Systematic Review

The Impact of IT Strategic Planning Process on SME Performance: A Systematic Review

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Abstract: Information technology (IT) strategic planning plays a pivotal role in enhancing the performance of small and medium-sized enterprises (SMEs), improving operational efficiency and decision-making, and fostering innovation. This systematic review aims to synthesize the impacts of IT strategic planning on SME performance, focusing on key performance indicators such as operational efficiency, cost reduction, and customer satisfaction. A total of 80 studies were rigorously analyzed. Quantitative methods were used in 45% of the studies, while 25% applied thematic analysis. The adoption of cloud-based solutions (11.25%) and hybrid IT setups (17.5%) were also evaluated as critical enablers of flexibility and cost-efficiency. SMEs aligning their IT strategies with business objectives demonstrated up to a 20% reduction in operational costs and a 15% increase in customer satisfaction. Resource constraints were identified as a significant challenge in 60% of the studies. Nevertheless, effective IT planning contributed to long-term sustainability and competitive advantage in 60% of the reviewed studies. This review provides actionable insights and strategic frameworks to guide SMEs in optimizing their IT investments, overcoming resource limitations, and ensuring sustainable growth.

1. Introduction

Information technology (IT) strategic planning has become a crucial factor in enhancing the performance, competitiveness, and sustainability of small and medium enterprises (SMEs) in today's dynamic business environment. SMEs represent a significant portion of the global economy, contributing to job creation and innovation. However, they often face unique challenges, such as limited resources, market access, and technological expertise. Therefore, focusing on SMEs allows for a deeper understanding of the specific strategies that can facilitate their growth and sustainability in an increasingly digital world. IT strategic planning involves aligning IT capabilities with business objectives to improve operational efficiency and innovation, thus enabling SMEs to compete more effectively despite these resource constraints. Numerous studies have highlighted the potential of IT to transform business processes, but the specific impact of IT strategic planning on the performance of SMEs remains underexplored and calls for deeper investigation (Johanson & Oliveira, 2024; Khurana et al., 2022; Munteanu et al., 2022; Pandey et al., 2024; Syrová & Špička, 2022; Kareem et al., 2024).

In recent years, the integration of IT into SME strategic planning has become essential for navigating the challenges of a highly competitive and rapidly evolv-

ing market landscape. Studies have shown that incorporating IT into strategic planning enables SMEs to leverage emerging technologies such as cloud computing, artificial intelligence (AI), and blockchain, which offer scalable and cost-effective solutions (Pombo & Franco, 2023; Younas, 2024). These technologies have become vital tools for SMEs to streamline operations, foster innovation, and enhance customer engagement (Kamariotou & Kitsios, 2024; Moursellas et al., 2022). However, despite these numerous advantages, SMEs often face significant challenges in adopting and fully integrating IT due to limitations in financial resources, expertise, and technological infrastructure (Majid et al., 2020; Grossi Chamie et al., 2023; Sharma et al., 2023; Drechsler & Weißschädel, 2017).

The growing reliance on digital solutions across industries has intensified the need for SMEs to engage in effective IT strategic planning. It enables them to optimize their operations, make data-driven decisions, and respond swiftly to market changes (Corient Business Solutions, 2023; Maritan & Lee, 2017). However, the increasing pressure from evolving market dynamics and regulatory changes necessitates that SMEs not only adopt IT solutions but also develop adaptable IT strategies to address external challenges. For instance, the integration of IT into SMEs' strategic frameworks has been shown to enhance their ability to remain agile and resilient in the face of disruptions, such as changes in customer demand or new regulatory requirements (Mishrif & Khan, 2023; Hansson & Abrantes, 2023). While many SMEs recognize the need for IT strategic planning, they often face obstacles in its implementation. Factors such as resource constraints, lack of IT expertise, and the fast-paced nature of technological advancements can hinder SMEs from fully realizing the benefits of IT investments. Furthermore, studies have emphasized that the lack of a clear IT roadmap can result in inefficiencies and missed growth opportunities (Ghobakhloo & Tang, 2015; AlQershi, 2021; Yang & Meho, 2007). As a result, SMEs must adopt a more structured approach to IT strategic planning, ensuring that their IT investments align with their long-term business goals.

As shown in Appendix A, the existing literature on strategic planning in SMEs reveals several key gaps that the proposed systematic review aims to address. Firstly, many studies (Alomari, 2019; Gatukui & Katuse, 2014; Sornette, 2021; Waiganjo et al., 2021; Ali, 2018; Moeuf et al., 2018; Gamage et al., 2020; Yangailo & Mpundu, 2023; Prasanna et al., 2019; Klewitz & Hansen, 2014; Q. S. A. Ali et al., 2023; Mbuyisa & Leonard, 2016; Mellett & O'Brien, 2014; Akbar et al., 2017; Kidombo, 2014; Miller et al., 2016; Singh et al., 2010; Tchouwo et al., 2021; Mory-Alvarado et al., 2023) suffer from limited generalizability due to their focus on specific industries or regions, making it difficult to apply their findings across diverse SME contexts. Additionally, some reviews focus more on larger enterprises or provide fragmented insights that overlook the unique challenges that SMEs face. Methodological constraints are also apparent, with several studies offering high-level or theoretical solutions that lack practical application for resource-constrained SMEs. A significant gap lies in the underexplored role of IT strategic planning, with most studies failing to provide in-depth analyses of how aligning IT investments with business goals can enhance efficiency, decision-making, and adaptability. Furthermore, while general challenges such as resource limitations and lack of expertise are mentioned, they are often not addressed meaningfully. The proposed systematic review seeks to fill these gaps by delivering a more comprehensive, methodologically rigorous analysis that focuses on the specific processes and impacts of IT strategic planning on SME performance.

2. Research Questions

Although some studies have been performed that impact the IT strategic planning process on SME performance, a complete overview that systematically addresses the precise effect of the IT strategic planning processes on SMEs remains restricted within the existing literature. Therefore, this current work proposes how to discover the tricky relationship between IT strategic planning and SME performance. To guide this systematic review and deepen the analysis, the following research questions are proposed:

- How does the integration of IT strategic planning with business methods impact the operational performance of SMEs?
- What are the key challenges faced by SMEs in incorporating IT strategic planning, and what strategies can be employed to overcome these obstacles?
- How do external factors such as market dynamics, regulatory changes, and technological advancements influence IT strategic planning in SMEs?
- How do SMEs measure the success of their IT strategic planning efforts, and what metrics or frameworks are most effective for this evaluation?

3. Rationale

While the existing literature has explored the role of IT in enhancing operational efficiency and market competitiveness in SMEs, there is a significant gap in understanding how IT strategic planning specifically impacts long-term performance in SMEs. Small and medium-sized enterprises face unique challenges, such as limited financial resources, a lack of technical expertise, and the difficulty of adapting frameworks designed for larger corporations. These challenges make it difficult for SMEs to effectively implement and sustain IT strategies, which often leads to suboptimal outcomes.

Moreover, the existing literature tends to focus on isolated aspects of IT strategy, without providing a comprehensive view of how IT planning interacts with various external factors, such as evolving market dynamics, regulatory shifts, and rapid technological advancements. SMEs are particularly vulnerable to these external pressures, making it essential to explore how they can adapt their IT strategies in response to these changes.

This systematic review aims to address these specific gaps by examining how SMEs can overcome internal resource constraints, optimize their IT investments, and navigate external challenges to improve their operational performance and competitiveness. By focusing on these unique issues, the study seeks to provide actionable insights that will enhance IT management practices in SMEs and offer practical solutions to the challenges they face in IT strategic planning.

4. Objectives

This research aims to explore the intricate relationship between IT strategic planning and SME performance, specifically focusing on how SMEs can leverage IT strategies to improve their overall business outcomes. Based on the findings of our systematic review, the key objectives are:

- Examine the impact of IT strategic alignment on the operational performance of SMEs, focusing on measurable outcomes such as reductions in operational costs and improvements in process efficiency, which were observed in the reviewed studies where SMEs successfully implemented cloud-based IT solutions.
- Identify the role of organizational culture in the effectiveness of IT strategic planning processes within SMEs, emphasizing how organizational readiness and employee involvement have been shown to positively affect IT adoption success rates in several case studies.

- Analyze how external factors, such as marketplace dynamics and technological advancements, impact IT strategic planning, assessing their effect on key performance indicators such as market responsiveness and adaptability, as highlighted in studies that have examined the effects of regulatory changes and technological shifts on SMEs.
- Determine the critical success factors that influence the effectiveness of IT strategic planning in improving SMEs' competitive advantage, measuring outcomes like revenue growth and customer satisfaction, which were consistently linked to strategic IT investments in the reviewed literature.
- Evaluate the impact of IT governance frameworks on the alignment of IT strategic planning with business goals in SMEs, linking specific performance metrics, such as ROI and productivity gains, to governance models that have been shown to be effective for SMEs in resource-constrained environments.

5. Research Contribution

This study represents an in-depth assessment of the impact of IT strategic planning on the performance of small and medium-sized enterprises. The contributions offered by this study are substantial to every instructional literature and realistic software in the field of IT control for SMEs:

- We investigate how IT strategic planning affects significant overall performance metrics in SMEs, including operational performance and marketplace competitiveness, with insights into optimizing IT investments.
- We find that overall performance metrics are suffering from a lack of IT strategic planning and provide a structure for aligning IT initiatives with business targets, hence improving IT management practices.
- Our study gives empirical and theoretical insights into the effect ITSP would have on SME performance by addressing gaps within the current literature.
- We recommend practical guidelines to enhance IT strategies, optimize resources, and enhance overall performance to assist SMEs in attaining a competitive space.
- We define the outline of future research on IT strategic planning and SME overall performance, indicating directions for further research and innovation.

6. Research Novelty

This study presents several novel contributions to the field of IT strategic planning for small and medium-sized enterprises (SMEs), addressing gaps in the existing literature in both theoretical and practical domains:

- This study examines 14 research papers on the impact of IT strategic planning on small and medium Enterprises (SMEs), with 10 of these rated Q1/Q2, reflecting their high quality. The selected papers highlight the significance of IT strategic planning in improving operational efficiency, driving innovation, and enabling data-driven decision-making in SMEs. Key themes include the adoption of emerging technologies like cloud computing and artificial intelligence, the challenges SMEs encounter in integrating IT solutions, and the need for flexible IT strategies to adapt to changing market conditions. By focusing on these high-ranking studies, our research aims to provide new insights into the relationship between IT strategic planning and SME performance in today's evolving business environment.

- The use of the term "SMEs" in this research is a deliberate choice to ensure clarity and precision when addressing the unique challenges and opportunities of IT strategic planning for small and medium enterprises. While alternative terms like "small and medium businesses" or "medium enterprises" are used in some literature, "SMEs" is preferred for its global recognition and ability to capture the specific organizational size and scope relevant to IT adoption. This consistency strengthens the study's focus on the distinct needs of SMEs, enhancing its novelty and relevance across industries.
- Unlike prior research, which has often focused on IT strategies in larger enterprises or provided fragmented insights, this study offers a systematic and in-depth analysis specifically tailored to SMEs. It evaluates how IT strategic planning directly impacts various performance metrics, such as operational efficiency, competitiveness, and financial sustainability, which have not been thoroughly explored in previous studies for the SME context.
- This study offers new empirical findings on the optimization of IT resources in SMEs. It goes beyond general recommendations by identifying specific strategies SMEs can implement to maximize limited resources while maintaining alignment with business goals. This fills a gap in the existing literature, which typically focuses on resource optimization for larger enterprises without considering the distinctive constraints SMEs face.
- This research provides a detailed examination of external factors—such as market dynamics, regulatory changes, and technological advancements—that influence IT strategic planning in SMEs. By highlighting how these factors shape IT strategy development, this study offers new insights that SMEs can use to future-proof their IT strategies in a rapidly changing business environment.

Overview of Research Structure

This review systematically examines the impact of IT strategic planning on SME performance. It begins with a brief abstract summarizing key objectives, methods, and findings; it then proceeds into an introduction which establishes the foundational context, identifies gaps in current research, and justifies the need for a systematic review on this topic. The problem statement specifies the focus on understanding IT strategic planning's impact on SME outcomes, guiding the study through defined research questions and objectives.

In the materials and methods section, comprehensive inclusion criteria and data extraction processes ensure that only relevant, high-quality studies are analyzed. The results then present trends and challenges in IT adoption among SMEs, leading to a discussion that interprets these findings in practical and strategic terms. Lastly, the conclusion underscores the significance of aligning IT with business goals, which is the main aim of the IT strategic planning process, and outlines recommendations for further research in this area.

7. Materials and Methods

This methodology describes the detailed framework for the systematic review. It breaks down the different methods of screening relevant papers, specifying the database used, the search strategies, such as periods of the material we used, and so on. This helps to avoid misalignment of papers, as this would lead to inaccuracies when analyzing the impact of the research topic on SMEs. We also ensured that we collected an extensive range of materials published within the past 10 years to ensure accuracy. We also considered the importance of gathering materials with different viewpoints on how the studies were conducted. For example, some papers provided theoretical frameworks, some practical frameworks; some are qualitative, while others are quantitative, case studies, or surveys.

7.1. Eligibility Criteria

A systematic review of all peer-reviewed and published research relevant to evaluating the impact of IT strategic planning processes on SME performance was conducted. The review focused on research published in English over the last decade, from 2014 to 2024, covering the strategic functions, strengths, weaknesses, and implications of IT planning in SMEs. A rigorous inclusion criterion was applied to ensure that only research papers specifically addressing the comprehensive evaluation of IT strategic planning were considered while excluding those with broader or unrelated focuses. As a result, only peer-reviewed studies that concentrated on the functional impact, performance, benefits, and challenges of IT strategic planning in SMEs were included. The detailed inclusion and exclusion criteria for this study are outlined in Table 1.

Table 1. Proposed inclusion and exclusion criteria.

Criteria	Inclusion	Exclusion
Topic	Publications focusing on the impact of IT strategic planning process on SMEs' performance	Publications that do not relate to the impact of the IT strategic planning process on SME performance
Research Framework	The article must include a research framework or methodology for the impact of the IT strategic planning process on SME performance	Articles lacking a clear research framework related to evaluating the impact of IT strategic planning Process on SME performance
Language	Must be written in English	Articles published in languages other than English
Period	Articles between 2014 and 2024 [1]	Articles outside the range between 2014 and 2024

[1] (Haleem & Jehangir, 2019; AlQershi et al., 2021; Pinrattananont, 2015; Lecerf & Omrani, 2020; Pratono, 2016; F. Kitsios & Kamariotou, 2018, 2019a; Kamariotou, 2022; Kamariotou & Kitsios, 2017, 2019a, 2019b, 2019c, 2020, 2022; Anis et al., 2018; Ellitan, 2021; Tshienda, 2021; Wilkin, 2012; Yahaya & Nadarajah, 2023; Pai, 2006; Burhanudin & Isa, 2019; Kamariotou & Kitsios, 2019c; Hamdan et al., 2016; Janaputra et al., 2021; Pakusadewa et al., 2021; Donkor et al., 2018; Klačmer Čalopa, 2017; Aman, 2012; Majama & Magang, 2017; Raymond et al., 2019, 2014; Ríos-Ríos et al., 2023; Mathu, 2019; Howe, 2022; Dutot et al., 2021; Wang et al., 2015; Lacina et al., 2020; Yang et al., 2015; Makhloufi et al., 2021; R. Ali et al., 2018; Frigerio et al., 2020; Ahuja & Chan, 2017; Yu & Moon, 2019; Ahmed, 2017; L'écuyer & Raymond, 2020; Olutoyin & Flowerday, 2016; Pelletier & Raymond, 2023; Zighan & Ruel, 2021; Baporikar, 2016; Boamah-Abu & Kyobe, 2015; Jabr, 2021; Levstek et al., 2022; da Silva et al., 2021; Sane, 2020; Khalil & Belitski, 2020; Schubert, 2020; Noh & Saari, 2013; Asadi & Dahlan, 2017; Zahro et al., 2023; Adomako et al., 2022; Dong et al., 2009; Bellamy et al., 2019; Daniel et al., 2020; Hernandez, 2020; Saguy, 2022; Huebner & Flessa, 2022; Li et al., 2016; Prasetyo, 2023; Williams et al., 2019; Balaji & Murthy, 2019; Awais et al., 2023; Reiche & Reschke, 2015; Yunis et al., 2018; Buchwald et al., 2014; Turel & Bart, 2014; Yassin, 2024; Digital Transformation Skills, 2024).

