Review

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

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Systematic Review

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

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Abstract: IT strategic planning is a critical driver of performance for small and medium-sized enterprises (SMEs), improving operational efficiency, decision-making, and innovation. This systematic review synthesizes findings from eighty studies, highlighting the varied impacts of IT strategic planning on SME performance. Quantitative analysis was used in 45% of studies, while thematic analysis was applied in 25%, showing the growing preference for data-driven insights. Cloud-based solutions, adopted in 11.25% of cases, and hybrid IT setups (17.5%) were identified as key enablers of flexibility and cost-efficiency. SMEs aligning IT strategies with business goals reported up to 20% reductions in operational costs and 15% improvements in customer satisfaction. However, 60% of studies identified resource constraints as a major challenge to IT adoption. Despite these barriers, 60% of studies demonstrated that effective IT planning enhances long-term sustainability and competitive advantage. This review provides actionable insights and strategic frameworks to guide SMEs in optimizing their IT investments for sustainable growth.

Keywords: information technology; IT strategic planning; SME performance; digital economy; systematic review

1. Introduction

Information Technology (IT) strategic planning has emerged as increasingly critical for Small and Medium Enterprises (SMEs) in enhancing their performance, competitiveness, and long-term sustainability in today's dynamic business environment [1,2]. IT strategic planning involves identifying and leveraging IT capabilities to support business goals, which has become essential for improving SMEs' operational efficiency and adaptability. Despite the recognized potential of IT to transform business processes, the specific impact of IT strategic planning on the performance of SMEs remains an area ripe for exploration and discussion [3,4].

The importance of IT strategic planning for SMEs is underscored by rapid advancements in technology and the growing reliance on digital solutions across industries. As SMEs navigate an increasingly competitive landscape, integrating IT into their strategic planning processes is crucial for achieving operational efficiency and fostering innovation [2–4]. Effective IT strategic planning allows SMEs to identify opportunities for leveraging technology, streamline operations, and enhance customer engagement. Additionally, IT strategic planning supports data-driven decision-making, enabling SMEs to respond swiftly to market changes and customer demands. However, many SMEs struggle with the complexities of IT integration due to limitations in resources and expertise, which can hinder their ability to fully capitalize on the benefits of IT [4–6].

This challenge is amplified by the evolving digital landscape, which presents both opportunities and difficulties. Emerging technologies such as cloud computing, artificial intelligence, and blockchain offer scalable, cost-effective solutions, yet SMEs often find it challenging to adopt these technologies due to resource constraints. Furthermore, the increasing pressure from market dynamics and regulatory changes necessitates that SMEs develop more adaptable IT strategies to remain competitive.

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To address these issues, this systematic review provides a comprehensive analysis of how IT strategic planning affects SME performance. It explores how SMEs can optimize their IT investments and navigate external challenges such as market changes and regulatory pressures. Table 1 offers a comparative analysis of previous review works, showcasing the contributions, strengths, and weaknesses of these studies. By synthesizing the insights from references [21–42], the table highlights the practical applications and benefits of IT investments for SMEs, while also pointing out the limitations in generalizability, narrow focus, and methodological constraints that persist in the literature.

Table 1. Comparative Analysis of the Existing Review Works and Proposed Systematic Review on the Impact of Cloud computing on SMEs Performance.

Ref.	Cites	Year	Contribution	Pros	Cons
[21]	15	2014	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.
[22]	29	2014	Discusses the importance of strategic planning in complex and uncertain environments, emphasizing its role in successful operations.	Highlights the necessity of strategic planning across contexts; extensive literature review.	Mixed results on the impact of planning on performance; lacks focus on SMEs.
[23]	53	2014	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.
[24]	84	2014	Examines how SMEs apply strategic planning and its correlation with success, identifying informal planning practices.	Reviews key CSR themes in SMEs; offers a framework for future studies.	Limited studies on CSR in SMEs; potential bias in content analysis.
[25]	91	2014	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.
[26]	75	2016	Reviews strategic planning frameworks applicable to SMEs.	Provides actionable frameworks for SMEs.	Frameworks may be too general for some SMEs.
[27]	64	2016	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.
[28]	100	2016	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.
[29]	85	2017	Analyzes the relationship between strategic planning and innovation in SMEs.	Strong empirical evidence supporting the claims.	May lack depth in qualitative insights.
[30]	86	2017	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.

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[31]	59	2019	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.
[32]	50	2020	Examines barriers to effective strategic planning in SMEs.	Identifies common challenges faced by SMEs.	Solutions are often high-level and non-specific.
[33]	50	2020	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.
[34]	83	2015	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.
[35]	99	2021	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.
[36]	80	2021	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.
[37]	41	2021	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.
[38]	44	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.
[39]	100	2021	Discusses the role of strategic planning in enhancing SME performance.	Comprehensive overview of numerous studies.	Limited focus on specific industries.
[40]	60	2022	Evaluates the impact of strategic planning on the financial performance of SMEs.	Includes case studies highlighting success stories.	Limited geographical scope in case studies.
[41]	85	2023	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.
[42]	106	2023	Examines strategic planning in SMEs, focusing on the extent and correlation with corporate success.	Identifies key themes and research gaps; establishes a theoretical framework for future research.	Limited by survivor bias; lacks recent data from the last two decades.

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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.

Table 1 summarizes the reviewed papers from references [21] to [42], showcasing their contributions, strengths, and weaknesses. The papers cover various aspects of IT strategic planning in SMEs, offering valuable insights through innovative models, frameworks, and empirical research. They highlight practical applications and benefits of IT investments, such as improved organizational performance and strategic alignment. However, limitations include potential issues with generalizability, narrow focus, and methodological constraints, which may affect the robustness of their findings.

1.1. Research Questions

Although there are some studies that has been performed which have an impact on IT strategic planning process on SME performance, a complete overview that systematically addresses the precise effect of the IT strategic planning processes on SMEs which remains restricted within existing literatures. 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 and corresponding hypotheses are proposed:

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

Hypothesis 1: SMEs that align IT strategic planning with business goals experience higher operational efficiency and improved decision-making compared to SMEs that lack such alignment.

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

Hypothesis 2: Resource constraints, such as limited financial and human capital, are the most significant challenges faced by SMEs in implementing IT strategic planning. Overcoming these through cost-effective solutions (e.g., cloud computing) can mitigate these barriers.

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

Hypothesis 3: SMEs that adapt their IT strategies in response to external factors like regulatory changes and market demands show better resilience and competitiveness.

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

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Hypothesis 4: SMEs that employ specific performance metrics such as ROI, customer satisfaction, and operational efficiency to evaluate IT strategy show greater improvement in business outcomes than those without structured evaluation methods.

1.2. Rationale

While 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.

1.3. 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 were 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 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 were shown to be effective for SMEs in resource-constrained environments.

1.4. 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:

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- 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 IT strategic planning and give a structure for aligning IT initiatives with business targets; hence, improve IT management practices.
- Our study gives empirical and theoretical insights into what 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 for assisting 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.

