulated. Learners are likely to be encouraged to not only learn but also continue learning (Dray 2011; Seth 2009). Accounting teachers who have received PD in incorporating IT into their courses can use media presentations effectively to enhance learning conferences.

Onasanya (2004) and Lolong (2013) suggest that the PD of teachers in the use of IT includes the following: Considering the entire school environment as an Accounting classroom for learners' learning, considering the abstractness of experience that technology would produce and selecting IT for information purposes based on specific criteria that directly relate to information planning. The chronological age, gender and economic background, learners' entry level, motivation, aims to be attained, the nature of the topic content, physical characteristics of the medium and the

relevance of the subject content are also contextual factors that influence the use of IT in teaching and learning (Kuliah 2015).

Information technology should be used in a manner that considers various contexts that influence teaching and learning. The application of IT should be continuously monitored and guided. The information gathered can be used to improve future media use in the classroom (Onasanya 2004). It should also stimulate the responses of learners, and when designing any media, the teacher should include components within accounting material that will encourage learners' participation through discussion and projects (Moeller & Reitzes 2011). It should be assessed via observation and individual projects. This suggests that PD for teachers should involve the integration of educational technology with the view of promoting effective teaching and learning.

Leask and Younie (2013) question why, despite the acknowledgement of teacher quality as a crucial determinant of educational outcomes, there is minimal focus on enhancing teachers' professional competence. Given the rapid changes in IT and the relative lack of related transformation in education, the need for effective IT PD is obvious. Nevertheless, it is less clear what PD would be most valuable and how it should be delivered most economically. The lack of educational transformation because of the lack of IT integration during PD creates difficulties for teachers to develop expertise. There are repercussions for teachers and learners all over the world. As previously stated, the lack of educational transformation as a result of IT integration has consequences for PD in both the pre- and in-service career stages. There are disparities in usage that could be explained by teachers' lack of digital literacy.

Teachers' views of IT usage may be contrasted with their learners' concepts of IT usage. In most instances, the use of IT in schools is much less intense and extensive. Furthermore, in comparison to the effects of IT adoption in other sectors, the effects on education are less visible (Lim et al. 2013). Implementation of IT in educational systems appears to be frequently influenced by fashion rather than organised dissemination models based on prior experience (Martin et al. 2011). However, technology, which has accelerated social development in general, can transform education and teacher education. Educational technology improves the teaching process by making it scientific, objective, clear, concise, simple, accessible, engaging and effective. Despite government expectations that IT should be utilised to increase educational quality, little progress has been made in using IT to assist teachers in acquiring knowledge that may improve their practices (Leask & Younie 2013). Technology in education is pointing the way to resolving information issues. Its implementation, however, is far from being a vehicle for systemic change.

■ The role and benefits of information technology in teaching and learning of Accounting

Rapid technological advancement has meant teachers who were trained 20 years ago must undergo PD to upskill themselves in technology. This is because IT has become increasingly important in all sectors of the economy. The following are some of the roles that IT plays, which also suggest that there is a need for PD to equip teachers with the relevant IT skills (Byaruhanga 2019).

The changing roles of Accounting teachers contribute to their desire for in-service training programmes on the pedagogical use of IT in the classroom. According to Vanderlinde et al. (2014), introducing IT for educational purposes demands a balance between IT vision and other areas of educational activities. Teachers are essential in advancing the use of IT but leadership is also required to guide the process and create the circumstances for collaboration with other professionals (Kennisnet Foundation 2011). This suggests that there is a need to investigate the improvement of IT capacities of teachers through PD. In South Africa, IT is integrated into the curriculum at historically white universities, Indian and coloured universities (Sarinjewe 1991). However, historically black universities (HBU) offered initial teacher training programmes that excluded IT. In terms of IT deployment, the HBU lacked adequate resources, yet they continued to train the teachers, including those who teach Accounting (Jonson & Smith 2020). This suggests that several teachers trained in HBU were unprepared for the integration of IT in teaching and learning. These historical contexts highlight the challenges faced by many teachers who did not receive in-service training on how to integrate IT into teaching and learning, underscoring the need for PD.

Information technology uses a variety of applications, in teaching and learning. Yildirin (2000) indicates that nearly all jobs will involve the use of IT. Given that IT is ubiquitous, it is, therefore, imperative that every learner must be competent in the use of IT. Teachers must not only know how to integrate but must be able to integrate it into the teaching and learning of Accounting (Wantilok 2015). This suggests that the integration of IT in teaching and learning is dependent on the capabilities of the teacher. For this reason, Accounting teachers must be very proficient in the use of computers. Those who are not exposed or do not have prior training on using technology must be enrolled in a programme of teacher development in IT (Albion et al. 2015).

Information technology is taught because learners need it. Both teachers and learners use IT outside the classroom. They play with IT, and it is now part of everyone's life. Every teacher teaching Accounting today will need

to know IT as learners demand it. Resources are continually being provided, and these resources should not gather dust (Vanderlinde et al. 2014). Learners are becoming more competent and up to date with technological advances than their teachers. Without IT knowledge, one will be left behind in the real world. Technology has no limits as it allows learners to learn more than what is in their books. Technology improves the relationships between teachers and learners, and when Accounting teachers integrate IT into the curriculum, they become advisors and act as experts on the content (Skhephe & Matashu 2021). Learners interact with others through technology. Testing of learners becomes very fast. Teachers can also track learner's accounting performance. The use of IT in teaching and learning may narrow the gap between well-resourced schools and under-resourced schools.

Computers, mobile phones, tablets and other gadgets provide various educational technologies and resources for the teacher to use to facilitate teaching and learning. Learners learn in different ways, and this helps learners who have different abilities (Peterson et al. 2018). With the help of teachers, IT keeps learners active, and this is the best way to engage in their learning. This helps learners to grasp their work quickly. Learners who understand it become successful in life and business. According to Watson (2017), IT makes learning and teaching simple. The use of IT has replaced traditional classroom learning teaching. Video and audio animations keep both teachers and learners engaged. Thus, with IT learning, teaching and learning of Accounting can be digitalised (Wantilok 2015).

Information technology helps teachers and schools in their administration (Linton & Geddes 2013). Teachers can track learners' skill development, and parents can also help learners to improve and excel in their weak subject areas. Books are no longer used as records (Scott 2014). Schools are now using digital books and study guides, and tests, homework and assignments are now being offered online. These resources can be read anywhere (Kennisnet Foundation 2011). Education has become more accessible for all learners.

Education has become more entertaining (Watson 2017). It enables learners to study on their own time (Cannon, Tenuto & Kitchel 2013; Watson 2017). Learners can now get information from their laptops and cell phones (Akram, Abdelrady & Al-Adwan 2022; Hanover Research 2014). Information technology makes group studies and assignments easier, allowing discussions to take place in these forums. Dennee (2015) indicates that teachers must act as leaders in pre-service education. Therefore, teachers as developers must model the behaviour they expect of their new teachers. There are several reasons professional developers do not include IT when they develop teachers in different subject areas. Johnson et al. (2016)

ascertain that teachers who pursue PD do not experience ongoing learning, primarily because most schools lack IT facilities. Teachers lack the technical support when they go back to schools and some of them have principals who do not support them. Thus, teachers fear humiliation in front of their peers, and therefore, trainers need a good support system, and training is crucial in this instance (Buabeng-Andoh 2012).

The possible elimination of resistance in IT continues to impact education and its elimination is necessary; trainers need to be trained in the integration of IT in subject areas, and at the same time, spelling out the advantages and disadvantages of IT should be stated clearly. Furthermore, teacher trainers need to access their colleague's work where IT is implemented, and they should be trained in the integration of IT in lesson presentations. According to Chisango et al. (2020), IT has become so important because it enables learners, teachers, parents and school management to communicate. This means that IT plays a significant role in education. It is therefore necessary that Accounting teachers be trained in the integration of IT in learning and teaching. When Accounting teachers are allowed to use technology in the classroom, it is desired that they should succeed.

■ Research design and methodology

Both quantitative and qualitative methods were employed in this study. Questionnaires were utilised to obtain quantitative data from 230 Accounting teachers in the Vhembe district of the Limpopo province in South Africa. The questionnaire included both closed-option and open-ended questions to acquire frequencies for the various variables under consideration so that they could be characterised and compared. Individual interviews were used to gather qualitative data. To acquire qualitative data, interview guides were used. They were scheduled with 10 individuals who were interviewed to collect qualitative data. The researcher interviewed the following individuals: Centre manager, IT education specialist, subject advisors and principals.

■ Findings and discussion

This section examines the perspectives of the centre manager, IT educational specialist, subject advisers, principals and teachers on the concept of PD and IT in IT in topic areas.

■ Professional development

Major findings on the meaning of PD of the integration of IT in subject areas teaching and learning.

Table 7.1 displays findings on the perceived understanding of the role of PD in building Accounting teachers' capacities to integrate IT in teaching and learning. The findings indicate that 50.8% of teachers disagree that PD in IT integration requires teachers to understand how to acquire knowledge and skills for integrating IT into teaching and learning and to apply that knowledge in practice for the benefit of their learners' growth. Then, 49.2% of teachers felt that PD is about teachers learning and using their expertise. This indicates that almost half of the respondents did not understand the importance of the use of integration of IT in teaching and learning and the role of PD in building the capabilities of the teachers.

The quantitative findings were validated by the qualitative results. The centre manager and IT senior education specialist explained that PD comprises teacher training as well as the development of their own growth and abilities. The centre manager stated that PD involves increasing Accounting teachers' expertise in how to convey things using educational technology. The centre manager said that:

'Professional development is teacher training that improves the subject matter and teaching skills when employing technology equipment. It is also the same as developing their professional progress at work.' (CM1, male, accounting facilitator, 10 years' working experience)

Professional development, according to the IT senior education specialist, is the expansion of teachers' knowledge and skills in the use of technology instruments. In addition, he emphasised that PD includes teacher training through workshops. He stated the following:

'What I can tell you is that professional development in information technology is referred ongoing learning activity that takes the shape of workshops, seminars, and collaborative learning among people, such as teaching and exchanging new ideas.' (SES1, male, IT senior education specialist, 10 years' working experience)

According to the subject advisor, professional:

'[...] involves teacher training through in-service training to put them on track so that they can offer the correct topic matter and how to manage their learners when presenting their lessons.' (SA2, male, subject advisor, five years' working experience)

TABLE 7.1: Perceived understanding of the role of professional development in building Accounting teachers' capacities to integrate information technology in teaching and learning.

Level of agreement	Frequency	Percentage
Strongly disagree	61	26.5
Disagree	56	24.3
Agree	88	38.3
Strongly agree	25	10.9

Source: Authors' own work.

These findings highlighted the perceived different understanding of the role of PD in building Accounting teachers' capacities to integrate IT into teaching and learning. It can be deduced that the participants understand the importance that IT PD for Accounting teachers can affect teachers' knowledge, attitudes and skills. Professional development also enables teachers to develop a deep understanding of educational concepts and information programmes to help students learn more effectively. Although some instructors assume that PD involves a once-off exercise that boosts the competency of teachers, it must however be recognised that PD for teachers in IT integration is an ongoing commitment (Kiley 2013). This means that continuous PD is necessary to enable centre managers, IT senior education specialists, subject advisors and principals to understand IT.

Findings in Table 7.2 show that 49.2% of respondents disagreed that PD in IT is concerned with the realities of the educational situation, while 50.8% of respondents agreed. This demonstrates that almost half of teachers understand how PD in IT can benefit teachers. Thus, the requirements of Accounting teachers, positions, experiences, duties, interests, capabilities and future goals are addressed throughout by using PD. Principals stated that PD means instructors are equipped to improve their topic-teaching skills, and this should result in the improvement of IT integration in the lessons. Regarding this point of view, one of the principals stated:

'This is a technique for empowering teachers by educating them about new developments such as deploying electronic gadgets in their classrooms. Teachers might be empowered in the classrooms or trained elsewhere.'
(P4, male, principal, five years' working experience)

Professional development in IT refers to teachers' long-term commitment to activities aimed at enhancing their competence. This means that during PD in IT, the teacher's requirements, roles, experiences, responsibilities, interests, capabilities and future goals, as well as institutional demands at their workplace, are addressed (Hussen 2016).

TABLE 7.2: Professional development in information technology concerns practicalities and teaching situations.

Level of agreement	Frequency	Percentage
Strongly disagree	45	19.6
Disagree	68	29.6
Agree	88	38.2
Strongly agree	29	12.6

Source: Authors' own work.