7.2. Information Source

In this systematic review, Google Scholar, Web of Science, and SCOPUS were selected due to their credibility and complementary features. Google Scholar offers extensive citation coverage, surpassing Web of Science and SCOPUS in the breadth of research available. Its advantages include access to a wide array of academic literature, including journal articles, conference papers, theses, and reports, which broadens the scope of available resources.

Additionally, Google Scholar facilitates the discovery of gray literature, such as working papers and preprints, which might not be indexed in other databases. The platform's user-friendly interface and straightforward search functionality allow researchers to quickly find relevant studies, although it is criticized for its cumbersome usability in terms of displaying search results.

Web of Science and SCOPUS provide refined search experiences and reliable citation metrics, which are essential for comprehensive citation analysis. The exclusion of databases like Science Direct is based on the need for a more diverse range of sources, enhancing the robustness of the review. This combination strengthens the overall qual-

ity and comprehensiveness of the systematic review. The section could also be streamlined to present the information more concisely (Tsiu et al., 2024; Mkhize et al., 2024; Kgakatsi et al., 2024; Mothapo et al., 2024; Ngcobo et al., 2024; Mohlala et al., 2024; Chabalala et al., 2024; Ndzabukelwako et al., 2024; Maswanganyi et al., 2024; Gumede et al., 2024; Myataza et al., 2024).

7.3. Search Strategy

In addition to all the other methods used to find relevant information, the keyword search codes below, which served as the key search strategy for finding relevant information, were used. For Web of Science, each keyword code shows a limited number of papers; therefore, different codes were used. In total, we obtained 22 papers. One of the keyword code examples for Web of Science was ("IT strategic planning" OR "IT planning process") AND ("SMEs" OR "small and medium enterprises" OR "small businesses" OR "medium-sized businesses"), which returned only two results. In Google Scholar, the following search code was used to determine the results: ("IT strategic planning" OR "IT planning process" OR "strategic IT management") AND ("SMEs" OR "small and medium enterprises" OR "small businesses" OR "medium-sized businesses") AND ("performance" OR "operational performance" OR "business performance" OR "organizational performance"), which returned 570 papers. Using the same research strategy as from Google Scholar, we obtained a result of three documents from SCOPUS, then added other search codes as each showed a limited number of papers available for this topic. The online repositories utilized and the total number of results obtained before screening are detailed in Table 2.

Table 2. Literature search results.

No.	Online Repository	Number of Results
1	Google Scholar	570
2	Web of Science	22
3	SCOPUS	19
Total		611

7.4. Selection Process

The selection process involved four researchers (OB, SE, SD, BA) working collaboratively to ensure a thorough and consistent evaluation of the research papers. Three researchers independently reviewed the introductions and abstracts of eighty papers identified from the search. Any discrepancies in their selections were discussed collectively until an agreement was reached. If disagreements persisted, further discussion was held, with the third researcher (SD) providing the final decision on whether a paper should proceed to full-text evaluation. Following this initial screening, two researchers (OB, SE, SD) independently assessed the full-text articles against the inclusion criteria. As with the previous stage, any disagreements were resolved through discussion, with the fourth researcher (BA) consulting when necessary to make the final decision on inclusion or exclusion. This structured and collaborative approach was designed to ensure that the selection process was both comprehensive and objective as shown in Figure 1 (Tsiu et al., 2024; Mkhize et al., 2024; Kgakatsi et al., 2024; Mothapo et al., 2024; Ngcobo et al., 2024; Mohlala et al., 2024; Chabalala et al., 2024; Ndzabukelwako et al., 2024; Maswanganyi et al., 2024; Gumede et al., 2024; Myataza et al., 2024).

Figure 1. Selection process.

7.5. Data Collection Process

Figure 2 illustrates the systematic approach used to collect data for the study on "The Impact of IT Strategic Planning Processes on SMEs' Performance". A structured method was used to ensure accuracy and comprehensiveness during the data extraction process. Data collection was conducted using a tailored data extraction form, where three reviewers independently extracted relevant data from the selected studies, working in parallel to ensure consistency and reduce potential bias. The extracted data were then cross-checked among the reviewers to confirm accuracy. Any discrepancies were resolved through discussion, and if consensus could not be reached, a majority vote was used to finalize the data. No automation tools were used during the data extraction process. The data collection focused on studies written in the original language (English) of publication, as no translations were required. In cases where information was unclear or incomplete, the missing data were documented. Communication with the fourth reviewer (lecturer) was established to clarify uncertainties and obtain additional information when necessary. For studies with multiple reports, predefined decision rules were applied to select the most relevant data ensuring integrity and alignment with the study's objectives (Tsiu et al., 2024; Mkhize et al., 2024; Kgakatsi et al., 2024; Mothapo et al., 2024; Ngcobo et al., 2024; Mohlala et al., 2024; Chabalala et al., 2024; Ndzabukelwako et al., 2024; Maswanganyi et al., 2024; Gumede et al., 2024; Myataza et al., 2024).
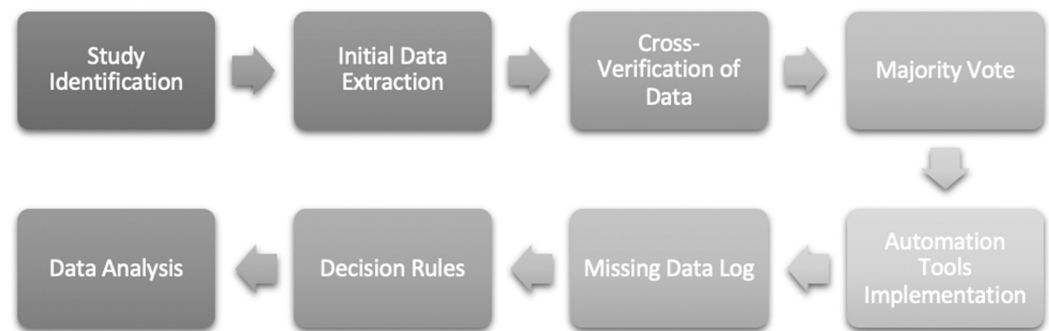
Figure 2. Data Collection Process.

7.6. Data Items

7.6.1. Data Collection Method

The records series examined several critical effects of IT strategic planning in SMEs, categorizing them into distinct domains relevant to the study's objectives as shown in Figure 3. Strategic planning effectiveness focuses on evaluating the overall success of IT strategic planning within SMEs. This domain includes metrics such as alignment with business objectives, success in implementation, and the perceived value of IT strategies. These measures help assess how well IT initiatives are integrated into organizational goals and their impact on achieving desired outcomes. Performance metrics pertain to operational indicators that reflect the improvements brought about by IT strategic planning. This includes enhancements in productivity, cost reductions, and sales growth resulting from effective IT strategy execution. These metrics offer insight into how IT investments translate into tangible business benefits. Technology adoption and utilization explores how effectively SMEs are incorporating recent technologies into their IT strategies. It encompasses adoption rates, usage patterns, and the integration of these technologies into business processes. This domain helps assess the efficiency and impact of technological advancements on organizational operations. Employee and stakeholder satisfaction evaluates the effects of IT systems and strategies on employee satisfaction and stakeholder perceptions. This includes assessing how IT initiatives influence employee contentment and the overall perception of IT's contribution to business performance. Understanding these outcomes is crucial for gauging the broader impact of IT strategic planning on organizational dynamics and stakeholder relationships (Tsiu et al., 2024; Mkhize et al., 2024; Kgakatsi et al., 2024; Mothapo et al., 2024; Ngcobo et al., 2024; Mohlala et al., 2024; Chabalala et al., 2024; Ndzabukelwako et al., 2024; Maswanganyi et al., 2024; Gumede et al., 2024; Myataza et al., 2024).

Figure 3. Proposed data items process.

The time frame for size varies, with a choice of records overlaying periods from six months to several years in order to size both brief periods and long-term effects. In the statistics series method, we sought all consequences like-minded with every results area from the protected studies. When more than one effect had been indicated inside an outcome area, we decided on those who furnished the maximum complete and applicable statistics. This selection was based on predefined criteria which included methodological rigor, relevance to the results area, and the presence of a couple of measures or time factors.

No modifications were made to the inclusion or definition of results domains when they were installed, ensuring consistency throughout the review. Similarly, no modifications were made to the approaches used to choose outcomes within the eligible results domains. The number one focus was on vital effects that at once impact knowledge of the effects of IT strategic planning on SMEs' performance. This approach was guided by using the core effects identified in the initial evaluation protocol and was aimed at offering a clean, proof-based evaluation of IT strategic planning's effect on SMEs.

7.6.2. Variable Data Collection

Data for this study were systematically collected and are detailed in Table 3. The report includes information on the author, year of publication, and the source of publication. This provides a comprehensive view of the origins of the research and its scholarly context. The Study section encompasses various characteristics of the SMEs involved, such as their size (measured by number of employees and revenue), industry sector, geographical location, and ownership structure. These details offer insight into the scope and context of the study's subject matter. The Participants section describes the SMEs' characteristics, including their ownership type and industry sector. This information helps to understand the diversity and relevance of the participant organizations. The Intervention details the IT strategic planning practices employed, including specific frameworks or methodologies used, the tools or software implemented, the duration of the implementation process, and the parties responsible for executing the planning. Funding Sources identify any external funding or grants received for IT strategic planning, which is crucial for understanding potential influences on the study's scope and outcomes. The Research Design and Features section outlines the study design type (whether randomized or non-randomized), sample size, the methodology used to assess the impact of IT strategic planning, and the performance metrics applied. Assumptions about Missing or Unclear Information includes any assumptions made regarding SME characteristics or implementation details in instances where specific information was unavailable. Tools Used describes the data collection tools or frameworks employed to guide data recording, including any standardized forms or assessments related to conflicts of interest.

Table 3. Variable data collection.

Criteria	Description
Title	The name of the study or article focuses on the influence of IT strategic planning on SME performance.
Year	The publication year of the study.
Online Database	The digital platform where the study is available (e.g., Google Scholar).
Journal Name	The name of the journal where the study was published.
Research Type	The format of the research (e.g., journal article, conference paper, book chapter, dissertation).
Discipline or Subject Area	The main academic area of focus (e.g., IT strategic planning, SME performance, business strategy).
Industry Context	The industry where IT strategic planning is applied (e.g., manufacturing, health, agriculture).
Geographic Location	The region or country where the study was conducted or focused.
Economic Context	The economic development of the region (e.g., developed and developing economies).
Components of IT Strategic Planning	Key elements of IT planning (e.g., goal setting, resource allocation, risk management).
IT Planning Frameworks	Specific frameworks used in the IT planning (e.g., COBIT, ITIL, TOGAF).
Technology Providers	The companies or vendors providing technology solutions.
Technology Implementation Model	The mode of technology implementation (e.g., on-premises, cloud-based, hybrid).
Research Design	The approach taken in the study (e.g., experimental, case study, survey).
Type of Study	The methodology used in the study (e.g., quantitative, qualitative, mixed methods).
Sample Size	The number of participants or data points in the study.
Sample Characteristics	The demographics or specifics of the participants (e.g., SMEs, IT managers, business strategists).
Data Collection Methods	Techniques used to gather data (e.g., interviews, surveys, observations, document analysis).
Data Analysis Techniques	The methods used for analyzing data (e.g., statistical analysis, thematic analysis).
IT Performance Metrics	Measurements of IT success (e.g., alignment with business goals, resource efficiency).
Business Performance Metrics	Indicators of business success (e.g., operational efficiency, revenue growth).
Organizational Outcomes	Effects on the organization (e.g., employee satisfaction, customer satisfaction).
Long-term Impacts	The sustained outcomes for the business (e.g., business sustainability, competitive advantage).

7.7. Study Risk of Bias Assessment

We utilized the Newcastle–Ottawa Scale (NOS), a standardized tool specifically designed to evaluate the quality of non-randomized studies. The NOS assesses three critical domains: selection of study groups, comparability of groups, and ascertainment of outcomes (Tsiu et al., 2024; Mkhize et al., 2024; Kgakatsi et al., 2024; Mothapo et al., 2024; Ngcobo et al., 2024; Mohlala et al., 2024; Chabalala et al., 2024; Ndzabukelwako et al., 2024; Maswanganyi et al., 2024; Gumede et al., 2024; Myataza et al., 2024). This tool was selected due to its comprehensive framework, which effectively identifies potential biases that may impact the validity of the study findings. Three reviewers independently reviewed each study to ensure a thorough and objective evaluation. This triple-reviewer process helped minimize individual biases and enhance the reliability of the assessments. Any discrepancies between the reviewers were resolved through discussions, and if a consensus could not be reached, a fourth reviewer was consulted. This approach ensured that the risk of bias assessments was comprehensive and accurate. No automation tools were employed in this process. All evaluations were performed manually, adhering to a structured protocol to maintain consistency and precision across all assessments. The overall risk of biased judgment was derived from the NOS ratings, and the detailed results, including any reviewer disagreements and their resolutions, have been documented to ensure transparency and support the validity of our findings. This methodical approach allowed us to accurately assess the risk of bias in non-randomized studies, providing a robust foundation for interpreting the impact of IT strategic planning on SME performance. Table 4 summarises this process.

Table 4. Study risk of bias process.

Step	Description	Details
Risk of Bias Tool	Newcastle–Ottawa Scale (NOS) tailored to non-randomized studies	Focused on the quality of study groups, group comparability, and outcome ascertainment
Bias Domains	Three critical domains were assessed	(1) Selection of study groups, (2) comparability of groups, and (3) ascertainment of outcomes
Bias Classification	Studies classified into risk levels based on assessment	Low, moderate, high, or unclear risk of bias
Consensus Process	Discrepancies resolved through discussions	A fourth reviewer was consulted if consensus could not be reached among the three initial reviewers.
Outcome	Provided thorough, reliable evaluation of bias	Ensured transparency in the risk of bias assessments and validity of the study findings on IT and SMEs

7.8. Effect Measures

To assess the impact of IT strategic planning on SME performance, we employed various effect measures to evaluate the outcomes across the selected studies as shown in Figure 4. For dichotomous outcomes, we analyzed the distribution of studies by geographic focus, which indicated a regional variation, with 40% of the studies conducted in developed countries and 60% in developing countries. This provided a comparative perspective on how geographic location might influence the effectiveness of IT strategies. For continuous data, we evaluated business performance metrics such as operational efficiency, revenue growth, and cost savings. We also examined organizational outcomes, including employee satisfaction and customer satisfaction, to measure the impact of IT strategies. The standardized mean difference (SMD) was used to compare the magnitude of change in

these performance metrics across different studies, allowing us to account for variations in measurement scales and enabling a consistent synthesis of results. These effect measures were utilized to aggregate data from multiple studies, offering a clearer understanding of the overall impact of IT strategic planning on SME performance. The interpretation of these measures was contextualized within the specific outcomes being evaluated, ensuring that the findings were meaningful and applicable to real-world scenarios faced by SMEs.