1.5. 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:

- Unlike prior research, which often focuses on IT strategies in larger enterprises or provides 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 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, the study offers new insights that SMEs can use to future-proof their IT strategies in a rapidly changing business environment.

This work has been organized as follows in Table 2.

Table 2. Organization of Proposed Survey.

Section #	Content Description	Significance
0. Abstract	A concise summary of the entire paper, including the research questions, methodology, key findings, and conclusions.	Provides a snapshot of the study's importance, objectives, methods, and key insights, allowing readers to quickly assess the relevance of the research.
1. Introduction	Introduces the concept of IT strategic planning and its importance to SMEs, including a review of relevant literature.	Establishes the foundational context, identifies gaps in current research, and justifies the need for a systematic review on this topic.
1.1. Problem Statement	Specifies the problem being addressed: the lack of a comprehensive understanding of	Clarifies the research problem and articulates the precise scope of

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	IT strategic planning's impact on SME performance.	investigation, providing focus for the entire study.
1.2. Research Questions	Lists the research questions the systematic review seeks to address.	Directs the research by laying out specific questions that the study aims to answer, guiding the analysis and synthesis of the literature.
1.3. Rationale	Explains why it is essential to study the impact of IT strategic planning on SMEs, considering their unique challenges such as resource constraints.	Justifies the study by linking the importance of IT strategic planning to SME success, sustainability, and competitiveness. It highlights gaps in existing research.
2. Objectives	Describes the study's primary goals: to explore the relationship between IT strategic planning and SME performance, identify challenges, and assess external factors like market dynamics and regulatory changes.	Defines the scope of the review, ensuring the research remains focused on specific, actionable outcomes. The objectives drive the structure of the analysis.
3. Materials and Methods	Outlines the methodology used in the systematic review, including inclusion/exclusion criteria, databases searched, and data extraction processes.	Ensures the research is replicable, transparent, and systematic. Demonstrates the rigor of the study, enhancing the credibility of the findings.
3.1. Eligibility Criteria	Provides detailed criteria for selecting studies for inclusion in the review, such as publication period (2014-2024), relevance, and peer-reviewed status.	Establishes the validity of the research by ensuring only relevant, high-quality studies are considered, strengthening the conclusions.
3.2. Information Sources	Describes the databases used for literature searches (Google Scholar, Web of Science, SCOPUS) and how these sources contribute to the study's comprehensiveness.	Ensures that a wide variety of studies are included, making the review comprehensive and reducing the risk of selection bias.
3.3. Search Strategy	Details the specific search codes and keywords used to locate relevant studies.	Demonstrates a systematic and unbiased approach to gathering research materials, ensuring no relevant studies are missed.
4. Results	Presents the findings from the systematic review, including the key trends in IT strategic planning and its impact on SMEs. Quantitative and qualitative findings are synthesized.	Highlights the core insights from the reviewed studies, providing evidence for the hypotheses and addressing the research questions. Offers practical examples of

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		IT adoption and its outcomes in SMEs.
4.1. Study Selection	Describes how studies were selected and the number of papers included after screening (e.g., 80 studies selected).	Ensures transparency in how the data was gathered and provides context for the breadth and depth of the review.
4.2. Study Characteristics	Summarizes the characteristics of the included studies, such as the type of research (journal articles, conference papers, etc.) and geographic distribution.	Provides context for the studies included, allowing readers to assess the relevance and generalizability of the findings.
4.3. Key Findings	Presents the core outcomes of the review, such as the benefits of IT strategic planning in SMEs (e.g., operational efficiency, cost savings, and competitive advantage) and challenges (e.g., resource constraints).	Delivers the primary insights from the study, providing a foundation for further discussion and recommendations. Identifies patterns and gaps in the current literature.
5. Discussion	Interprets the findings, discussing the significance of IT strategic planning in SMEs and how it addresses operational, financial, and strategic challenges.	Connects the review findings to the broader context of SME performance, making the results actionable for stakeholders. Highlights implications for future research and policy.
5.1. Practical Recommendations	Provides actionable steps for SMEs to overcome challenges in IT strategic planning (e.g., cloud adoption, outsourcing IT services).	Offers real-world solutions for SMEs to enhance their performance through better IT planning. These recommendations are grounded in the systematic review's findings, making them evidence based.
6. Conclusions	Summarizes the main conclusions of the research, reiterating the importance of aligning IT strategies with business goals and addressing challenges like resource constraints.	Reinforces the significance of the study's findings and calls for further research in areas where gaps still exist. Provides closure and a synthesis of the entire review.
6.1. Future Research Directions	Suggests areas for further study, such as exploring IT governance frameworks in SMEs or the long-term impact of IT adoption.	Encourages future research to build upon the current review, addressing limitations and expanding the understanding of IT strategic planning in SMEs.

2. Materials and Methods

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This section describes the framework and methodology for the systematic review. It breaks down the different methods of screening relevant papers, specifying the database used, and the search strategies such as periods of the material we used, and so on. This helps to avoid misalignment of papers as this will lead to inaccuracies when analyzing the impact of the research topic on SMEs. We also ensured that we collected an extensive range of materials within a period of 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 provide theoretical frameworks while some practical frameworks, others are qualitative while others are quantitative, case studies and surveys and this is summarised in Figure 1.

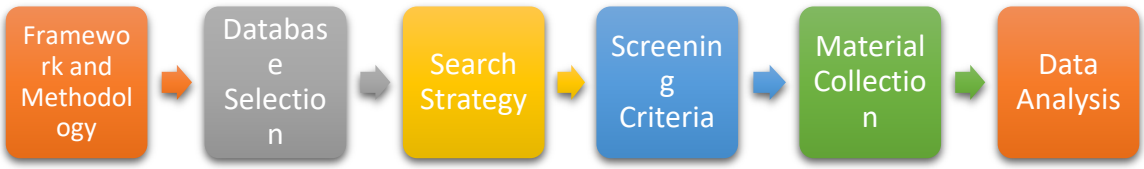

Figure 1. Materials and Method Flow Diagram.

2.1. 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 concentrate 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 3.

Table 3. Proposed Inclusion and Exclusion Criteria.

Criteria	Inclusion	Exclusion
Topic	Publications focusing The Impact of IT Strategic Planning Process on SMEs Performance	Publications that do not relate to The Impact of IT Strategic Planning Process on SMEs Performance
Research Framework	This article must include a research framework or methodology for The Impact of IT Strategic Planning Process on SMEs Performance	Articles lacking clear research framework related to Evaluating The Impact of IT Strategic Planning Process on SMEs Performance
Language	Must be written in English	Articles published in languages other than English
Period	Articles between 2014 and 2024	Articles outside 2014 and 2024

2.2. Information Sources

In this systematic review, three online databases are employed, and these are Google Scholar, Web of Science, and SCOPUS; and the selection is based on their credibility. Each of these has unique features that combine and bridge the gaps that others would lack if used alone, for example, Google Scholar surpasses Web of Science and SCOPUS numerically in all areas of research in terms of citation, however, it is very cumbersome to use and needs significant improvement in the way it displays search results and the downloading capabilities it offers for it to become a useful tool for

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large-scale citation analyses. From these sources, we collected article journals, conference papers, book chapters, dissertation, and theses.