■ The roles and benefits of professional development in the integration of information technology into learning and teaching of subject areas

Table 7.3 shows the findings on the benefits of PD in the integration of IT into the learning and teaching of subject areas. The findings in Table 7.3 show that an average of 67.5% of teachers disagreed that they benefit from attending teacher PD on IT integration. On the contrary, 32.5% reported that attending IT PD was beneficial. According to the centre manager, PD in IT for Accounting teachers is vital because it saves teaching time. The centre manager said this:

‘Yes, I believe teachers can undertake part of their teaching duties such as lesson preparation and accessing information on how they teach the material.’ (CM1, male, centre manager/facilitator/trainer, five years’ working experience)

Principals stated the following regarding the benefits of PD in education:

‘Teachers will be able to employ technology devices to better communicate knowledge to learners, which will boost their interest in the subject.’ (P2, male, principal, five years’ working experience)

‘Ya, teachers will be encouraged to adopt technological tools, which will save them time.’ (P9, male, principal, five years’ working experience)

Judging by these perceptions, it can be inferred that teachers who have received IT training should have the capabilities to integrate IT in their teaching and learning. This suggests that accounting teachers build the capacity to use technology in their classrooms through PD. However, given the findings that most Accounting teachers, on the contrary, are unable to integrate technology into the classroom, it is apparent that they do not have the adequate capability to use educational technology. This could also indicate that they did not receive IT training as part of their PD.

Table 7.4 shows the findings on the role of PD in IT in developing high-order thinking skills. The findings show that 12.1% of teachers disagreed that PD in IT develops high-order thinking and activities that can be translated from theory into practice, while 87.9% of teachers agreed that PD in IT facilitates the development of higher-order thinking.

TABLE 7.3: Benefits of attending professional development on information technology integration.

Level of agreement	Frequency	Percentage
Strongly disagree	64	27.5
Disagree	92	40.0
Agree	52	22.5
Strongly agree	22	10.0

Source: Authors’ own work.

TABLE 7.4: The role of professional development in information technology in developing high-order thinking skills.

Level of agreement	Frequency	Percentage
Strongly disagree	6	2.5
Disagree	22	9.6
Agree	120	52.2
Strongly agree	82	35.7

Source: Authors' own work.

The centre manager indicated that technology integration helps learners by strengthening their higher thinking skills. The centre manager also explained that PD can support Accounting teachers in incorporating technological tools into their teaching and learning. The centre manager stated:

'Teachers can include technological tools in their classes, and the learners' high thinking skills will be increased, resulting in higher thinking skills.' (CM1, male, centre manager/facilitator/trainer, 10 years' working experience)

One of the principals backed this approach by saying:

'The thinking and problem-solving skills of both teachers and employees will be enhanced.' (P4, male, principal, 10 years' working experience)

This demonstrates that professional growth in technology integration fosters the development of higher-order thinking skills and promotes discovery learning. Professional development, according to Hartsell et al. (2003), helps teachers in using technology in subject-area instruction to find learning and boost learners' higher-order thinking skills. Accounting teachers who are trained in the use of IT can help teachers improve their higher-order thinking and problem-solving skills. If PD on technology integration in teaching is provided, Accounting teachers will be able to use a range of teaching methodologies on the topic. This indicates that accounting activities can be transformed from theory to practice.

Table 7.5 shows findings on the use of different teaching strategies. The findings in Table 7.5 show that 6.5% of the teachers disagreed that a variety of teaching techniques may be used through the integration of IT, while 93.5% agreed that different teaching tactics can be used through the integration of information.

One IT senior education specialist interviewed indicated the following:

'Teachers can learn to use technological tools to teach Accounting in new ways.' (SES1, male, IT senior education specialist, 10 years' working experience)

TABLE 7.5: Use of different teaching strategies.

Level of agreement	Frequency	Percentage
Strongly disagree	4	1.7
Disagree	11	4.8
Agree	118	51.3
Strongly agree	97	42.2

Source: Authors' own work.

Two principals stated the following regarding the benefits of PD in education:

'Ya, teachers will be encouraged to adopt technological tools and abandon traditional teaching methods since they promote learner-centred approaches.' (P4, male, principal, five years' working experience)

'If teachers are trained in the use of information technology, they will be able to use a variety of information methods.' (P8, male, principal, 10 years' working experience)

Vanderlinde et al. (2014) agree that incorporating IT into the teaching of accounting is critical and well-suited to learner-centred approaches. The changing roles of teachers contribute to the apparent need for in-service training programmes on the pedagogical use of IT in classroom practice. In addition, introducing IT for educational purposes demands a balance between IT vision and other aspects of educational activity (Kimmons, Graham & West 2020).

Table 7.6 shows that 9.6% of teachers disagreed that technology improves relationships between teachers and learners when teachers integrate IT into the curriculum, while 90.4% agreed with the statement. Respondents such as the centre manager, subject advisors and administrators believe that teachers who obtained IT PD to teach in the classroom have a close relationship with the learners.

This is what the centre manager said:

'The teachers and learners will work together and for the learners, this will increase the learner's interest in the subject.' (CM1, male, centre manager/facilitator/trainer, five years' working experience)

TABLE 7.6: Relationships between teachers and learners can be created.

Level of agreement	Frequency	Percentage
Strongly disagree	8	3.5
Disagree	14	6.1
Agree	110	48.2
Strongly agree	97	42.2

Source: Authors' own work.

This was supported by two of the subject advisors who said thus:

‘Yaa, there will be a close relationship between the teachers and the learners, because they will keep on interacting with each other.’ (SA2, male, subject advisor, five years’ working experience)

‘Teachers and students can collaborate.’ (SA4, male, subject advisor, five years’ working experience)

According to the literature, technology improves interactions between teachers and learners and when teachers integrate IT into the curriculum, they become consultants and act as content experts (Khraishi 2020). Learners use technology to interact with others. Learner testing has become extremely rapid; thus, teachers can also monitor their learners’ progress.

Table 7.7 shows that 12.2% of instructors disagreed that IT assists teacher collaboration, and 87.8% of instructors agreed that IT can support teacher collaboration. The subject advisors had this to say:

‘Teachers can share ideas with colleagues from other schools to get more information on the subjects.’ (SA4, male, subject advisor, five years’ working experience)

‘Yes, I think teachers can work with each other when using technology.’ (SA3, male, subject advisor, five years’ working experience)

TABLE 7.7: Encourages teacher collaboration.

Level of agreement	Frequency	Percentage
Strongly disagree	3	1.3
Disagree	25	10.9
Agree	140	60.9
Strongly agree	62	26.9

Source: Authors’ own work.

According to the findings of this study, IT can support teacher cooperation. Outside of the classroom, IT can help Accounting teachers collaborate. Accounting teachers, like teachers of other subjects, can cooperate and have follow-up conversations and collegial activities if they are trained on how to integrate IT into their topics (Cannon et al. 2013).

The findings on whether content can be simplified are shown in Table 7.8. The findings indicate that 12.2% disagreed with the idea that the subject content can be simplified, while 87.8% agreed that it subject can be simplified.

TABLE 7.8: Simplify subject content.

Level of agreement	Frequency	Percentage
Strongly disagree	3	1.3
Disagree	25	10.9
Agree	140	60.9
Strongly agree	62	26.9

Source: Authors’ own work.

Respondents such as the centre manager, deputy-chief education specialist, subject advisors and administrators all agreed that teachers who had engaged in PD were able to deliver the curriculum in the classroom. According to the centre manager interviewed: ‘The application of technology can assist the teacher in selecting the topic to teach to the learners’.

Subject teaching can benefit from the usage of IT, according to an IT senior education specialist. He expressed the following in this regard:

‘They may also be able to access recorded recordings, and if there exist videos, they may be able to teach in a class.’ (SES1, male, IT senior education specialist, 10 years’ working experience)

Two of the subject advisors responded as follows:

‘Teachers will gain since they will be able to plan and present lessons using PowerPoint.’ (SA1, male, subject advisor, five years’ working experience)

‘They will be able to incorporate their subject matter knowledge and approaches through the use of technological devices.’ (SA2, male, subject advisor, five years’ working experience)

This suggests that with the use of IT, the subject matter may be more carefully selected and structured. Real-life demonstrations can be used to teach accounting concepts, and new content can be given through IT (Byrd 2017). This implies that IT can be used to simplify the accounting content during teaching and learning.

In Table 7.9, the findings show that 4.3% of the instructors disagreed that subject information could be accessed using IT, whereas 95.7% of the teachers agreed that subject information could be accessed through IT.

According to the subject advisors interviewed, the use of IT in teaching and learning attracts both the interest of learners and teachers. One of the subject advisors said that:

‘This can attract teachers’ attention because they will use technology equipment in the classroom and even outdoors, and they will exchange accounting knowledge with their colleagues.’ (SA4, male, subject advisor, five years’ working experience)

Computers, mobile phones, tablets and other gadgets are various technological gadgets that Accounting teachers may employ in teaching

TABLE 7.9: Subject information can be accessed.

Level of agreement	Frequency	Percentage
Disagree	10	4.3
Agree	96	41.7
Strongly agree	124	54.0

Source: Authors’ own work.

TABLE 7.10: Information technology assists teachers with administration duties.

Level of agreement	Frequency	Percentage
Disagree	12	5.2
Agree	108	47.0
Strongly agree	110	47.8

Source: Authors' own work.

and learning. Learners can learn in a variety of ways, which they can benefit in developing various capabilities. Information technology keeps learners active, which is the ideal approach for them to participate in their learning and can assist them in immediately grasping their work (Peterson et al. 2018).

The findings on whether IT assists teachers with administration duties are presented in Table 7.10. The findings show that 5.2% of instructors disagreed that PD in technology integration increases the efficiency of a variety of administrative positions, while 94.8% of instructors agreed that IT assist teachers with administration duties.

According to the principals, teachers will be allowed to conduct administrative tasks such as mark recording. In support of the points mentioned, one of the principals stated:

'Another advantage is that teachers can do administrative tasks such as recording grades and supporting learners in their online applications to higher education institutions.' (P7, male, principal, five years' working experience)

This is supported by literature, which reveals that teachers with the necessary skills and competencies in the efficient use of technology in the classroom, as well as access to technology and the Internet, have nearly limitless alternatives.

The findings on whether IT enables learners to learn at their own pace are presented in Table 7.11.

The findings indicate that 6.5% of the teachers disagreed that learners could learn at their own pace when using technology, while 93.5% of the teachers agreed with the statement. The IT specialist said this:

'Learners can learn to work on their assignments, test, and projects on their own.' (SES1, male, IT senior education specialist, 10 years' working experience)

TABLE 7.11: Perceptions on whether information technology enables learners to learn at their own pace.

Level of agreement	Frequency	Percentage
Strongly disagree	4	1.7
Disagree	11	4.8
Agree	118	51.3
Strongly agree	97	42.2

Source: Authors' own work.

To support these findings, one of the subject advisors had this to say:

‘What I can say is that the learners can work on them and send them to their teachers.’ (SA3, male, subject advisor, five years’ working experience)

The literature findings indicate that learners can study on their own time. The learners can do their activities on any topic they need anywhere (Cannon et al. 2013; Watson 2017). Learners can now get information from their laptops and mobile phones, as it makes group studies and assignments easier, and discussions take place on these forums. This means that accounting learners can become up to date and teachers can now focus on PD of their skills.

The findings regarding the role of IT in teaching and learning are presented in Table 7.12. The results indicate that 15.2% of the teachers disagreed with the notion that IT is important to all stakeholders, including the community. In contrast, 84.8% of the teachers believe that IT has become essential for learners, teachers, parents and school management, as it facilitates communication among them. The IT specialist had this to say:

‘This can stimulate the attention of students, instructors, and the community, and they will be able to share related knowledge on many issues with others.’ (SES1, male, IT senior education specialist, 10 years’ working experience)

These findings indicate that the use of technology is essential not only for Accounting teachers but also for the broader community. Information technology usage impacts HC development, economic growth and social justice (Rowston, Bower & Woodcock 2020). This, therefore, means that IT has grown in stature and shall always play a part in education and other sectors of the economy. It is, therefore, necessary that Accounting teachers should be trained in the use of IT in learning and teaching (Chisango et al. 2020). Teacher PD in the incorporation of IT in subject teaching areas should consider HC development, economic growth and social justice. These teachers’ capabilities through PD should be equipped with skills and competencies to integrate IT into teaching and learning.

TABLE 7.12: The importance of information technology in teaching and learning.

Level of agreement	Frequency	Percentage
Strongly disagree	11	4.8
Disagree	24	10.4
Agree	118	51.3
Strongly agree	77	33.5

Source: Authors’ own work.

■ Implications of human capital on the professional development of Accounting teachers' information technology competencies

'Human capital assumes that investment in education is necessary to acquire skills and training which, in turn, will increase individual capital' (Hatch & Dyer 2004). In HC, 'human beings can increase their productive capacity through greater education and skills training' (Mavela et al. 2022). The concept of HC is based on the notion that human beings can enhance their productive capacity through greater education and skills training. This indicates that 'a person can improve their HC by increasing their education level or learning new skills' (Kyllonen 2023). Accounting teachers can demonstrate their potential of teaching through PD in IT and may also use the new insights to integrate IT into PD (Skhephe & Matashu 2021). Human capital also positions 'education as both an individual and a public good' (Gilles 2015). 'The theory holds that the returns on education investment are both personal and social' (Gilles 2015). Therefore, an 'individual is rewarded financially, and the economy as a whole is boosted by individuals with advanced human capital' (Gilles 2015).