Figure 4. Effect measures of assessing the impact of IT strategic planning processes on SMEs.

7.9. Synthesis Methods

The results of the selected studies were organized into clear, structured tables and graphical formats. This approach allowed for easy identification of trends and differences, helping to present the findings in a way that was both transparent and accessible. The use of visual tools made it easier to interpret the overall impact of IT strategic planning on SME performance. To combine the data from the different studies, statistical models like fixed-effects and random-effects meta-analyses were applied. These models were selected based on the variation in the results (heterogeneity) and helped to summarize the overall effect of IT strategic planning on SMEs. The choice of models ensured that the conclusions drawn from the studies were both reliable and accurate. To explore the reasons behind differing outcomes across studies, techniques such as subgroup analysis and meta-regression were used. These methods examined factors like company size, geographical location, and industry sector to determine how they influenced the effectiveness of IT strategic planning. This step was crucial in identifying any patterns or sources of variability. Finally, a sensitivity analysis was conducted to verify the strength of the synthesized results. This involved evaluating the impact of excluding certain studies with higher risks of bias and comparing different analytical models. The robustness check ensured that the conclusions were not overly influenced by any single factor or study, maintaining the credibility of the review.

7.10. Reporting Bias Assessment

In our study on "The Impact of IT Strategic Planning Process on SMEs Performance", bias due to missing results was tried in the synthesis by critical assessment method through three independent reviewers. Each reviewer worked independently to search for any reporting biases. The assessment included a comparison of what outcomes and analyses were specified in the study protocols versus those reported in the final study documents.

We therefore employed contour-enhanced funnel plots and Egger's test for asymmetry in these analyses to check for any absence of results. Additional analyses were conducted where addon asymmetry was found. An attempt was made to determine whether methodological quality or other sources of heterogeneity were likely to be responsible for this asymmetry, and not necessarily due to publication bias. Disagreements between reviewers were resolved by a majority vote, offering some robustness to the process of this assessment. In addition, automation tools were also used to underpin the risk of bias assessment. The tools systematically examined the data for any potential bias using keyword searches and search codes. At the same time, it must be said that these tools did not have the final say; rather, human judgment played a critical role in interpreting the results and producing

ultimate decisions. There was no need to translate any documents because all data were processed in their native language. These methods have been carefully hand-picked to allow for an in-depth and accurate assessment of the risk of bias due to missing results, hence ensuring that the conclusions drawn from this study are very reliable and credible.

7.11. Certainty Assessment

To ensure the credibility of the findings, the gathered literature was assessed according to five quality assessment (QA) criteria, detailed in Table 5.

Table 5. Research quality assessment questions.

QA	Research Quality Assessment Questions
QA1	Does the study clearly define the IT strategic planning process?
QA2	Are the performance metrics used to measure SME success well-defined and relevant?
QA3	Is there evidence of a robust methodology for data collection and analysis?
QA4	Does the research account for potential biases and limitations in its findings?
QA5	How well does the study relate its findings to existing literature and theoretical frameworks?

Each criterion was rated from 0 (No) to 1 (Yes), with "Partially" receiving a score of 0.5, indicating that some aspects were met but not fully. The evaluation aimed to gauge how well the literature aligned with the research objectives or standards. A "Partly" score often reflected a lack of complete coverage or detail in addressing the criterion, while a "Yes" score indicated a thorough and satisfactory response. The overall results, as summarized in Table 6, show the total score for each piece of literature based on how well it met the five quality assessment questions. This scoring allows for a clear comparison of the strength and reliability of each source in the review.

Table 6. Research quality assessment questions evaluation.

Ref.	QA1	QA2	QA3	QA4	QA5	Total	% Grading
(Johanson & Oliveira, 2024; Pandey et al., 2024; Sharma et al., 2023; Corient Business Solutions, 2023; Mishrif & Khan, 2023; Sornette, 2021; Ali, 2018; Christofi et al., 2024; Hamdan et al., 2016)	0.5	0.5	0.5	0.5	0.5	2.5	50%
(Munteanu et al., 2022; Pombo & Franco, 2023; Majid et al., 2020; Sorooshian et al., 2016; AlQershi et al., 2021; Pratono, 2016; Kamariotou & Kitsios, 2019a; F. Kitsios & Kamariotou, 2019a, 2019b; Janaputra et al., 2021)	1	0.5	0.5	0.5	0.5	3	60%
(Younas, 2024; Kamariotou & Kitsios, 2017, 2024; Moursellas et al., 2022; Ghobakhloo & Tang, 2015; Moeuf et al., 2018; Klewitz & Hansen, 2014; Q. S. A. Ali et al., 2023; Tchouwo et al., 2021; Pinrattananont, 2015; Lecerf & Omrani, 2020; F. Kitsios & Kamariotou, 2018, 2019c; Kamariotou, 2022; Ellitan, 2021; Tshienda, 2021; Wilkin, 2012; Pai, 2006; Wang et al., 2015; Ríos-Ríos et al., 2023; Mathu, 2019)	1	0.5	0.5	0.5	1	3.5	70%
(Khurana et al., 2022; Drechsler & Weißschädel, 2017; Hansson & Abrantes, 2023; Waiganjo et al., 2021; Gamage et al., 2020; Yangailo & Mpundu, 2023; Prasanna et al., 2019; Mbuyisa & Leonard, 2016; Mellett & O'Brien, 2014; Akbar et al., 2017; Kidombo, 2014; Miller et al., 2016; Singh et al., 2010; Mory-Alvarado et al., 2023; Kamariotou & Kitsios, 2019b, 2019c; Anis et al., 2018; Yahaya & Nadarajah, 2023; Raymond et al., 2014)	0.5	1	1	1	0.5	4	80%
(Syrová & Špička, 2022; Kareem et al., 2024; Maritan & Lee, 2017; Alomari, 2019; Haleem & Jehangir, 2019; Donkor et al., 2018; Majama & Magang, 2017)	1	1	1	1	0.5	4.5	90%
(Grossi Chamie et al., 2023; Gatukui & Katuse, 2014; Haleem & Jehangir, 2019; Kamariotou & Kitsios, 2020; Pakusadewa et al., 2021; Klačmer Čalopa, 2017; Aman, 2012; Raymond et al., 2019; Howe, 2022; Dutot et al., 2021)	1	1	1	1	1	5	100%

8. Results

8.1. Study Selection

The study selection process was conducted as outlined in the following steps. A total of 18,054 records were identified from various data sources, including Google Scholar (n = 17,100), SCOPUS (n = 401), and Web of Science (n = 553) as shown in Figure 5. These records were screened for relevance based on their abstracts, resulting in 17,974 exclusions due to irrelevance to the research topic. This left eighty reports for further review, all of which were successfully retrieved, with none lost in the retrieval process. All eighty reports were assessed for eligibility, and none were excluded based on the established exclusion criteria, ensuring that all eighty reports were included in the final review. The breakdown of the included studies was as follows: 72.50% journal articles, 15.00% conference papers, 5.00% book chapters, 5.00% dissertations, and 2.50% theses. This thorough and methodical selection process ensured that the studies reviewed were aligned with the research objectives and met the inclusion criteria, offering a robust dataset for analysis.
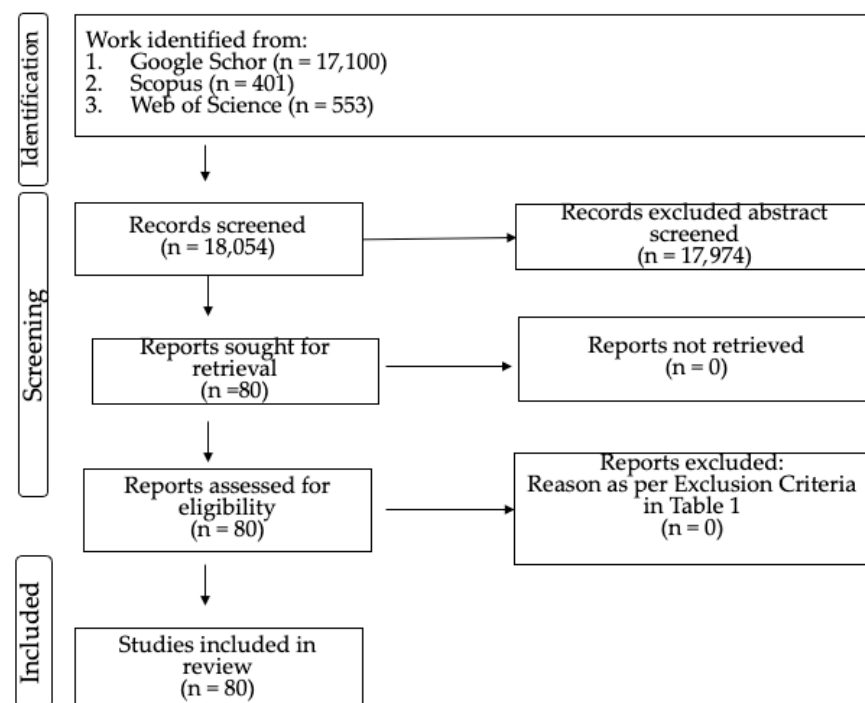

Figure 5. Proposed PRISMA flowchart.

8.2. Study Characteristics

Eighty research papers on "The Impact of IT Strategic Planning Process on SME performance" were published between 2014 and 2024. As shown in Figure 6, the data indicated a steady increase in publications, with significant peaks in 2019 and 2021. The distribution of publication types included 72.50% journal articles, 15.00% conference papers, 5.00% book chapters, 5.00% dissertations, and 2.50% theses. Journal articles dominated as the primary means of disseminating research, underlining the critical role of peer-reviewed journals in shaping this field. In terms of yearly publication trends, 2019 had the highest number of publications with twelve papers, followed closely by 2021 and 2022, each with eleven papers. Interest in the topic persisted in 2024, with eight publications. The lowest number of papers was recorded in 2015, with just one publication. This distribution suggests the growing investment of attention in IT strategic planning processes and their impact on SMEs, particularly in recent years. The dominance of journal articles as the primary research source highlighted their significant contribution to academic discussion.

Conference papers also played an important role, while book chapters, dissertations, and thesis were less common. These trends reflect increasing scholarly interest and evolving perspectives on how IT strategic planning has influenced SMEs' performance over the past decade.
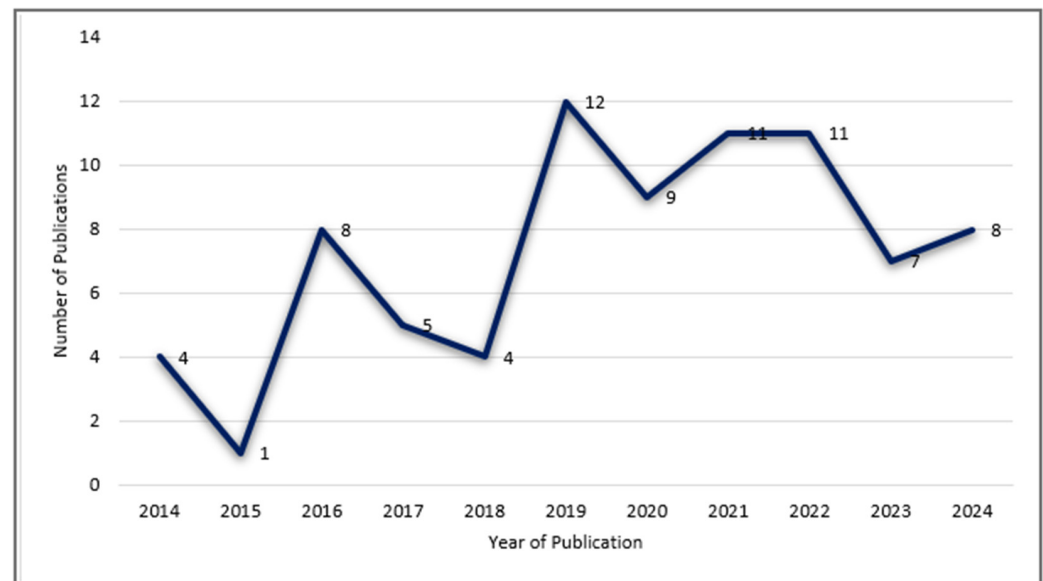

Figure 6. Research papers published by year.

The categorization of the number of publications by year is tabulated in Table 7.

Table 7. Research works by published year.

Published Year	Book Chapter	Conference Paper	Journal	Dissertation	Thesis
2014	1	1	2	0	0
2015	0	0	1	0	0
2016	1	0	7	0	0
2017	0	1	4	0	0
2018	0	0	4	0	0
2019	0	6	5	1	0
2020	0	2	7	0	0
2021	1	0	9	0	1
2022	0	2	6	2	1
2023	0	0	7	0	0
2024	1	0	6	1	0

8.3. Geographical Distribution of Papers

The geographical distribution of the papers analyzed in this study reveals a diverse representation, with certain regions contributing more significantly to the body of research on IT strategic planning in SMEs as illustrated in Figure 7. Greece stands out as the most prolific contributor, accounting for 16% of the papers. We analyzed the author's affiliations in the collected papers. This confirmed that most of the authors were indeed affiliated with Greek institutions. Consequently, the prominence of Greece in the geographical distribution was simply the result of a significant volume of work produced by researchers from this region. While this suggests a strong research interest in Greece on this topic, we acknowledge that this is one of the limitations in our review, and we recommend that future studies aim for a more diverse sample to provide a broader, more globally representative understanding of IT strategic planning impacts on SMEs, or that investigations are performed to discover why this is the case. Meanwhile, Asia, particularly Indonesia, contributed a

substantial 8% of the studies covered in this review, reflecting the rapid growth of SMEs in emerging markets and the increasing recognition of IT as a key driver for competitiveness in this region.
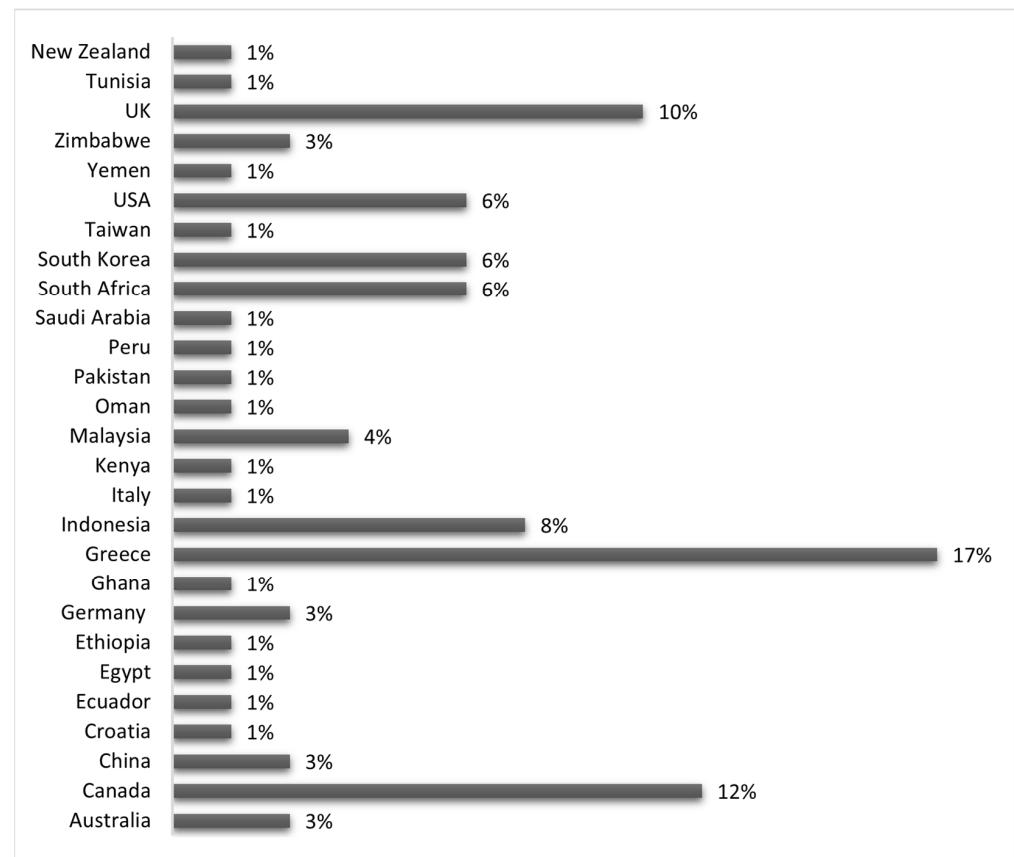

Figure 7. Geographical distribution of research papers.

