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ROLE OF DIGITALISATION IN THE BUSINESS SUCCESS OF MEDIUM SCALE BUILDING MATERIAL TRADERS IN UNITED ARAB EMIRATES

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ABSTRACT

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This study explores how digitalisation influences business performance in medium-scale building material trading firms operating in the United Arab Emirates (UAE). While the UAE has made impressive strides in promoting digital transformation, the impact of such adoption on operational success among mid-sized firms in the construction supply chain remains under-researched. Using a quantitative approach, the research investigates the relationship between digital tool usage such as ERP systems, CRM platforms, and e-commerce channels and key performance outcomes like operational efficiency, market reach, and revenue growth and aims to answer the proposed research question.

This research contributes to theory by reaffirming the Resource-Based View (RBV) and Task-Technology Fit (TTF), demonstrating that competitive advantage stems from well-aligned digital capabilities and internal preparedness. The findings also carry practical implications for business leaders and policymakers highlighting the importance of leadership commitment, skill development, and infrastructure support over mere technology acquisition.

Ultimately, the study positions digitalisation not just as a technological upgrade, but as a strategic imperative shaped by people, processes, and context especially in high-stakes industries like construction supply chains within emerging digital economies.

Keywords	digitalisation, digital tools, digital transformation, operational efficiency

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1 INTRODUCTION

This chapter starts with the introduction of the foundation of the study by presenting the background, rationale, and key concepts related to digitalisation in medium-scale businesses. It outlines the motivation behind the research, defines the problem being addressed, and explains why the topic is relevant in the current economic and technological landscape. The chapter also lays out the research aim, objectives, and questions that guide the investigation.

1.1 Background and Context

Digitalisation has transformed businesses and industries worldwide. Stated as the embedding of digital technologies into business activities, digitalisation drives better, faster and more effective performance (Rachinger et al. (2019).

Research highlights that the 4th Industrial Revolution is defined by technology that blurs the manufacturing, computing, and life domains and disruptively transforms industries (Alias et al., 2018). This revelation makes it clear that businesses need to integrate digital commerce to survive and sustain their operations in the emergent competitive and liberalizing markets. In recent years, digitalisation has been a key driver of business development and sustainability. Digital transformation delivers benefits such as increased operational performance, improved customer satisfaction, and new business opportunities (Berman, 2012). For instance, businesses traditionally required significant capital investments to expand. However, cloud computing now allows them to scale operations efficiently without major financial burdens. Likewise, business to consumer platforms provide consumers with an opportunity to buy from various organizations without physical barriers.

According to Dermaku et al. (2023) companies that take the opportunity of digitalisation perform better in terms of revenue growth, profitability and value added than their counterparts. The United Arab Emirates (UAE) has taken pre-eminent place in the concept of the digital transformation. The UAE Vision 2021 and the

UAE Digital Government Strategy provide direction on how the nation supports innovation and technology (Mohammed et al., 2024). All these efforts are designed towards building smart economy that is life reprieve and dependent on knowledge frontiers enhanced by digital infrastructure, smart services, and sustainability. The UAEs geographical location together with the friendly attitude towards foreign investment has led to the country becoming a transportation centre for regional and international business activities. As a result, the digitalisation process remains a priority focus of the UAE's economic development plans.

In this regard, the construction industry that plays essential role in the development of the economy of the UAE has also experienced essential changes. Emphasizing the construction sector that account for about 11% of the country's GDP Aldabous & Shahmanzari (2024), adheres heavily on supply chain to satisfy its needs. Traders in building materials are very crucial in providing timely delivery of construction material to different projects. These traders act as middlemen for manufacturers and contractors of the materials which fuel the construction of infrastructure. Medium scale building material traders are peculiar suite in this structure, they are in between the large-scale supplier and a small contractor.

While the building materials market has always been competitive, adopting digital technologies is now essential. Analysing the results, it is obvious that such elements of supply chain management as inventory, customer relations, and purchasing are shifting towards digital tools that increase their effectiveness. For example, it presents Enterprise Resource Planning (ERP) systems which allows the trader to eliminate unnecessary processes and to minimize mistakes. Furthermore, tools that are available online provide the opportunity to select certain segments to appeal to the clients and retain them. Digital tools and applications provide solutions that enable companies to survive and grow in changing markets (Warner & Wäger, 2019). However, the identified opportunities above present some risks that medium-scale building materials traders in the UAE encounter in their digitalisation process. Inability to afford the latest technologies, since most of the times they

have restricted financial capital to work with. Small and medium scale businesses rarely have the technical know-how of implementing and maintaining digital tools as larger companies with whole teams for this purpose. In addition, change can be restricted by the organizational resistance which occurs due to the employees and managers may have lack of interest, and therefore reluctant to embrace change of systems and work methodologies. Such challenges are compounded by high levels of technological disruption making decision-making a highly dynamic and uncertain process (Koller et al., 2020).

The COVID-19 pandemic also drives the need for increased digitalisation to continue its operations sustainably for businesses. Since lockdowns and movements limitation affected conventional value chains, firms, which adopted digital strategies, responded better. Online marketplaces, touchless payments and remote communication solutions became crucial in otherwise business continuity. Most of the traders that participated in the construction of medium-scale building materials business were able to continue providing their customers' needs after adopting digitalisation, while those that relied on traditional methods experienced a lot of disruption. This shift brought to everyone's notice that digitalisation has now become crucial to continue business and to stay competitive.

These are some of the challenges and opportunities that the UAE government has identifying to encourage the growth of various measures that would necessitate the support of digital transformation of Small and Medium-sized Enterprises (SMEs). Another budget item is funds to support the Mohammed Bin Rashid Innovation Fund and the Dubai Future Accelerators which offer funds and resources to firms that are launching the use of digital technologies (Litimi et al., 2024). Furthermore, niche targeted focusing on the programs and platforms, dedicated to improving digital competencies of owners and employees of companies. All these efforts fall in line with the UAE's vision of trying to make the geography digitally enabled and smart.

Altogether, digitalisation is the threat and opportunity for the medium-scale building material traders in the UAE. On the one hand, the implementation of digital technologies presents several advantages which include the following: efficiency, customers, and competitiveness. To the opposite, there are limitations like lack of resources, lack of technical skills, or resistance to change, which must be considered in order achieve positive results. This research study aims to establish the effective and ineffective factors of digitalisation to support business success in middle-size traders of building materials, thus identifying the key barriers to digitalisation.

1.2 Problem Statement

Most of the available technological solutions continue to develop rapidly, which presents outstanding opportunities for business development and improvement of customer relations and company's market presence. Still, trading firms of medium scale building materials in the UAE continue to experience major challenges as they try to deliver the proposed digital revolution. Whereas large scale businesses enjoy massive capital and human resource strength, and dedicated departments, medium scale businesses usually suffer from capacity constraints and limited human resource capability. These differences translate to a challenging time in putting into use digital tools that they require and therefore are likely to fall behind in the progress they can make and ways to become more efficient. The use of digital solutions is another contentious issue that medium traders encounter, mainly because implementing this solution is expensive. Solutions like ERP systems, e-commerce platforms or analytical tools are fixed capital investments, which need constant updating. For many medium-sized businesses, these costs are prohibitively high, leading them to rely on outdated and inefficient manual systems. This financial challenge is therefore coupled with the challenge of the availability of appropriate and cheap sources of funding for digital change in the SMEs. The other important factor is that majority of the traders involved in trading of medium scale building materials lack technical know-how. A significant number

of these firms cannot afford to employ experienced IT staffs or professional to set up and apply various digital solutions. This skills deficiency not only pushes the use of digital tools further into the future but also raises the likelihood of unfortunate implementations, which leads to resource wastage and organizational interruption.

Koller et al. (2020) asserted that despite the important strides made in the use of digital solutions by SMEs, those with less technical knowhow will have a hard time in the integration of the solutions. One of such challenges is resistance to change, which is a major challenge to digitalisation of medium-scale businesses. It requires a profound understanding of the organizational culture to set up a proper digital transformation strategy in place. Resistance to change can manifest at two organizational levels – individual and organizational, with employee and management resistance caused by concerns of job insecurity, more work demands or lack of knowledge of new technologies.

Moreover, decision making is made complex by the fact that; digital technologies are not static. Mid-tier enterprises usually face the problem of selecting the most relevant technologies adapted to their corporate activities and business ventures. This it is because solutions to them are not clear or there is no specified industry map that guides organizations in implementing innovation strategies thus resulting in inefficient investments. Dermaku et al. (2023) argue that given that technology is rapidly evolving, firms must pre-emptively and adaptively think and act, which is difficult for SME's constrained by limited resources. The COVID-19 pandemic has especially exposed companies that have not integrated the digital world well enough into risks. Medium scale building materials traders that predominantly employed traditional selling strategies, had their supply chain processes, customers' relations, and revenues significantly impacted by the pandemic. On the other hand, companies with well-developed digital contexts have been positioned to tackle each of those challenges; this underlines why digital context underlines competitiveness and resilience.

To address these challenges, a clearer appreciation of the constraints and facilitators to digital transition for medium-scale building materials traders is needed. To address this knowledge gap, this research seeks to find out the various factors that drive firms towards adopting digital technologies and its effects on its performance. Through highlighting measures for overcoming these challenges, the research aims at providing a tool to support medium-scale businesses to foster the benefits offered by digital tools for their operations and enhance their performance and stability for the UAE market conditions.

1.3 Significance of the Study

The contribution of this research is hinged in its sensibility to capture the centrality of digital transformation in the survival and growth of medium-scale BDS in the UAE. Digitalisation is now a necessity given technological trends are major factors shaping global economic and industrial transformation. This paper reveals that there are many advantages of digital transformation for medium scaled building materials traders. Firstly, it promotes process improvement by automating work processes, decreasing the rate of mistakes, and maximizing resource management. Enterprise Resource Planning (ERP) system simplifies other activities for instance production management, acquiring stocks and delivering them at right destination for the business to run effectively. The digitalisation helps traders to lessen wastage of resources and time and hence the many resources used in trading can be channelled to more productive areas thus enhancing the trader's productivity and profitability.