■ Conclusion

Based on the major findings presented above, all the respondents have a common understanding of the concept of PD. All the respondents believed that PD in the integration of instructional technology can enable Accounting teachers to use technological gadgets. On the contrary, Accounting teachers would be able to reach the state of content knowledge and conceptual understanding because a facility with core knowledge is needed. Accounting teachers can increase their productive capacity through greater education and skills training. This is because new technologies necessitate that there must be PD for all teachers as these technologies are developed by other people from other sectors.

The Department of Basic Education plays a crucial role in the implementation of PD for Accounting teachers and basic teacher education. Therefore, the department must promote pre-service teacher education programmes and enhance the teaching profession by creating conditions that facilitate the integration of pedagogical technology into the PD of Accounting teachers. Higher education institutions could collaborate with the Department of Basic Education to establish a partnership focused on implementing PD for Accounting teachers in IT integration. To ensure the effective implementation of this PD, the centre should have staff available to assist teachers.

School management and leadership capabilities in enhancing learners' performance in Accounting

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■ Abstract

The school's goals, vision and aims are enhanced through effective school management. To create an educational environment conducive to optimal teaching and learning, it is essential to have a leader who understands and can apply relevant educational leadership and management theories within

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the school context. There is a need for a concrete understanding of the development of management capabilities as a human capability using principles from management theories in Accounting education research. School leaders have also not grasped the contribution or relevance of management theory in enhancing performance. This visible gap motivated this study to explore how management theory can be utilised in Accounting education research to enhance learners' performance through improved school leadership and management capabilities. A pragmatic research paradigm was adopted in this study as it focuses on solving practical problems in the 'real world' by creating solutions to the problem investigated. This chapter presents an Accounting education case study utilising an explanatory sequential approach. Initially, a quantitative technique was employed to collect and analyse data. Subsequently, qualitative data were gathered to validate the findings and identify emerging themes from the quantitative results. Findings show that one of the most critical management tasks in developing human capabilities that may enhance Accounting learners' performance is to work with people, understand them and be able to provide support in teaching and learning. The study concludes that enhancing the capabilities of management involved in teaching and learning accounting can be achieved through planning goals and supporting structures in place to train educators in the dialectical approaches to teaching.

■ Introduction

There is significant interest in management theories within education, stemming from the widespread belief that the quality of leadership and management greatly influences school and student outcomes. Additionally, there is a growing recognition that effective managers are essential in all areas of education to ensure students receive the best possible education (Bush 2007). Implementing management theory leads to changes in actual behaviour, fostering the development of requisite human capital capabilities. Managers who have insights into management theories are better informed about the need for the development of human capital (Mariyadas & Saravanakumar 2022). This will have an impact on their perceptions of managerial practices. It aids in understanding the interrelationships between theory development, organisational behaviour and management performance, as well as the result of confrontational resolving skills.

Accounting education requires highly trained and committed teachers, supported by senior and middle management. Anecdotal evidence suggests that Accounting education research, or what is often labelled as research, has little to no value for accounting practice or for the advancement of accounting as an academic discipline (Inanga & Schneider 2005).

The central challenge with Accounting education research is that there is limited focus on the human capital development of leaders, managers and educators collectively. Ong and Hussey (2020) argue that it is tough for a single research project to study the entire accounting educational process unless it is carefully structured. As a result, previous research studies have chosen a specific area to investigate.

Another concern is that some institutions have a negative attitude towards Accounting education and pedagogy, to the extent that they discourage the subject's offering in schools (Apostolou, Dorminey & Hassell 2021). Scholars (Moon & Wood 2020; Pasewark 2020; Silva 2018) have urged accounting academics to improve and develop new research areas in Accounting education, such as research relevance, management capabilities and productivity in attaining good learner performance. Lindsay (2020) investigated the academicisation of accounting professionals in Australia. The author found that Accounting academics transitioning from professional practice to academia often lacked research knowledge and skills, particularly in applying theory to enhance performance or improve human capabilities in teaching and learning.

While the need for effective leaders is widely acknowledged, there is much less certainty about which management theories are most likely to produce human capital outcomes. This study examines the theoretical underpinnings for Accounting education, assesses different management theories and discusses the evidence of their relative effectiveness in developing successful Accounting education through human capabilities. Furthermore, although the need for effective and influential leaders is growing in demand, there is much less certainty about which management theories are most relevant to produce positive desired human capital development. The research question for this study is: Do school leadership and management capabilities improve learners' performance? Following this introduction, the rest of the chapter is structured as follows. Firstly, it discusses the theoretical underpinnings of Accounting education research. Secondly, it evaluates the various management theories that can be applied in Accounting education research. Thirdly, it outlines the research methodology. Fourthly, it presents the results and discusses evidence of the relative effectiveness of management theories in developing successful Accounting education. Finally, it provides concluding remarks.

■ Theoretical frameworks underpinning Accounting education research

To better understand the theoretical underpinnings of Accounting education research, a snapshot of Accounting education is provided.

Accounting education is a research area established in response to challenges in the training of professional accountants. This field of study has expanded significantly in recent years, both within the Colleges of Accounting at universities and globally. Current challenges in higher and basic education have created new research opportunities in areas such as curriculum relevance and blended learning development, developing critical thinking through assessments, students' approaches to learning, financial literacy, capabilities of instructors, progression rates, etc.

Accounting education research can be divided into five categories based on traditional knowledge bases: (1) Curriculum and instruction, (2) instruction by content area, (3) educational technology, (4) students and (5) faculty (Apostolou et al. 2021). Accounting education research is needed now more than ever because of the global shift in educational paradigms (Pasewark 2020). Apostolou et al. (2021) published the 16th edition of their Accounting education literature review, analysing a sample of 88 articles published in 2020 across the five aforementioned Accounting education journals. The overall findings indicate that research in Accounting education has almost neglected theories and human capital development in teaching and learning Accounting. Instead, studies have focused on the teaching and learning context and their outcomes. This omission implies that accounting academics often experience difficulties understanding the application of theoretical frameworks in Accounting education research. To this end, this chapter tends to provide a synopsis of the application of management theory in Accounting education to show how school management and leadership capabilities may enhance learners' performance in Accounting. Table 8.1 provides a summary of common theories used in Accounting education research.

In applying these theories in Accounting education research, scholars should understand the meaning of these theories, how they underpin their current studies and how these theories can enhance management and leadership capabilities in Accounting education. These should be used from the introduction to the study's findings. Researchers can then interpret the results of the chosen theory rather than explaining the conceptual overview of the theory. This study focuses on applying the management theory to improve management and leadership capabilities. This chapter explains the concepts of management theory. Hereafter, a synopsis of findings will be presented to show how the chosen management theory can be further interpreted in an empirical discussion.

TABLE 8.1: Common theories used in Accounting education research.

Theory	Application in Accounting education research
The rational choice theory (Hoque 2010)	<ul style="list-style-type: none"> It is a decision-making theory. Gives some insight into how and why such decisions are made using the optimisation principle.
The human relation theory (Hopwood 1997)	<ul style="list-style-type: none"> Explains how human factors can affect any organisation's accounting, control and governance systems Highlights the relationship between individuals and other factors such as organisations, motivation, supervisory and managerial leadership, group dynamics and organisational development This theory can help you understand how accounting works in practice and the capabilities required in teaching and learning accounting
Strategic choice and management control (Garriga & Melé 2004)	<ul style="list-style-type: none"> The actions that organisational members take to adapt to a changing environment serve as an explanation for any decisions made
Resource dependence theory (Pfeffer & Salancik 1978)	<ul style="list-style-type: none"> Maintains that the acquisition and maintenance of resources are critical to an accounting education's survival Organisations that lack resources tend to form relationships with others to obtain the required resources
Theory legitimacy (Lindblom 1994)	<ul style="list-style-type: none"> It is defined as a condition or state that exists when the value system of an entity is congruent with the value system of the more extensive social system of which the entity is a part
Institutional theory (Dillard, Rigsby & Goodman 2004)	<ul style="list-style-type: none"> Argues that Accounting education decisions to adopt ideas are influenced by efficiency goals and the institutional environment in which Accounting education is embedded Is interested in how organisations interact with their institutional environment and how organisational practices reflect social expectations

Source: Authors' own work.

■ Theoretical framework

Management theory is concerned with organisational management approaches. According to research in the field of management control systems, there is no single best way to manage an organisation because it depends on a variety of internal and external factors. The most applicable management theories in Accounting education research include the collegial management theory and management skills theory.

■ Collegial management theory

Collegial models assume that organisations develop policies, make decisions and improve capabilities through consensus-building (Shrifian 2011). Power is distributed among some or all members of the organisation who are thought to share a common understanding of the institution's goals (Shrifian 2011). Collegial management theory was deemed appropriate for schools and colleges because it requires educators and managers to collaborate to ensure a consistent approach to teaching and learning that will improve learners' performance (Brundrett 1998; Lazega 2005; Shrifian 2011).

The collegial management theory explains how school administration engages in policy determination and formulation to develop human capabilities that will foster learners' performance (Majid & Sufean 2014). This theory is related to transformational and participative leadership theories (Bush 2015), as it addresses the need to foster participation and transformation through shared responsibilities among different levels of school management to improve instructional practices, which may lead to better learner performance.

The assumptions of transformational leadership include focusing on organisational members' commitments and competencies and increased capability for goal attainment (Leithwood, Jantzi & Steinbach 1999). Participative leadership, also known as shared, collaborative and involvement, is related to collegial leadership theory, which focuses on ensuring that duties and responsibilities are assigned to appropriate people for the school to function effectively. It provides opportunities for school members to participate in decision-making within the confines of schools (Wang, Hou & Li 2022), and this participation is a critical action that must be taken to ensure good learner performance (Leithwood et al. 1999).

■ Management skills theory

In his development of management theories, Frederick Taylor identified management skills theory as a requirement to improve the capabilities of management in education and other organisations (Taylor 2008). Managerial skills theory refers to the knowledge and ability of individuals in managerial positions to carry out specific managerial activities or tasks (Katz 1991). This knowledge and skill can be acquired and practised. They can, however, be obtained through the practical implementation of required activities and tasks (Katz 1991). As a result, each skill can be developed by individuals through learning and practical experience. Managers and instructional leaders should have three skills, according to Seyedeh et al. (2014), namely planning skills, technical skills and interpersonal management skills. These are the skills that an effective manager should have in an organisation, specifically in the school context, as in the case of this study.

Management is not a simple task. Knowledge and experience are required. As a result, there is a pyramid, an organisational structure and opportunities for each organisational member with sufficient knowledge, experience and skills to advance from the bottom to the middle and top levels of the managerial pyramid (Dragan 2016). To improve human capability, instructional leaders must possess organisational skills to effectively manage the instructional practices carried out at various levels of school administration.

School management teams (SMTs) and educators with planning skills should be able to identify goals or a vision to work towards and instil commitment and enthusiasm to produce a positive outcome. Leaders should consider how their management and collegial skills can transform an organisation into meaningful change and development, according to Fahimirad, Idris and Kotamjani (2017). Both the collegial theory and management skills theory support the idea of planning skills transforming the instructional activities performed by instructional leaders in schools. Theoretical principles of these studies require that instructional leaders must establish clear goals for how accounting teaching and learning will foster good performance in learners. It will also allow educators to plan their teaching and learning strategies and learning and teaching support materials (LTSM) for each topic to be taught in the classroom.

After instructional leaders have identified the goals and vision, Seyedeh et al. (2014) state that it is critical to have technical skills or capabilities that will enhance the goals and vision established in the school. It can be deduced that a predetermined vision and goal will be challenging if instructional leaders lack the necessary technical skills, such as knowledge and the ability to complete the task. This implies that technical skills will give instructional leaders and managers the knowledge and ability to use various techniques to achieve their goals in implementing and managing Accounting curricula in teaching and learning.

To buttress this point further, Dragan (2016) states that technical skills provide all levels of management with the knowledge and ability to use various techniques to achieve specific goals. He argues that technical skills are essential not only for operating machines, production tools and other equipment but also for enhancing organisational performance. According to Daft and Marcic (2013), school management at all levels is expected to have techniques that will allow them to carry out their tasks to achieve good learner performance. These techniques are expected to improve the organisation's structure and proper service delivery. It can be deduced that technical skills may enable educators to know about planning, designing and evaluating instructional programmes and curricula they intend to use in the classroom to improve learners' performance in accounting teaching and learning to heighten leadership and management capabilities in enhancing performance in accounting.