In contrast, regions like Africa, Australia, and certain countries such as Oman and Saudi Arabia had lower representation, which could stem from limited research infrastructure, fewer resources dedicated to IT advancements, or lower overall SME activity in these areas. The distribution also highlighted a notable presence of papers from established economies like Canada, Germany, and the United States, which may have more developed IT sectors and a higher prevalence of research in strategic planning. Additionally, countries like South Africa and Malaysia reflect the growing awareness and investment in IT solutions to enhance SME performance.

8.4. Risk of Bias in Studies

Table 8 presents an assessment of the risk of bias using the Newcastle–Ottawa Scale, which evaluates studies based on three critical domains: Selection, Comparability, and Outcome/Exposure, with a maximum achievable score of nine stars. The Selection domain, awarding up to four stars, assesses the methods used for participant selection and allocation. Higher scores in this domain indicate more rigorous selection processes, which reduce the risk of selection bias. The Comparability domain, which can earn up to two stars, evaluates the extent to which studies control confounding variables. A higher score in this domain reflects better control and minimizes potential confounding bias. The Outcome/Exposure domain, worth a maximum of three stars, assesses the reliability and validity of outcome or exposure measurements. Higher scores indicate more accurate and reliable assessments, reducing the risk of detection bias. The overall quality of a study is

determined by its total score, with a score of eight or nine stars categorized as High Quality, indicating robust methodological practices and minimal bias. A score of six or seven stars is categorized as Moderate Quality, suggesting some methodological concerns but reliable results. This scale provides a comprehensive evaluation of each study's risk of bias and overall methodological quality.

Table 8. Proposed risk of bias assessment.

Ref.	Selection (0–4 Stars)	Comparability (0–2 Stars)	Outcome/Exposure (0–3 Stars)	Total Stars	Quality Rating
(Donkor et al., 2018; Zahro et al., 2023; Yassin, 2024)	★★	★★	★	5	Low Quality
(AlQershi et al., 2021; Kamariotou & Kitsios, 2019a; Majama & Magang, 2017; Raymond et al., 2019; Lacina et al., 2020; Makhloufi et al., 2021; R. Ali et al., 2018; Ahuja & Chan, 2017; Ahmed, 2017; Baporikar, 2016; da Silva et al., 2021; Schubert, 2020; Noh & Saari, 2013; F. Kitsios & Kamariotou, 2019a; Saguy, 2022; Li et al., 2016; Prasetyo, 2023; Balaji & Murthy, 2019)	★★★	★	★★	6	Medium Quality
(Lecerf & Omrani, 2020; F. Kitsios & Kamariotou, 2018, 2019a, 2019c; Kamariotou & Kitsios, 2019c, 2020; Ellitan, 2021; Tshienda, 2021; Wilkin, 2012; Yahaya & Nadarajah, 2023; Burhanudin & Isa, 2019; Janaputra et al., 2021; Klačmer Čalopa, 2017; Mathu, 2019; Dutot et al., 2021; Wang et al., 2015; Raymond et al., 2014; Frigerio et al., 2020; L'écuyer & Raymond, 2020; Zighan & Ruel, 2021; Sane, 2020; Asadi & Dahlan, 2017; Adomako et al., 2022; Yunis et al., 2018; Turel & Bart, 2014)	★★★	★★	★★	7	Moderate Quality
(Pratono, 2016; Kamariotou, 2022; Kamariotou & Kitsios, 2017, 2019a, 2019c; F. Kitsios & Kamariotou, 2019a; Pai, 2006; Hamdan et al., 2016; Pakusadewa et al., 2021; Yang et al., 2015; Ahuja & Chan, 2017; Olutoyin & Flowerday, 2016; Pelletier & Raymond, 2023; Boamah-Abu & Kyobe, 2015; Jabr, 2021; Khalil & Belitski, 2020; Hernandez, 2020; Williams et al., 2019; Reiche & Reschke, 2015; Buchwald et al., 2014)	★★★★	★	★★★	8	High Quality
(Haleem & Jehangir, 2019; Pinrattananont, 2015; F. Kitsios & Kamariotou, 2019c; Aman, 2012; Ríos-Ríos et al., 2023; Howe, 2022; Levstek et al., 2022; Dong et al., 2009; Huebner & Flessa, 2022; Awais et al., 2023)	★★★★	★★	★★★	9	High Quality

Figure 8 illustrates the distribution of research design types employed in the studies reviewed. Out of the eighty studies analyzed, surveys were the most frequently utilized research design, appearing in thirty-three instances. This prevalent use of surveys underscores their effectiveness in collecting a broad range of data that can be statistically analyzed, aligning with the trend toward quantitative research approaches. Surveys are particularly useful for gathering standardized responses from a large number of participants, facilitating a comprehensive understanding of various research topics. In contrast, case studies were the second most common design, used in eighteen studies. Case studies offer detailed, contextual insights into specific phenomena, providing a deeper qualitative exploration of individual cases. This approach is valuable for understanding the nuances of situations and generating rich, descriptive data.
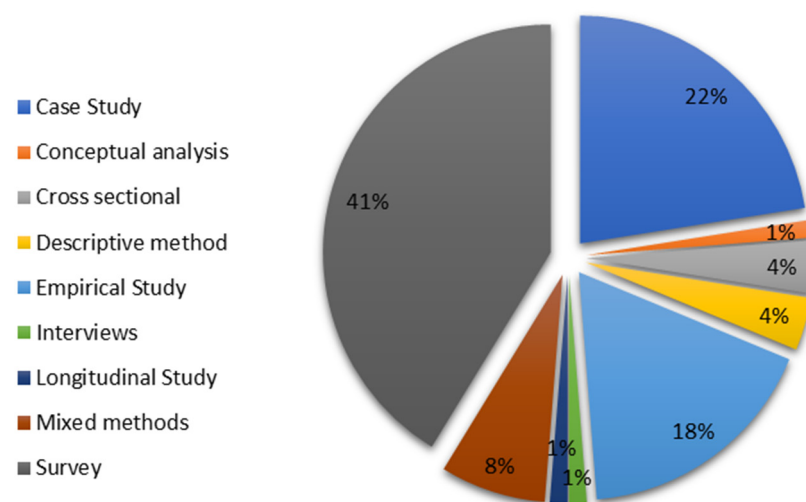

Figure 8. Research designs.

Other research designs were less frequently used. Empirical studies appeared in fourteen instances, reflecting their role in investigating phenomena through observation and experimentation. Mixed methods, which combine qualitative and quantitative approaches, were present in six studies, indicating a balanced approach to capturing both numerical data and qualitative insights. The remaining designs, including conceptual analysis, cross-sectional, descriptive method, interviews, and longitudinal studies, each had fewer instances, highlighting their more specialized applications. For example, conceptual analysis and interviews each accounted for only one study, indicating their use in exploring theoretical constructs or obtaining in-depth qualitative information.

The data reveals the various data-gathering techniques used across the eighty studies examining the impact of IT strategic planning processes on SMEs' performance. Surveys were the most frequently employed method, appearing in fifty-three studies, reflecting an emphasis on collecting large-scale quantitative data that allows researchers to identify trends and patterns related to IT strategic planning in SMEs. Interviews were used in nine studies, providing valuable qualitative insights into the experiences and perspectives of individuals involved in IT strategic planning. A mixed-method approach combining interviews and surveys was observed in fourteen studies, indicating that many researchers sought to complement quantitative data with in-depth qualitative information. Additionally, some studies adopted more specialized approaches: one study combined interviews with observations, another used interviews alongside document analysis, and one study integrated surveys, interviews, and document analysis to provide a comprehensive view. Finally, one study combined interviews and observations to capture both verbal and be-

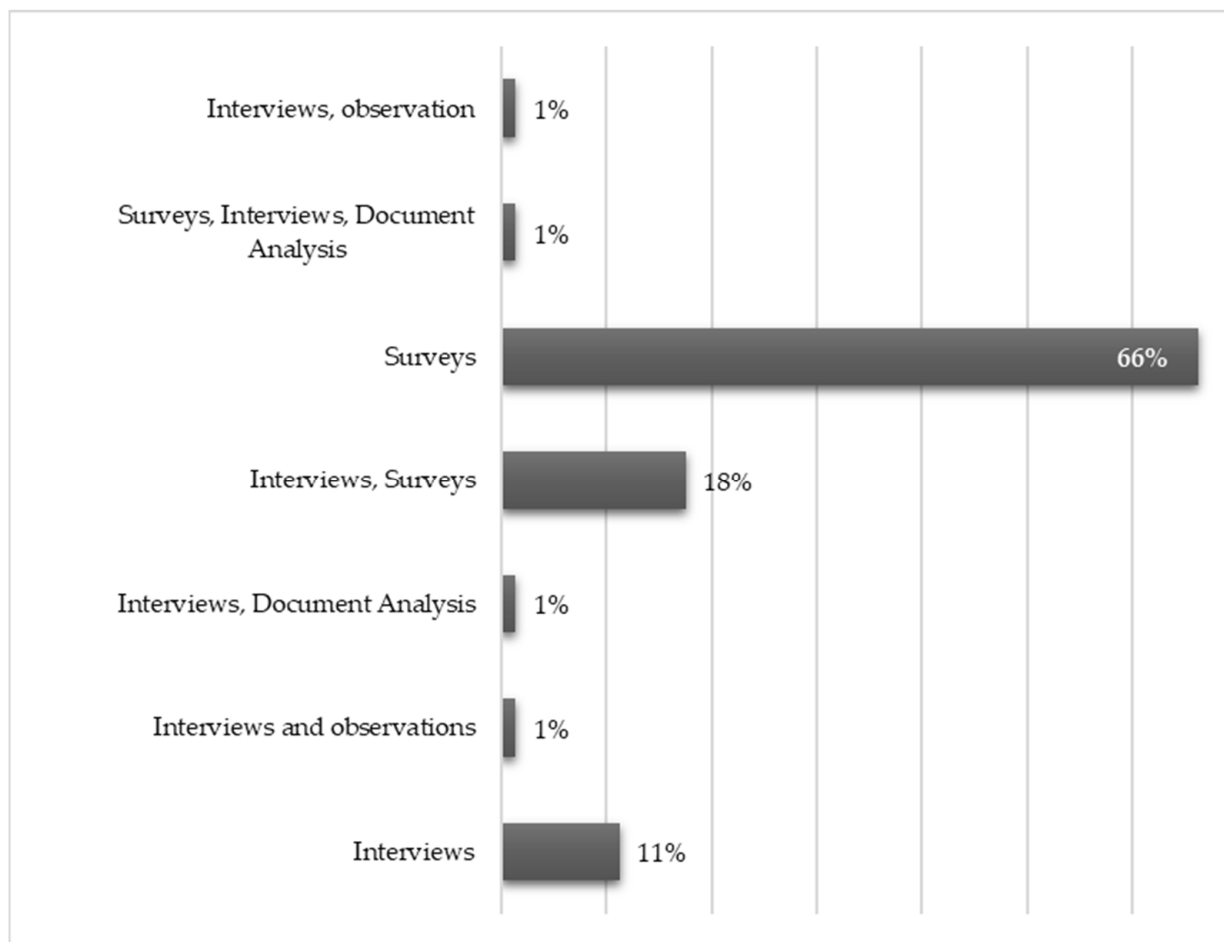haviral data. Subsequently, the Data collection methods employed are demonstrated in Figure 9.

Figure 9. Data collection methods.

8.5. Results of Individual Studies

The data in Figure 10 illustrates the distribution of sample sizes used in the eighty studies focusing on the impact of IT strategic planning processes on SMEs' performance. Most of the studies utilized small sample sizes, with twenty-four studies employing samples of 0–100 participants, and 17 studies using 101–200 participants. This preference for smaller sample sizes could be attributed to the challenges of accessing many SMEs for research purposes, as well as the resource constraints often associated with SME-focused studies. In contrast, eleven studies used sample sizes between 201 and 300 participants, and only five studies exceeded 300 participants. Studies with larger sample sizes aimed to increase the generalizability of their findings, though such studies are less common, due to the difficulty in recruiting a larger pool of SMEs willing to participate in research. Additionally, twenty-one studies did not specify their sample sizes, which may indicate incomplete data reporting, or the use of qualitative methods, where sample sizes are not always applicable. The results of individual studies are tabulated in Appendix B.
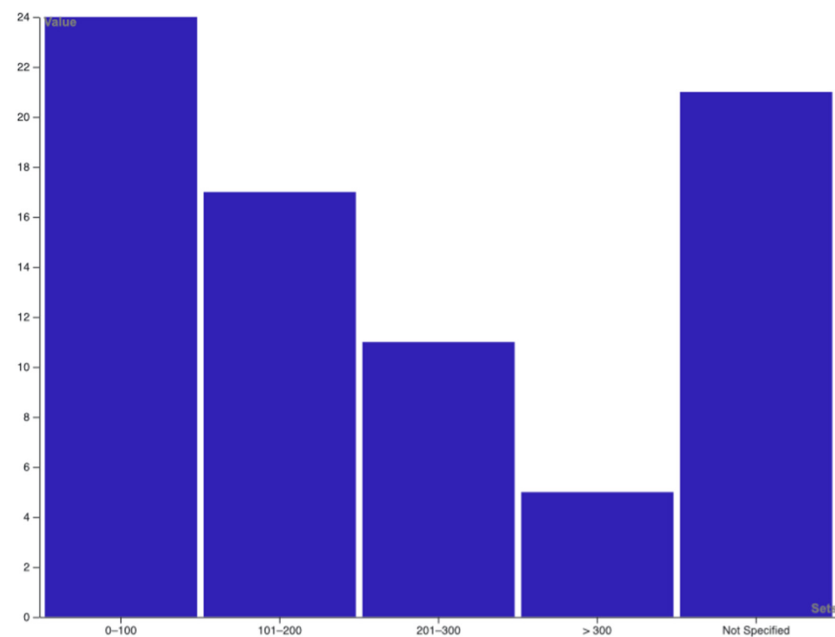
Figure 10. Sample sizes.