The second important advantage of transitioning to the digital level is the user impact and satisfaction difference. Technological tools, like Customer Relationship Management (CRM) and digital marketing tools and platforms help businesses to assimilate the core preferences and needs of its customers for tailored market solutions. This capability is particularly valuable in a segment such as the building materials segment where customers are invaluable, and customer loyalty often proves to be a key success determining factor. The use of digital technologies helps

the traders to enhance their communications with clients and aim at the creation of long-term cooperation and repeated sales.

Besides, digitalisation help expand markets by removing geographical boundaries. Conducting business through e-commerce platforms and online markets help the medium-scale trader eliminate dependence on their home markets, thus getting new clients from all over the world and diversifying the revenue streams. Indeed, this capability is important more so for the UAE due to the strategic positions in international trade region. Digital transformation thus enables businesses leverage on the favourable economic and logistics environment of the UAE, propel growth and foster competitiveness.

This situation requires companies to undergo digital transformations due to emergent challenges in business environments. Today, different industries are progressing toward the usage of new technologies, and firms that are not ready to innovate are likely to lag. A sample digital divide is especially observed in SMEs that struggle with more restricted resources and technological challenges.

From the analysis of the enablers and inhibitors of digital adoption, this study gives an understanding of how medium-scale traders can overcome these challenges towards sustainable development. In addition, this research is valuable for furthering the understanding of digitalisation for the UAE within the framework of its economic growth. In line with its effort to support innovation and technology, the UAE has come up with various measures that would assist the SMEs to go digital.

With reference to these orientations, this research provides a clear outline of measures that can boost the outcomes of government interventions and sectorial operations. Altogether, the relevance of this research is to fill the gap between research and real-life applying it to help the medium-scale building materials traders to adapt appropriate knowledge and tools for a media-technology economy. Thus, focusing on the opportunities and pressing need to undertake digital

transformation, the research responds to the challenges SME faces and supports the UAE strategic outlook for a competitive, innovation-driven economy.

1.4 Research Aim and Objectives

The main research objective of this study is to examine the effects of digitalisation on the business performance of medium-scale building materials traders in the UAE. The study aims to explore how digital implementation influences operational efficiency, customer engagement, and overall competitiveness in the sector. To achieve this, the research addresses two questions.

- RQ1: How do commonly used digital tools impact operational efficiency and customer engagement among medium-scale building material traders in UAE?
- RQ2: What are the main challenges faced by medium-scale building materials traders in adopting digital tools in the UAE?

By answering these questions, the study explores the commonly used digital tools in this industry, evaluates how digitalisation enhances operational efficiency and customer interactions, and identifies the barriers and enablers affecting the adoption of digital technologies.

To achieve this aim, the study has established the following objectives:

1. To assess the current level of digitalisation among medium-scale building materials traders in the UAE.
2. To examine the key issues that hinder these businesses in adopting digital technologies.
3. To analyse the impact of digitalisation on operational efficiency, customer engagement, and market presence.
4. To evaluate government policies and industry-specific programs that support digital procurement practices among medium-scale traders.

5. To identify and categorize the challenges and enablers affecting digital adoption, providing practical recommendations for medium-scale building materials traders.

In fulfilling the above objectives, this research presents a comprehensive analysis of digitalisation trends in the building materials trading sector. The findings will be valuable not only for business owners and industry stakeholders but will also contribute to the broader academic understanding of SME digital transformation in the UAE.

1.5 Structure of the Thesis

The thesis is organized into seven key chapters, each building upon the before present a cohesive narrative. The first chapter covers the necessary background information towards the research problem to be addressed in this work, its importance, goals and objectives. This chapter lays the groundwork for the subsequent chapters and presents the context in which digitization is significant for medium-scale building materials trading firms in the UAE. This chapter talks about the adoption of digital technologies by SMEs, and the context specific challenges and opportunities of the building materials trading sector is extensive. The literature review section of the current study shows where the gaps are that the current study will seek to fill. Chapter 3 provides an outline of the research methodology of the study and the methods that were employed. It encompasses the characteristics of population, sample selection method, data collection method and analysis method of a study. Implications of ethical issues and limitations of the study are also pointed out. Findings and Analysis chapter results of the data analysis investigated in this study are discussed in this chapter in relation to the research objectives. It reveals the current level of digitalisation, key concerns for middle-range sellers, and the effect of digitalisation on these sellers' performance. Some of the common themes and some patterns are emphasized and explained. The discussion chapter discusses the interpretation of key findings and implications of

practical and theoretical practice. Conclusion and recommendations' chapter summarizes the study's key findings and their implications for medium-scale building materials traders, policymakers, and other stakeholders. It offers practical recommendations for overcoming barriers to digitalisation and leveraging its benefits. Suggestions for future research are also presented at the end.

2 LITERATURE REVIEW

This chapter reviews the existing literature relevant to digitalisation in small and medium-sized enterprises (SMEs), with a focus on its impact on operational efficiency and business growth. It explores key theoretical models, recent studies on technology adoption, and the challenges SMEs face when integrating digital tools into their business processes. The aim is to provide a strong conceptual foundation for the study and highlight gaps that this research intends to address.

2.1 Theoretical Foundations

One of the most radical business transformations improvements in the 21st century has been the use of technology to manage operations, customer engagement, and market competitiveness which has changed the way businesses are run (Kraus et al., 2021). Therefore, for SMEs particularly in the construction industry, it is of utmost importance to grasp the digital transformation theory. This part of the research presents the key frameworks and models that regulate the digital strategies of technology adoption to assist a medium scale building material trader in his digital strategy implementation journey (Pelletier & Cloutier, 2019). Frameworks that facilitate companies to implement digital strategies that fractionally advance their corporate objectives. The proliferation of some of these frameworks is attributed to their systemic methodology to the problem of digital adoption and operational transformation.

MIT's digital transformation framework that has three key components, which was developed by scholars from the Massachusetts Institute of Technology. This framework highlights how digital technologies enhance customer interaction and experience. For example, CRM systems in the construction industry allow traders to provide personalized experiences while deepening their understanding of what customers want (Kovaleva, 2017). A digital transformation involves both external and internal business processes. Operational changes embrace procurement systems automation together with inventory management tools and predictive

analytics for demand forecasting. Businesses receive encouragement to develop new digital features into their established operational frameworks (Nylén & Holmström, 2015).

Small enterprises serving as medium-scale traders should implement e-commerce capabilities for real-time service and sales functions or establish subscription rates for selected products. This framework demonstrates strength through its rounded approach which integrates customer contact points and operational systems. Capgemini and MIT centre for digital business framework considers balancing two vital dimensions. The first one includes the level of digital technology integration into business processes represents the initial dimension of this framework. Cloud computing alongside AI-backed analytics and IoT- Internet of Things- supply chain optimizations represent the various digital technology implementations (Pelletier & Cloutier, 2019). The area investigates the essential leadership structures together with governance systems and cultural transformations needed to achieve digital transformation success (De Keyser & Van Vaerenbergh, 2024).

The implementation of digital initiatives in SMEs consists of multiple steps starting with employee training and progressing to innovation culture building and leadership goal alignment with digital targets. Companies that achieve maximum digital adoption value obtain their most lucrative returns by implementing high digital and transformation capability levels simultaneously (Frank et al., 2019). This four dimension of digital transformation framework model particularly identifies the four interconnected dimensions that are indispensable in achieving successful digital transformation. Technology adoption is a firm's ability to implement new technological initiatives throughout its fundamental operational procedures (Srinivasan et al., 2002). Interface with customers is a digital empowerment of customer relations while simultaneously enhancing customer satisfaction (Larsson & Viitaoja, 2017). Operational Excellence is improvements in operational processes combine to make systems more efficient while lowering expenses (Carvalho et al., 2023). Lastly, organizational Structure is adjusting internal hierarchies and

workflows to support the digital strategy (Srinivasan et al., 2002). This framework is more relevant to medium-scale businesses balancing technological innovation with structural readiness.

Industry-specific frameworks focus on the problems of SMEs in niche industries such as construction (Oyewobi et al., 2023). These often highlight supply chain optimization, project management digitalisation, and sustainability goals. The UTAUT combines the strengths of several models, such as TAM and DOI, to present a holistic approach to technology acceptance (Mondejar et al., 2021). It provides four major constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. A perception is that the use of technology enhances job performance (Oyewobi et al., 2023). Perceived ease related to the usage of technology (Dokhanian et al., 2022). The degree of support from other people and immediate leaders for adopting technology (Constantinides et al., 2018). The resources, infrastructure, and support available for implementation. Due to it well articulated constructs, UTAUT has been very instrumental in analysing the adoption of innovation in medium-sized enterprises where scarcity of resources as well as resistance among employees is typical (Tobarra et al., 2021).

The Task-Technology TF model concentrates on the alignment of a technology's capabilities and the tasks that it is expected to support (Ratmono et al., 2024). For medium-scale building materials traders, the TTF model may help evaluate the appropriateness of implementing supply chain management tools or e-commerce platforms. If such technologies align well with operational tasks, they are likely to provide high value. Resource-based view thus emphasizes that internal resources and capabilities are the ones responsible for enabling technology adoption by small firms (Caldeira & Ward, 2003). In the case of SMEs, major resources include financial capital, technical expertise, and leadership commitment. For example, a trader with full financial support might opt for high-tech CRM systems, whereas others with limited funding might find less costly digital solutions in cloud-based project management tools.

The integration of insights from both the frameworks and the models forms the backbone to successful digital transformation of SMEs. While frames provide a macro-level strategic way, models give insights into individual and organizational behaviours at a micro-level. For instance, Capgemini frame would help an SME align the digital goals with strategic priorities, and the UTAUT would be leveraged for information about employee-related issues and usability aspects. The integration of TTF and RBV ensures that the technologies adopted are aligned with the company's operational needs and resource constraints.