2.3. Search Strategy

In addition to all the other methods used to find relevant information, keyword search codes below, which serves as the key search strategy to finding relevant information, was used. From Web of science, each Keyword code shows a limited number of papers, there-fore different codes were used and in total we got 22 papers, one of the key-word code examples for Web of Science is ("IT strategic planning" OR "IT planning process") AND ("SMEs" OR "small and medium enterprises" OR "small businesses" OR "medium-sized businesses") which showed only 2. From 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 showed 570 papers. Using the same research strategy as from Google Scholar we got a result of three documents from SCOPUS, then added other search codes as each shows 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 4.

Table 4. Results obtained from Literature Search.

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

2.4. Selection Process

The selection process involved three researchers (OB, SE, SD, BA) working collaboratively to ensure a thorough and consistent evaluation of the research papers. All 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 third 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.

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Figure 2. Selection Process diagram.

2.5. Data Collection Process

According to Figure 3, this section outlines 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 re-viewers independently extracted relevant data from the selected studies, working in parallel to ensure consistency and reduce potential bias. The extracted data was 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 was 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.

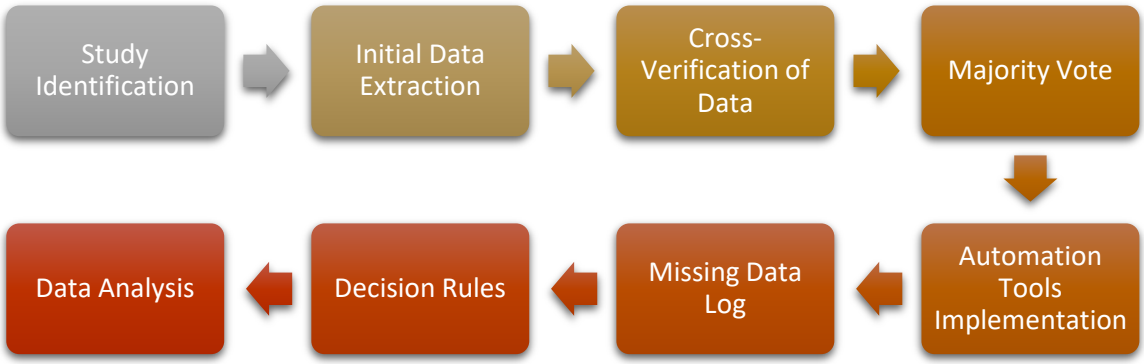

Figure 3. Data Collection Process.

2.6. Data Items

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2.6.1. 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. 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 pertains 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.

Figure 4. Proposed Data Items Process.

The time frame for size varies with a choice for records overlaying periods from six months to several years to size both brief period 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 to be had in-side an outcome area, we decided on those who furnished the maximum complete and applicable statistics. This selection turned into based on predefined criteria which include methodological rigour, 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, making sure consistency throughout the review. Similarly, no modifications have been 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 IT strategic planning effect on SMEs performance. This approach became 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.

2.6.2. Variable Data Collection

Data for this study was systematically collected and is detailed in Table 5. 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 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

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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 identifies 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 5. Variable Data collection.

Criteria	Description
Title	The name of the study or article focusing 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., Article Journal, Conference Paper, Book Chapter, Dissertation).
# Cites	The number of times the study has been cited.
GSRank	The ranking or relevance based on Google Scholar metrics.
Discipline or Subject Area	The main academic area of focus (e.g., IT Strategic Planning, SME Performance, Business Strategy).
Industry Context	The industry where the 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, 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).

2.7. Study Risk of Bias Assessment

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This section outlines the methodology employed to assess the risk of bias in the included studies. 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. 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 bias judgement 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 and Table 6 summarises this process.

Table 6. 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, (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

2.8. 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. 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.

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Figure 6. Effect Measures of Assessing the Impact of IT Strategic Planning Processes on SMEs.

2.9. 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, 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 final conclusions were not overly influenced by any single factor or study, maintaining the credibility of the review.

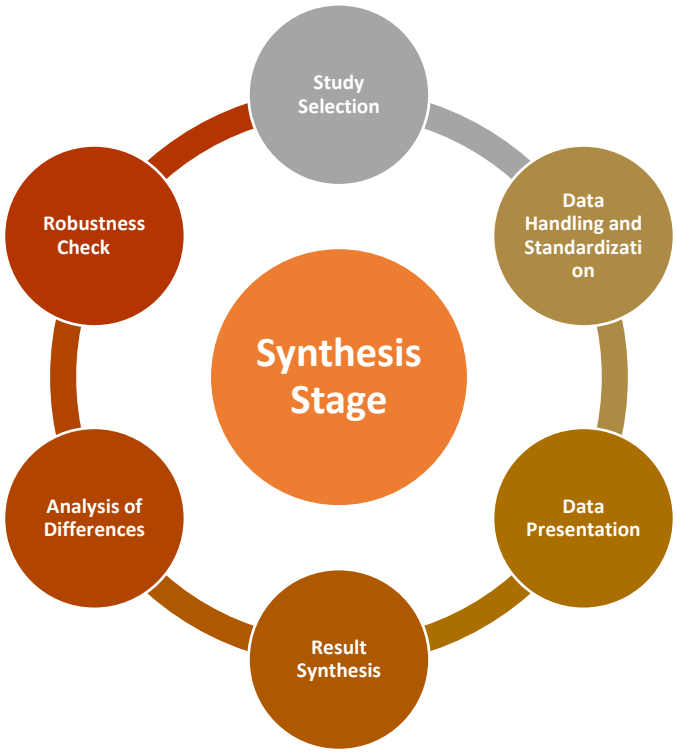

Figure 7. Synthesis Methods

2.10. Reporting Bias Assessment

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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 with 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 if 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 judgement 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.

2.11. Certainty Assessment

This section outlines the approach used to evaluate the reliability and strength of the evidence for each outcome. To ensure the credibility of the findings, the gathered literature was assessed according to five quality assessment (QA) criteria, detailed in Table 7.

Table 7. 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?

The responses to the quality assessment questions (QAs) are evaluated using a scale from zero (0) to one (1). A 'No' response receives a score of 0, a 'Partially' met criterion gets a score of 0.5, and a 'Yes' response earns a score of 1. Each of the five quality assessment questions is rated based on this system. As a result, each piece of literature being reviewed can score anywhere from 0 to 5 points in total. The outcomes of these quality assessments for the literature are summarized in Table 8 below.

Table 8. Research Quality Assessment Questions Evaluation.