■ Methodology

This study adopted a mixed-method research approach using an explanatory sequential analysis to investigate whether school management and leadership capabilities may enhance learners'

performance in accounting. Explanatory sequential enabled the constructs that emerged from the quantitative findings to be further explained using qualitative results. The Department of Basic Education (DBE) (2016) reports a drastic reduction in the performance of accounting learners, with some schools considering removing accounting as a subject because of low enrolment and inadequate management. Therefore, it is essential to investigate whether the management and leadership capabilities of secondary schools can enhance learners' performance in accounting.

A sample size of 61 Accounting educators and 150 SMTs (consisting of the principal, deputy principal and head of departments [HoDs] of accounting) was utilised in the North West province to collect quantitative data with a self-constructed questionnaire. The study further interviewed some Accounting educators and SMTs who had experience with more than five years of teaching accounting. The interview was conducted until a point of saturation. The data collected are analysed and presented in the 'Results and discussion' section.

■ Results and discussion

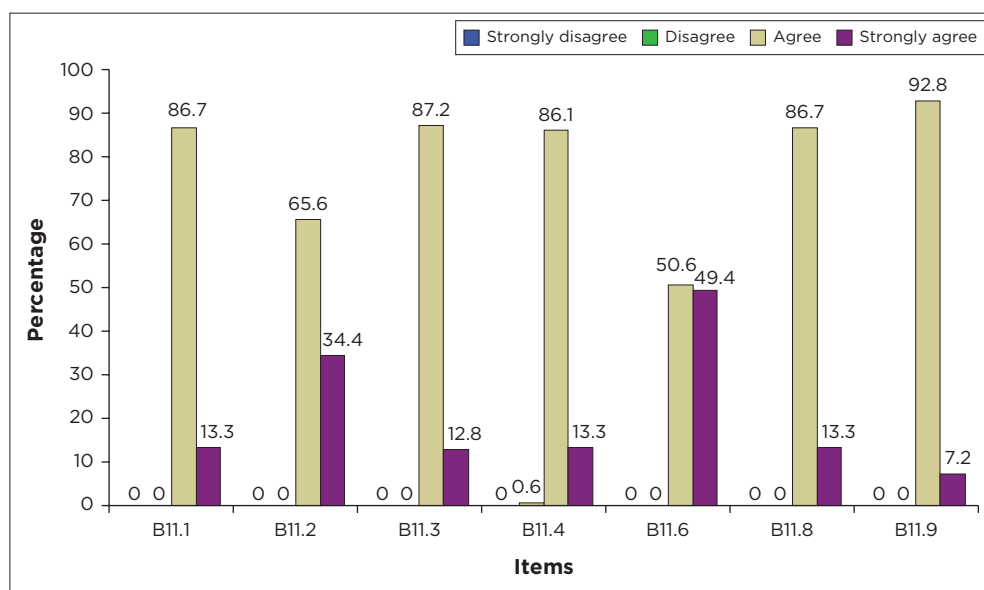
This section presents results obtained from respondents on how school management and leadership capabilities may enhance learners' performance in accounting by applying management theories in teaching and learning.

■ Results from school management teams

Quantitative findings using Factor B11 for SMTs: Factor B11 was analysed using items B11.2, B11.2, B11.3, B11.4, B11.6, B11.8 and B11.9, where B11.1 = management of teaching and learning involves continuous monitoring and maintaining of instructional practices of Accounting educators with the view of improving the performance of the learners; B11.2 = pedagogical competencies; B11.3 = content knowledge; B11.4 = knowledge of content and context; B11.6 = being aware that the content in the Accounting curriculum is broad and needs the involvement of SMTs to manage the curriculum to improve learners' performance properly; B11.8 = being aware that Accounting is a complex subject and the assessment strategies used in Accounting must be adequately supervised and instructed by all instructional leaders; and B11.9 = being aware that the teaching and learning of Accounting requires sufficient resources from the instructional leaders that will aid in managing the learners' tasks effectively. Figure 8.1 depicts the response from the SMTs.

The findings from Figure 8.1 show that most respondents strongly agree that there is a relationship between the management of teaching and learning and learners' performance. Item B11.1 indicates that 13.3% of respondents strongly agree, while 86.7% of respondents agree that the SMTs' management and leadership capabilities in teaching and learning involve continuous monitoring and maintenance of instructional practices in accounting, ultimately improving learners' performance. Similarly, the B11.2 finding reveals that 34.4% of respondents strongly agree and 65.6% of respondents agree that the nature and scope of management of teaching and learning ensure that educators are effective in teaching the content of the Accounting curriculum. B11.3 indicates that 12.8% of respondents strongly agree, while 87.2% of respondents agree. This suggests that the relationship between the management of teaching and learning and learners' performance involves addressing the complexity of certain accounting topics, which requires educators to receive training to teach these subjects effectively.

A strong agreement was also found in items B11.4, B11.6, B11.8 and B11.9. For B11.4 and B11.6, SMTs strongly agree that the management of teaching, learning and learners' performance requires an understanding of the broad nature and scope of the Accounting curriculum. There is a need for SMT



Source: Authors' own work.

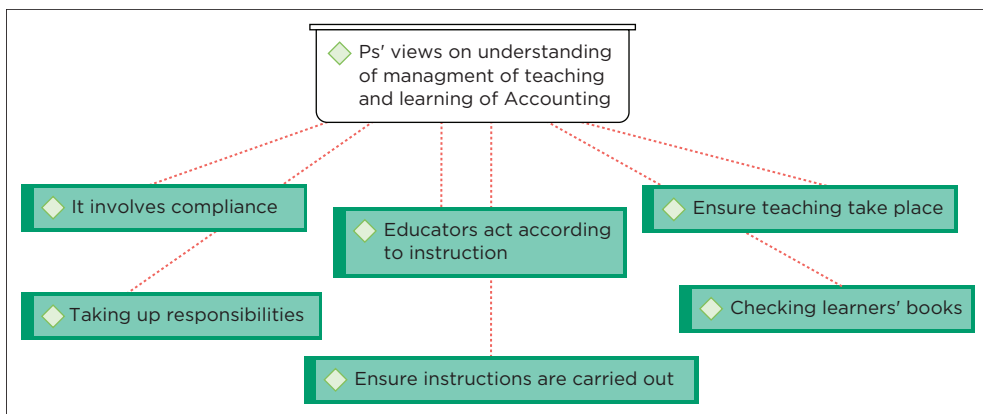
FIGURE 8.1: School management teams' views on improving management and leadership capabilities in teaching and learning on enhancing learners' performance (Factor B11).

involvement and educator training to effectively manage the Accounting curriculum and enhance learner performance. School management teams also strongly agree on items B11.8 and B11.9, indicating that the management of teaching and learning involves effectively managing assessment strategies and providing sufficient resources for teaching accounting. These findings demonstrate that the technical skills and abilities of SMTs are crucial for improving accounting learner performance.

In the study's second phase, qualitative data were collected to validate and explain the constructs emerging from Factor B11, as reflected in each item. The principals, deputy principals and HoDs' views on improving management and leadership capabilities in teaching and learning in enhancing learners' performance are shown in Figure 8.2.

Figure 8.2 illustrates the methods that principals believe lead to improved management and leadership capabilities in teaching and learning, ultimately enhancing learners' performance. The principals perceive that effective leadership and management involve compliance with the Accounting curriculum content and taking responsibility for the proper functioning of the school. Improved SMTs also require educators to follow instructions and ensure that teaching occurs at the designated times. These results indicate that principals recognise the direct influence of teaching and learning management on enhancing learners' performance.

These responses further validated emerging constructs from items B11.2 and B11.13 that management of teaching and learning ensures that educators comply with instructions given and that the content in the Accounting curriculum is covered through effective teaching and learning. This means



Source: Authors' own work.
Key: Ps, principals.

FIGURE 8.2: Principals' views on improving management and leadership capabilities in teaching and learning on enhancing learners' performance.

that effective leadership and management are necessary for enacting learner performance. These findings support the views of Connolly et al. (2019) and Lumby (2019) that the management of teaching and learning involves compliance and understanding of the responsibilities of each individual.

P1, P2 and P3 represent responses from some principals interviewed during the qualitative data collection phase. The participants provided insight into the relationship between the management of teaching and learning and its impact on enhancing learners' performance:

'Management involves taking up responsibilities for the proper functioning of the school; it involves compliance with instructions and contents in the [A]ccounting curriculum, ensuring that what you have instructed is complied with so that good performance can be attained.' (P1, female, principal, 10 years' working experience)

'To ensure good accounting learners' performance, my duties amongst others are checking learners' books.' (P1, female, principal, 10 years' working experience)

'Class visit to check if the task/assessment is of good quality. Manage the behavior of the learners and educators.' (P1, female, principal, 10 years' working experience)

'Make sure the educators do what we instruct.' (P1, female, principal, 10 years' working experience)

'I make sure the educators teach what they are expected to teach. They assess learners on what has been taught and provide support.' (P1, female, principal, 10 years' working experience)

'We check the work of the HoDs, which means that we are indirectly checking the educators' work. It also means one need to do class duties. We analyse the performance of learners. Link the performance to the teacher's absence from school. Or maybe the fact that the teacher is not prepared for lessons, not giving enough assessment, or not covering the cognitive level, which is why they might not be performing well.' (P2, male, principal, 15 years' working experience)

'I do not go to class because I am at the Science department. When I walk past her she is always in class so I assume everything is fine with the management of teaching and learning. Management of teaching and learning is ensuring that the teaching takes place in the required manner, through proper provision of teaching aids that facilitate learning.' (P3, male, principal, 12 years' working experience)

The responses above show that principals as instructional leaders and top hierarchies of SMTs have broader insights on improving management and leadership capabilities in teaching and learning to enhance learners' performance. Nwangwa and Omotere (2013) explain that the management of the educational system in schools consists of principals, deputies, political heads (HoDs), teaching staff (educators), non-teaching staff, administrative personnel and other educational professionals who foster effective teaching and learning. This suggests that there is an

interrelatedness between managing teaching and learning and learners' performance.

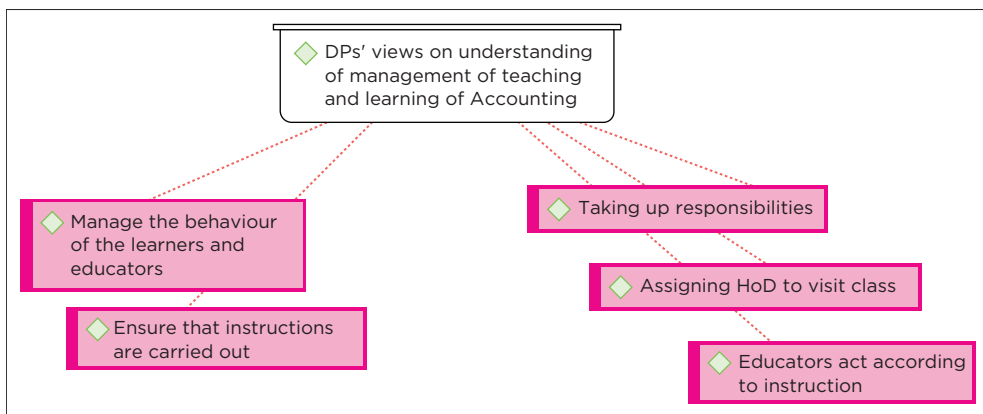
Figure 8.3 shows ways that deputy principals view as necessary for fostering improved management and leadership capabilities in teaching and learning to enhance learners' performance. Deputy principals consider SMT leadership and management capabilities as involving, ensuring instructions made by the principals are carried out, taking up responsibilities for the proper functioning of the school, managing behaviours of learners, ensuring HoDs attend classes and acting in accordance with established instructions.

DP1, DP2 and DP3 represent responses from some of the few deputy principals among the five interviewed. Their views provide insights that further explain or validate the influence of improved leadership and management of teaching and learning on learner performance:

'Management involves taking up responsibilities for the proper functioning of the school. It involves compliance. Ensuring that what principals have instructed is complied with. As such, improving the performance of learners.' (DP1, female, deputy principal, five years' working experience)

'To ensure good learner performance, my management duties, amongst others, include checking learner's books. Class visits to check if the tasks are good quality.' (DP1, female, deputy principal, five years' working experience)

'Manage the behaviour of the learners and educators. Ensure that the educators do what we instruct to improve the learners' performance.' (DP2, female, deputy principal, eight years' working experience)



Source: Authors' own work.