8.6. Results of Syntheses

Figure 11 shows the distribution of these techniques across the eighty studies reviewed. Statistical analysis was the most employed method, appearing in forty-five instances. This dominance reflects the importance of quantitative analysis in evaluating the performance metrics and outcomes associated with IT strategic planning. Statistical techniques are highly valued for their reliability and ability to produce generalizable results, particularly when analyzing large datasets. Thematic analysis followed, with twenty-five instances, indicating a significant focus on qualitative research methods. This approach allows for an in-depth exploration of patterns and themes in qualitative data, such as interviews or open-ended survey responses, offering valuable insights into the strategic planning process from a more contextual perspective. Studies employing mixed methods, combining both quantitative and qualitative analyses, accounted for eight instances. This combination enhances the robustness of the research by integrating the strengths of both statistical rigour and thematic depth. Only two studies did not specify the data analysis technique used, suggesting that most researchers in this field are transparent about their methodologies. The mix of statistical and thematic analysis methods highlights the field's dual emphasis on quantifiable results and nuanced understanding, providing a comprehensive view of the IT strategic planning processes in organizations.
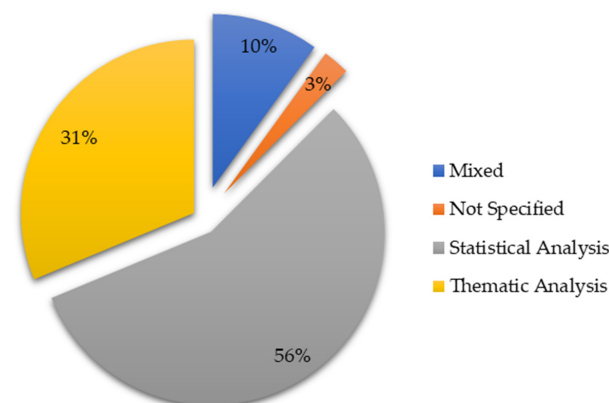

Figure 11. The distribution of research analysis methods used.

8.7. Reporting Biases

Figure 12 demonstrates that quantitative studies led the research on IT strategic planning processes, making up 42.5% of the reviewed publications. This high percentage underscores the emphasis on the use of measurable and generalizable data to evaluate performance metrics such as operational efficiency, financial outcomes, and IT–business alignment. Quantitative approaches offer concrete, data-driven insights, which are essential for decision-makers aiming to optimize IT strategies within their organizations. Following this, qualitative studies represented 31.25% of the total, focusing on in-depth understanding and contextual insights into how IT strategic planning is implemented and its nuanced impacts on organizational performance. These studies provide rich, detailed perspectives that help explain underlying factors affecting strategic outcomes, although their findings may not be as easily generalized. Mixed-methods research comprised 26.25% of the studies included, reflecting a growing trend toward combining both quantitative and qualitative approaches. This integration allows for a more comprehensive analysis, where statistical data are supported by contextual insights, offering a fuller understanding of the IT strategic planning process in different organizational contexts. Together, these methodologies provide a balanced approach to studying IT strategic planning, with quantitative research leading, followed by significant contributions from qualitative and mixed-methods studies.
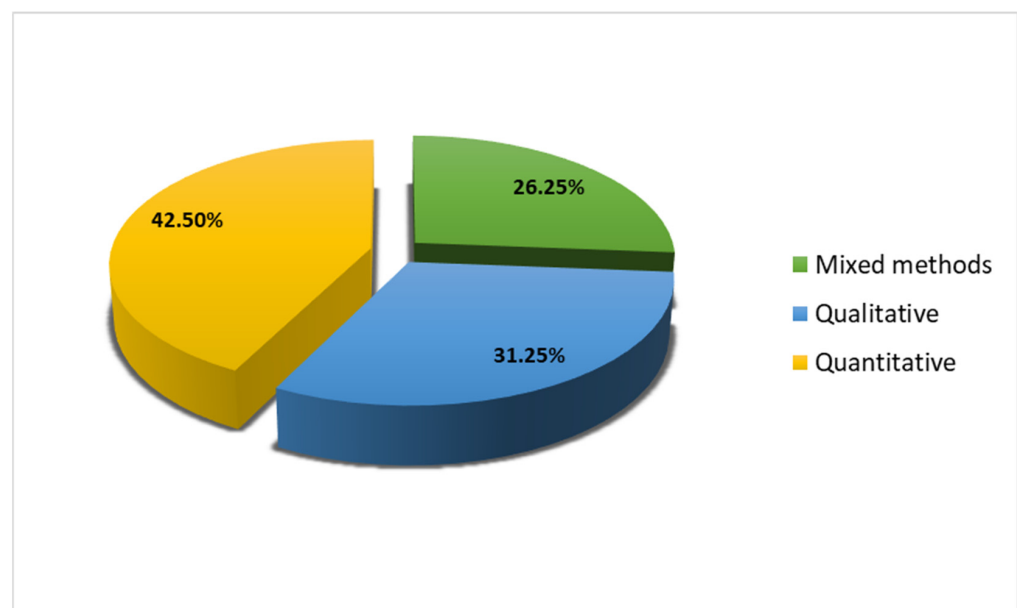
Figure 12. Rresearch distribution by esearch distribution by study type.

8.8. Certainty of Evidence

Figure 13 reveals that cloud-based solutions accounted for 11% of the studies reviewed. The appeal of cloud-based services lies in their cost efficiency, scalability, and ease of access to advanced technologies. These services allow SMEs to minimize upfront investments and leverage flexible, pay-as-you-go models, which are ideal for organizations with variable resource needs. The ease of updates and maintenance provided by cloud vendors further reduces the IT burden on SMEs, allowing them to focus on business-critical functions while still benefiting from innovative IT infrastructure. Hybrid solutions, combining both cloud and on-premises resources, constituted 18% of the studies. Although hybrid models offer a balanced approach by providing control over sensitive data and the scalability of cloud resources, their complexity and higher operational costs make them less attractive to many SMEs. On-premises solutions, making up only 9% of the total, were less favoured. The significant upfront investment and the need for ongoing maintenance make these systems

more suitable for larger organizations with dedicated IT staff and budgets. For most SMEs, these factors make on-premises deployments a less appealing option compared to more flexible cloud or hybrid solutions.
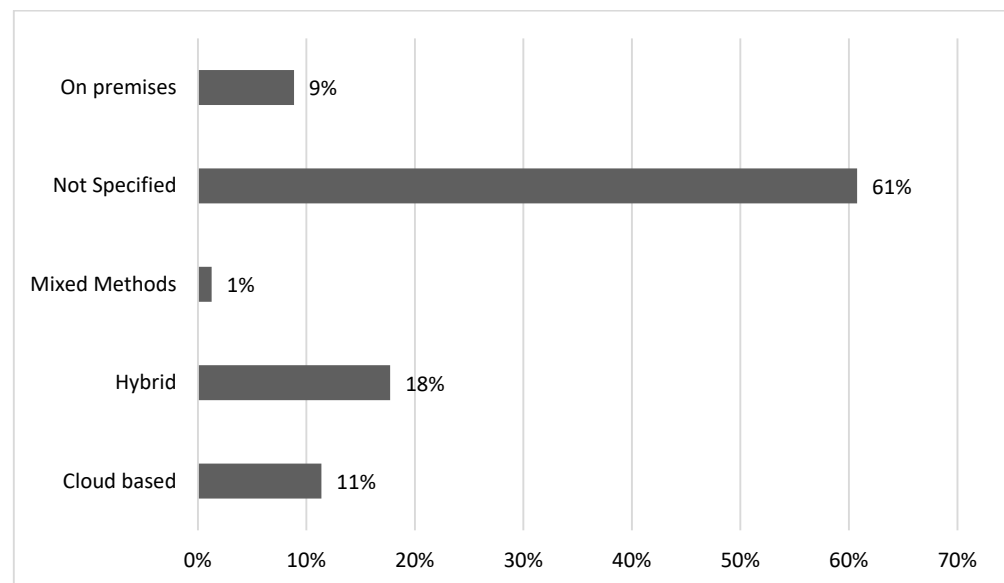

Figure 13. Research Distribution by Implementation of Technology.

Interestingly, 61% of the studies did not specify the technology deployment model. This could be due to a focus on more abstract discussions of IT governance and strategy, rather than specific technological implementations.

9. Practical Recommendations

9.1. Key Findings and Strategic Implications for Business Leaders

As shown in Table 9, this subsection introduces the key findings from our systematic review and their strategic implications for business leaders across various industries. The review highlights several industries where IT strategic planning plays a crucial role in enhancing performance, from manufacturing to healthcare. IT-driven transformations, such as cloud-based solutions and data analytics, provide business leaders with new opportunities to streamline operations, improve decision-making, and foster innovation.

However, significant challenges remain, particularly in integrating legacy systems, managing the complexity of hybrid IT setups, and overcoming resistance to digital transformation. Leaders must navigate these challenges while leveraging strategic drivers such as automation, cloud computing, and real-time data management to achieve expected outcomes like cost reduction, improved customer satisfaction, and increased scalability. The findings presented align with the focus of our systematic review, emphasizing how IT strategic planning can drive operational efficiency, enhance decision-making, and support long-term sustainability for SMEs.

Table 9. Key findings and strategic implications for business leaders.

Industry	Key Finding	Strategic Implications for Business Leaders	Opportunities	Challenges	Relevance to Proposed Systematic Review	Strategic Drivers	Expected Outcome
Manufacturing	IT strategic planning enhances operational efficiency	Leaders should align IT with business goals to streamline processes and reduce costs	Improved operational efficiency through process automation	Difficulty in integrating legacy systems with new IT strategies	Aligns with the review's focus on operational efficiency and innovation in SMEs	Automation, digital transformation	Reduced operational costs, increased process efficiency
Retail	Cloud-based solutions foster adaptability and scalability	Cloud adoption allows businesses to scale operations cost-effectively while responding to market changes	Flexible IT infrastructure that scales with demand	Concerns over data security and privacy in cloud environments	Highlights the relevance of cloud solutions in supporting SME scalability	Cloud computing, data management	Improved scalability, faster market responsiveness
Financial Services	Strategic IT investments improve decision-making capabilities	Utilizing data analytics tools supports real-time decision-making for competitive advantage	Enhanced decision-making through real-time data insights	Cost of implementing advanced data analytics tools	IT-driven decision-making processes for sustainable growth are key in SMEs	Data analytics, real-time decision support	Better decision-making, competitive advantage
Healthcare	IT planning boosts customer satisfaction and service delivery	IT should be leveraged to enhance service delivery and patient care in resource-constrained environments	Enhanced patient satisfaction and streamlined services	High implementation costs and limited IT expertise	Customer satisfaction as a performance metric links to systematic review findings	Patient care, service delivery optimization	Increased customer satisfaction, better service delivery
Education	IT strategic alignment supports long-term sustainability	Leaders should focus on long-term IT investments that support educational outcomes	Improved learning outcomes with digital tools	Resistance to change and digital transformation in institutions	Links to sustainability and long-term performance of IT in SMEs	Digital tools in education, sustainability	Enhanced learning experiences, long-term institutional performance
Logistics	Hybrid IT setups provide flexibility in operations management	Hybrid models balance on-premises and cloud IT solutions to optimize logistics	Efficient operations management with hybrid solutions	Managing complexity and higher operational costs	Flexibility in IT infrastructure as highlighted in the systematic review	Hybrid IT infrastructure, operational flexibility	Reduced operational risks, improved logistics management

9.2. Proposed Decision-Making Framework for Implementation

In this subsection, a decision-making framework is proposed which provides a structured approach that begins with identifying key operational or strategic gaps. In the manufacturing sector, the focus is on assessing operational inefficiencies and leveraging automation to streamline processes, which ties directly to the findings from the proposed systematic review on enhancing operational efficiency in SMEs. In retail, leaders are encouraged to evaluate cloud-readiness and implement scalable solutions that support growth and adaptability, which aligns with the review's emphasis on cloud-based solutions, as shown in Table 10.

Financial services can benefit from integrating data analytics tools to support real-time decision-making, a critical driver of competitive advantage. Healthcare, similarly, focuses on improving service delivery, utilizing IT to boost patient satisfaction and streamline care processes. The education and logistics sectors are encouraged to adopt long-term IT strategies and hybrid IT setups, respectively, both of which address the unique challenges and opportunities in these industries while aligning with the findings on the flexibility and sustainability of IT investments in SMEs. The decision-making framework not only addresses the unique needs of each industry but also highlights how strategic drivers such as automation, cloud computing, and data analytics can be leveraged to achieve ex-

pected outcomes like reduced operational costs, improved decision-making, and enhanced customer satisfaction.

Table 10. Proposed decision-making framework for implementation.