Ref.	QA1	QA2	QA3	QA4	QA5	Total	% grading
[1,4,13,15,17,20,23,25,40,62]	0.5	0.5	0.5	0.5	0.5	2.5	50%
[3,7,11,41,44,47,57,65,66,75,76]	1	0.5	0.5	0.5	0.5	3	60%
[8–10,19,26,30,31,38,45,46,48,49,52–56,59,60,64,73,74,79]	1	0.5	0.5	0.5	1	3.5	70%
[2,14,18,24,27–29,32–37,39,50,51,58,61,80]	0.5	1	1	1	0.5	4	80%
[5,6,16,21,42,68,71]	1	1	1	1	0.5	4.5	90%
[12,22,43,63,67,69,70,72,77,78]	1	1	1	1	1	5	100%

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3. Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

3.1. 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). 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 is 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.

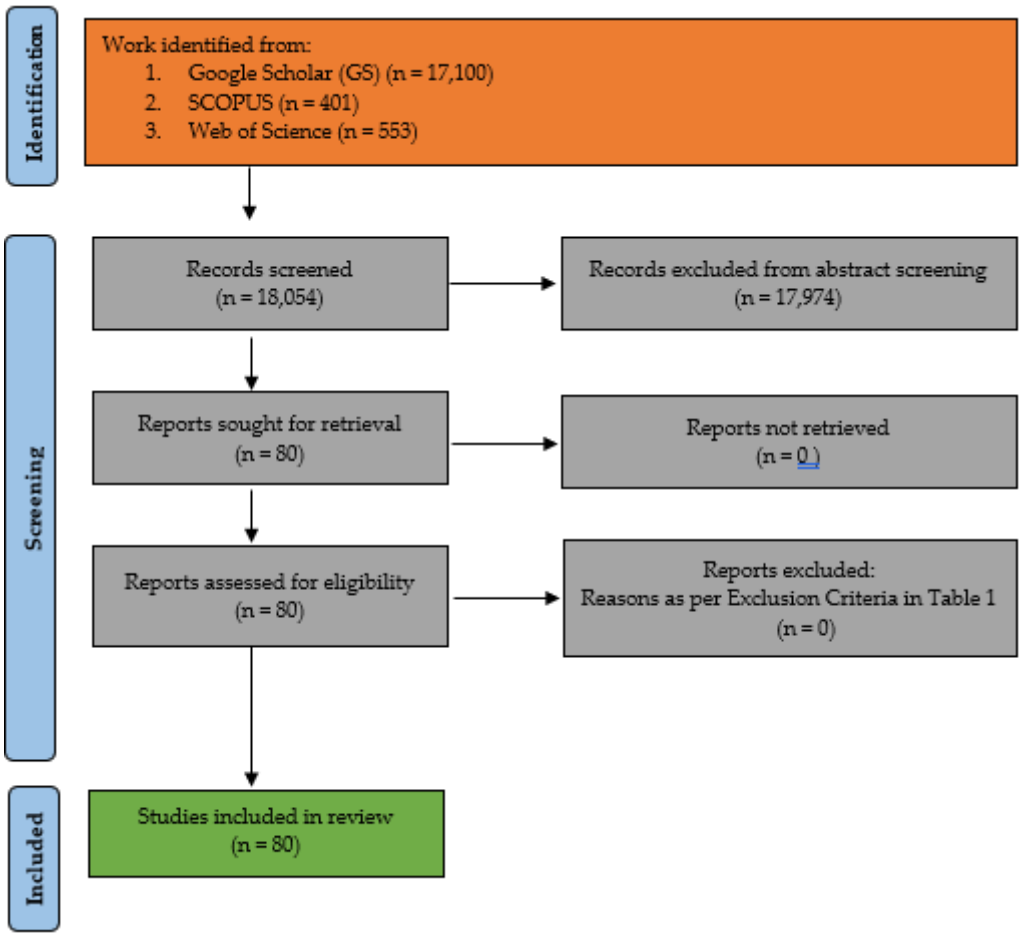

Figure 7. Proposed PRISMA Flowchart.

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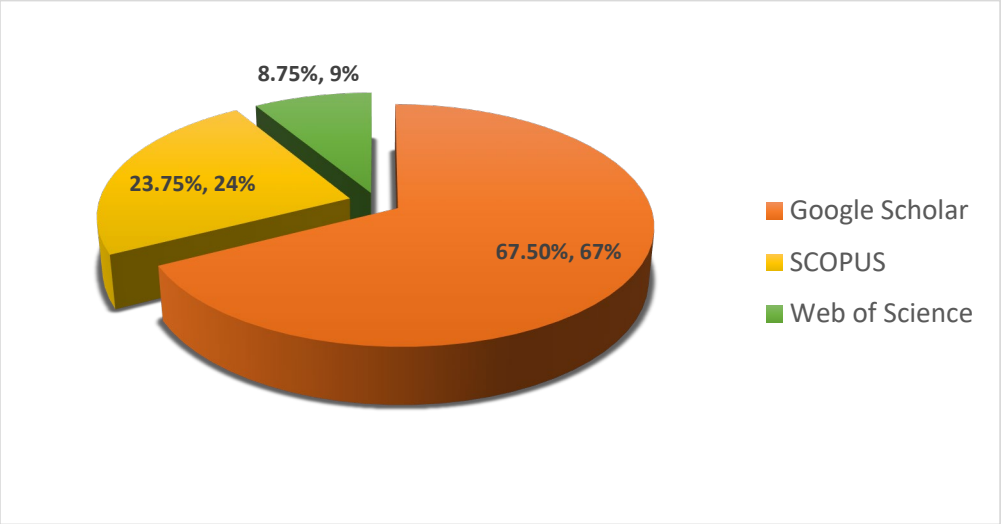

Figure 8. Distribution of Online Database.

3.2. Study Characteristics

Eighty research papers on "The Impact of IT Strategic Planning Process on SMEs Performance" were published between 2014 and 2024. The data indicates a steady increase in publications, with significant peaks in 2019 and 2021. The distribution of publication types includes 72.50% journal articles, 15.00% conference papers, 5.00% book chapters, 5.00% dissertations, and 2.50% theses. Journal articles dominate 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 growing attention to IT strategic planning processes and their impact on SMEs, particularly in recent years. The dominance of journal articles as the primary research source highlights their significant contribution to academic discussion. Conference papers also play an important role, while book chapters, dissertations, and these are less common. These trends reflect increasing scholarly interest and evolving perspectives on how IT strategic planning influences SMEs' performance over the past decade.