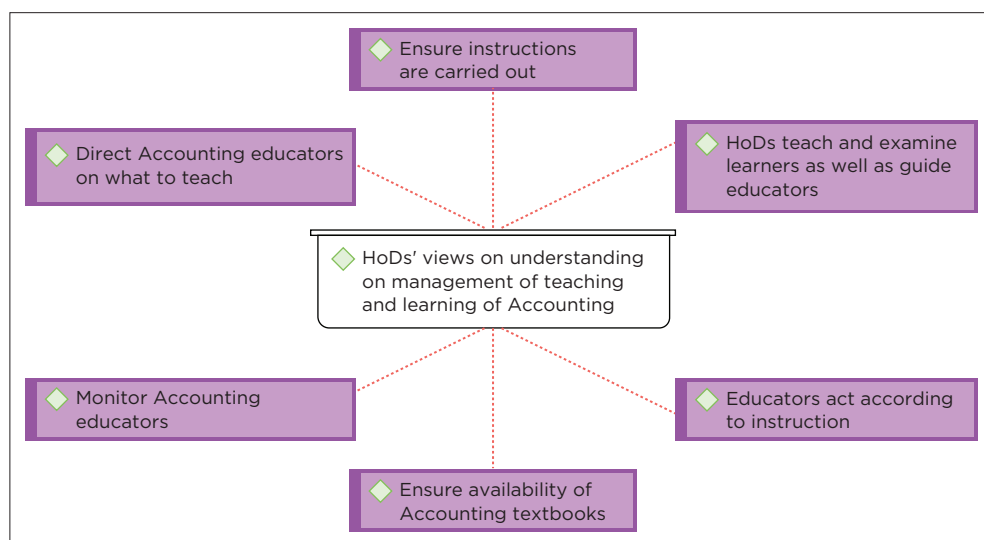
Key: DPs, deputy principals; HoD, head of department.

FIGURE 8.3: Deputy principals' views on improved management and leadership capabilities in teaching and learning on enhancing learners' performance.

'The management of teaching and learning directly impacts learners' performance. To ensure good learner performance, we assign the HoD to go to class, we do not always go to class due to our workload.' (DP5, male, deputy principal, 10 years' working experience)

The deputy principals identified various ways leadership and management capabilities in teaching and learning can enhance learner performance. DP5 indicated that he struggled to manage some of those duties because of the workload placed on them. Training for the SMTs is recommended to build the leadership and management capabilities of deputy principals to empower them to manage their workload. Such training may equip deputy principals with a broader understanding of their instructional leadership roles. Similarly, views of the HoDs are shown in Figure 8.4.

Figure 8.4 shows ways that HoDs believe that improving management capabilities in teaching and learning can also enhance learners' performance. Ensuring that educators teach, resources are provided for them to foster the teaching and learning of accounting, directing educators on what to teach as educators act according to instructions given and monitoring the teaching and learning of accounting in the classroom are possible ways deemed to enhance learners' performance. It can be ascertained that HoDs are directly involved in managing teaching and learning to enhance learners' performance. These responses validated constructs that emerged from



Source: Authors' own work.

Key: HoDs, head of departments.

FIGURE 8.4: Head of departments' views on improving management capabilities in teaching and learning in enhancing learners' performance.

items B11.1, B11.2, B11.8 and B11.9 where respondents either strongly agreed or agreed on the need for proper management of teaching and learning in accounting to enhance learners' performance. This involves focusing on effective teaching practices, ensuring that educators deliver the accounting content effectively.

HoD1, HoD2, HoD3, HoD5 and HoD6 represent responses from some of the HoDs interviewed during the qualitative data collection phase. A sample of peculiar verbatim words captured from the interview further explains or validates the HoDs' views:

'For managing teaching and learning of accounting to enhance Accounting learners' performance, I ensure that what I instruct is carried out, by making sure that the Accounting educator teaches by what is required. Time is the problem; we don't have enough time to be involved in the managing of the teaching of accounting we just play our minor roles because we also teach as well, so we are playing two major roles.' (HoD1, female, head of department, five years' working experience)

'To enhance accounting learners' performance, I ensure that Accounting educators understand what they teach, and direct the Accounting teachers to teach the content properly. I also correct any wrong things taught by the teacher. The teachers are unwilling to accept the corrections or that they need more training.' (HoD2, male, head of department, 10 years' working experience)

'For the Accounting educator, she has to do everything. For myself, as the HoD, I must monitor her activities to check if the activities correspond, I moderate their work and check where their marks are dropped. I tried to seek a strategy to improve the performance.' (HoD3, female, head of department, nine years' working experience)

'I make sure I teach sometimes and examine the learners, guide the educators, and assist in teaching. As such, the learners' performance can be improved.' (HoD3, female, head of department, nine years' working experience)

'In managing teaching and learning to enhance learners' performance, I need to ensure the availability of Accounting textbooks for the learners and past papers for effective teaching.' (HoD5, female, head of department, 10 years' working experience)

'Management of teaching and learning is ensuring that all aspects of teaching and learning in the classroom are carried out by monitoring the classroom record of the [A]ccounting educator so that the performance of Accounting learners can be attained.' (HoD6, male, head of department, five years' working experience)

The responses show that HoDs can outline the nature and scope of management of teaching and learning about enhancing learners' performance. Even though HoD1 indicated that she struggled with time management, she, however, try to ensure that educators teach, and resources are available for them to foster teaching and learning of accounting. Additionally, HoDs direct educators on what to teach as educators act

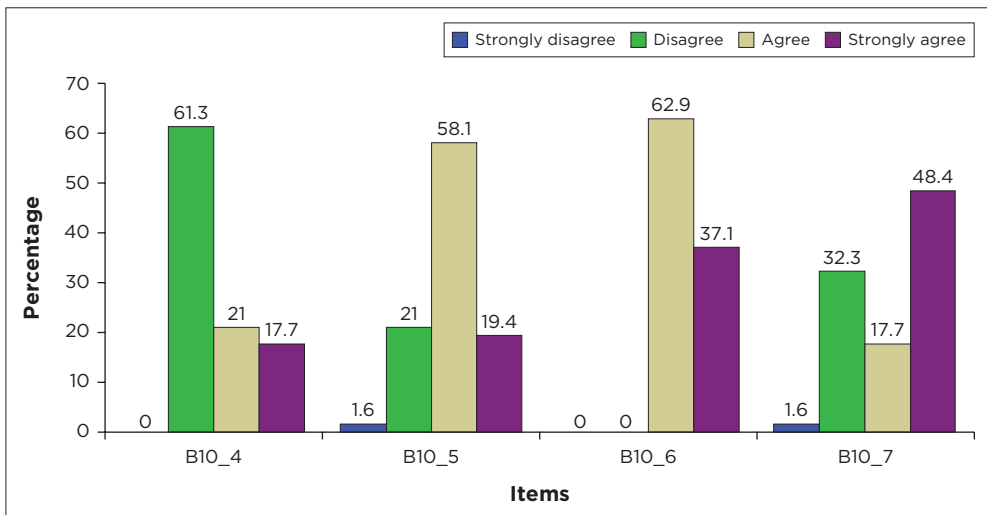
according to instructions given, and also monitor the teaching and learning of accounting in the classroom to enhance learners' performance.

Collecting findings from SMTs indicates that improving management capabilities in teaching and learning to enhance learners' performance involves the different roles that must be played by the principals, deputy principals and HoDs. These findings are consistent with Şenol and Lesinger (2018) who posit that poor management of teaching and learning by SMTs hampers learners' performance in schools. Similarly, Dragan (2016) advises that knowledge of management skills theory, as used in this study, can enable SMTs to understand how they can perform combined roles. Hellriegel et al. (2012) concur that management is the how-to-do practical problem-solving activities of people trying to make the best of ill-fitting worlds. It is evident from the quantitative and qualitative findings that proper management of teaching and learning Accounting can enhance learners' performance.

■ Findings from Accounting educators

Figure 8.5 illustrates the quantitative and qualitative findings.

For item B10.4, 17.7% of respondents strongly agree, 21% of respondents approve and a significant 61.3% of respondents disagree that the management of teaching and learning in accounting is solely the responsibility of educators. This suggests that to enhance learners' performance, educators and the SMT



Source: Authors' own work.

FIGURE 8.5: Accounting educators' views on improving management capabilities in teaching and learning on enhancing learners' performance (Factor B10).

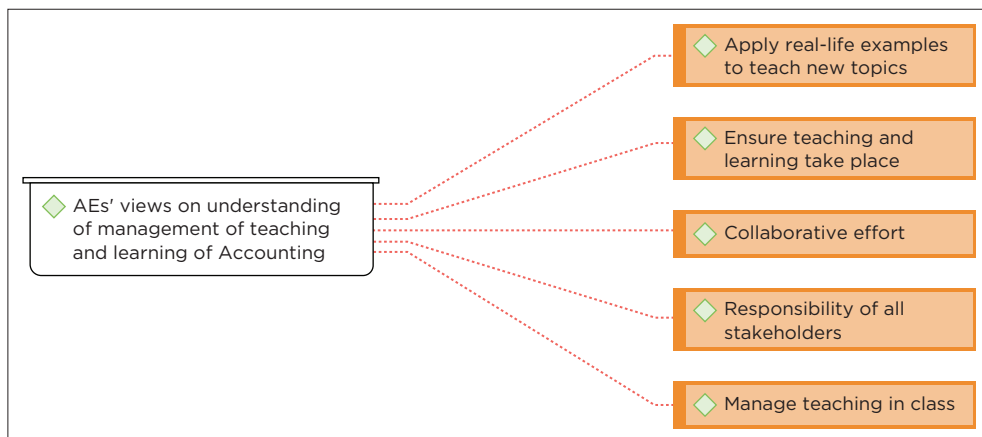
must work together, as the interrelationship does not lie solely with the educators.

Similarly, the findings for item B10.5 indicate a strong agreement of 19.4%, an agreement of 58.1% and a disagreement of 21% regarding the management of teaching and learning. This involves interactions with the SMT concerning the areas where educators struggle in teaching and learning accounting. Although a few educators disagree with these findings, this may suggest that they are uncertain about various aspects that contribute to the management of teaching and learning and its impact on enhancing learners' performance.

Also, item B10.7 findings show a strong agreement of 48.4%, agreement of 17.7%, disagreement of 32.3% and strong disagreement of 1.6% on respondents' response on the management of teaching and learning involving constant classroom supervision by SMTs in enhancing learners' performance. This also shows that a few educators strongly disagree that managing teaching and learning does not involve continuous classroom supervision by SMTs to enhance learners' performance. This shows evidence that some educators might not fully grasp how SMTs are expected to carry out their management roles.

Even though item B10.6 shows that 37.1% strongly agree while 62.9% agree that the management of teaching and learning includes the involvement of SMTs to ensure teaching and learning take place, it also provides daily monitoring of the instructional practices to enhance learners' performance. There is a need to ensure that all educators can conceptualise the management of teaching and learning and learners' performance. In the second phase of the study, qualitative data were collected to validate and provide an explanation of the constructs emerging from Factor B10, as reflected in each item.

Figure 8.6 shows that educators hold the view that improving management capabilities in teaching and learning to enhance learners' performance involves ensuring that educators apply real-life examples to teach a new topic. It also encompasses ensuring that teaching and learning take place, a collaborative effort with both SMTs and educators and ensuring management of teaching in the classroom. These responses further validate the emerging constructs from item B10.6, where respondents strongly agree that management of teaching and learning involves the involvement of SMTs in daily monitoring of the instructional practices to ensure teaching and learning take place so that the performance of learners can be attained. Similarly, the findings also validate constructs from item B10.4, where respondents also indicate that to enhance learners' performance, there should be proper management of the instructional practices by SMTs and educators.



Source: Authors' own work.

Key: AEs, Accounting educator.

FIGURE 8.6: Accounting educators' views on improving management capabilities in teaching and learning on enhancing learners' performance.

AE1-AE8 represents the responses of several educators interviewed during the qualitative data collection phase:

'The management part of leadership is the part I control as well [...] but the SMTs are also involved. However, to some extent, due to their workload. Management is associated with performance as my duty now is to manage the instructional activities in my class. I make sure I teach the right thing, assess the learners, explore strategies that will aid in teaching a topic and make sure they pass.' (AE1, female, Accounting educator, five years' working experience)

'I think the management of teaching and learning involves SMTs and all the Accounting educators to ensure learners' performance is good. However, I am in charge of management in my classroom and the SMTs are in charge of managing me and my classroom. So you see, it is kind of a multiple responsibility. Meaning that it does not start and end at a place, it is spread through to the classroom.' (AE2, female, Accounting educator, five years' working experience)

'For the content, if I am introducing a new topic, I use real-life experience in their day-to-day business activities. The management of teaching and learning requires approaches that correlate to what is been taught to enable the learners to grasp what is been taught so that their performance can be good.' (AE3, male, Accounting educator, eight years' working experience)

'Management is linked to performance. Without proper management, the performance of learners will not be good. To ensure proper management there should be a class visit by the HoDs to check for the teaching styles. My HoD does that and sometimes the principal and deputy do it too. They work concurrently despite their workload.' (AE4, male, Accounting educator, six years' working experience)

'It involves ensuring that the right teaching and right educators are employed to teach Accounting. SMTs should ensure that teaching and learning take place so that performance of learners can be good.' (AE5, female, Accounting educator, five years' working experience)

'Teaching and learning is a subject for everyone so the management of it should be everyone's responsibility and not only for the Accounting educators or HoDs to cater for.' (AE6, female, Accounting educator, eight years' working experience)

'It entails observation to see how the learners are behaving in class.' (AE7, female, Accounting educator, 10 years' working experience)

'Management of teaching and learning deals with the classroom activities that foster learners' performance. It involves the collaborative effort of both the SMTs and the Accounting educators. This is because the content in accounting is broad; the involvement of SMTs in management of teaching and learning could help the accounting educators.' (AE8, female, Accounting educator, five years' working experience)

The interpretation of the response above indicates that educators understand that the management of teaching and learning is related to learners' performance. Without effective management, the quality of Accounting education may suffer. Educators also believe that to enhance learners' performance through proper management, there must be adequate supervision and monitoring, with SMTs actively involved in overseeing teaching and learning in the classroom. Mestry (2017) supports that the duty of SMTs as instructional leaders is to challenge the status quo, actively manage teaching and learning, and support innovative ideas and practices among educators. The collegial management theory used in this study portrays that educators require a measure of autonomy in the classroom and must collaborate with the SMTs to ensure a coherent approach to teaching and learning (Shrifian 2011). Prozesky (2017) affirms that both SMTs and educators are expected to inculcate the standards of professionalism in attaining good learner performance. School management teams' findings correlate that teaching and learning accounting management are broad and directly linked to enhancing learners' performance.