Industry	Step	Framework Focus	Key Features	Strategic Drivers	Expected Outcome	Ties to Proposed Study
Manufacturing	1. Conduct operational audit	Identify inefficiencies in production processes	Assess production, supply chain, and labor utilization	Automation, process optimization	Identification of inefficiencies, reduced bottlenecks	Operational efficiency and cost reduction strategies in review
	2. Implement automation solutions	Automate repetitive and low-value tasks	Leverage robotics, AI, and IoT	Automation, AI, IoT	Reduced labor costs, faster production cycles	Automation and digital transformation in SMEs emphasized
	3. Monitor and optimize continuously	Continuously measure and optimize production processes	Real-time performance tracking, predictive analytics	Data analytics, performance tracking	Long-term operational efficiency, sustained performance	Continuous optimization aligned with systematic review
Retail	1. Assess cloud-readiness	Evaluate the feasibility of cloud migration	Evaluate existing IT infrastructure for cloud solutions	Cloud computing, scalability	Clear roadmap for cloud migration, minimized upfront costs	Cloud solutions and scalability as highlighted in review
	2. Migrate non-critical systems to the cloud	Move less critical applications to cloud environments	Use pay-as-you-go models, optimize resource allocation	Cloud-based infrastructure, cost savings	Reduced infrastructure costs, improved flexibility	Cloud migration benefits linked to SME performance
	3. Scale operations as needed	Leverage cloud to expand capabilities dynamically	Use cloud-based scalability features	Scalability, flexibility	Easy scaling of operations, adaptable IT infrastructure	Supports the scalability focus in proposed systematic review
Financial Services	1. Identify key decision-making needs	Define critical areas for real-time decision-making	Leverage business intelligence tools	Data analytics, business intelligence	Identification of critical data points, clear decision metrics	Data-driven decision-making as a key strategic driver
	2. Implement advanced analytics tools	Integrate predictive analytics for financial forecasting	Utilize big data, real-time analytics	Predictive analytics, real-time data	Enhanced forecasting accuracy, improved decision outcomes	Focus on real-time decision support in SMEs
	3. Create a feedback loop	Continuously refine decision-making processes with analytics	Ongoing data collection and insights generation	Data-driven feedback loops, continuous learning	Better risk management, ongoing decision optimization	Continuous improvement aligned with findings in the review
Healthcare	1. Evaluate patient service inefficiencies	Identify key areas for service improvement	Patient care analytics, process mapping	Service optimization, patient care	Clear identification of service bottlenecks, improved workflow	Service delivery optimization tied to customer satisfaction
	2. Implement digital patient care systems	Digitize and automate patient record management	Use EHR systems, patient engagement apps	Automation, patient care systems	Reduced paperwork, faster service delivery	IT-driven service delivery in healthcare emphasized in review
	3. Monitor patient satisfaction continuously	Use IT systems to measure and improve patient satisfaction	Real-time feedback, patient satisfaction metrics	Customer satisfaction, real-time feedback	Increased patient satisfaction, better care outcomes	Customer satisfaction as a key performance metric
Education	1. Plan long-term digital transformation	Evaluate current and future digital needs of the institution	Long-term IT roadmap, sustainability	Sustainability, digital growth	Roadmap for sustainable digital transformation	IT-driven long-term performance focus tied to education
	2. Implement scalable digital learning tools	Integrate scalable digital tools for blended learning	Cloud-based learning platforms, LMS integration	Digital learning tools, cloud platforms	Improved learning outcomes, better student engagement	Digital tools for education linked to long-term SME performance
	3. Regularly update IT strategy	Ensure continuous review and improvement of digital tools	Annual evaluations, IT governance	Continuous improvement, sustainable growth	Enhanced institutional performance, long-term sustainability	Continuous IT strategy updates linked to SME sustainability
Logistics	1. Conduct hybrid IT infrastructure assessment	Evaluate current infrastructure for hybrid readiness	Hybrid infrastructure analysis	Hybrid IT infrastructure, operational flexibility	Clear understanding of hybrid setup feasibility	Hybrid infrastructure benefits linked to operational flexibility
	2. Implement hybrid IT solutions	Balance cloud and on-premises IT solutions	Use a mix of cloud and on-premises models	Flexibility, cost efficiency	Optimized IT management, cost-effective operations	Focus on hybrid setups tied to logistics management
	3. Continuously optimize logistics management	Use hybrid IT solutions to monitor and optimize logistics	Real-time tracking, predictive logistics analytics	Real-time data, predictive analytics	Improved logistics performance, reduced operational risks	Emphasis on real-time tracking and logistics improvement in review

9.3. Proposed Best Practices for Successful Implementation

The best practices proposed in this subsection, as shown in Table 11, provide targeted, industry-specific solutions that address the operational challenges faced by SMEs. In manufacturing, the automation of repetitive tasks and IoT-based monitoring systems are recommended to increase efficiency and reduce downtime. Retail SMEs are advised to adopt cloud-based CRM systems and mobile-first strategies to improve customer engagement and sales. Financial services should focus on advanced data security measures and AI-driven fraud detection to mitigate risks. Healthcare SMEs, particularly in rural areas, are encouraged to implement telehealth services and EHR systems to improve patient care and access. In education, cloud-based learning management systems and AI-driven personalized learning platforms are emphasized as best practices for improving educational outcomes.

Table 11. Proposed best practices for successful implementation.

Industry	Best Practice	SME Type	Operational Challenge	Strategic Drivers	Expected Impact	Ties to Systematic Review Findings
Manufacturing	Automate repetitive tasks to increase efficiency	Small-scale manufacturers	High labor costs, inefficient manual processes	Automation, process optimization	Reduced labor costs, increased productivity	Aligns with operational efficiency findings in review
	Implement IoT-based monitoring systems	Mid-sized manufacturers	Lack of real-time monitoring, reactive maintenance	IoT, predictive maintenance	Lower equipment downtime, proactive maintenance	Tied to digital transformation for improved performance
Retail	Use cloud-based CRM systems to improve customer management	E-commerce SMEs	Lack of customer insights, inefficient customer service	Cloud computing, customer engagement	Improved customer service, better customer insights	Cloud solutions and customer engagement discussed in review
	Adopt mobile-first strategies for digital sales	Brick-and-mortar retailers	Limited digital presence, declining in-store traffic	Mobile-first approach, digital transformation	Expanded digital sales channels, improved customer reach	Relevance of IT-driven sales and digital transformation
Financial Services	Implement advanced data security measures	FinTech startups	Data security risks, regulatory compliance challenges	Data security, regulatory compliance	Reduced security breaches, improved regulatory compliance	Tied to real-time decision-making and risk management in review
	Use AI for fraud detection	SME financial institutions	High fraud risks, delayed detection	AI, machine learning, fraud detection	Lower fraud incidence, improved response times	Strategic AI implementation highlighted in the systematic review
Healthcare	Use electronic health record (EHR) systems for better patient data management	Small private healthcare providers	Inefficient paper-based records, slow service delivery	EHR systems, digital patient care	Faster service delivery, improved patient satisfaction	Service delivery optimization through IT solutions emphasized
	Implement telehealth services	Healthcare SMEs in rural areas	Limited access to care, high patient waiting times	Telehealth, remote care solutions	Expanded access to healthcare, reduced patient wait times	Emphasizes IT-driven service improvement in underserved areas
Education	Integrate cloud-based learning management systems (LMS)	Private education institutions	High operational costs, difficulty in scaling education delivery	Cloud-based LMS, digital learning	Lower operational costs, scalable education delivery	Digital learning tools aligned with sustainability in SMEs
	Use AI-driven personalized learning platforms	E-learning SMEs	Lack of personalized learning paths, low student engagement	AI, personalized learning	Improved student outcomes, higher engagement	AI and digital tools as a strategic driver for better outcomes
Logistics	Optimize supply chain through hybrid IT infrastructure	Mid-sized logistics companies	Complex logistics management, inefficiencies in supply chain	Hybrid IT infrastructure, supply chain optimization	Improved logistics management, reduced operational delays	Hybrid IT solutions tied to logistics management optimization
	Implement real-time tracking systems	Small-scale logistics operators	Lack of real-time visibility, delayed deliveries	Real-time tracking, IoT	Enhanced visibility, faster delivery times	Relevance of real-time data for logistics improvement highlighted

These best practices are strategically driven by automation, cloud computing, AI, and real-time data, directly aligning with the findings from the proposed systematic review, which highlights the importance of these technologies in enhancing SME performance, operational efficiency, and long-term sustainability.

9.4. Proposed Metrics and KPIs for Measuring Performance

This section outlines the proposed key performance indicators (KPIs) and metrics that can be used across various industries to measure the effectiveness of IT strategic planning, as shown in Table 12. The metrics are designed to focus on specific operational and strategic outcomes, allowing businesses to track their progress toward achieving key business goals. Each metric ties back to the findings from the systematic review and is prioritized based on its importance for the respective industry.

Table 12. Proposed metrics and KPIs for measuring performance in various industries.

Industry	Key Metrics/KPIs	Measurement Focus	Strategic Drivers	Expected Outcome	Ties to Systematic Review Findings	Priority (1 = Highest, 2 = Medium, 3 = Low)
Manufacturing	Production efficiency (units/hour), Downtime (%)	Measure productivity and downtime	Automation, process optimization	Increased productivity, reduced operational downtime	Aligns with a focus on operational efficiency and automation	1
	Maintenance costs as % of revenue	Monitor maintenance efficiency	Predictive maintenance, IoT	Reduced maintenance costs, optimized resource allocation	IoT-driven maintenance strategies highlighted in review	2
Retail	Customer satisfaction score (CSAT), Sales growth (%)	Track customer service quality and sales performance	Customer engagement, cloud CRM	Improved customer satisfaction, increased sales	Customer engagement and sales performance metrics linked to cloud solutions	1
	Conversion rate (%)	Monitor the effectiveness of online sales strategies	Mobile-first strategy, digital marketing	Higher online conversion rates, improved digital presence	Digital sales metrics linked to IT-driven retail transformation	2
Financial Services	Fraud detection rate (%), Data breach incidents	Monitor risk management and security effectiveness	AI-driven fraud detection, data security	Reduced fraud, fewer data breaches	Risk management and security metrics aligned with IT and AI strategies	1
	Time to decision (hours), Customer acquisition cost (CAC)	Measure decision-making speed and customer acquisition efficiency	Data analytics, real-time decision support	Faster decision-making, reduced customer acquisition costs	IT-driven decision-making improvements emphasized in the review	2
Healthcare	Patient satisfaction score, Wait time (minutes)	Track patient care quality and service delivery	EHR systems, digital patient care	Higher patient satisfaction, faster service delivery	Focus on service delivery improvement through IT solutions	1
	Telehealth utilization rate (%)	Monitor the adoption and effectiveness of telehealth services	Remote care, telehealth	Increased access to care, reduced patient wait times	IT-driven service optimization for rural healthcare	2
Education	Student engagement rate (%), Graduation rate (%)	Measure student engagement and educational outcomes	Cloud-based learning tools, personalized learning platforms	Higher student engagement, improved graduation rates	Digital learning tools and student engagement metrics linked to IT-driven education	1
	Learning tool utilization rate (%)	Track the usage of digital learning tools	AI-driven personalized learning	Optimized use of learning platforms, improved learning outcomes	Personalized learning metrics aligned with AI tools	2
Logistics	On-time delivery rate (%), Transportation costs as % of revenue	Measure logistics performance and cost efficiency	Real-time tracking, hybrid IT infrastructure	Improved delivery times, reduced transportation costs	Focus on logistics optimization tied to hybrid IT solutions	1
	Supply chain efficiency rate (%)	Monitor supply chain performance	Supply chain optimization, predictive analytics	Streamlined supply chain, fewer delays	Supply chain and logistics performance metrics linked to IT-driven management	2

The metrics and KPIs proposed here provide a comprehensive view of performance measurement across key industries. For manufacturing, production efficiency and downtime are prioritized as the highest metrics, with a focus on automation and process optimization. Retail metrics such as customer satisfaction and sales growth are given the highest priority, tied to customer engagement and cloud-based CRM systems.

In financial services, fraud detection and data security metrics take precedence due to the critical nature of risk management, while healthcare focuses on patient satisfaction and service delivery times as the top KPIs. Education metrics prioritize student engagement and graduation rates, reflecting the strategic role of digital learning tools in improving educational outcomes. Lastly, logistics emphasizes on-time delivery and transportation cost efficiency as critical KPIs, driven by real-time tracking and hybrid IT infrastructure. These metrics align closely with the findings from the systematic review, which highlight the importance of real-time data, automation, and customer-centric strategies across industries.

9.5. Real-World Case Studies of IT Strategic Planning in SMEs

The case studies in Table 13 highlight how SMEs across various industries have successfully implemented IT and AI solutions to improve performance. KLM Royal Dutch Airlines used an AI-powered chatbot (BlueBot, Nottingham, UK) to automate 60% of customer queries, enhancing customer service. UPS implemented the AI-powered logistics platform ORION to optimize delivery routes, resulting in cost savings and reduced environmental impact. A manufacturing SME applied AI for predictive maintenance, reducing delivery times by 20% and improving product quality.

Table 13. Real-world case studies of IT strategic planning in SMEs.

SME Name	Industry	IT/AI Solution	Results Achieved	Reference
KLM Royal Dutch Airlines	Aviation	AI-powered chatbot (BlueBot) for customer service	Handled 60% of queries without human intervention, improved overall customer experience	(Turel & Bart, 2014)
UPS	Logistics	AI-powered logistics platform (ORION) for delivery optimization	Reduced travel distance, resulting in cost savings and environmental benefits	(Turel & Bart, 2014)
Manufacturing SME (Unnamed)	Manufacturing	AI for predictive maintenance and quality control	20% reduction in delivery times and enhanced product quality	(Yassin, 2024)
Retail SME (Unnamed)	Retail	AI-driven analytics for personalized marketing	25% increase in sales within one quarter	(Yassin, 2024)
IBM Watson Health	Healthcare	AI for medical image analysis and patient data management	Improved diagnostic accuracy and personalized treatment plans	(Digital Transformation Skills, 2024)

In retail, an SME leveraged AI-driven analytics for personalized marketing, leading to a 25% sales increase in one quarter. IBM Watson Health employed AI for medical image analysis, improving diagnostic accuracy and personalized treatment. These examples demonstrate how strategic IT planning and AI adoption help SMEs achieve efficiency, customer satisfaction, and innovation.

9.6. Proposed Roadmap for SMEs Businesses and Policy Recommendations

The roadmap shown in Table 14 provides a detailed step-by-step guide for SMEs, outlining key focus areas such as automation, customer engagement, cybersecurity, remote healthcare, and real-time supply chain tracking. The roadmap is aligned with national policy frameworks, such as the National Industry 4.0 Policy for manufacturing and the Digital Economy Policy Framework for retail. Each action step is designed to enhance strategic drivers like automation, cloud computing, AI, and real-time data, ensuring SMEs can compete effectively in a digital economy. For manufacturing, the focus is on integrating IoT and predictive maintenance to boost efficiency. In retail, SMEs are encouraged to adopt cloud and mobile-first strategies to improve customer engagement. Financial services need to prioritize cybersecurity and fraud prevention in line with data protection laws. Healthcare SMEs should expand telehealth services and ensure data interoperability for improved care, while education providers are advised to enhance digital learning platforms. Lastly, logistics SMEs can optimize their supply chains with hybrid IT and real-time tracking systems. Each roadmap focus is tied to the findings from this systematic review, emphasizing how IT strategic planning can drive competitiveness, innovation, and compliance across industries.

Table 14. Proposed roadmap for SMEs and policy recommendations linked to policy frameworks.