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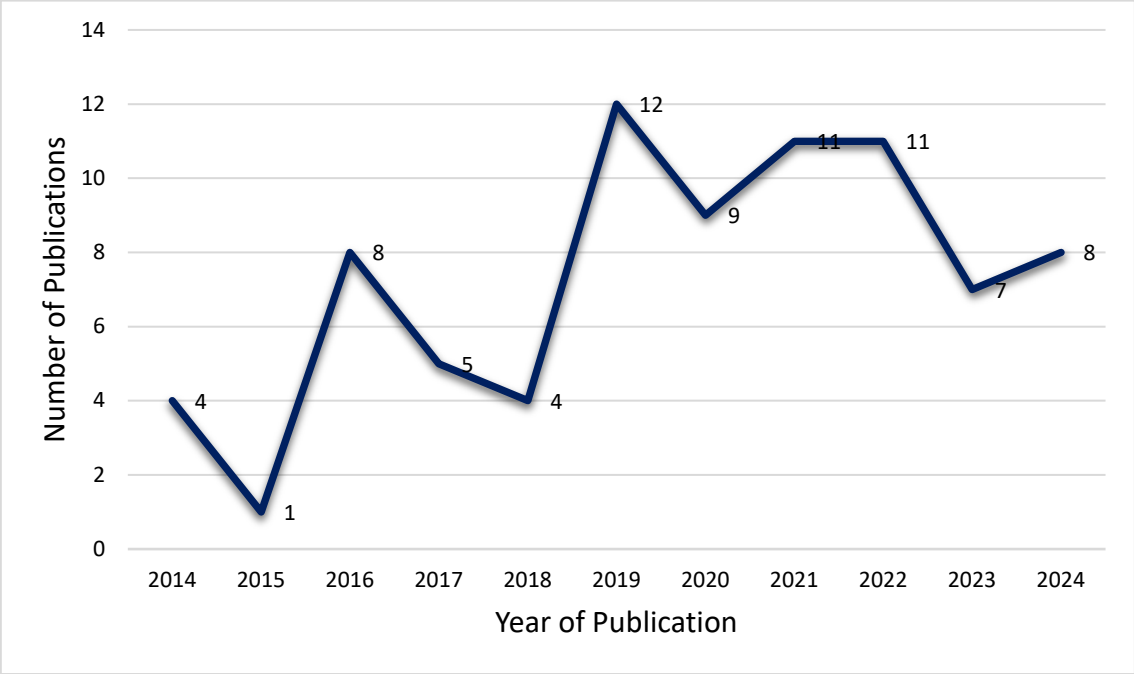

Figure 9. Research Papers Published by Year.

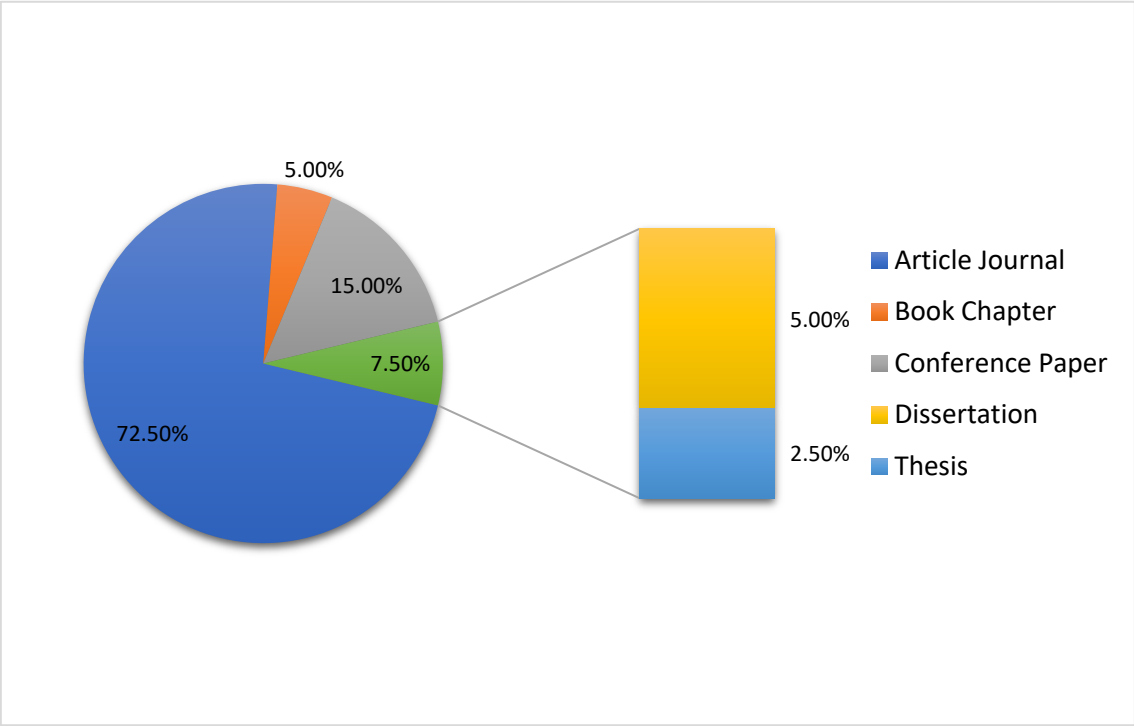

Figure 10. Research Type Indication.

Table 9. 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

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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

Eighty research papers were published between 2014 and 2024, revealing a steady increase in academic interest, with notable peaks in 2019 and 2021. The types of publications were distributed as follows: 72.50% journal articles, 15.00% conference papers, 5.00% book chapters, 5.00% dissertations, and 2.50% theses. Journal articles were the dominant form of research dissemination, emphasizing the importance of peer-reviewed journals in advancing the understanding of how IT strategic planning affects SME performance. Yearly publication trends indicate that 2019 had the highest number of publications, with twelve papers, followed by 2021 and 2022, each with eleven papers. Interest in the topic continued in 2024, with eight papers published. The fewest publications occurred in 2015, with only one paper. This pattern suggests a growing recognition of the critical role IT strategic planning plays in improving SMEs' competitiveness and operational efficiency, particularly in recent years. Journal articles being the predominant source highlights their significant role in contributing to ongoing academic discourse. While conference papers also provide meaningful contributions, book chapters, dissertations, and these are less prevalent. These trends reflect increasing scholarly engagement with the topic, highlighting how IT strategic planning has become a key factor in driving SME performance over the past decade.