■ Conclusion

This study aimed to examine whether school management and leadership capabilities improve learners' performance in accounting. The findings concluded that the leadership and management capabilities of the SMT and educators significantly influence learner performance. The principal, deputy principal, HoD and educators each have distinct leadership and management responsibilities, which collectively contribute to improved learner performance. Therefore, it is essential for leaders and managers to possess the necessary management skills and technical competencies to effectively lead and manage teaching and learning, thereby enhancing learners' performances. In summary, it is crucial for educators and all stakeholders to have a clear understanding of their responsibilities and duties to effectively manage and lead teaching and learning, which in turn enhances learner performance.

The study recommends that effective leadership and management of teaching and learning are essential for improving learners' performance in various ways. The performance of Accounting learners is dependent on the leadership and management provided by principals, deputy principals, heads of departments and educators. Therefore, this study emphasises the need for a holistic understanding of the roles and responsibilities of the SMT and educators to enhance learner performance. Schools aiming to improve Accounting learner performances should prioritise strengthening the leadership and management of teaching and learning.

PART 3

**Financial literacy and
accounting human capital
formation**

Application and theoretical synthesis of financial literacy studies: A human capital aspect

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■ Abstract

This review identifies theories relevant to financial literacy research and conceptualises the relationship between financial literacy and human capital development. It examines how financial literacy is theoretically and conceptually related to human capital development. The motivation for this review stemmed from the scarcity of finance and accounting-related

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theories in financial literacy research. It explores various theories that could underpin financial literacy research to enhance human capital development. The conclusion is that financial literacy issues are best understood through a multi-theoretical approach, incorporating behavioural, learning, interpretivist and constructivist theories because of their relevance to human capital development. The method employed involved reviewing international publications on advancements in financial literacy from 2020 to 2023, highlighting several themes, including social class, gender and race. The review indicated a strong relationship between individuals' behaviours and learning attitudes and their financial literacy and human capital development. This insight serves as a valuable resource for governments, ministries, parastatals, and both local and international organisations, emphasising the importance of financial education in improving financial literacy and human capital development. Such improvements could not only enhance human capital but also contribute to economic development. Future studies in this area could empirically examine the findings of this study.

■ Introduction

In the current dispensation, the world tends towards a knowledge economy and human capital development to foster economic development and sustainability (Bucci, Calcagno & Marsiglio 2022, p. 12; Widarni & Bawono 2021, p. 120). This has attracted scholars from different disciplines in these areas of research. Surprisingly, despite the global increase in education, financial illiteracy is seen as a major impediment to the achievement of full-blown human capital development all over the world. This review sees financial literacy as a key through which human capital development can be fully attained (Bucci, Calcagno & Marsiglio 2022, p. 12). This study views financial literacy as a means to bridge knowledge gaps, increase the number of small and medium enterprises (SMEs) and significantly reduce corporate liquidations. This could have a long-run positive effect on human capital and economic development (Bucci et al. 2022, p. 12; Widarni & Bawono 2021, p. 120). This gap in financial literacy and its impact on human capital development can be addressed through training, restructuring the educational system, developing curricula, engaging communities through institutions and enhancing teaching and learning skills. Increased financial illiteracy hinders the growth of SMEs, contributing to a higher failure rate of small businesses globally. This review study is significant as it encourages holistic financial well-being. The literature reveals that despite the increase in global educational literacy, financial literacy continues to face major setbacks because of a lack of alignment between financial literature studies

and relevant theories. This review addresses these issues and contributes to the body of knowledge.

Many theories are used in different research areas, but in the field of finance and accounting, researchers are unsure of which theory is best applicable to their research (Collins & Stockton 2018, p. 1). Nevertheless, accounting researchers have found that applying theoretical frameworks that align with the accountancy domain is necessary to address accounting research areas such as Accounting education, corporate governance, corporate entities, taxation and financial management (Aldredge, Cooley & Mallett 2017, p. 29). Numerous studies on financial literacy have been carried out worldwide over the years. Nevertheless, the bulk of these studies do not have a theoretical foundation, which would have increased the validity of the studies' conclusions (Pala et al. 2023, p. 3). The theoretical foundation explaining the persistently low levels of financial literacy worldwide has received less attention. Additionally, certain psychological traits influence the relationship between financial behaviour and knowledge, which include 'overconfidence', 'present bias', 'risk tolerance', 'attitude towards money' and 'future orientation' (Magendansa, Guttelingb & Zebel 2017, p. 1077; Saivasan & Lokhande 2022, p. 3; Singh, Adil & Haque 2022, p. 3566). Thus, comprehending this phenomenon may help shape the structure of financial education and encourage people to make wise financial decisions through the acquisition of financial literacy skills and enhanced human capital development.

Several writers have revealed the link between human capital development and financial literacy. These include Bucci et al. (2022, p. 12) and Widarni and Bawono (2021, p. 120), who made the case that, in any economy, financial literacy fosters the growth of human capital. Therefore, it is crucial to base financial literacy research on pertinent theories because of their relevance to the development of human capital, among other reasons. This is a result of theories' influence on how research findings are applied to actual circumstances (Collins & Stockton 2018, p. 13; Rasmussen 2017, p. 56). To determine the combination of theories that best explains a given financial behaviour, pertinent theories must first be established and then researched. To address the aforementioned problem, this study's objective is to identify theories that are applicable to financial literacy research and conceptualise the relationship between financial literacy and human capital development. The other parts of this study are organised as follows: An empirical and theoretical review of existing theories to identify the foundational theory for financial literacy is presented, followed by a conceptual framework that illustrates the relationship between financial literacy, economic development and human capital development.

■ Theoretical and empirical review

Theories and models that are important components in explaining messages, occurrences or phenomena are without a universal definition or meaning (Fried 2020, p. 336). Nonetheless, many academics have offered definitions and explanations of theory based on their knowledge, expertise and other factors. Table 9.1 contains some of the definitions of theories compiled from various sources.

The claim that theory helps explain, analyse, interpret and evaluate any event to improve understanding of why people act in specific ways or why things happen in particular ways is supported by a close look at the definitions provided in Table 9.1. Furthermore, theories focus on the how and why of particular phenomena. However, when it comes to financial literacy, theory reveals certain essential and fundamental characteristics that highlight the current state of affairs and particular procedures that could be used to deal with it successfully. This is so because research activities need a theoretical foundation, which theory provides (Collins & Stockton 2018, p. 1; Minkkinen 2019, p. 12). According to Fried (2020, p. 336), theory is a body of knowledge that is broad in

TABLE 9.1: Definitions of a theory.

Author(s)	Definition of theory
Wacker (1998, p. 364)	'An organised set of submissions regarding common actions or system presupposed to apply in every part of a considerably vast scope of precise occasions'
Abend (2008, p. 177)	'A general proposition, or logically connected system of general propositions, which establishes a relationship between two or more variables'; 'an original interpretation, reading or way of making sense of a certain slice of the empirical world [...] that may shed new light on an empirical problem, help one understand some social process, or reveal what went on in a certain conjuncture'
Stewart, Harte and Sambrook (2011, p. 222)	'A supposition or a system of ideas intended to explain something'
Rasmussen (2017, p. 56)	'Theory isn't just about getting to know what others think, it is also, inevitably, about developing an understanding of how we have come to know, what we know, and to better understand our prejudices, attachments, and affiliations to particular ways of seeing and disciplinary approaches'
Kivunja (2018, p. 44)	'A generalised statement of abstractions or ideas that asserts, explains or predicts relationships or connections between or among phenomena, within the limits of critical bounding assumptions that the theory explicitly makes'
Fried (2020, p. 336)	'[A] body of knowledge that is broad in scope and aims to explain robust phenomena'
Markovsky and Frederick (2020, p. 161)	'A set of abstract, general, logically connected, testable, and empirically validated statements that explain phenomena within its scope of application'

Source: Authors' own compilation, 2024.

scope and aims to explain robust phenomena. Consequently, definitions of theories consistently highlight their importance in financial literacy research, underscoring the relevance of this review. Regarding human capital development, the study posits that financial literacy research guided by relevant theories can yield more effective outcomes in addressing the challenges of financial literacy and enhancing human capital development.

■ Theoretical frameworks

There are several theories linked to financial literacy, some of which are reviewed.

■ Behavioural and learning theories

The Organisation for Economic Co-operation and Development (OECD) and International Network on Financial Education (INFE) (OECD/INFE 2020, p. 13) list components of financial literacy as financial knowledge, financial behaviour and financial attitude. The components of financial literacy clearly relate to human capital development, as they can enhance individual performance and productivity, ultimately leading to a better quality of life (Bunyamina & Wahabb 2022, p. 61). These components can better be explained and understood when viewed from a theoretical perspective. Bednarik (2016) argues that explaining human behaviour based only on its outward manifestations is similar to trying to understand illness based only on its symptoms, rather than its underlying causes. Theory helps to dissect the causes and explore the remedies to certain phenomena such as the challenges of financial literacy among all persons across the world. In this regard, behavioural theories could be found to be useful in evaluating and addressing the issues of financial literacy. Behavioural theory is predicated on the notion that all behaviours are obtained using conditioning, and conditioning happens through interaction with the environment (Cherry 2022). Behavioural theory asserts that human actions are modelled by environmental stimuli (Cherry 2022). Consequently, the challenges of financial literacy may be effectively addressed by underpinning its studies on relevant theories in line with Xiao (2008, p. 69). This may help in determining the right responses to the challenges. Furthermore, behavioural theory can assist with identifying why a persistent low level of financial literacy and how that can be effectively addressed through changing peoples' behaviour and encouraging them to embrace financial literacy pursuits towards achieving a better life.

According to Ostankowicz-Bazan (2016), knowledge changes people, and when people put what they have learned into practice, they integrate into new communities and cultures. Ostankowicz-Bazan (2016) went on to say that learning produces new information or knowledge (cognitive skills) as well as behavioural changes. Furthermore, gaining knowledge and skills via education is a necessary component of financial literacy. Learning theories are, therefore, essential when researching financial literacy. Sudakova (2018, p. 3) defines financial literacy as a combination of awareness, knowledge, skill, attitude and behaviour required to make wise financial decisions and, ultimately, achieve individual financial well-being. The essential terms highlighted in the definition, which include comprehension and understanding, capability and mindset, are examples of qualities that can be acquired via education, which is why applying learning theories to financial literacy research is essential (Hande, Mohammed & Komattil 2014, p. 5).

Certain learning theories that can be applied to financial literacy research are enumerated by (Ostankowicz-Bazan 2016). These include multiple intelligences, brain-based learning, constructivism, behaviourism, neuroscience, Piaget's theory of development and learning styles. Other theories include social cognition, communities of practice, control theory, right brain/left brain and observational learning (Ostankowicz-Bazan 2016). It appears that some of these theories can be applied to research on any aspect of financial literacy to find a solution that aids in solving issues related to financial literacy. Although financial literacy studies can be divided into aspects such as financial behaviour and financial education, numerous theories established by researchers can be applied in the domain of financial literacy research. Consequently, researchers have put forward several theories that may be applicable to financial literacy studies. A few of such theories are presented in this section.

■ Interpretivism and constructivism theories

Interpretivism and constructivism theories served as the foundation for this review. Interpretivism looks at differences between cultures, situations and eras that have developed various social realities. Rather than presenting a set of clear and universal laws that can be generalised and applied to everyone regardless of some significant differences and factors, interpretivism aims to include fullness in the discernment acquired (Alharahsheh & Pius 2020, p. 41). Interpretivists seek to understand the motivations and meanings underlying people's actions, whereas constructivism uses what is already known to create new knowledge (Chowdhury 2014, p. 433). An individual's knowledge base is expanded by integrating new information with existing knowledge. Constructivism holds

that various experiences contribute to forming an individual's worldview (Omodan 2022). When knowledge helps us accomplish our objectives and is effective, it is beneficial (Bodner 1986, p. 5). Using these theories in this review supports the idea that by utilising pertinent theories from related research, more effective practical solutions to problems with financial literacy can be developed.