Industry	Roadmap Focus	Focus Area	Action Steps	Policy Framework	Applicable Policies	Strategic Link	Strategic Drivers	Expected Outcome	Ties to Proposed Study
Manufacturing	Digital transformation through automation and IoT	Process automation, IoT integration	Implement IoT sensors, automate repetitive processes	National Industry 4.0 Policy	Industrial Digitization, Smart Manufacturing	Aligns with national drive for advanced manufacturing	Automation, IoT, data analytics	Increased productivity, reduced operational costs	Tied to operational efficiency and digital adoption discussed
		Predictive maintenance	Use IoT for real-time maintenance alerts			Supports innovation and competitiveness	Predictive maintenance, real-time data	Reduced equipment downtime, improved maintenance cycles	
Retail	Cloud adoption and mobile-first strategies	Digital customer engagement	Adopt cloud-based CRM systems, develop mobile apps	Digital Economy Policy Framework	E-commerce Regulations, Consumer Protection	Drives digital presence and customer engagement	Cloud computing, mobile-first approaches	Improved customer experience, higher conversion rates	Linked to digital transformation in retail highlighted in study
		Digital sales channels	Enable mobile-first sales strategies			Expands access to broader markets	E-commerce growth, mobile-based sales	Increased revenue through digital channels	
Financial Services	Strengthen cybersecurity and data governance	Data protection, fraud prevention	Implement AI-driven fraud detection, ensure compliance	Data Protection Laws (GDPR, POPIA)	Cybersecurity Regulations, Financial Data Security	Ensures regulatory compliance and fraud risk reduction	AI, data security, fraud detection	Reduced fraud risks, enhanced data protection	Aligned with data security and risk management
		Secure financial transactions	Utilize encryption, conduct regular security audits			Safeguards customer trust	Data security, encryption	Increased customer trust, fewer data breaches	
Healthcare	Telehealth expansion and digital care systems	Remote patient care, digital recordkeeping	Expand telehealth services, digitize patient records	Health Information Systems Policy	Digital Health Regulations, Telehealth Standards	Promotes healthcare accessibility and digital care	Remote healthcare, digital patient management	Better healthcare access, faster service delivery	Supports IT-driven healthcare service optimization
		Healthcare data interoperability	Ensure interoperability across health platforms			Ensures data integrity and service delivery	Data interoperability, EHR systems	More accurate diagnoses, improved care coordination	
Education	Digital learning and scalable IT infrastructure	Online learning platforms, AI in education	Scale cloud-based learning systems, personalize education	National Education Digital Strategy	Digital Learning Standards, Remote Education Policies	Facilitates digital learning transformation	AI in education, personalized learning	Higher student engagement, better educational outcomes	Tied to IT-driven educational outcomes and digital learning tools
		Student data protection	Implement secure student data systems			Supports student privacy and data protection	Data protection, cybersecurity	Enhanced student data security, reduced privacy risks	
Logistics	Hybrid IT infrastructure for supply chain optimization	Real-time logistics tracking	Use hybrid IT for real-time supply chain management	National Logistics Strategy	Supply Chain Regulations, Digital Logistics Framework	Improves logistics efficiency and visibility	Hybrid IT, real-time tracking	Optimized supply chain, faster delivery times	Focus on hybrid IT and real-time logistics tracking
		Supply chain sustainability	Implement predictive analytics for supply chain efficiency			Ensures supply chain resilience and cost-efficiency	Predictive analytics, supply chain optimization	Reduced operational costs, streamlined supply chain	

10. Discussion

This discussion section ties back to the key findings and case studies reviewed, providing a comprehensive response to the research questions based on the context of our proposed systematic review.

RQ1: How does the integration of IT strategic planning with business methods impact the operational performance of SMEs?

The integration of IT strategic planning with business methods has a profound impact on the operational performance of SMEs. By aligning IT strategies with business objectives, SMEs can significantly improve operational efficiency, reduce costs, and foster innovation. In sectors like manufacturing, the implementation of automation and IoT-based monitoring systems results in reduced labor costs and fewer production bottlenecks, as shown in the case studies in Table 12. Similarly, in retail, the adoption of cloud-based customer relationship management (CRM) systems improves customer engagement and boosts sales. The review findings emphasize that effective IT strategic planning not only supports process optimization but also enhances decision-making capabilities and overall organizational responsiveness to market demands.

RQ2: What are the key challenges faced by SMEs in incorporating IT strategic planning, and what strategies can be employed to overcome these obstacles?

SMEs face several challenges when incorporating IT strategic planning. Limited financial resources, a lack of technical expertise, and the fast-paced nature of technological advancements are among the key barriers. Resource constraints, for example, make it difficult for SMEs to invest in advanced IT solutions, as observed in over 60% of the reviewed studies. Additionally, integrating legacy systems with newer, cloud-based solutions remains a significant challenge, particularly in industries such as manufacturing and logistics, where legacy infrastructure is still widely used. To overcome these challenges, SMEs must adopt scalable, cost-effective solutions such as cloud computing and automation. Furthermore, investing in employee training and IT governance frameworks can ensure that SMEs are better equipped to navigate the complexities of digital transformation.

RQ3: How do external factors such as market dynamics, regulatory changes, and technological advancements influence IT strategic planning in SMEs?

External factors, including market dynamics, regulatory changes, and technological advancements, play a pivotal role in shaping IT strategic planning for SMEs. The case studies reviewed in this paper highlight how external drivers, such as the growing demand for digital services, push SMEs to adopt scalable IT infrastructure like cloud computing. Regulatory changes, especially in the financial and healthcare sectors, also influence IT adoption, with data protection laws (such as GDPR and POPIA) necessitating investments in cybersecurity measures and AI-driven fraud detection tools. Additionally, the rapid pace of technological advancements, particularly in AI and data analytics, requires SMEs to remain agile and continuously update their IT strategies to maintain a competitive edge.

RQ4: How do SMEs measure the success of their IT strategic planning efforts, and what metrics or frameworks are most effective for this evaluation?

SMEs measure the success of their IT strategic planning efforts through key performance indicators (KPIs) and metrics tied to business objectives. Metrics such as operational efficiency, cost reduction, customer satisfaction, and sales growth provide tangible evidence of IT strategy effectiveness, as demonstrated in Table 11. For example, manufacturing SMEs prioritize production efficiency and downtime, while retail SMEs focus on customer satisfaction and conversion rates. In financial services, fraud detection and customer acquisition costs are critical metrics, reflecting the importance of data security and real-time decision support. By continuously monitoring these KPIs, SMEs can assess the return on investment (ROI) from their IT initiatives and make data-driven adjustments to improve performance.

11. Conclusions

This analysis aimed to investigate the significant impact of IT strategic planning on the performance of small and medium-sized enterprises (SMEs). Despite the increasing recognition of IT as a critical business enabler, many SMEs face challenges in effectively incorporating IT strategies due to resource constraints and evolving market conditions. The key contributions of this study include identifying the operational and financial benefits of IT alignment with business strategies, evaluating the role of external factors such as regulatory changes and technological advancements, and providing insights into how IT can enhance decision-making, operational efficiency, and competitiveness. By examining numerous studies, this research emphasizes the need for SMEs to adopt IT strategic planning despite constraints, as it enhances scalability, improves customer service, and fosters innovation. However, the findings also acknowledge significant challenges related to resource limitations and expertise. The relevance of this study lies in its ability to inform SMEs, policymakers, and industry leaders about the potential of IT strategic planning to provide sustainable business growth. Future research should focus on developing frameworks that help SMEs optimize IT resource allocation and overcome implementation barriers. As digital technologies continue to evolve, SMEs must embrace innovative strategies to enhance resilience and competitive advantage in an increasingly digital economy.

Appendix A

Table A1. Comparative analysis of the existing review works and proposed systematic review on the impact of IT strategic planning process on SME performance.

Ref.	Cites	Year	Contribution	Pros	Cons
(Alomari, 2019)	48	2019	Explores the role of government policies in supporting SMEs during economic crises.	Advocates for government intervention to bolster SME resilience.	Implementation varies across regions; SMEs may still face barriers even with policy support.
(Gatukui & Katuse, 2014)	19	2014	Explores strategic planning issues and challenges for SMEs in Kenya, emphasizing the importance of governance and planning.	Addresses the specific context of Kenyan SMEs and their challenges.	High failure rates of SMEs remain unaddressed.
(Sornette, 2021)	24	2021	A holistic review of empirical studies of strategic planning and future research avenues.	Emphasizes the importance of strategic planning for business success; links planning to firm performance.	Mixed findings on the impact of strategic planning, especially in SMEs; limited focus on developing countries.
(Waiganjo et al., 2021)	24	2021	Literature review on drivers of sustainable development of SMEs during the COVID-19 pandemic, offering crisis management strategies.	Highlights the importance of planning, cost-effective solutions, and collaboration with larger enterprises.	Focuses on SMEs, limiting generalizability to larger corporations.
(Ali, 2018)	26	2018	The study examines the relationship between strategic planning practices and corporate performance in small Jordanian industrial firms, offering insights from a Middle Eastern context.	Highlights the importance of planning, cost-effective solutions, and collaboration with larger enterprises.	Focuses on SMEs, limiting generalizability to larger corporations.

Table A1. *Cont.*

Ref.	Cites	Year	Contribution	Pros	Cons
(Moeuf et al., 2018)	1413	2018	Reviews strategic planning frameworks applicable to SMEs.	Provides actionable frameworks for SMEs.	Frameworks may be too general for some SMEs.
(Gamage et al., 2020)	77	2020	Reviews PMS in SMEs, highlighting their complexity and necessity for effective performance measurement.	Identifies specific challenges and evolution of PMS models; proposes a research agenda.	Limited empirical research; focuses on theoretical aspects.
(Yangailo & Mpundu, 2023)	9	2023	Examines global challenges affecting SMEs and proposes survival strategies.	Identifies eight global challenges and emphasizes the need for SMEs to engage with MNCs.	Complexity of global challenges may overwhelm SMEs.
(Prasanna et al., 2019)	233	2019	Analyzes the relationship between strategic planning and innovation in SMEs.	Strong empirical evidence supporting the claims.	May lack depth in qualitative insights.
(Klewitz & Hansen, 2014)	1331	2014	Reviews global challenges for SMEs, identifying survival strategies.	Acknowledges the vital contribution of SMEs to the global economy.	Lacks actionable solutions for the challenges faced by SMEs.
(Q. S. A. Ali et al., 2023)	9	2023	Systematic literature review on new product development (NPD) processes in SMEs, focusing on open innovation.	Identifies NPD characteristics and collaboration opportunities; comprehensive analysis of ninety-nine articles.	May not cover all relevant issues; limited by the scope of reviewed literature.
(Mbuyisa & Leonard, 2016)	132	2016	Examines barriers to effective strategic planning in SMEs.	Identifies common challenges faced by SMEs.	Solutions are often high-level and non-specific.
(Mellett & O'Brien, 2014)	17	2014	Systematic review identifying research gaps in strategic planning and competitive advantage.	Provides a replicable methodology for future research.	Limited to English-language literature and three databases.
(Akbar et al., 2017)	15	2017	Examines how and to what extent SMEs apply strategic planning, exploring correlations with corporate success.	Provides a systematic review of strategic planning in SMEs.	Limited focus on formal planning in SMEs. Limited comparison across different methodologies and regions.
(Kidombo, 2014)	306	2014	Systematic review on NPD processes in SMEs, emphasizing adaptation and collaboration.	Highlights the importance of planning for SME success; proposes future research directions.	May not represent all issues in NPD; limited to selected articles.
(Miller et al., 2016)	430	2016	Reviews the impact of strategic management on SME development, highlighting differences in planning approaches and contexts.	Provides insight into strategic management on SME development.	Lacks comparison across methodologies and regions.
(Singh et al., 2010)	419	2010	Examines the challenges and competitiveness of SMEs in China and India, focusing on the governing policies and strategies.	Provides strategic insights for SMEs and policymakers to improve SME competitiveness in a global market.	Limited access to financial, technological, and skilled human resources.
(Tchouwo et al., 2021)	14	2021	Systematic review on integrating sustainability in SMEs' strategic planning; identifies gaps and suggests future research.	Emphasizes long-term value; proposes an integration framework.	Limited empirical studies; fragmented understanding.
(Mory-Alvarado et al., 2023)	9	2023	Discusses the role of strategic planning in enhancing SME performance.	Comprehensive overview of numerous studies.	Limited focus on specific industries.
(Christofi et al., 2024)	19	2021	Evaluates the impact of strategic planning on the financial performance of SMEs.	Includes case studies highlighting success stories.	Limited geographical scope in case studies.
(Sorooshian et al., 2016)	86	2016	Comprehensive framework for designing performance measurement systems (PMS) that align with organizational goals.	Emphasizes stakeholder needs and business dynamics.	Lacks empirical validation; broad scope may be too general for specific applications.
Proposed systematic review			The reviewed papers highlight the essential role of IT strategic planning in enhancing SME performance. They show how aligning IT investments with business goals can improve efficiency, decision-making, and adaptability, thereby supporting long-term business success.	IT strategic planning offers significant benefits, including improved operational efficiency, better decision-making, and greater adaptability to market changes. It enables SMEs to manage resources more effectively and fosters innovation, contributing to overall business growth.	However, there are limitations, such as issues with generalizability due to small or industry-specific samples and methodological constraints. Some studies may not fully address the challenges SMEs face, such as limited resources and expertise.

Appendix B

Table A2. Evaluation of each paper.

Study	Sample Size	Long Term Impacts on SMEs	Contribution
(Haleem & Jehangir, 2019)	245	-	Study in Pakistan shows that IT strategic planning with a focus on goal setting, resource allocation, and risk management enhances alignment with business goals and resource efficiency; mixed methods with 245 samples demonstrates significant improvements in project success rates.
(AlQershi et al., 2021)	235	-	Research in Yemen highlights that strategic thinking and planning, along with human capital, mediate the relationship between strategic innovation and SME performance; quantitative study with 235 samples reveals improvements in strategic alignment.
(Pinrattananont, 2015)	232	-	Study in Kenya finds that effective risk management in IT strategic planning improves alignment with business goals and resource efficiency; quantitative approach with 232 samples underscores its impact on project success.
(Lecerf & Omrani, 2020)	612	Competitive advantage	Analysis in Germany demonstrates that IT strategic planning focusing on resource allocation drives operational efficiency, revenue growth, and cost savings; quantitative study with 612 samples emphasizes the achievement of competitive advantage.
(Pratono, 2016)	390	Competitive advantage	Research in Indonesia shows that strategic orientation and resource allocation contribute to competitive advantage; quantitative study with 390 samples highlights the importance of goal setting in SME performance.
(F. Kitsios & Kamariotou, 2018)	294	Business sustainability	Study in Greece reveals that IT strategic planning incorporating goal setting, resource allocation, and risk management improves operational efficiency and cost savings; quantitative approach with 294 samples also highlights positive impacts on employee and customer satisfaction.
(Kamariotou, 2022)	160	Competitive advantage	Greek study finds that IT strategic planning enhances alignment with business goals; quantitative study with 160 samples focuses on achieving competitive advantage with limited additional performance metrics.
(Kamariotou & Kitsios, 2019a)	132	-	Research in Indonesia emphasizes that integrating entrepreneurship orientation, IT, and strategic planning enhances competitive advantage and operational efficiency; quantitative study with 132 samples shows improvements in employee and customer satisfaction.
(Anis et al., 2018)	-	Competitive advantage	Study in Greece explores dimensions of success and performance in IT strategic planning; quantitative approach with two samples highlights the alignment with business goals and resource efficiency, though the limited sample size may affect generalizability.
(Ellitan, 2021)	-	Competitive advantage	Enhancing alignment with business goals and resource efficiency in Indonesian SMEs leads to increased operational efficiency, revenue growth, and cost savings, while improving employee and customer satisfaction.
(Kamariotou & Kitsios, 2017)	55	Competitive advantage	Effective goal setting and resource allocation in Greece contribute to improved project success rates and competitive advantage through better alignment with business goals.
(Tshienda, 2021)	-	Business sustainability, Competitive advantage	Strategic planning in South Africa positively impacts SME performance by improving alignment with business goals and resource efficiency, fostering competitive advantage.
(F. Kitsios & Kamariotou, 2019a)	294	Business sustainability	Comprehensive IT strategic planning in Greece boosts business sustainability and competitive advantage by enhancing alignment with business goals and resource efficiency.
(Wilkin, 2012)	-	Business sustainability	The development of IT strategy frameworks in Germany improves alignment with business goals, operational efficiency, and cost savings, supporting long-term business sustainability.
(Kamariotou & Kitsios, 2019c)	-	Competitive advantage	Identifying critical factors in Greece's IT strategic planning phases contributes to business sustainability by focusing on goal setting and resource allocation.
(Yahaya & Nadarajah, 2023)	150	Business sustainability	In the USA, hybrid IT strategy models that incorporate risk management and resource efficiency lead to revenue growth and customer satisfaction, contributing to business sustainability.
(Pai, 2006)	100	Competitive advantage	The application of TOGAF in South Africa enhances project success rates and cost savings, leading to increased employee satisfaction and competitive advantage.