In the UAE, the government has also initiated the UAE Digital Government Strategy 2025, which helps create a friendly environment for digital adoption. However, medium-scale building materials traders face unique challenges, such as limited budgets, lack of technical expertise, and resistance to change. By using digital transformation frameworks and technology adoption models, these businesses can overcome the challenges and exploit the benefits of digitalisation. For example, the adoption of the MIT framework will enable the prioritization of customer engagement and operational improvements, while TAM and UTAUT provide actionable insights on how to overcome employee resistance and usability concerns (Tobarra et al., 2021). New technologies must fulfil specialized requirements specific to construction operations. The building sector benefits from efficient project management systems alongside clear supply chain visibility.

2.2 Key Concepts

Digitalisation is transforming how businesses operate, deliver value and compete in this modern era. It is not just about the use of technologies but also the strategic integration of these tools into core business processes to drive innovation, efficiency and agility. As businesses continuous to transform, understanding the role of digitalisation becomes essential to evaluate organisation performance especially in medium-scale sector like building materials.

2.2.1 Digitalisation and its role in business transformation

Companies use digital technology to digitalize their existing operations with new digital solutions (Parviainen et al., 2017). Digitalisation is the combination of process improvement and customer journey and new business models. It goes beyond just Digital Technology enables data digitization and platform integration at the operational core to transform business processes and operations. Companies operate differently while they compete and deliver valuable customer services through this transformation (De Keyser & Van Vaerenbergh, 2024). Below we will look at the many ways digitalisation accelerates business transformation, with a focus on operational efficiency, customer engagement and innovation.

Innovative technologies enhance the overall value of core business processes. Simplification of business operations leads to a decrease in costs and an increase in operational efficiency in three distinct formats. The use of ERP systems, SCM systems, and CRM systems helps achieve, maintain and attain efficiency in business operations. Technology assists companies in the automation of monotonous business process activities through digital workflow systems with information that is kept on file.

Businesses can avoid unnecessary waste while making the most of their resources due to the efficiency of digital inventory management which automatically keeps track of inventory stock levels. Organizations are now able to achieve maximum predictive maintenance optimization, which minimizes operational downtime and disruptions, thanks to advanced analytics and artificial intelligence tools. The investment in these technologies allows medium-sized businesses to phase out traditional reliance on specific methods. Businesses eliminate these manual techniques making great strides towards process efficiency.

Marketing has become a more personalized and interactive process where businesses can interact with customers on a whole different level (Weber, 2009). The electronic mail marketing, social media, mobile apps and even e commerce

websites. Customers can access the goods and services they need with ease through channels. Businesses can strengthen their marketing and increase customer satisfaction simply by analysing the business data on how customers behave (Khadka et al., 2017). By using an online platform, a trader in construction materials can send timely alerts for price fluctuations, product availability and even customer orders. This approach enables trust to be enhanced always resulting in an improved customer experience and loyalty, thus establishing long-term relationships.

The digital transformation will drive companies to develop new business frameworks alongside novel products alongside novel distribution systems (Muehlburger et al., n.d.). The combination of IoT and blockchain and 3D printing technologies makes it possible to implement disruptive innovations. IoT sensors applications enable equipment performance tracking in the construction industry while blockchain systems provide traceability through procurement processes. Digitalisation enables companies to maintain their position in front of rapidly changing market conditions. Through digital transformation businesses gain the ability to meet changing customer demands and regulatory needs and technological advances (Turban et al., 2021).

Digital transformation is an approbation for SMEs and plays a different role in the way they work, compete and expand their business. More efficient operations are one big business advantage. Digital tools enable SMEs to automate the repetitive parts of their operations, streamline workflows, and finally create services that optimize resources. Cloud-based computing and ERP, along with digital communication technologies, in a step towards operational excellence, enables businesses to reduce costs and processing times (Carvalho et al., 2023). Indeed, implementation in digital leads to operational efficiency, hence allowing SMEs to invest their resources in strategic activities and innovation.

Now the SMEs are in the strongest position and leading the market in these tips of unprecedented extensions. E-commerce platforms, social media, and digital

marketing capabilities all allow enterprises to access bigger segments of global markets, which is how digitalisation benefits enterprises. SMEs provide and sell their goods and services all over the world without any geographic limitations (Robertson, 2003). Before allowing them to deliver personalized service experiences along with relationship-building with their clientele, insights about customer preferences are drawn through the analytical systems. With the emergence of technologies like AI, IoT, and blockchain, SMEs can harness the power of developing innovative products that generate their satisfaction in such a diverse market. These technologies also make real-time insights and predictive analytics possible, which further enhances the capability of processes to provide adequate decision making.

2.2.2 SMEs in the construction sector as a case context

With the adoption of digital systems, companies are seeing increasing exposure to a variety of cyber security threats, including data breaches, ransom ware attacks, and phishing schemes. It's primarily workplace opposition to change in smaller enterprises that presents challenges in implementing digital transformation. The workers, owners, and employees of SMEs are found to resist new technologies due to their perceived unfamiliarity and additional disruptions to their already set operational routines and concerns over learning curves. Resistance from owners toward digital transformation is usually due to a lack of conception regarding what digitalisation could do for his/ her business and scepticism over how it affects the business operations as perceived.

The absence of digital foundation infrastructure mirrors a degenerative block toward SME operation regions Constantinides et al. (2018), especially where digital access remains limited (mostly rural and underdevelopment). With slow internet speeds, obsolete computing technologies, and minimal access to digital tools, SMEs can hardly compete. The asymmetrical digital capabilities between regions of business create a greater inequality amongst businesses while holding back the prospects of development for those SMEs that are in disadvantaged regions.

Small and medium enterprises remain buried in confusion while attempting to point their way among the latest software and online solution advancements (Pelletier & Cloutier, 2019). When SMEs select technology solutions best suited to their goals and financial constraints, they meet new challenges. As a result, without appropriate guidance, SMEs may find themselves investing in technologies that are counterproductive, leading to resource wastage and a source of operational frustration (Tal, 2024). Therefore, such impediments necessitate concise and clear assistance to alleviate the problems of small and medium enterprises in digital transformations. Successful digital adoption in construction materials-oriented small and medium enterprise based in the UAE implemented cloud-based inventory management software. The system successfully monitored stock levels in real time to automate restocking while minimizing out-of-stock situations and enhancing customer experience. The SME also introduced an online ordering platform, which expanded its customer base and increased revenue.

The challenges in adoption were that the subcontractor in the UAE was facing a problem of project management tool implementation. There were no technical expertise and employees resisting the tool, but after some training programs and external consultancy, the company managed to implement the tool, and their projects were well managed with good cost savings Government initiatives and associations of industries greatly support SMEs in their process of digital transformation. For example, the UAE Digital Government Strategy 2025 financially incentivizes them, provides training facilities, and helps in infrastructure facilities to adopt more digitalisation (Rachinger et al., 2019). Association of industries is also offering network opportunities, sharing knowledge, and best practices are available to these SMEs.

2.3 Review of Related Studies

Existing studies reveals that digitalisation has ability to enhance operational efficiency, improve customer engagement, and accelerate long-term growth, mainly in medium-scale businesses. However, most of the updated research emphases

on IT or service-based firms leaving behind traditional industries like building materials. This study builds a foundation on those findings while addresses the lack of sector-specific research in the UAE context.

2.3.1 Impacts of digitalisation on business operations and success

Digitalisation is defined as the integration of digital technologies into business processes, and it is a transformative force in industries. Various studies have underlined its impact on business operations and success. Businesses Organizations that adopt digital tools achieve greater operational efficiency and decrease implementation expenses and scale up their operations. And improve scalability. The implementation of digitalisation techniques has revolutionized the operational functions of an organization in its first key area.

An organization's supply chain management stands as the primary area transformed by digitalisation. For instance, research show that digital twins act as virtual duplicates of real physical systems to enhance supply chain resilience. Digital twins help businesses create resilient supply chain management systems. Using real-time through real-time data businesses gain the ability to anticipate disruptions and adjust their operational strategies accordingly. The approach focuses on developing strategies which maintain both operational efficiency and continued delivery. Another example of current literature is blockchain. The establishment of transparency across supply chains became possible through blockchain technology application.

Customer relationship management (CRM) systems represent one of several business areas where digitalisation has made deep inroads. According to Mondejar et al. (2021), AI-based CRM Customized experiences which benefit customers become possible through these digital platforms. Through excellent customer interactions companies nurture customer loyalty and increase revenue generation. According to the authors, predictive analytics tools provide essential functions using historical information to anticipate market behaviours. Forecast trends through

historical data analysis represents a major application in digitalisation. The system helps businesses to find new market opportunities while also helping them control their risks. E-commerce functions as an ideal illustration of modern business operations. Digital transformation has substantially impacted the operational results of companies. The implementation of new technologies meets resistance from workers as a major challenge. Critical workers show reluctance to accept new technologies because they worry about job instability as well as their inadequate technical skills of job redundancy or their technical ability.

According to the study by Pan & Zhang (2021), companies which use digital channels for sales and marketing activities increase their reach as well as revenues exponentially. Due to the COVID-19 pandemic, it has also become very fast to switch towards e-commerce where businesses are majorly dependent on digital sales channels for survival (Berman, 2012). Also, digitalisation facilitates innovation by bringing in a culture of experimentation and agility. In fact, as established by the studies of Rachinger et al. (2019), digitally mature organizations are relatively better at innovating and changing according to the marketplace. These companies generally outpace their competitors when it comes to revenue growth and market share. However, strategic alignment and proper implementation are prerequisites to the success of digitalisation. According to Pelletier & Cloutier (2019), it is only when organizational digital initiatives are aligned with top-line business goals that their maximum potential can be realized. This often results in suboptimal outcomes and wastage of resources when it does not happen.