■ Theory of reasoned action

According to Ajzen (1985), the basis of the theory of reasoned action (TRA) is the idea that most people behave rationally, considering the information at hand and the potential consequences of their choices, whether they be overt or covert. An intention ultimately determines whether or not an individual engages in a behaviour, according to a theory centred around the idea of intentional behaviours. People are expected to behave in a way consistent with their plans, barring any unforeseen events. Plans will inevitably change over time; the longer the time passes, the more likely it is that unanticipated events will cause changes in intentions (Ajzen 1985). A succinct way to explain the concept of reasoned action is to use a mathematical model that allows scientists to predict the intention to behave in a particular way as a function of attitudes and subjective norms (Nickerson 2023). Consequently, the three main tenets of the theory are beliefs, attitudes and intentions. According to Nickerson (2023), beliefs typically indicate the likelihood that a particular action will result in a particular outcome, attitudes address whether or not someone believes that outcome is favourable and intention refers to how someone plans to behave in response to beliefs and attitudes.

■ Theory of planned behaviour

The idea of planned behaviour and the TRA were contrasted by Ajzen (1991, p. 181). The essential element of the theory of planned behaviour (TPB) is the individual's reason for performing a particular behaviour. As per Ajzen (1991, p. 181) and Alghazo (2015), intentions are believed to mirror the driving factors that influence behaviour; they indicate the degree of effort and commitment people are willing to put forth to carry out the behaviour. As a result, the more determined one is to carry out a behaviour, the more likely one is to do so. However, the TRA and the TPB have been extensively implemented in predicting and changing behaviour, including behaviour related to the use of technology (Ajzen 2020, p. 314). These theories have been used successfully to explain and predict behaviour in a multitude of behavioural domains, from physical activity to drug use, from recycling to choice of travel mode, from safer sex to consumer behaviour, and technology

adoption to protection of privacy (Ajzen 2020, p. 314). Based on the areas where the TRA and TPB have been successfully applied, it is suggested here that they could be relevant in financial literacy studies. The study believes that TRA and TPB can lead a research activity to produce results that can well-address the problem of financial literacy in conjunction with human capital development. Ozili (2020, p. 5) put forward some theories that could be useful in studying financial inclusion. These theories could equally be considered useful in studying any other aspect of financial literacy. The theories are summaries in this section.

□ Public good theory

According to the public good theory, official financial services are available as a public good. The theory claims that traditional financial services are a public good and should be made available to everyone so that everyone can profit from them. This implies that there should not be any restrictions on who can access financing. As a result, all members of the population could be included in the formal financial sector because access to official financial services for one person should not limit their availability to other people. Ozili (2020, p. 5) asserts that according to the public reasonable hypothesis of financial inclusion, additional elements of financial literacy, such as financial education and financial skills, may also be true. Consequently, any financial literacy studies could be underpinned by public good theory for a more effective application of the research outcome to real-life situations.

Other theories found in the literature that may be useful in financial literacy research include dissatisfaction theory, vulnerable group theory, systems theory, community echelon, public service theory, special agent theory, collaborative intervention theory, private money theory, intervention fund theory, transtheoretical model or stages of change, social cognitive theory and health belief model (Ozili 2020, p. 14). These theories and many more that are not captured in this review can be helpful in financial literacy research so that findings can be easily linked to realities of human experience, which can contribute to finding effective means to eradicating financial illiteracy and enhancing human living conditions through enhanced human capital development, which fosters increased productivity.

■ Importance of theory in financial literacy research activity

In research, theory is a crucial instrument for understanding reality (Fried 2020, p. 337). Furthermore, theories are significant because they compile all observations into a coherent narrative (Puspita 2012, pp. 140-143). The

author claims that theory is crucial to all research endeavours because it functions similarly to the human brain in guiding our observations and thoughts regarding a given subject. It is impossible to ignore the relationship between theory and research, according to Johnston (2014, p. 206), who reports that the fundamental relationship between theory and research influences the methods a researcher uses to advance knowledge. Furthermore, theories serve as the foundation for advancing knowledge, so applying theories to academic research should be considered (Bashir & Qureshi 2023, p. 2; Touboulis & Walker 2015, p. 20). Glanz (2009, p. 5) describes the significance of theories in health-related research as involving recognising the reasons behind people's adoption or non-use of health-promoting behaviours, assisting in determining the data required to create a successful intervention plan, and giving advice on how to create a programme that will be successful.

The claims made by Glanz (2009, p. 5) about the significance of theory in research on health issues also apply to research on financial literacy. Accordingly, theories may be able to explain why people fail to use their financial literacy skills to manage their financial affairs, assist in selecting data that will help create a successful financial education programme, and suggest tactics for raising people's financial literacy levels and the consequent enhancement of human capital. According to Collins and Stockton (2018, p. 4), a theory summarises research findings into a claim about social life that can be applied to different contexts, populations, settings and possibly even eras. In other words, a theory applies research to actual circumstances. Put in another way, a theory facilitates the easy application of research findings to real-life situations. Furthermore, theories are critical because they have four properties and an explanatory narrative. These properties include the ability to predict and control action using if-then logic. Others are taking variance into account, utilising the cause-and-effect principle to explain how and why something occurs, and offering suggestions for enhancing social interactions (Collins & Stockton 2018).

There are three main ways that a theory is used in research, namely theory as a framework to direct the study, theory building because of data collection and theory of research paradigm and method (Collins & Stockton 2018, p. 4). This suggests that theory matters throughout the entire research process. According to Stewart and Klein (2016, p. 616), theory enhances research findings' effect, relevance, robustness and rigour. Results that align with a broader framework of existing research can be obtained by linking disparate data points from various studies through theoretical connections (Stewart & Klein 2016, p. 616). Additionally, Glanz (2009, p. 2) reveals that a growing body of research in medicine indicates that certain strategies that combine multiple theories and concepts have greater effects than others and that interventions developed with an explicit theoretical

foundation are more effective than those lacking a theoretical base. According to this claim, research on financial literacy and related subjects based on pertinent theories and concepts will be more fruitful than research lacking a theoretical basis.

Additionally, theory plays a significant role in financial literacy research by providing excellent guidance and avenues for investigation by pointing out regions in which significant correlations between variables are most likely to be discovered. Moreover, theory provides support for research findings by providing a foundation for event prediction and connecting particular empirical findings to a broader concept rather than relying solely on previously observed trends. With specific reference to financial inclusion, Ozili (2020, p. 5) asserts that theory is necessary for a high degree of synthesis between financial inclusion outcomes and objectives. Theories can also offer a set of guiding principles for financial inclusion practice, allowing for the detection of anomalous patterns that would prompt additional study to understand better why deviations occur in actual financial inclusion practice. According to Ozili (2020, p. 5), theory can help determine why problems with financial literacy arise and how to solve them to get better results. The aforementioned points highlight the value of theory to research generally and show that any study on financial literacy must incorporate a theory.

Despite the value of theory in research, most studies on financial literacy do not take theory into account when conducting their investigations, according to the literature. Furthermore, several studies that examined the theories supporting their financial literacy research can be found in the body of existing literature. Many others, though, did not include any theories in their research. This is true even though theories are important in research, especially in the field of financial literacy research. A selection of studies with and without a theoretical foundation is presented in Appendix 9.1.

■ Concepts and conceptual framework for the review

This review is predicated on three concepts, namely financial literacy, human capital and theories. The meanings of ‘theory’ found in the literature have been discussed in the ‘Theoretical and empirical review’ section. Here, the concepts of financial literacy and human capital are succinctly discussed.

Sharkey (2020) states, ‘Financial literacy skill means having the confidence, knowledge, and skills needed to make financial decisions that promote financial self-sufficiency, stability, and well-being’. The skills:

[...] include the ability to effectively locate, evaluate, and use information, resources, and services and to make informed decisions about financial obligations, budgeting, credit, debt, and planning for the future. (p. 1)

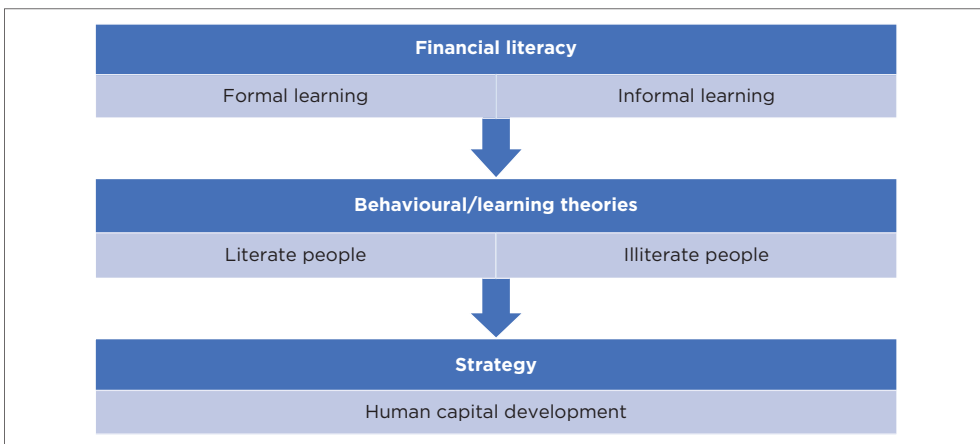
The author provides an overview of financial literacy functions and highlights its many advantages for humanity in the modern era. A discipline with so many advantages for humanity ought to be introduced to the general public with great care. The application of theories in financial literacy studies would be beneficial in achieving this goal. This is because theories are proven to efficiently assist in the process of solving problems through research activities (Puspita 2012, p. 139; Yahaya, Oyediran & John 2019, p. 846). As a result, incorporating theories into financial literacy research will help clarify the issue and offer potential solutions. Additionally, it is known that in many regions of the world, the level of financial literacy is still depressing (Lusardi & Messy 2023, p. 1; OECD/INFE 2020, p. 7). To tackle this anomaly, more research is required to determine how to raise financial literacy levels globally. If such research endeavours are based on the pertinent theoretical underpinnings as implemented by Lusardi and Mitchel (2013, pp. 6–7), they may yield greater rewards. Furthermore, because financial literacy is related to human behaviour, it makes sense to support related research using pertinent behavioural theories (International Organization of Securities Commissions – Organisation for Economic Co-operation and Development [IOSCO – OECD] 2018, p. 9). Addressing financial literacy through the lens of behavioural theories can be useful in developing human capital.

The skills possessed by the labour force are referred to as human capital. Thus, investing in people such as in their health, education and training raises their productivity. The human capital theory, according to Wuttaphan (2017, p. 242), states that people bring varying degrees of education, experience, aptitude and expectations to the workplace in the global labour market. A person with greater education and training can put forth a greater amount of beneficial, productive effort than a person with less education and training. Human capital theory is widely recognised as a means of improving organisational performance; consequently, an organisation relies on its employees' skills, knowledge and ability as a fundamental component of value creation (Wuttaphan 2017, p. 242). Widarni and Bawono (2021, p. 114) believe financial literacy and human capital can work well together to stimulate economic growth. Thus, financial literacy skills should be incorporated into human capital development to enhance economic development (Bucci et al. 2022, p. 1). This is because the study findings suggest that human capital and financial literacy have favourable and significant impacts on stock market participation, which contributes to economic growth (Thomas & Spataro 2018, p. 532). Consequently, the relationship between financial literacy and human capital indicates that studies on financial literacy should be situated in relevant theories to produce more valid study outcomes which enhance human capital development.

■ Study conceptual framework

Figure 9.1 shows the conceptual framework of the review.

The major function of financial literacy, as revealed in the literature, is to produce an individual with the required skills and knowledge to create and manage financial resources within their disposal to achieve a better quality of life, economic well-being, as well as overall growth and development of a national economy. Financial literacy hinges on knowledge acquisition for behavioural change about making sound financial economic decisions towards fostering individual economic well-being. The conceptual framework for this review depicts the interplay of financial literacy skills and educational acquisition as a means of developing human capital. Literature reveals financial literacy as a facilitator of human capital development. Lusardi and Mitchell (2013, p. 49) state that the idea that financial knowledge is a type of human capital can be added to theoretical models of saving and financial decision-making. Bucci et al. (2022, p. 12) add that the acquisition of financial literacy enhances human capital development. Other studies which link financial literacy with human capital development include Widarni and Bawono (2021, p. 120) and Thomas & Spataro (2018, p. 547). Conventional economic theory states that capital can be used as an instrument of production and to increase the ratio of input to output (Sharafeddine 2016, p. 226). According to Adam Smith (1776, p. 377), an enhanced worker’s dexterity can be compared to a machine or tool of the trade that both lessens and facilitates labour and, although requiring a certain investment, yields a profit.