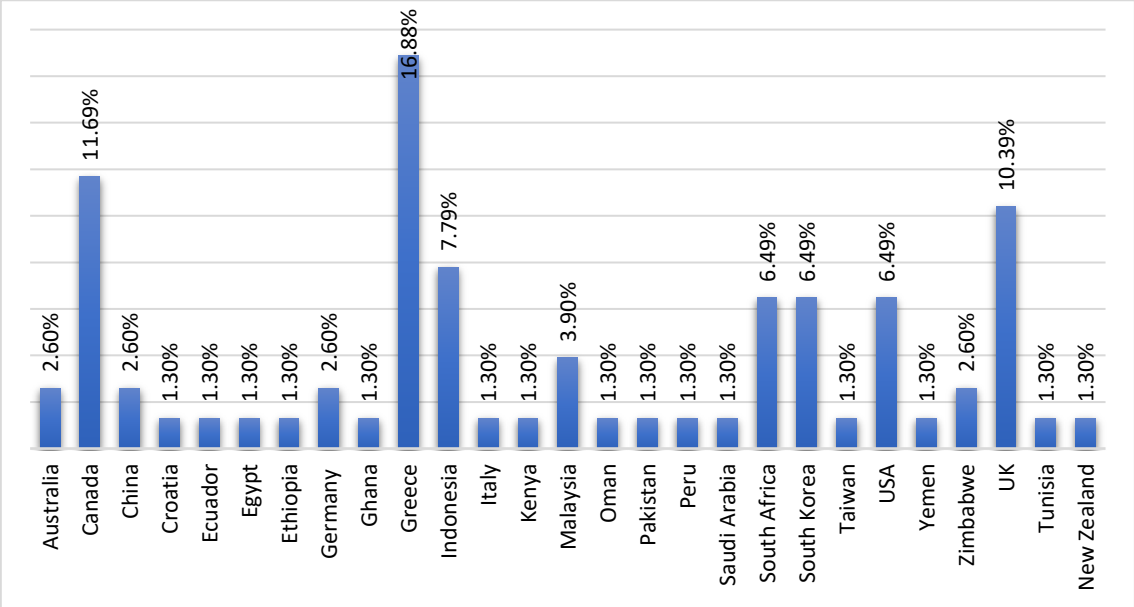

Figure 11. Geographical Distribution of Research Papers.

In reviewing eighty papers on the Impact of IT Strategic Planning on the Performance of Small and Medium-Sized Enterprises (SMEs), the research sample sizes varied across studies, with many focusing on SMEs from different industries and regions. The long-term impacts of IT strategic planning on SMEs were consistently highlighted, showing that enterprises that effectively integrated IT into their strategic planning processes experienced enhanced operational efficiency, improved decision-making capabilities, and greater adaptability to market changes. The studies also demonstrated that IT strategic planning contributes to long-term sustainability by enabling SMEs to scale their operations, streamline workflows, and foster innovation. Additionally, IT planning improved customer service and supply chain management, directly influencing profitability and competitiveness. Key contributions of the reviewed studies emphasized the importance of aligning

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IT strategies with business goals, suggesting that SMEs that prioritize IT in their overall strategy outperform those that adopt an ad-hoc approach. The research also recognized challenges, such as resource constraints and lack of expertise, but provided actionable insights into how SMEs can overcome these obstacles to leverage IT for business growth and sustainability in the long run.

3.3. Risk of Bias in Studies

Table 10 presents an assessment of 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 9 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, with 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 8 or 9 stars categorized as High Quality, indicating robust methodological practices and minimal bias. A score of 6 or 7 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 10. Evaluation of each Paper.

Study	Sample Size	Long Term impacts on SMEs	Contribution
[43]	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.
[44]	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.
[45]	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.
[46]	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.
[47]	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.
[48]	-	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

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			highlights positive impacts on employee and customer satisfaction.
[49]	294	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.
[50]	160	-	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.
[51]	132	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.
[52]	-	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.
[53]	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.
[54]	-	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.
[55]	294	Business sustainability	Comprehensive IT strategic planning in Greece boosts business sustainability and competitive advantage by enhancing alignment with business goals and resource efficiency.
[56]	-	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.
[57]	-	Competitive advantage	Identifying critical factors in Greece's IT strategic planning phases contributes to business sustainability by focusing on goal setting and resource allocation.
[58]	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.
[59]	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.
[60]	-	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.
[61]	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.

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[62]	-	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.
[63]	-	-	Exploring strategy implementation in agritourism SMEs in Greece reveals the use of information systems for better strategic outcomes, though specific contributions are not detailed.
[64]	-	Business sustainability, Competitive advantage	The framework in Australia demonstrates that aligning IT capabilities with business goals and focusing on project success rates enhance operational efficiency, employee satisfaction, and business sustainability.
[65]	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.
[66]	-	Business sustainability	Improving business competitiveness in Indonesian public hospitals through strategic IT planning enhances alignment with business goals and operational efficiency.
[67]	-	Competitive advantage	Recommendations for IT strategy in Indonesian IT companies improve alignment with business goals and resource efficiency, supporting long-term business sustainability.
[68]	-	Business sustainability	External environmental scanning in Malaysian SMEs enhances alignment with business goals, contributing to business sustainability
[69]	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.
[70]	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.
[71]	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.
[72]	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.
[73]	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.
[74]	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.
[75]	160	Competitive advantage	Research in Greece highlights that goal setting, resource allocation, and risk management contribute to

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			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.
[76]	-	Business sustainability, Competitive advantage	Study in Greece explores strategic alignment and information systems success, emphasizing employee satisfaction; quantitative approach with unspecified samples.
[77]	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.
[78]	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.
[79]	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.
[80]	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.
[81]	-	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.
[82]	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.
[83]	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.
[84]	164	Competitive advantage	Research in Malaysia reveals that goal setting, resource allocation, and risk management in IT strategic planning support alignment with business goals,

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			resource efficiency, project success rates, and operational efficiency; mixed methods with 164 samples.
[85]	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.
[86]	-	Competitive advantage	Research in Italy highlights that goal setting, resource allocation, and risk management in IT strategic planning led to alignment with business goals, resource efficiency, project success rates, and competitive advantage; quantitative approach with unspecified samples.
[87]	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.
[88]	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.
[89]	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.
[90]	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
[91]	-	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.
[92]	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.
[93]	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.
[94]	-	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,

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			improving operational efficiency and revenue growth, enhancing competitive advantage; qualitative study.
[95]		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.
[96]	-	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.
[97]	-	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.
[98]	-	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.
[99]	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.
[100]	-	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.
[101]	100	Business sustainability	Research in the UK reveals that IT strategic planning incorporating goal setting, resource allocation, and risk management improves operational efficiency, revenue growth, and employee satisfaction; quantitative study with one hundred samples demonstrates alignment with business goals.
[102]	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.
[103]	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.
[104]	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.
[105]	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

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			growth; quantitative study with 120 samples highlights customer satisfaction.
[106]	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.
[107]	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.
[108]	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.
[109]	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.
[110]	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.
[111]	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.
[112]	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.
[113]	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.
[114]	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
[115]	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.
[116]	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.

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[117]	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.
[118]	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.
[119]	-	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.
[120]	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.
[121]	50	Business Sustainability	In Australia, focusing on goal setting and resource allocation enhances resource efficiency and revenue growth, contributing to business sustainability.

Table 11. Proposed Risk of Bias Assessment.