2.3.2 Challenges faced by businesses in digital adoption

The digitalisation offers numerous benefits, the path to adoption is fraught with challenges. One of the primary barriers is the high cost associated with implementing and maintaining digital technologies. According to a study by Singh & Dash (2021), small and medium-sized enterprises (SMEs) often struggle to allocate sufficient resources for digital transformation, resulting in slower adoption rates

compared to larger organizations. According to Kotter et al. (2021) organizations must implement Change management represents the chosen strategy to address these difficulties while delivering specific solution points. Clear communication methods combined with training programs help workers adapt more quickly during transitions. The security of digital systems constitutes a major impediment.

Businesses face critical cybersecurity problems as part of their operational challenges. As businesses continue the process of digital transformation leaves businesses vulnerable to multiple cyber-attacks including data breaches and ransom ware incidents. Research shows that the typical expense of a data breach reached $3.86 million in 2020 (Zhang & Dong, 2023). The data shows a cost estimate of $3.86 million hence, demonstrating why strong security protocols remain essential. Most organizations lack both necessary resources and capabilities for deploying effective security measures. Business organizations become receptive to possible risks because they lack the proper security measures. Organizations face additional problems when trying to implement digital solutions because of challenges. As noted by Pelletier & Cloutier (2019), new digital Modern digital tools experience significant obstacles when they try to integrate with the existing legacy systems of organizations organization.

In the case of outdated infrastructures, inefficiencies organizations experience prolonged delays before reaching anticipated results when these situations occur. A significant problem exists between organizations and their digital proficiency levels. According to the European Commission's Digital Economy and Society, European Commission's Digital Economy and Society Index 2021 reveals insufficient digital competence exists among most employees (Juhász et al., 2022). The lack of basic digital competencies throughout the workforce creates substantial barriers against effective business implementation of digital tools fully benefit from digital technologies. Strategic funding needs to focus on developing needed digital skills training and upskilling. The implementation of digital transformation efforts blocks

down because of both cultural elements and organizational structures transformation.

According to Frank et al. (2019), hierarchical organizational business structures frequently block joint working methods needed for digital success are essential for successful digitalisation. Businesses must, therefore, create a culture of innovation and collaboration. Issues relating to regulatory and compliance also add complexity to digital adoption. For instance, regulations like GDPR in Europe are posing tough requirements for businesses to comply with data protection; the reason behind investing heavily in compliance mechanisms (Alias et al., 2018). Finally, rapid technological change poses a unique challenge. Businesses struggle to keep pace with the rapid changes in technologies, which keeps them in a perpetual state of "digital catch-up."

2.4 Research Gap Identification

Although previous studies and literature widely discuss the pros and cons of digitalisation, some gaps are still left to be addressed. Among these gaps lies the absence of empirical evidence on the direct causal link between digitalisation and long-term business performance metrics. For instance, studies by Frank et al. (2019) offer insight into the potential benefits and do not measure the magnitude of the impacts over any long periods or different industry settings. A large portion of the literature focuses on large firms, while SMEs remain marginalized. Singh & Dash (2021) discussed the financial constraints of SMEs, but there is little work which discusses cost-effective digitalisation strategies for smaller enterprises. Subsequent studies must identify how SMEs can compete with better capitalization by using the best possible digital tools.

The second major area of knowledge gaps relates to digitalisation in the emerging markets. The current studies mainly study developed economies while neglecting to investigate emerging challenges and opportunities found in developing areas. For example, how digitalisation affects emerging areas with insufficient

infrastructures, regulation barriers, and cultural issues have not been analysed enough. Additionally, relatively promising area of research is the intersection of digitalisation and sustainability. While blockchain and AI applications are being advertised for their efficiency, little attention is given to their environmental impacts. In the context of global environmental goals, studies on how businesses can balance digital transformation with sustainable practices are highly critical. Employee views on digital transformation need greater emphasis. Though Koller et al. (2020) and many others discuss resistance to change, there is very little qualitative work done on employees' experiences or the social impact of digitalisation at work. This finally calls for a greater longitudinal perspective in understanding how the impact of digitalisation develops and evolves. Longitudinal studies in such cases will greatly offer valuable information on sustained success during digital disruption strategies. This is also supported by related studies reviewed about the potential transformative effects of digitalisation on businesses' operation and success. Its benefits vary in different dimensions. Nevertheless, these changes create barriers in businesses such as financial ones, change-related issues, cyber threats, and regulatory ones, and there are specific approaches that would break down such barriers: strategic planning, training investments, and creating an innovation culture. By doing so, organizations can realize the full potential of digital technologies and achieve long-term success.

3 RESEARCH METHODOLOGY

This chapter mainly focuses on how the research is designed and carried out to examine the role of digitalisation in medium-scale enterprises.

3.1 Research Philosophy and Approach

This study adopts a positivist research philosophy, which is appropriate for investigating the measurable impact of digital tools on business success. Positivism is grounded in the belief that reality is objective and can be quantified through observable, empirical evidence (Frank et al., 2019). In the context of this study, which aims to assess operational efficiency, customer engagement, and financial performance of medium-scale building material traders in the UAE, positivism allows for the systematic collection and analysis of quantifiable data. This philosophical stance enables the researcher to test existing theories on digitalisation, such as the MIT and UTAUT frameworks, against real-world data in a structured, unbiased manner.

Aligned with positivism, this research follows a deductive approach. This means that the study begins with a clear set of hypotheses or assumptions such as the belief that ERP systems and e-commerce platforms positively impact business outcomes and then moves toward data collection and analysis to test these assumptions (Pelletier & Cloutier, 2019). The deductive method supports the study's goal of drawing generalisable conclusions that can inform both practice and policy in the UAE's SME sector.

The choice of this philosophical and methodological alignment is further justified by the nature of digitalisation itself. Digital transformation initiatives within SMEs often involves the implementation.

3.2 Research Design: Quantitative Approach

This research employs a quantitative research design to examine the influence of digitalisation on the business success of medium-scale building material traders in the UAE. The decision to use a quantitative approach stems from the need to collect measurable, numerical data that can objectively represent the extent to which digital tools such as ERP systems, e-commerce platforms, and digital marketing solutions affect key business outcomes like profitability, operational efficiency, and customer engagement.

Quantitative methods are especially effective when the goal is to identify patterns, test hypotheses, and establish relationships between variables (Frank et al., 2019). In this case, the variables include types of digital tools adopted (independent variables) and indicators of business success (dependent variables), such as increased revenue or improved service delivery. This approach supports the use of structured survey instruments, allowing for consistency in data collection across a wide sample of respondents. As emphasized by Ghobakhloo & Iranmanesh (2021), quantitative strategies are widely adopted in digital transformation studies due to their ability to generalize findings across business populations.

The selection of a quantitative design also aligns with the research's positivist philosophical foundation, as it assumes that business success and digitalisation outcomes can be observed, quantified, and analysed using statistical techniques. It further reflects a deductive reasoning process, where existing theories and frameworks like MIT's digital transformation model and UTAUT guide the construction of hypotheses to be tested using empirical data (Pelletier & Cloutier, 2019).

Moreover, considering the diversity within the UAE's construction sector, a quantitative design ensures that results are not limited to anecdotal cases but reflect trends across various trader profiles. This enhances the external validity of the research, making the insights valuable not only to academic literature but also to practitioners and policymakers aiming to support SME digitalisation in the region.

Also, few open-ended questions were included for context, the research remains fundamentally quantitative in design and analysis. The qualitative inputs were used solely to support interpretation of the statistical findings, not as a primary data source.

3.3 Data Collection Methods

For this thesis, the data was collected through a structured online survey, mainly designed to inquire about the impact of digitalisation on the success of medium-scale businesses in UAE. The survey method is a widely used tool for collecting primary data in quantitative research, especially when the aim is to obtain a standardized response (Pelletier & Cloutier, 2019).

The survey was distributed digitally through social media platforms like LinkedIn, WhatsApp, etc., and 232 responses were gathered. The survey results were meant to be put on SPSS for further analysis.

Quantitative Method: Survey Approach

The survey mainly focused on gathering insights into how digital tools influence profitability, operational efficiency and customer engagement. Hence, respondents were asked what they whether these digital tools like ERP systems, e-commerce platforms, CRM software, and online payment systems contribute towards business success or not. These key indicators include queries regarding efficiency gains, revenue growth, and customer engagement.

In addition, the survey explored the types of digital tools used, motivators for adoption (e.g., cost savings, customer demand, competitive pressure), and barriers encountered, such as high costs, lack of technical expertise, or employee resistance. This aligns with the literature noting that SMEs often face technological opportunity and implementation challenges (Frank et al., 2019). Few qualitative open-ended questions were also included allowing respondents to describe their perception about these tools in their own words. The use of a survey provided a

scalable method for collecting insights and helped in understanding how digitalisation shapes the success of medium-scale building materials traders.

3.4 Sampling Techniques

This study employed a non-probability purposive sampling technique to select participants who are directly involved in business operations and decision-making within medium-scale building material trading firms in the UAE. Purposive sampling was chosen because it enables the researcher to deliberately target individuals who possess specific knowledge and experience relevant to the study, such as the use of digital tools in a commercial setting (Ghobakhloo & Iranmanesh, 2021). These individuals included business owners, managers, and employees who are actively engaged in adopting, managing, or assessing digital systems like ERP platforms, e-commerce tools, and digital marketing solutions.

The target population was restricted to medium-scale enterprises operating in the building materials sector, a group that sits between large-scale suppliers and small-scale contractors. These businesses typically face unique digitalisation challenges, such as limited financial resources and technical expertise, while also playing a critical role in the construction supply chain (Dinis-Carvalho et al., 2023). Focusing on this specific segment allows for sector-relevant insights that are highly applicable to UAE's construction-driven economy.