Source: Authors' own work.

FIGURE 9.1: The study conceptual framework.

Thus, human capital is very essential in any form of economic activity. Moreover, human capital can be invested in, including health care, education and training. Consequently, financial literacy acquisition portends to be a veritable tool for enhancing human capital development for more human productivity towards achieving an improved standard of living for the individual (Widarni & Bawono 2021, p. 120). Furthermore, financial literacy is viewed as a necessary life skill whose lack of early exposure and ignorance of the advantages of financial education can seriously limit knowledge in the workplace or other settings (Swiecka 2019, p. 10).

It is apparent that skills acquisition such as financial literacy skills can be achieved through learning processes. Moreover, learning activities are found to be guided by theories. Thus, financial literacy learning activities should be guided by relevant learning theories to achieve the practical application of the skills. Consequently, researchers are enjoined to carry out their activities with the interplay of applicable behavioural and learning theories that address the lives of individuals within a given society. It is of the view in this study that behavioural and learning theories can guide any financial literacy research such that the study outcome will be more directed towards facilitating the skills acquisition of individuals. This review believes that such adaptations will go a long way in coming up with more effective solutions to the problem of financial literacy in terms of human capital development focus. Figure 9.1 shows that the outcome of any research with theoretical underpinning can provide means of enhancing human capital development through formal and informal strategies involving both the educated and the uneducated in society.

■ Methodology

A total of 70 articles (Appendix 9.1) from Emerald Publishing Limited from 2020 to 2023 were extracted and reviewed, following protocol from existing research (Gilal et al. 2019, p. 31; Rana & Paul 2017, p. 158). Global research papers on financial literacy were the main focus of the review. Keywords like 'financial literacy', 'financial education', 'financial behaviour' and others were used in the search to find relevant publications for the review. The objective of the review was to distinguish between studies that lacked a theoretical foundation and those that were supported by theoretical frameworks. Names of theories and concepts that the researchers used were also mentioned in the review. Further reviews were conducted to identify current theories and concepts that might be pertinent in financial literacy research, in addition to the papers reviewed to determine which studies had a theoretical foundation and which did not. A random selection of 70 authors who published between 2020 and 2023 was made. According to the analysis, only 25 authors used one or two theories in their

studies, whereas 45 papers were written without the application of any theories. This demonstrates that 36% of the 70 authors in the sample used a theoretical framework, whereas 64% did not use any theory at all in their research. This suggests that the majority of researchers who examined financial literacy issues between 2020 and 2023 did not consider the application of theory to be crucial to their work. Accordingly, the data show that the conclusions reached by the different researchers, none of whom based their research on any relevant theory, did not yield a result that could be confirmed theoretically. This suggests that these findings might not be appropriately applied to financial literacy-related real-world scenarios. It is also crucial to find more theories that might apply to financial literacy studies.

■ Discussion of findings

This review identifies theories that are applicable to financial literacy research and conceptualises the relationship between financial literacy and human capital development. It started by exploring various definitions of 'theory' provided in the literature. This was theoretically and conceptually approached to determine the relationship between financial literacy and human capital development. The study was conducted using a review method grounded in interpretivism and constructivism theories. The relevance of these theories to the study lies in the search for effective approaches to achieving the goal of optimum financial literacy levels across the world. The review further highlights the importance of financial literacy in the development of human capital for improved productivity and enhanced quality of human life. This is because financial literacy acquisition is considered an important tool for enhancing human capital development for more human productivity towards achieving an improved standard of living for the individual.

The literature search particularly discussed the importance of theory in financial literacy research. The review found that theory helps in positioning research in the perspective that makes the findings more relevant to real-life situations. It was also found that many theories can be applied to financial literacy studies. The review further established that financial literacy falls within the domain of behavioural and learning theories. Consequently, behavioural theories should be applied when conducting research in financial literacy because such theories will provide a basis to relate financial literacy study outcomes to practical human conditions. The theories found to be useful in financial literacy research include the TRA, TPB, public good theory, dissatisfaction theory and vulnerable group theory and systems theory. Others are community echelon, public service theory, special agent theory, collaborative intervention theory, private

money theory, intervention fund theory, transtheoretical model or stages of change, social cognitive theory and health belief model.

However, despite the importance of theory in research activity, the review revealed that the majority of researchers in financial literacy do not apply any concept, theory or theoretical framework to their study. Additionally, the review found that out of 70 papers sampled, only 36% of them used any theory or theoretical framework in the study, while 64% did not. Because of the apparent usefulness of theories in research, the study recommends that every research on financial literacy and other related topics should make use of relevant theories. This is because situating any study in a sound theoretical framework adds relevance to the findings of such research especially when the study focuses on human behaviour, as in the case of financial literacy.

■ Conclusion

The review, which examined the significance of theories in financial literacy research, analysed 70 papers published by Emerald Publishing Limited between 2020 and 2023. It concludes that a human capital-focused understanding of financial literacy is more effectively explained through a multi-theoretical approach, incorporating behavioural, learning, interpretivism and constructivism theories. The method adopted involved reviewing international publications on financial literacy advancements from 2020 to 2023, highlighting numerous themes such as social class, gender and race. The review revealed a strong relationship between individuals' behaviour, learning attitudes and financial literacy in the context of human capital development. Furthermore, the study established a robust link between financial literacy and human capital development through a conceptual framework, indicating that a significant relationship exists between these two variables. This study offers valuable insights to governments, ministries, parastatals and both local and international organisations regarding the importance of financial education in enhancing financial literacy and human development. Ultimately, this would not only improve human capital development but also contribute to economic growth.

The study employed a review method; however, further research using an empirical approach is recommended to support the findings. Researchers should base their studies on relevant theoretical and conceptual frameworks to enhance the relevance of their research to real-life situations. Additionally, we recommend that research on financial literacy be guided by appropriate behavioural theories to connect the outcomes with practical human experiences. Furthermore, more research linking financial literacy to human capital development is recommended.

APPENDIX 9.1: List of sampled papers.

No.	Author(s)	Study focus area	The theory used in the research
1	Ansari et al. (2022)	FL in investment and decision-making	None
2	Tahir et al. (2023)	FL and planning	None
3	Abbas et al. (2022)	Financial inclusion	Concept of structure conduct performance
4	Adil, Singh and Ansari (2021)	Financial behaviour	None
5	Ahmad and Shah (2020)	FL and taking risk-taking	Behavioural finance theories
6	Akhtar and Malik (2022)	FL risk behaviour	Prospect theory
7	Al-Awlaqi and Aamer (2022)	Islamic FL	None
8	Alharbi, Yahya and Kassim (2021)	FL and SME performance	Resource-based theory
9	Khan, Cera and Alves (2022)	Financial attitude, knowledge and behaviour on financial capability	Sen's Capability theory
10	Alwee, Salleh and Baha (2020)	Retirement planning	None
11	Amari, Salhi and Jarboui (2020)	FL and saving behaviour	Life cycle hypothesis
12	Anshika and Singla (2021)	FL and SME performance	None
13	Aren and Hamamci (2022)	FL and investment decisions	None
14	Arora and Chakraborty (2022)	FL, demographic factors and investment choice	None
15	Bajaj and Kaur (2022)	Financial knowledge, attitude and behaviour	None
16	Bauhoff, Carman and Wuppermann (2020)	FL and insurance decisions	None
17	Bialowolski, Cwynar and Weziak-Bialowolska (2022)	FL and investment decisions	Life cycle hypothesis
18	Bialowolski, Cwynar and Weziak-Bialowolska (2020)	FL and family financial management	Human capital development and intrahousehold bargaining power
19	Bongomin, Ntayi and Malinga (2020)	FL and financial inclusion	Social network theoretical perspective
20	Chawla, Bhatia and Singh (2022)	FL and financial behaviour	Family financial socialisation theory or social learning theory
21	Chhatwani (2022)	FL and personality traits	Personality theory
Study 22	Chhatwan and Mishara (2021)	FL and psychological, social and economic factors	Behavioural finance theories
23	Christiani and Kastowo (2022)	FL and financial inclusion	None
24	Dewi and Wardhana (2022)	Financial knowledge, skills and behaviour	None
25	Dieguez-Soto et al. (2021)	FL and SMEs performance	None
26	Dundure and Sloka (2021)	Individual FL competencies	None
27	Faulkner (2022)	FL resources in libraries	None
28	Goulart et al. (2022)	FL of students	Personality traits theory
29	Hacilar, Kapusuzoglu and Ceylan (2023)	FL and retirement planning	None
30	Hasan et al. (2022)	Women's financial inclusion	None

Appendix 9.1 continues on the next page→

APPENDIX 9.1 (cont.): List of sampled papers.

No.	Author(s)	Study focus area	The theory used in the research
31	Herawati et al. (2020)	Parent's economic status and FL of students	None
32	Ingale and Paluri (2022)	Financial behaviour	None
33	Khan, Siddiqui and Imtiaz (2022)	FL and financial inclusion	None
34	Kakinuma (2022)	FL and quality of life	None
35	Karakara, Sebu and Dasmani (2022)	FL and financial distress	Microeconomic theory
36	Larisa, Njo and Wijaya (2020)	Demographic factors, FL and retirement planning	Theory of planned behaviour
37	Le Fur and Outreville (2022)	FL and investment behaviour	None
38	DQ Le (2023)	FL and borrowing behaviour	None
39	Meneau and Moorthy (2021)	FL and financial behaviour	Nomological network
40	Mirzaei and Buer (2022)	FL, capability and financial well-being	None
41	Munyuki and Jonah (2021)	FL and entrepreneurship	Capability and human capital theories
42	Murta and Gama (2021)	FL and bank lending	None
43	Mutlu and Ozer (2021)	FL and investor behaviour	Theory of behavioural finance
44	Nyakurukwa and Seetharam (2022)	FL and stock market participation	Microeconomic theory
45	Pala et al. (2023)	Bank customers' FL	None
46	Pandey and Utkarsh (2023)	FL and FB of young adults	Financial socialisation
47	Pearson and Korankye (2022)	FL and financial satisfaction	None
48	Phung (2022)	FL of students	Social learning theory
49	Prakash, Alagarsamy and Hawaldar (2021)	Demographic factors and financial well-being	Life cycle worker job productivity concept
50	Rasool and Ullah (2020)	FL and investment decisions	None
51	Santos et al. (2021)	FL of individuals	None
52	Sari et al. (2021)	Students' financial socialisation	None
53	Sarpong-Kumankoma (2023)	The gender gap in FL	None
54	Sarpong-Kumankoma, Ab-Bakar and Akplehey (2022)	FL and retirement planning	None
55	Sevriana et al. (2022)	Islamic FL	None
56	Sharif and Naghavi (2020)	FL and financial information seeking	Financial socialisation
57	Sharif et al. (2020)	FL and quality of life	Consumer behaviour theory
58	Zehra and Singh (2023)	FL determinants	None
59	Singh and Misra (2022)	FL and fraudulent investments	None
60	Deb (2020)	FL levels and demographic factors	None
61	Soekarno and Pranoto (2020)	FL, stock participation and behaviour	None
62	Stella et al. (2022)	FL and quality of life	None
63	Susan (2020)	FL and SMEs performance	None
64	Susan, Winarto and Gunawan (2023)	FL determinants	None

Appendix 9.1 continues on the next page→

APPENDIX 9.1 (cont.): List of sampled papers.

No.	Author(s)	Study focus area	The theory used in the research
65	Tahir and Ahmed (2021)	FL and financial capability	None
66	Twumasi et al. (2022)	Rural dwellers FL	Life cycle and permanent income theories
67	Vardari, Abdullahu and Kurteshi (2022)	Students' FL level	None
68	Xu et al. (2022)	Rural dwellers FL	None
69	Yadav and Banerji (2023)	Digital FL	None
70	Yin and Yusof (2021)	Students' FL	None

Source: Authors' own work.

Key: FL, financial literacy; FB, financial behaviour; SMEs, small and medium enterprises.

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Chapter 1

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Chapter 2

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Chapter 6

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Chapter 7

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Accounting theories, practices, education and human capital formation trends: Empirical and conceptual insights critically examines contemporary accounting within the African context, highlighting the limitations of Western accounting theories in addressing Africa's unique socio-economic and cultural realities. The book offers informed recommendations to enhance accounting education and professional practice across the continent through thorough theoretical and conceptual analysis.

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This scholarly publication examines human capital development in accounting within a global, technology-driven economy. It emphasises the imperative to evolve accounting education in response to challenges posed by the Fourth Industrial Revolution (4IR) and artificial intelligence (AI). Through empirical research and theoretical analysis, the book explores the integration of human capital with accounting practice, education and financial literacy. Contributions from seasoned scholars offer data-driven insights and propose frameworks to enhance skills and guide future research. Primarily aimed at academics, this volume provides essential perspectives for shaping accounting education and practice in South Africa and beyond.

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