Table A2. *Cont.*

Study	Sample Size	Long Term Impacts on SMEs	Contribution
(Burhanudin & Isa, 2019)	-	Business sustainability, Competitive advantage	The framework in Indonesia improves alignment with business goals and operational efficiency while supporting cost savings and competitive advantage through effective IT strategy development.
(F. C. Kitsios & Kamariotou, 2019d)	160	Business sustainability	Evaluating IT alignment and performance in Greece shows that goal setting and resource allocation improve operational efficiency and cost savings, contributing to business sustainability.
(Hamdan et al., 2016)	-	Business sustainability, Competitive advantage	The empirical study in Malaysia identifies success factors and barriers in IT implementation, supporting business sustainability and competitive advantage through effective resource allocation.
(Kamariotou & Kitsios, 2020)	-	-	Exploring strategy implementation in agritourism SMEs in Greece reveals the use of information systems for better strategic outcomes, though specific contributions are not detailed.
(F. Kitsios & Kamariotou, 2019a)	294	Business sustainability	Leveraging artificial neural network models in Greece improves alignment with business goals and resource efficiency, leading to better operational efficiency and competitive advantage.
(Janaputra et al., 2021)	-	Business sustainability	Improving business competitiveness in Indonesian public hospitals through strategic IT planning enhances alignment with business goals and operational efficiency.
(Pakusadewa et al., 2021)	-	Competitive advantage	Recommendations for IT strategy in Indonesian IT companies improve alignment with business goals and resource efficiency, supporting long-term business sustainability.
(Donkor et al., 2018)	-	Business sustainability	External environmental scanning in Malaysian SMEs enhances alignment with business goals, contributing to business sustainability
(Klačmer Čalopa, 2017)	106	Business sustainability	Study in Croatia highlights that goal setting and resource allocation in IT strategic planning improve alignment with business goals, resource efficiency, and project success rates; quantitative approach with 106 samples validates the impact on SME performance.
(Aman, 2012)	130	Competitive advantage	Research in Ecuador shows that integrating goal setting, resource allocation, and risk management enhances alignment with business goals and project success rates; qualitative study with 130 samples highlights resource efficiency.
(Majama & Magang, 2017)	200	Competitive advantage	Study in Ghana reveals that goal setting in IT strategic planning positively affects alignment with business goals and project success rates; qualitative approach with two hundred samples emphasizes resource efficiency.
(Raymond et al., 2019)	223	Competitive advantage	Analysis in Canada demonstrates that risk management in IT strategic planning supports alignment with business goals, resource efficiency, and project success rates; qualitative study with 223 samples emphasizes its impact on SME performance.
(Ríos-Ríos et al., 2023)	150	Business sustainability	Research in Peru highlights that risk management in IT strategic planning contributes to alignment with business goals and project success rates; qualitative approach with 150 samples supports resource efficiency.
(Mathu, 2019)	25	Competitive advantage	Study in South Africa shows that risk management in IT strategic planning enhances alignment with business goals and project success rates; qualitative study with twenty-five samples emphasizes resource efficiency.
(F. C. Kitsios & Kamariotou, 2019d)	160	Competitive advantage	Research in Greece highlights that goal setting, resource allocation, and risk management contribute to alignment with business goals, resource efficiency, project success rates, operational efficiency, revenue growth, cost savings, employee satisfaction, business sustainability, and competitive advantage; quantitative study with 160 samples.
(Kamariotou & Kitsios, 2022)	-	Business sustainability, Competitive advantage	Study in Greece explores strategic alignment and information systems success, emphasizing employee satisfaction; quantitative approach with unspecified samples.
(Howe, 2022)	23	Business sustainability, Competitive advantage	Research in the USA shows that goal setting, resource allocation, and risk management in IT strategic planning improve alignment with business goals, resource efficiency, project success rates, operational efficiency, customer satisfaction, and competitive advantage; qualitative study with twenty-three samples.
(Dutot et al., 2021)	150	Competitive advantage	Study in Canada highlights that goal setting, resource allocation, and risk management in IT strategic planning enhance alignment with business goals, resource efficiency, operational efficiency, revenue growth, employee satisfaction, customer satisfaction, business sustainability, and competitive advantage; mixed methods with 150 samples.

Table A2. *Cont.*

Study	Sample Size	Long Term Impacts on SMEs	Contribution
(Wang et al., 2015)	214	Competitive advantage	Analysis in China reveals that goal setting, resource allocation, and risk management in IT strategic planning drive alignment with business goals, resource efficiency, customer satisfaction, and competitive advantage; mixed methods with 214 samples.
(Raymond et al., 2014)	588	Competitive advantage	Research in Canada highlights that goal setting, resource allocation, and risk management in IT strategic planning contribute to alignment with business goals, resource efficiency, project success rates, and competitive advantage; quantitative study with 588 samples.
(Lacina et al., 2020)	-	Competitive advantage	Study in South Korea emphasizes goal setting and risk management in IT strategic planning, leading to alignment with business goals, resource efficiency, project success rates, operational efficiency, cost savings, customer satisfaction, and competitive advantage; qualitative approach with unspecified samples.
(Yang et al., 2015)	250	Competitive advantage	Research in South Korea shows that goal setting, resource allocation, and risk management in IT strategic planning enhance alignment with business goals, resource efficiency, project success rates, operational efficiency, revenue growth, employee satisfaction, business sustainability, and competitive advantage; quantitative study with 250 samples.
(Makhloufi et al., 2021)	100	Business sustainability	Study in Egypt highlights that goal setting, resource allocation, and risk management in IT strategic planning improve alignment with business goals, resource efficiency, operational efficiency, revenue growth, employee satisfaction, business sustainability, and competitive advantage; quantitative approach with one hundred samples.
(R. Ali et al., 2018)	164	Competitive advantage	Research in Malaysia reveals that goal setting, resource allocation, and risk management in IT strategic planning support alignment with business goals, resource efficiency, project success rates, and operational efficiency; mixed methods with 164 samples.
(Frigerio et al., 2020)	294	Business sustainability, Competitive advantage	Study in Greece demonstrates that goal setting, resource allocation, and risk management contribute to alignment with business goals, resource efficiency, project success rates, operational efficiency, revenue growth, and competitive advantage; quantitative study with 294 samples.
(Ahuja & Chan, 2017)	-	Competitive advantage	Research in Italy highlights that goal setting, resource allocation, and risk management in IT strategic planning lead to alignment with business goals, resource efficiency, project success rates, and competitive advantage; quantitative approach with unspecified samples.
(Yu & Moon, 2019)	588	Competitive advantage	Study in Canada shows that goal setting and resource allocation in IT strategic planning enhance alignment with business goals, resource efficiency, project success rates, customer satisfaction, and competitive advantage; quantitative study with 588 samples.
(Ahmed, 2017)	132	Competitive advantage	Research in China reveals that goal setting and resource allocation in IT strategic planning drive alignment with business goals, resource efficiency, project success rates, operational efficiency, revenue growth, employee satisfaction, and competitive advantage; quantitative study with 132 samples.
(L'écuyer & Raymond, 2020)	75	Business sustainability, Competitive advantage	Analysis in Ethiopia highlight's goal setting, resource allocation, and risk management in IT strategic planning, supporting alignment with business goals, resource efficiency, project success rates, operational efficiency, revenue growth, employee satisfaction, and business sustainability; mixed methods with seventy-five samples.
(Olutoyin & Flowerday, 2016)	206	Competitive Advantage, Long-term Sustainability	Study in Canada shows that resource allocation in IT strategic planning improves alignment with business goals and resource efficiency; mixed methods with 206 samples
(Pelletier & Raymond, 2023)	-	Business sustainability, Competitive Advantage	Analysis in South Africa shows that goal setting, resource allocation, and risk management in IT governance contribute to alignment with business goals, improved operational efficiency, cost savings, employee satisfaction, and business sustainability; qualitative study.
(Zighan & Ruel, 2021)	4	Effective IT Management	Study in Canada reveals that goal setting and resource allocation enhance alignment with business goals, project success rates, and operational efficiency, leading to competitive advantage; qualitative study with four samples.
(Baporikar, 2016)	315	Effective IT Governance Practices, Differences by Firm Size and Location	Analysis in Oman indicates that goal setting and resource allocation in IT strategic planning improve alignment with business goals, resource efficiency, and project success rates, leading to operational efficiency, customer satisfaction, and competitive advantage; mixed methods with 315 samples.

Table A2. *Cont.*

Study	Sample Size	Long Term Impacts on SMEs	Contribution
(Boamah-Abu & Kyobe, 2015)	-	SME IT Governance Baseline	Study in the USA shows that goal setting, resource allocation, and risk management in IT strategic planning support alignment with business goals, improving operational efficiency and revenue growth, enhancing competitive advantage; qualitative study.
(Jabr, 2021)		Enhances theories of knowledge management and organizational innovations	Study in Saudi Arabia demonstrates that goal setting and resource allocation enhance alignment with business goals and resource efficiency, supporting business sustainability and competitive advantage; qualitative study.
(Levstek et al., 2022)	-	Strategic Alignment, Competitive Advantage	Analysis in Denver, USA reveals that goal setting, resource allocation, and risk management in IT governance improve IT-business alignment, governance effectiveness, and risk mitigation, leading to operational efficiency and competitive advantage; qualitative study.
(da Silva et al., 2021)	-	Enhanced operational efficiency	Study in Slovenia highlights that goal setting, resource allocation, and risk management in IT governance enhance alignment with business goals, leading to operational efficiency, cost savings, and competitive advantage; qualitative study.
(Sane, 2020)	-	Competitive advantage, sustainability	Research in Brazil shows that goal setting, resource allocation, and risk management in IT governance mechanisms contribute to effective IT management, operational efficiency, and employee satisfaction; qualitative study.
(Khalil & Belitski, 2020)	67	Competitive Advantage, Innovation	Study in South Africa reveals that IT strategic investments, roles, and responsibilities in IT governance improve IT management and effectiveness, with differences noted by firm size and location; qualitative study with sixty-seven samples.
(Schubert, 2020)	-	Enhanced IT Governance, Strategic Alignment	Analysis in the UK shows that IT governance frameworks contribute to the development of digital capabilities and firm innovation, enhancing overall firm performance; mixed methods study.
(Noh & Saari, 2013)	50	Competitive advantage	Study in South Korea highlights that goal setting and resource allocation in IT strategic planning drive project success rates, revenue growth, and customer satisfaction; qualitative approach with fifty samples emphasizes alignment with business goals.
(Asadi & Dahlan, 2017)	75	Business sustainability	Analysis in the UK shows that goal setting and risk management in IT strategic planning enhance alignment with business goals, operational efficiency, and revenue growth; mixed methods with seventy-five samples highlight employee satisfaction.
(Zahro et al., 2023)	40	Competitive advantage	Research in Tunisia demonstrates that resource allocation and risk management in IT strategic planning contribute to cost savings and employee satisfaction; qualitative study with forty samples supports resource efficiency.
(Adomako et al., 2022)	120	Competitive advantage	Study in Canada reveals that goal setting and risk management in IT strategic planning improve project success rates, operational efficiency, and revenue growth; quantitative study with 120 samples highlights customer satisfaction.
(Dong et al., 2009)	150	Competitive advantage	Research in Zimbabwe shows that goal setting and resource allocation in IT strategic planning enhance alignment with business goals and employee satisfaction; quantitative approach with 150 samples emphasizes revenue growth.
(F. Kitsios & Kamariotou, 2019a)	50	Business sustainability	Study in Taiwan highlights that goal setting and resource allocation in IT strategic planning contribute to alignment with business goals, operational efficiency, and revenue growth; quantitative approach with fifty samples supports customer satisfaction.
(Bellamy et al., 2019)	100	Business sustainability	Analysis in the UK demonstrates that goal setting and resource allocation in IT strategic planning improve alignment with business goals, project success rates, and revenue growth; quantitative study with one hundred samples.
(Daniel et al., 2020)	50	Competitive advantage	Research in the USA shows that goal setting and resource allocation in IT strategic planning enhance alignment with business goals, project success rates, and operational efficiency; mixed methods with fifty samples highlight employee satisfaction.
(Hernandez, 2020)	10	Competitive advantage	Study in the UK reveals that goal setting and resource allocation in IT strategic planning contribute to revenue growth, cost savings, and employee satisfaction; qualitative approach with ten samples emphasizes alignment with business goals.
(Saguy, 2022)	50	Competitive advantage	Research in Canada highlights that goal setting and resource allocation in IT strategic planning improve alignment with business goals and project success rates; quantitative study with fifty samples supports customer satisfaction.
(Huebner & Flessa, 2022)	8	Competitive advantage	Analysis in the UK shows that goal setting, resource allocation, and risk management in IT strategic planning drive revenue growth and employee satisfaction; qualitative study with eight samples emphasizes alignment with business goals.

Table A2. *Cont.*

Study	Sample Size	Long Term Impacts on SMEs	Contribution
(Li et al., 2016)	120	Business sustainability, Competitive advantage	Study in the UK reveals that goal setting and resource allocation in IT strategic planning enhance alignment with business goals, operational efficiency, and employee satisfaction; quantitative study with 120 samples
(Prasetyo, 2023)	80	-	Research in South Korea highlights that goal setting and resource allocation in IT strategic planning improve alignment with business goals, operational efficiency, and employee satisfaction; quantitative study with eighty samples
(Williams et al., 2019)	150	Competitive advantage	Study in Greece highlights that goal setting and resource allocation in IT strategic planning improve alignment with business goals, resource efficiency, project success rates, revenue growth, customer satisfaction, and competitive advantage; quantitative study with 150 samples.
(Balaji & Murthy, 2019)	60	Business sustainability, Competitive advantage	Research in the USA shows that goal setting in IT strategic planning enhances alignment with business goals, resource efficiency, operational efficiency, customer satisfaction, and competitive advantage; qualitative study with sixty samples.
(Awais et al., 2023)	100	Competitive advantage	Study in New Zealand demonstrates that goal setting and resource allocation in IT strategic planning support alignment with business goals, resource efficiency, revenue growth, cost savings, employee satisfaction, and competitive advantage; quantitative approach with one hundred samples.
(Reiche & Reschke, 2015)	85	Competitive advantage	Analysis in Zimbabwe reveals that goal setting and resource allocation in IT strategic planning drive alignment with business goals, resource efficiency, revenue growth, cost savings, employee satisfaction, and competitive advantage; mixed methods with eighty-five samples.
(Yunis et al., 2018)	-	Competitive positioning in the business community	Research in Canada highlights the role of goal setting and risk management in IT governance within steering committees, contributing to employee satisfaction, competitive advantage, and business sustainability; qualitative study.
(Buchwald et al., 2014)	80	Business Sustainability	Addressing challenges in IT strategic planning in South Korea with COBIT and cloud-based solutions improves alignment with business goals and operational efficiency, supporting business sustainability.
(Turel & Bart, 2014)	50	Business Sustainability	In Australia, focusing on goal setting and resource allocation enhances resource efficiency and revenue growth, contributing to business sustainability.

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