The sample size aimed for was 200–250 respondents, ensuring a broad yet manageable pool for analysis. Participants were reached through digital platforms, professional networks, and direct outreach to company representatives. The sample was designed to capture a diversity of roles (owners, managers, and staff), company sizes (by employee count), and levels of digital adoption. This diversity enhances the representativeness of the sample within the medium-scale category, even though the study does not claim full generalizability due to its non-random sampling approach.

Despite its limitations, purposive sampling was ideal for the context of this research. It allowed the study to efficiently gather relevant data from informed participants who could provide meaningful input on how digital tools are shaping their business performance, customer interactions, and operational systems in the UAE construction ecosystem.

3.5 Ethical Considerations

It is important to maintain the ethical integrity as it is a central pillar of the research. This research includes human participants hence, it become necessary to make sure ethical considerations are not violated. This study strictly adheres to the ethical guidelines outlined by the Finnish Advisory Board on Research Integrity, which emphasize principles of honesty, transparency, and respect throughout the research process. Hence, in the survey all the participants received a consent. Participants were communicated the details of the study goals. To maintain the confidentially of the participants no personal information like age, contact number, etc was asked. These measures well align with best standards in digital ethics and protect participants from any unintended exposure or misuse of their personnels.

The research achieves meaningful and responsible contributions to academic and industry knowledge about digitalisation by following an ethical data collection process which builds participant trust along with maintaining data integrity.

3.6 Limitations of the Study

While this research provides meaningful insights about the impact of digitalisation on medium-scale building traders in UAE, certain limitation must also be acknowledged to ensure the academic rigor and transparency.

Firstly, the use of a non-probability purposive sampling technique, while appropriate for targeting knowledgeable respondents, means the findings may not be fully generalizable to all SMEs in the UAE or to other industries. The sample focuses

specifically on businesses within the building materials sector, which is uniquely influenced by supply chain dependencies, market volatility, and construction-specific technologies. As such, results may reflect sector-specific dynamics that are not directly transferable to other SME environments.

Secondly, although the survey was distributed to a substantial number of respondents, the sample size remains moderate. While adequate for performing basic correlation and regression analysis, a larger dataset would offer greater statistical power and allow for more nuanced subgroup analysis across regions, business sizes, or digital maturity levels.

Another limitation stems from the self-reported nature of the data. Participants' assessments of their company's profitability, efficiency, or customer engagement improvements may carry inherent bias. Some respondents may overestimate or underestimate the impact of digitalisation due to personal opinions, limited awareness of internal metrics, or optimism bias.

Additionally, this study captures a cross-sectional snapshot of digitalisation efforts, rather than observing long-term effects. Given the fast-evolving nature of digital technologies, a longitudinal approach would offer deeper insights into how sustained digital adoption affects business performance over time.

Lastly, the research focuses mainly on functional impacts such as revenue, efficiency, and customer engagement without deeply exploring broader cultural or organizational transformations that often accompany digitalisation. Factors like employee morale, leadership adaptation, or internal resistance are only briefly touched upon and would benefit from further qualitative investigation.

Despite these limitations, the study offers a robust foundation for understanding how digital tools are currently influencing business success in the UAE's building materials sector and provides valuable direction for future research and policy support.

4 RESULTS AND ANALYSIS

This chapter presents the results and analysis from the data collected through the surveys. It includes descriptive analysis to examine the relationship between the digital tool usage, operational efficiency, market research, and revenue growth. At the end, it gives the analysis derive from the data.

4.1 Overview of Key Variables and Acronyms

This section presents the key variables table as used in analysis along with its description and measurement scale. The variables have been selected as per their relevance to study's objectives and aligned with existing frameworks in digitalisation and medium-scale businesses research. As shown in Table 1, the emphasizes is on both business outcomes (like operational efficiency, market research, and revenue growth) and internal enablers of digitalisation (such as leadership readiness, employee readiness, and infrastructure access).

Table 1: Key variables

Variable Name	Description	Measurement Scale
Operational Efficiency	Degree to which digital tools improved internal operations	5-point Likert scale
Market Reach	Whether digitalisation helped expand to new customer segments or areas	Yes = 1, No = 0
Revenue Growth	Perceived increase in sales/revenue due to digital tool adoption	Yes = 1, No = 0
Digital Tool Usage	Type and number of digital tools used (e.g., ERP, CRM, e-commerce)	Categorical (Multiple options)
Leadership Readiness	Level of digital support and engagement from management	5-point Likert scale
Employee Readiness	Staff preparedness to use and adapt to new technologies	5-point Likert scale
Infrastructure Access	Access to high-speed internet and digital infrastructure	Yes = 1, No = 0

4.2 Quantitative Results Overview

This part of the chapter presents the main findings from the survey data collected for this research. The goal was to understand how digital tools are influencing key business outcomes such as internal efficiency, revenue growth, and market reach. The analysis includes basic descriptive statistics, correlation and regression results, as well as some insight drawn from the participants' open-ended responses.

4.2.1 Descriptive Statistics

The descriptive analysis showed that most SMEs in the sample believed digitalisation had improved how smoothly their business ran. As shown in Figure 1, many respondents rated their internal efficiency positively after using tools like ERP or CRM systems. In terms of business growth, Figure 2 presents a breakdown of how many firms reported an increase in sales or an expansion into new markets. While there were noticeable trends pointing towards benefits, not all respondents saw major gains, which suggests a more complex picture when it comes to outcomes.

Frequency Table

How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	2.6	2.6	2.6
	2	16	6.9	6.9	9.5
	3	61	26.3	26.3	35.8
	4	106	45.7	45.7	81.5
	5	43	18.5	18.5	100.0
	Total	232	100.0	100.0	

Has digitalisation helped your company expand its market reach?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	85	36.6	36.6	36.6
	1	147	63.4	63.4	100.0
	Total	232	100.0	100.0	

Figure 1: Frequency distribution of digitalisation's perceived impact on company efficiency and market reach

Statistics

		How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)	Has digitalisation helped your company expand its market reach?	Has the use of digital tools led to an increase in sales and revenue?
N	Valid	232	232	197
	Missing	0	0	35

Figure 2: Frequency statistics for business impact variables, including response completeness across survey items

4.2.2 Correlation Analysis

To explore how these factors are related, a correlation test was run between efficiency, market reach, and revenue growth. The results in Figure 3 show that operational efficiency had a small but meaningful link with revenue growth ($r = .201$, $p = .005$). In simple terms, businesses that were more efficient after going digital were also more likely to report increased revenue.

However, there wasn't a strong relationship between efficiency and market reach ($r = .049$, $p = .460$), or between market reach and revenue growth ($r = .120$, $p = .094$). These results hint that improving internal processes may be more directly tied to financial gains than just trying to expand into new markets.

		How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)	Has digitalisation helped your company expand its market reach?	Has the use of digital tools led to an increase in sales and revenue?
How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)	Pearson Correlation	1	.049	.201**
	Sig. (2-tailed)		.460	.005
	N	232	232	197
Has digitalisation helped your company expand its market reach?	Pearson Correlation	.049	1	.120
	Sig. (2-tailed)	.460		.094
	N	232	232	197
Has the use of digital tools led to an increase in sales and revenue?	Pearson Correlation	.201**	.120	1
	Sig. (2-tailed)	.005	.094	
	N	197	197	197

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

Figure 3: Pearson correlation matrix for efficiency, market reach, and revenue growth

4.2.3 Regression Analysis

To look deeper into which factor drives revenue growth, a regression test was carried out using efficiency and market reach as predictors. As shown in Figure 4, the overall model was statistically significant and explained around 5.4% of the variation in revenue growth.

Out of the two predictors, only efficiency came out as a significant contributor (B = .068, p = .005). Market reach didn't quite reach significance (B = .079, p = .090). This backs up what the correlation analysis suggested earlier it's the smoother internal operations that are making more of a difference to revenue than simply reaching new customers.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Has digitalisation helped your company expand its market reach? , How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)[b]	.	Enter

a. Dependent Variable: Has the use of digital tools led to an increase in sales and revenue?

b. All requested variables entered.

Figure 4: Regression output showing variables entered and the model summary with R and R^2 values

4.2.4 Thematic Analysis from Open Responses

Besides the numbers, some participants gave short written responses that offered helpful context. Five common themes stood out.

1. Internal operations had clearly improved
2. Costs and tech-related challenges remained a concern
3. Some saw a return on investment, others weren't sure yet
4. Few SMEs felt they had real government support
5. Many agreed that digital tools are now essential for staying competitive

These responses helped explain why certain results looked the way they did. For example, while some firms linked efficiency to revenue gains, others pointed out barriers that may have prevented them from benefiting fully.

4.2.5 Reviewing the Hypotheses

The findings gave mixed results when it came to the original research assumptions:

- **H1**, which expected that digital tools would improve efficiency, was clearly supported.
- **H2**, linking efficiency with revenue growth, also held up based on the data.
- **H3**, which suggested that market reach would boost revenue, wasn't supported at least not in this sample.

So, while digitalisation is clearly helping internally, it seems its impact on external outcomes like sales or expansion may take more time or depend on other factors like customer behaviour, strategy, or infrastructure.

4.3 Variables and Operational Definition

This section explains how the key variables used in this research were defined and prepared for analysis. A summary table of all variables, including their abbreviations and measurement scales, was already presented in Section 4.1.

In this study, three core variables were examined: Operational Efficiency, Revenue Growth, and Market Reach. Efficiency was measured using a 5-point Likert scale, where respondents rated improvements in their internal operations due to digital tool adoption. Revenue Growth and Market Reach were captured as binary outcomes, coded as "1" for "Yes" and "0" for "No."

Two contextual variables, Tool Use and Employee Readiness, were also recorded to help explain differences in how SMEs experienced digital transformation. These

variables were included in the analysis to explore possible patterns but were not directly part of the core hypothesis testing.