Ref.	Selection (0-4 stars)	Comparability (0-2 stars)	Outcome/Exposure (0-3 stars)	Total Stars	Quality Rating
[68,104,122]	★★	★★	★	5	Low Quality
[44,61,64,71,72,81,83,84,86,88,93,97, 100,102,107,111,113, [114,116]	★★★	★	★★	6	Medium Quality
[46,48,50,52,54,56,58,60,63,66,69,74, 76,78–80,85,89,92,98,103,105,108,110,118,121]	★★★	★★	★★	7	Moderate Quality
[47,49,51,53,55,57,59,62,67,75,82,87, 90,91, [94,95,99,109,115,119,120]	★★★★	★	★★★	8	High Quality
[43,45,65,70,73,77,96,101,106,112,117]	★★★★	★★	★★★	9	High Quality

Figure 13 illustrates the distribution of research design types employed in the studies reviewed. Out of the eighty studies analyzed, surveys are 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 are 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.

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Other research designs are less frequently used. Empirical studies appear in fourteen instances, reflecting their role in investigating phenomena through observation and experimentation. Mixed methods, which combine qualitative and quantitative approaches, are 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 have fewer instances, highlighting their more specialized applications. For example, conceptual analysis and interviews each account for only one study, indicating their use in exploring theoretical constructs or obtaining in-depth qualitative information.

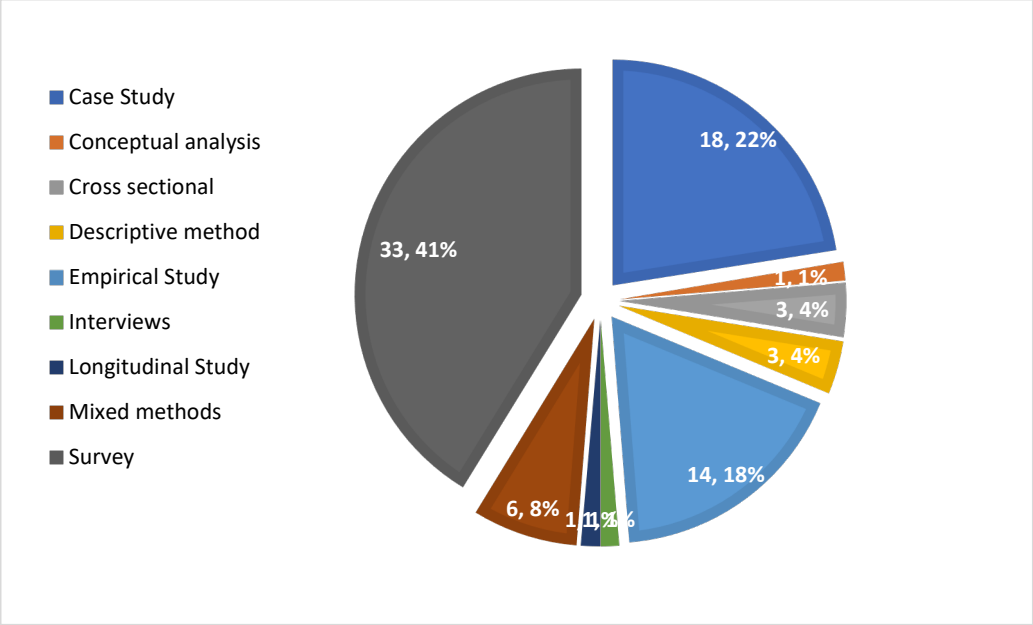

Figure 12. Research Design.

The data reveals the various data-gathering techniques used across 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 behavioral data. Overall, while surveys were the most used method, the integration of interviews and other techniques highlights the importance of qualitative insights in understanding the impact of IT strategic planning on SMEs' performance.

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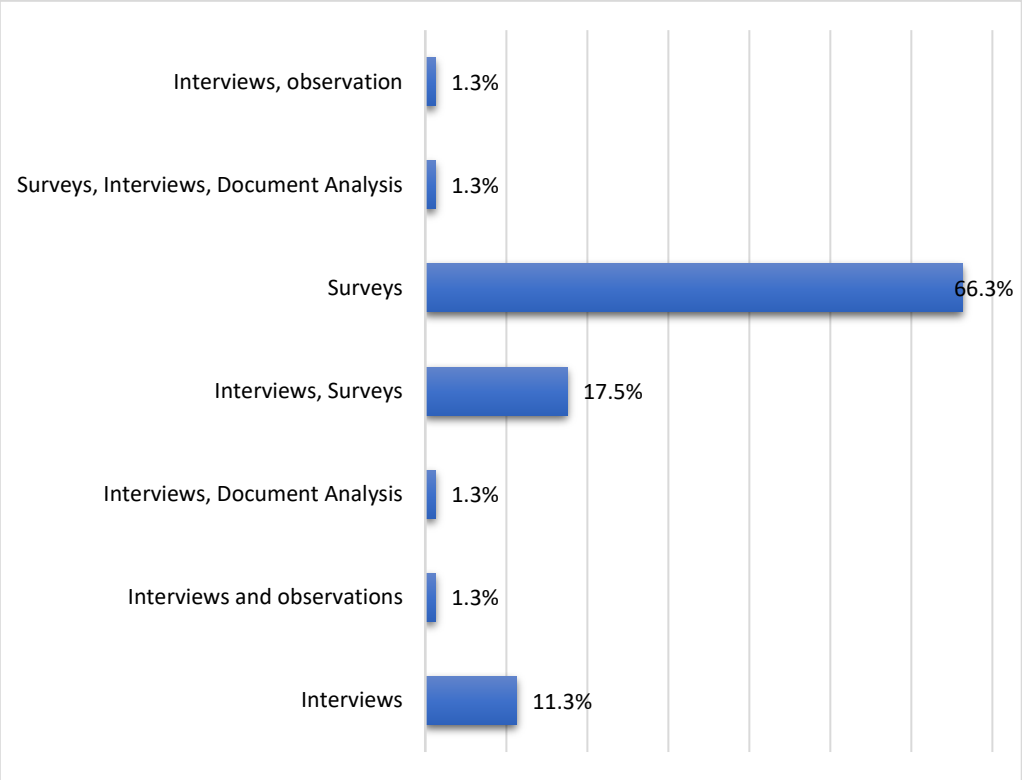

Figure 13. Data Collection Methods

3.4. Results of Individual Studies

The data illustrates the distribution of sample sizes used in 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 a large number of SMEs for research purposes, as well as the resource constraints often associated with SME-focused studies. In contrast, eleven studies used sample sizes between 201-300 participants, and only 5 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 the use of qualitative methods where sample sizes are not always applicable. Overall, the distribution reflects a tendency toward smaller, more focused studies in this field, while a subset of researchers attempted to broaden their scope by using larger samples.