The dependent variable in this study was Revenue Growth, which was used in both the correlation and regression models. Efficiency and Market Reach were treated as predictor variables to test whether internal performance improvements or customer expansion had a stronger link to financial outcomes.

By clearly defining and coding each variable before analysis, the study ensured consistency in interpretation and aligned the data with its original research questions and objectives.

4.4 Data Analysis Procedures

To uncover patterns between digital tool usage and business success, this study employed both quantitative and qualitative data analysis. The quantitative survey data were processed to explore trends in operational efficiency, market expansion, and revenue growth. Descriptive statistics helped summarize general tendencies among respondents. Key variables were assessed for frequency distributions and mean scores to understand how commonly SMEs perceived benefits from digital tools.

To identify relationships between core variables, Pearson's correlation analysis was conducted. This revealed how strongly improvements in internal efficiency and market reach related to perceived revenue growth. Further, a regression model was applied to evaluate whether these factors could statistically predict changes in sales performance. On the qualitative side, responses from SME representatives were manually reviewed and coded thematically. This analysis supported the quantitative findings by offering contextual depth highlighting operational challenges, perceptions of value, and sector-specific barriers faced by SMEs during digital transformation. Together, these analytical approaches offered a

well-rounded view of how digitalisation is currently shaping business outcomes in the UAE's SME building materials sector.

4.5 Analysis of Quantitative Results

This section presents the statistical findings from the survey responses, focusing on the relationships between operational efficiency, market reach, and revenue growth.

4.5.1 Correlation Analysis

A Pearson correlation test was used to explore relationships between the main variables. The results showed a statistically significant positive correlation between operational efficiency and revenue growth ($r = .201$, $p = .005$), suggesting that SMEs who felt more efficient after digital adoption also experienced improved revenue.

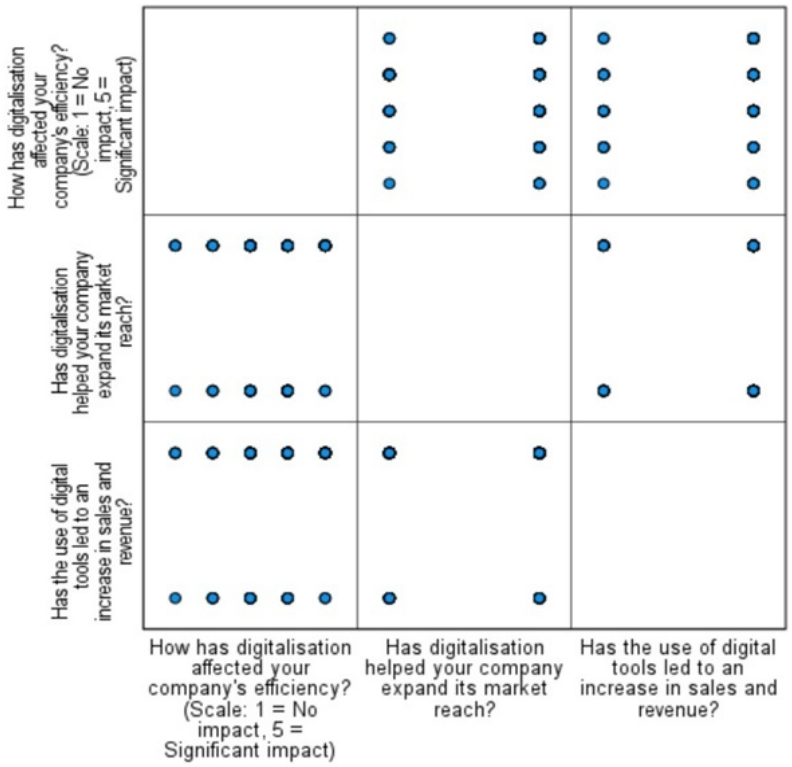

Figure 5: Scatterplot matrix displaying pairwise relationships among digitalisation outcomes: efficiency, market reach, and revenue growth.

4.5.2 Regression Analysis

A multiple regression model was run to assess how well efficiency and market reach predicted revenue growth. The model was statistically significant ($F = 5.582$, $p = .004$), though the explained variance was modest ($R^2 = .054$). Among the predictors, efficiency showed a significant effect on revenue ($B = .068$, $p = .005$), while market reach did not ($B = .079$, $p = .090$). This further reinforces the finding that internal improvements are more strongly linked to financial performance than external market expansion.

4.5.3 ANOVA Summary

The ANOVA test confirmed the regression model's overall validity ($F = 5.582$, $p = .004$). This means the combination of predictors (efficiency and market reach) explains a statistically significant portion of the variation in revenue growth, even if not all predictors were individually significant.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.233[a]	.054	.045	.309	.054	5.582	2	194	.004

a. Predictors: (Constant), Has digitalisation helped your company expand its market reach? , How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)

b. Dependent Variable: Has the use of digital tools led to an increase in sales and revenue?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.063	2	.532	5.582	.004[b]
	Residual	18.480	194	.095		
	Total	19.543	196			

a. Dependent Variable: Has the use of digital tools led to an increase in sales and revenue?

b. Predictors: (Constant), Has digitalisation helped your company expand its market reach? , How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)

Figure 6: Regression output showing Model Summary, ANOVA, and partial Coefficients for predictors of revenue growth

4.5.4 Coefficients Table

The coefficient table highlighted that efficiency was a significant predictor of revenue growth (p = .005), while market reach was not (p = .090). This suggests that improved internal processes may be a more reliable indicator of business performance than expanding into new markets.

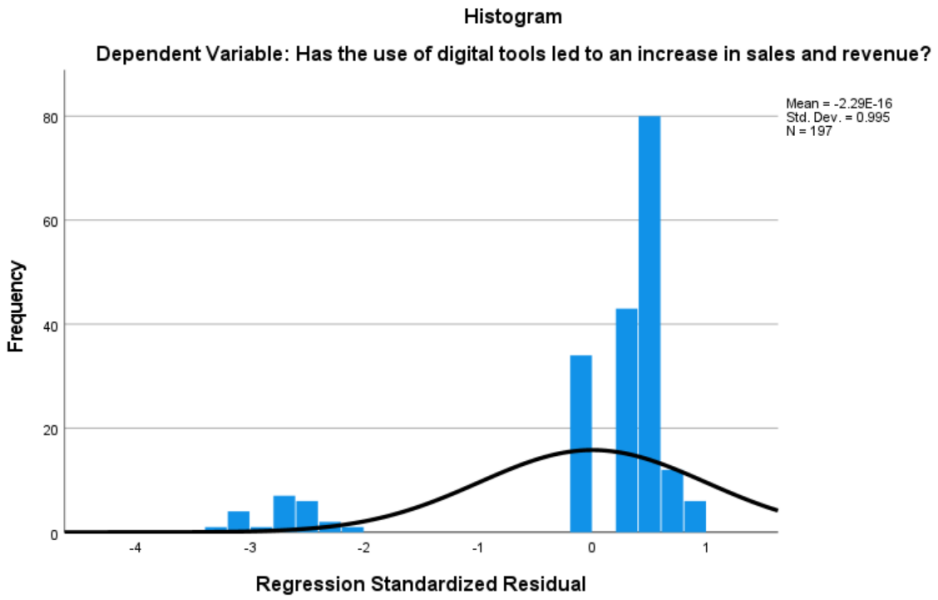

Figure 7: Histogram of standardized residuals assessing normality in the regression model

4.5.5 Collinearity Diagnostics & Residuals Check

No multicollinearity issues were detected in the model (VIF values < 1.5). Residuals were normally distributed, supporting the model's reliability.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	How has digitalisation affected your company's efficiency? (Scale: 1 = No impact, 5 = Significant impact)	Has digitalisation helped your company expand its market reach?
1	1	2.718	1.000	.01	.01	.04
	2	.254	3.270	.02	.04	.93
	3	.028	9.805	.97	.95	.03

a. Dependent Variable: Has the use of digital tools led to an increase in sales and revenue?

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.65	1.00	.89	.074	197
Residual	-1.000	.283	.000	.307	197
Std. Predicted Value	-3.253	1.520	.000	1.000	197
Std. Residual	-3.241	.917	.000	.995	197

a. Dependent Variable: Has the use of digital tools led to an increase in sales and revenue?

Figure 8: Regression diagnostics showing collinearity indices and residual statistics for the revenue prediction model

Has the use of digital tools led to an increase in sales and revenue?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	22	9.5	11.2	11.2
	1	175	75.4	88.8	100.0
	Total	197	84.9	100.0	
Missing	System	35	15.1		
Total		232	100.0		

Figure 9: Participant responses on whether digital tools led to an increase in sales and revenue

4.5.6 Qualitative Results - Thematic Analysis

Open-ended responses revealed common themes such as smoother operations, cost barriers, mixed views on return on investment, and a perceived lack of external support. Many respondents saw digitalisation as essential for remaining competitive, but not all linked it directly to revenue improvement. These themes supported the quantitative findings by adding real-world perspective on efficiency and digital readiness.

4.5.7 Hypothesis Review

This section presents the outcomes of the three-core hypothesis which are tested in the study along with a brief rationale on the data analysis.

- **H1:** Digitalisation improves efficiency – **Supported**

  Majority of respondents reported efficient coordination and improved workflows in an organisation after adopting digital tools like ERP and digital invoicing systems. This descriptive data and qualitative comments both confirmed that digitalisation led us to measurable gains in efficiency.
- **H2:** Improved efficiency leads to revenue growth **– Supported**

  Correlation and regression analyses presented that there is a significant relationship between operational efficiency and revenue grown. This shows that firms experiencing efficiency improvements were more likely to report higher revenues, supporting second hypothesis.
- **H3:** Market reach leads to revenue growth – **Not supported**

  Some enterprises may expand their market reach through digital tools however regression analysis shows that market reach was not a statistically predictor of revenue growth. This shows that external growth efforts alone do not guarantee improved performance unless supported by internal readiness and operational strength.

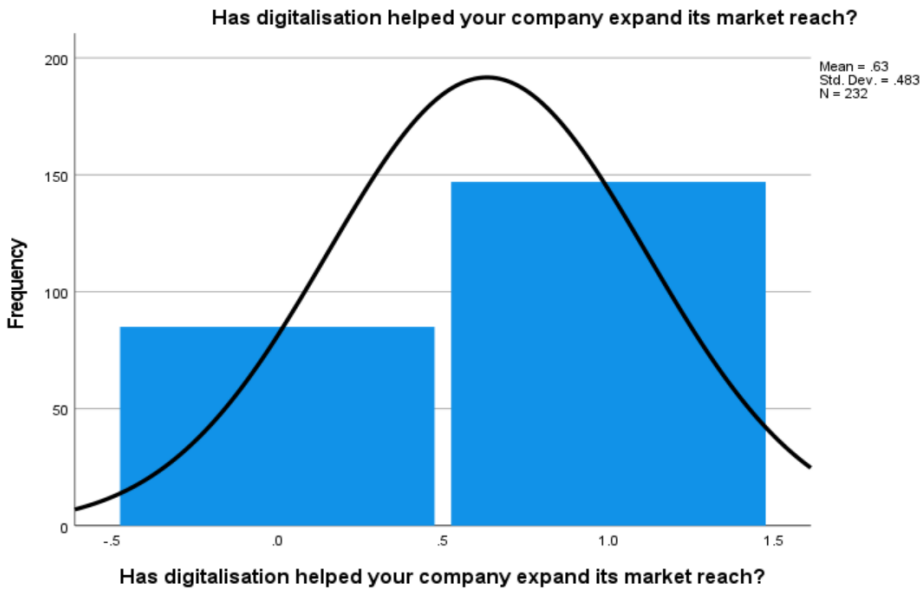

Figure 10: Histogram with normal curve for responses on digitalisation's impact on market reach

4.5.8 Summary of Analysis

The findings from this study clearly highlight those internal improvements especially in operational efficiency play a far more important role in SME revenue growth than market expansion efforts. This was supported consistently across correlation and regression analysis. Businesses that reported smoother workflows, better organisation, and more streamlined processes after adopting digital tools were also more likely to experience an increase in revenue.

In contrast, expanding market reach did not show a strong or significant impact on revenue. This suggests that simply reaching more customers or operating in wider markets is not enough if internal systems and processes are not functioning efficiently. For SMEs with limited resources, investing in internal improvements may be a more practical and effective use of digital tools than focusing only on external growth.

The qualitative responses also added valuable context. Few participants expressed that while digital tools made daily operations easier, challenges like cost, training

gaps, and lack of structured support made it difficult to scale up or enter new markets confidently. These insights help explain why efficiency showed a stronger statistical relationship with revenue growth because it reflects real, everyday gains that businesses can immediately act upon.

Overall, the results suggest that digital transformation in SMEs is most impactful when it strengthens internal capabilities. External growth may follow, but it appears to rely heavily on a solid operational foundation being in place first.

5 DISCUSSION

This chapter presents the discussion of the results presented in the previous chapters and links back to the research question, hypotheses and literature review. It emphasizes the meaning behind the key findings, aligns where they align or differ with earlier studies, and presents interpretation and theoretical implications.

5.1 Interpretation of Key Findings

This study presents how much digitalisation can impact business growth, especially for medium-sized building material traders in the UAE. Most of the businesses that adopted digital tools like ERP systems, CRM platforms, and online sales channels saw clear improvements in how they managed their operations. These improvements were not just small efficiencies; they helped businesses operate faster, with fewer mistakes, and better overall organization. This supports what researchers like Frank et al. (2019) and Shahadat et al. (2023) have also observed that digital technologies today are far more than just support tools; they are becoming essential for business survival and success.

At the same time, the findings showed that while digitalisation helped improve how companies worked internally, its role in increasing revenue was a little less direct. Many businesses reported that their market reach had expanded thanks to digital tools, but this did not always immediately translate into higher sales. Bella et al. (2024) made a similar observation, arguing that digital adoption must be aligned with the company's overall strategy and customer engagement to produce real commercial benefits.

Another important point that emerged from the results was how critical the company's internal environment is when adopting new technologies. Leadership support, the skills of the workforce, and the availability of resources all strongly influenced the success of digital efforts. In fact, these internal factors seemed even more important than external pressures, like competition or market trends.

Shahadat et al. (2023) also pointed out that in the case of SMEs, readiness within the organization often outweighs external factors when it comes to successful digital transformation.

Overall, digitalisation can be a powerful tool for business improvement. But just installing new technologies is not enough. To get the most out of digital investments, businesses must also invest in their people, align their strategies, and build a culture that supports ongoing learning and change.

5.2 Comparison with Previous Studies

When comparing the results of this study with earlier research, both similarities and differences become clear. One of the main consistencies is how digital tool adoption leads to better internal processes. Just like Ghobakhloo & Iranmanesh (2021) and Frank et al. (2019) found, this study shows that using technologies like ERP systems and e-commerce platforms helps SMEs manage their operations more efficiently, reduce administrative work, and avoid common errors.

However, there were also differences. In some earlier studies, especially Frank et al. (2019), a strong link was suggested between expanding digital presence and growing revenue. But the findings from this research show a more complicated picture. While many businesses in this study felt that digital tools helped them expand into new markets, this expansion did not always result in higher sales. Bella et al. (2024) made a similar point, suggesting that just reaching more customers digitally is not enough; companies must also rethink their value propositions and customer experience to truly benefit financially.

Another key observation is related to the role of internal factors. This study adds weight to the newer argument made by Shahadat et al. (2023) that internal organizational factors, like management support and employee skills, now have a bigger impact on the success of digitalisation efforts than external environmental pressures. Traditional models, like the original TOE framework, focused a lot on

technological and environmental drivers. But today, it seems internal readiness plays a much bigger role, especially for SMEs.

In short, the results of this research fit well with parts of previous studies, but they also offer some new insights. They show that while digitalisation is clearly helpful, making it truly profitable requires deeper organizational change and smarter business strategies.

5.3 Implications for Theory and Practice

5.3.1 Theoretical Contributions

The findings of this study help to build on existing theories about how SMEs handle digital transformation. First, they give strong support to the ideas behind the Resource-Based View (RBV). The study shows that internal resources, like having skilled employees and forward-thinking leadership, are just as important if not more important than the technologies themselves when it comes to gaining an advantage (Ghobakhloo & Iranmanesh, 2021).

Alongside RBV, the study also reinforces the importance of the Task-Technology Fit (TTF) framework. According to TTF, technology brings real value only when it fits the specific tasks users need to perform. In this research, businesses that aligned their digital tools closely with operational tasks and supported them with the right employee skills and management backing reported much better outcomes. Shahadat et al. (2023) also emphasized that a strong fit between tasks and technology is critical, especially in small and medium enterprises. As digital tools become more advanced, ensuring that new systems help employees complete their everyday tasks efficiently becomes even more essential for realizing performance gains.

5.3.2 Practical Implications

For business owners and managers, the message from this study is clear: start with your people. Before focusing on expanding into new digital markets, SMEs should make sure their internal processes are strong, and their teams are ready to make the most of digital tools. Staff training, leadership support, and encouraging a culture that welcomes change can make a big difference in how successful digital projects turn out.

For policymakers, the study highlights the need to design targeted support programs. Simply encouraging SMEs to adopt technology is not enough. Governments and agencies should offer financial incentives, affordable digital training programs, and infrastructure development especially aimed at medium-sized businesses that may not have the resources of larger corporations. This fits with what Bella et al. (2024) emphasized: that SME-focused programs need to be flexible, accessible, and practical for businesses that are trying to adapt in real-world conditions.

5.4 Challenges and Future Prospects in Digitalisation for SMEs

While digitalisation brings a lot of benefits, getting there isn't always easy, especially for medium-sized businesses. One of the biggest challenges that came up in this study was cost. Setting up systems like ERP platforms, keeping cybersecurity strong, and regularly training employees all demand a lot of money. For SMEs that are already working with tight budgets, these extra costs can feel overwhelming (Shahadat et al., 2023). Even if they see the long-term benefits, finding the upfront investment can be tough.

Another issue is how ready employees are for digital change. It’s one thing for a company to buy new technology, but if the staff aren’t trained or motivated to use it properly, the investment might not pay off. Bella et al. (2024) also pointed this out buying the tools is only half the battle. Companies need to build a culture that supports ongoing learning and change. Simply running a few training sessions isn't

enough; employees must believe that change is part of the company's way forward.

Another obstacle exists due to inadequate infrastructure developments. In many places, especially outside big cities, companies still struggle with slow internet speeds, expensive cloud services, and weak cybersecurity options. According to Solari et al. (2024) strong digital infrastructure serves as a crucial factor for SMEs to avoid loss in the face of industry trends which focus on intelligent supply chain connectivity. Reliable technology access stands higher in importance than basic technology availability.

Even with all these obstacles, there are real reasons to be hopeful. Cloud-based tools have become more affordable and flexible, giving SMEs a chance to adopt digital solutions step-by-step instead of making huge upfront investments. Governments are also paying more attention to SME needs, offering grants, training programs, and innovation hubs to help ease the transition (Bella et al., 2024).

Finally, global events like the COVID-19 pandemic and supply chain disruptions have taught many businesses that resilience matters. Those SMEs that learn how to use digital tools smartly whether through better customer engagement, smarter manufacturing, or using AI to understand their markets are likely to do better in the long run (Solari et al., 2024).

All in all, while the path to digital transformation can feel steep, businesses that start small, keep building internal skills, and stay open to change have a real chance to thrive.

6 RECOMMENDATIONS

Based on the findings of this study, this chapter offers a set of targeted, critical recommendations for two main audiences: industry stakeholders and policymakers. These recommendations are not general suggestions but are rooted in the realities of digital transformation among medium-scale building material traders. They reflect both the opportunities and the complex challenges highlighted by the research, particularly around leadership readiness, technology-task fit, infrastructure gaps, and sustainable digital practices.

6.1 Recommendations for Industry Stakeholders

Recommendations for Industry Stakeholders are as follows:

6.1.1 Prioritize Strategic Adoption of Digital Tools

Many businesses fall into the trap of adopting digital tools simply because competitors do, without first assessing whether the tool fits their specific tasks. This study reinforces the importance of Task-Technology Fit (TTF). SMEs should not rush to adopt popular platforms but should critically evaluate whether each technology genuinely supports their core operations. Tools that create additional complexity without solving real problems should be avoided, even if they are industry trends. A technology that does not align with the everyday tasks of employees is likely to be resisted or underutilized, leading to wasted investment and organizational frustration.

6.1.2 Leadership Must Drive, Not Just Approve, Digital Change

Leadership training cannot be treated as optional. This research shows that without active leadership support, even well-selected technologies fail to deliver their intended benefits. Leaders must move beyond approving budgets for digital tools and take an active role in communicating the purpose of digital initiatives, demonstrating openness to learning, and modelling digital behaviours themselves.

Without visible leadership commitment, digital projects often stall at the implementation phase, undermining trust and morale across the workforce.

6.1.3 Integrate Digital Training into Daily Work Practices

Offering occasional workshops is not enough to build digital maturity. This study highlights that sporadic, isolated training sessions quickly lose impact unless new digital practices are continuously reinforced through real work processes. SMEs must embed training into the daily workflow: short, targeted training modules, peer-led learning groups, and regular feedback loops can normalize digital skills over time. Without integration, training becomes a tick-box exercise rather than a transformative tool.

6.1.4 Strengthen Organizational Readiness Before Expanding Market Reach

Expanding market reach digitally is a valid goal, but businesses must first ensure that their internal processes, customer management systems, and supply chains are fully digitized and reliable. Rushing into digital marketing without first strengthening the operational backbone risks amplifying inefficiencies, disappointing customers, and damaging brand credibility. As RBV suggests, sustainable advantage comes from strengthening internal resources before engaging with external opportunities.

6.2 Recommendations for Policymakers

Recommendations for Policymakers are as follows:

6.2.1 Rethink Incentive Structures Beyond Adoption Metrics

Current incentive models largely focus on how many businesses adopt new technologies, often measured by software installation rates or registration on digital platforms. However, this study shows that adoption alone does not guarantee success. Incentives should reward measurable integration outcomes for example,

improvements in operational efficiency, employee digital skills development, or customer service metrics. Funding should prioritize SMEs that demonstrate commitment to embedding digital tools into their business models rather than those simply purchasing licenses.

6.2.2 Provide Long-Term Skill Development Support, Not Just Technology Vouchers

Policy efforts must move beyond offering subsidies for hardware and software purchases. Long-term, low-cost access to digital skills development programs, particularly those that teach practical, task-based digital skills, is critical. Training offerings should be modular, flexible, and tailored to SME realities allowing employees to learn gradually while staying productive. Without a focus on skills, expensive technology investments risk becoming underutilized assets.

6.2.3 Address Digital Infrastructure Inequities to Level the Playing Field

The study also revealed that SMEs in less connected areas face serious infrastructure disadvantages. High-speed internet access, reliable cloud services, and affordable cybersecurity protections must be viewed as economic necessities, not luxuries. Policymakers need to extend digital infrastructure development to industrial zones, semi-urban areas, and emerging markets to prevent uneven digital growth that leaves smaller businesses behind.

6.2.4 Promote Sustainable Digitalisation, Not Just Rapid Adoption

Policymakers should be cautious about pushing for rapid digital adoption without considering long-term sustainability. SMEs forced to adopt technologies too quickly without organizational readiness are likely to experience burnout, wasted investments, or even operational disruptions. Policy frameworks should emphasize phased digital transformation models, encouraging businesses to move at a pace that allows both technological and cultural adaptation.

7 CONCLUSION

This chapter finally summarizes the main findings of the thesis and reflects what's significant in the context of digitalisation and its role in shaping SMEs.

7.1 Summary of Findings

This research investigated how digitalisation affects business success of medium-sized building material traders operating in the UAE. The findings show that adopting digital tools like ERP systems, CRM platforms, and e-commerce solutions led to significant improvements in operational efficiency. Proactive businesses that chose digital technologies wisely were able to optimize internal operations as well as minimize human mistakes while improving business efficiency. The study findings support both Resource-Based View (RBV) and Task-Technology Fit (TTF) concepts which stress that internal capabilities together with proper task-technology alignments represent fundamental features (Ghobakhloo & Iranmanesh, 2021); Shahadat et al., 2023).

However, the study also found that expanding market reach through digital means did not automatically lead to increased revenues. Although businesses reported improved customer outreach and visibility, this did not always translate into immediate financial gains. This highlights that while digitalisation can open new doors, sustainable success still depends on how well businesses integrate these tools into their broader strategies, particularly in customer engagement and value delivery (Bella et al., 2024).

Another important finding is the central role of internal organizational factors. Leadership commitment, employee digital skills, and resource availability emerged as major drivers of successful digital transformation. Without a supportive internal environment, even the best technologies often fell short of delivering their promised benefits. This underlines the need for SMEs to focus not only on

technology acquisition but also on cultural and capability building if they aim to achieve real competitive advantage.

Overall, digitalisation has proven to be a powerful enabler of operational success among SMEs, but its full business impact is realized only when it is accompanied by strategic alignment, leadership engagement, and continuous workforce development.

7.2 Future Research Directions

While this study offers valuable insights, it also opens several avenues for future research. One promising area would be to conduct long-term studies tracking how digitalisation affects business performance over a period of five to ten years. Operational efficiencies may translate into financial and strategic advantages only after sustained digital maturity, and short-term studies like this one may not capture the full picture.

Future research could also explore cross-sector comparisons, examining whether SMEs in service industries, retail, or manufacturing experience similar digitalisation impacts compared to those in the building material sector. Different sectors might show different levels of technology adoption readiness, task-technology fit, and customer engagement dynamics. Another important direction would be to investigate micro-enterprises (businesses with fewer than 10 employees). Their resource constraints and management structures are often very different from medium-sized enterprises, and understanding how they approach digital transformation could offer new insights into grassroots-level digitalisation.

Finally, it would be worthwhile to study how SMEs can leverage digitalisation not only for financial growth but also for sustainability goals. As businesses worldwide move toward greener practices, exploring how digital tools can help SMEs reduce environmental footprints while boosting performance could bridge two critical global agendas: digital transformation and sustainability.

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APPENDICES

APPENDIX 1

Survey Questionnaire

Section 1: General Information

1. What is your role in the company?
    a. Owner
    b. Manager
    c. Employee
    d. Other
2. How long has your company been in operation?
    a. Less than 1 year
    b. 1-5 years
    c. 6-10 years
    d. More than 10 years
3. How many employees does your company have?
    a. 1-10
    b. 11-50
    c. 51-100
    d. More than 100
4. What is the primary business activity of your company?
    a. Wholesale
    b. Retail
    c. Manufacturing
    d. Other

Section 2: Digital Adoption and Usage

5. What digital tools does your company currently use? (Select all that apply)
    a. E-commerce platforms
    b. Enterprise Resource Planning (ERP) systems
    c. Customer Relationship Management (CRM) software
    d. Digital marketing (social media, SEO, email marketing)
    e. Online payment systems
    f. Inventory management tools
    g. Cloud computing services
    h. None of the above
6. How long has your company been using digital tools?
    a. Less than 1 year

   b. 1-3 years
   c. More than 3 years
7. What motivated your company to adopt digital tools?
   a. Competitive advantage
   b. Customer demand
   c. Cost savings
   d. Government regulations
   e. Other (please specify)
8. How frequently do you update or improve your digital tools?
   a. Regularly
   b. Occasionally
   c. Rarely
   d. Never

Section 3: Impact of Digitalisation on Business Success

9. How has digitalisation affected your company's efficiency?

   (Scale: 1 = No impact, 5 = Significant impact)

10. Has digitalisation helped your company expand its market reach?
    a. Yes
    b. No
11. Has the use of digital tools led to an increase in sales and revenue?
    a. Yes
    b. No
    c. Not Sure
12. What are the areas of your business have seen the most improvement due to digitalisation? (Select up to two)
    a. Operational efficiency
    b. Customer engagement
    c. Revenue growth
    d. Inventory management
    e. Supplier relationships
    f. Other (please specify)

Section 4: Challenges in Digital Adoption

13. What challenges has your company faced in adopting digital tools? (Select all that apply)
    a. High implementation costs
    b. Lack of technical expertise
    c. Resistance from employees
    d. Cybersecurity risks

e. Compatibility issues with existing systems
f. Lack of customer readiness
g. Other (please specify)

14. If you have not adopted digital tools, what is the main reason?
    a. Cost
    b. Lack of knowledge
    c. No perceived benefit
    d. Other (please specify)

Section 5: Support and Future Digitalisation Plans

15. Have you received any government or industry support for digitalisation?
    a. Yes
    b. No
    c. Not Sure
16. What kind of support would help your company adopt more digital tools?
    a. Grants
    b. Training
    c. Technical assistance
    d. Lower costs
    e. Other (please specify)
17. Do you plan to invest more in digital tools in the next 2 years?
    a. Yes
    b. No
    c. Not Sure
18. What is the most important factor in deciding whether to adopt a new digital tool?
    a. Cost
    b. Ease of use
    c. Business need
    d. Customer demand

Section 6: Open-Ended Questions (For Qualitative Insights)

19. In your experience, what has been the biggest benefit of digitalisation for your business?

    Paragraph answer expected

20. What advice would you give to other medium-scale building material traders considering digital adoption?

    Paragraph answer expected