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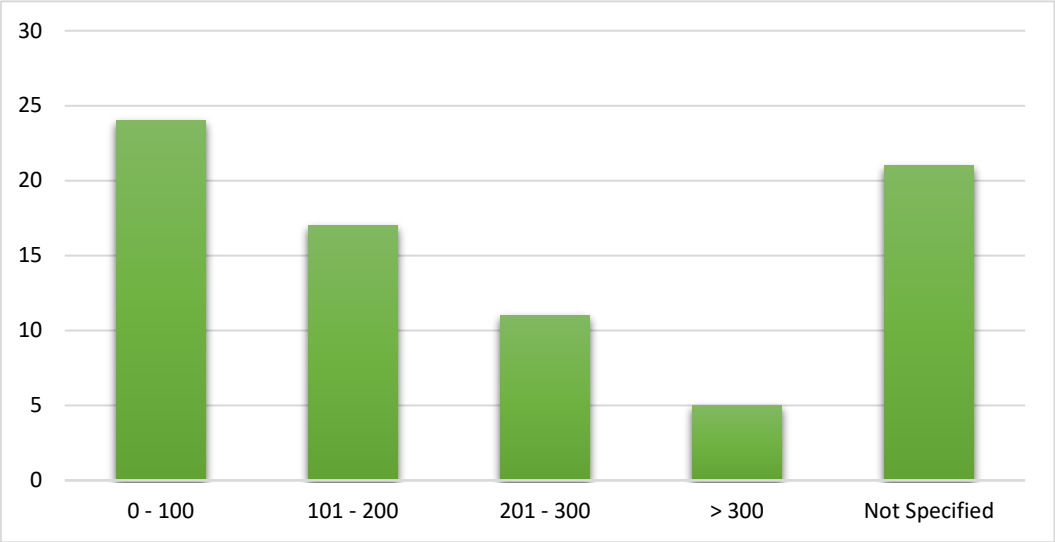

Figure 14. Sample Size.

3.5. Results of Syntheses

Figure 16 shows the distribution of these techniques across the eighty studies reviewed. Statistical analysis is 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 follows 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, account 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 process in organizations.

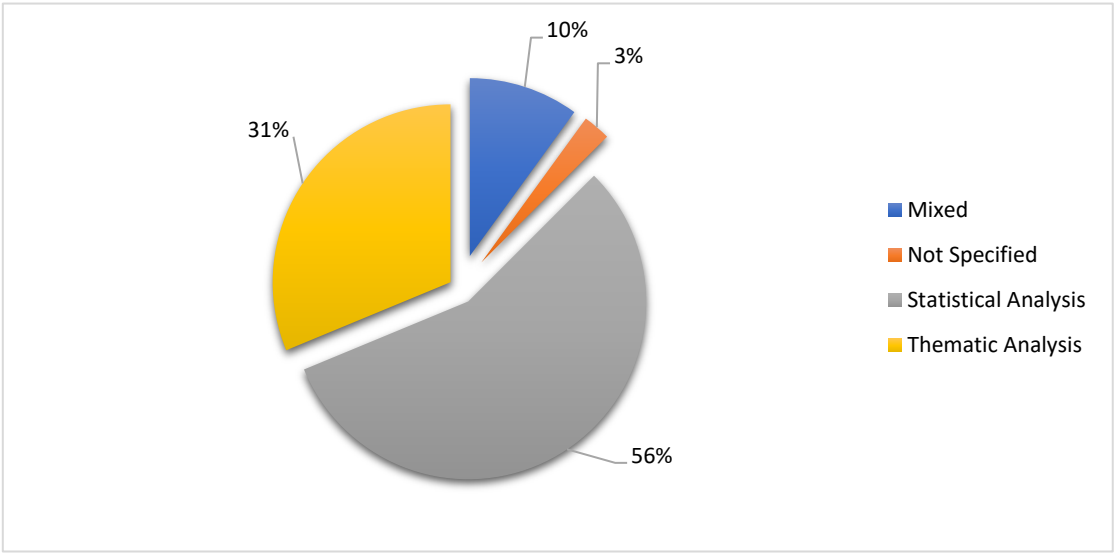

Figure 15. The distribution of Research Analysis Methods Used.

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3.6. Reporting Biases

The topic The Impact of IT Strategic Planning Process on SMEs Performance employs various research methodologies. Figure 17 demonstrates that quantitative studies lead the research on IT strategic planning processes, making up 42.5% of the reviewed publications. This high percentage underscores the emphasis on 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 represent 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 generalizable. Mixed-methods research comprises 26.25%, reflecting a growing trend toward combining both quantitative and qualitative approaches. This integration allows for a more comprehensive analysis, where statistical data is 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.

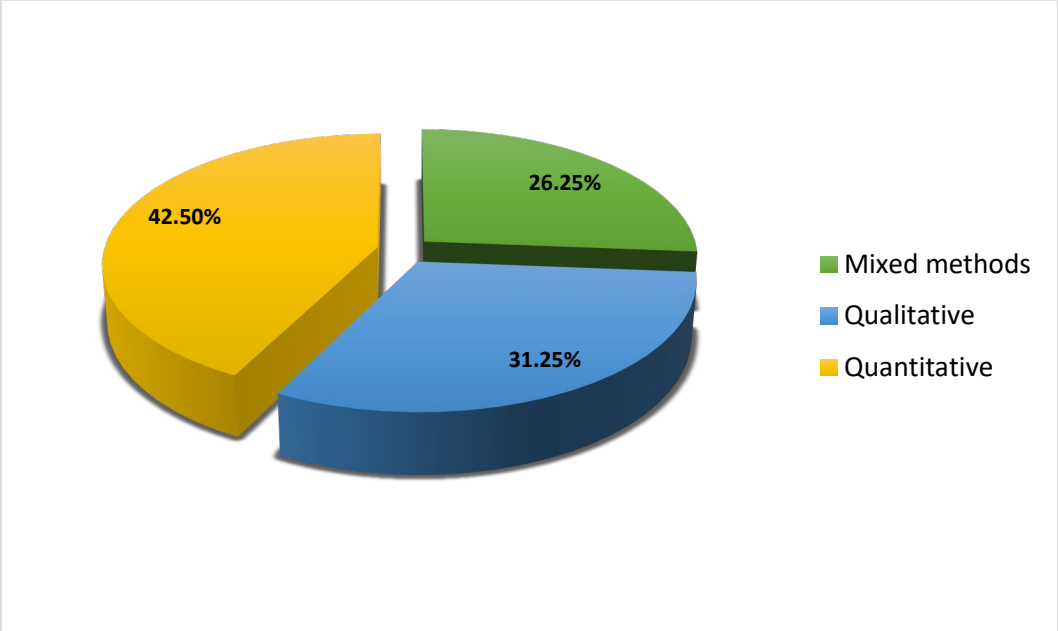

Figure 16. Type of study.

3.7. Certainty of Evidence

Figure 17 reveals that cloud-based solutions account for 11.25% 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, constitute 17.5% 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 8.75% of the total, are 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,

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these factors make on-premises deployments a less appealing option compared to more flexible cloud or hybrid solutions.

Interestingly, 60% 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. Additionally, 1.25% of the studies mention on-premises alongside mixed methods approaches. Overall, the trend suggests a growing preference for cloud-based and hybrid solutions, driven by their adaptability and cost-effectiveness.

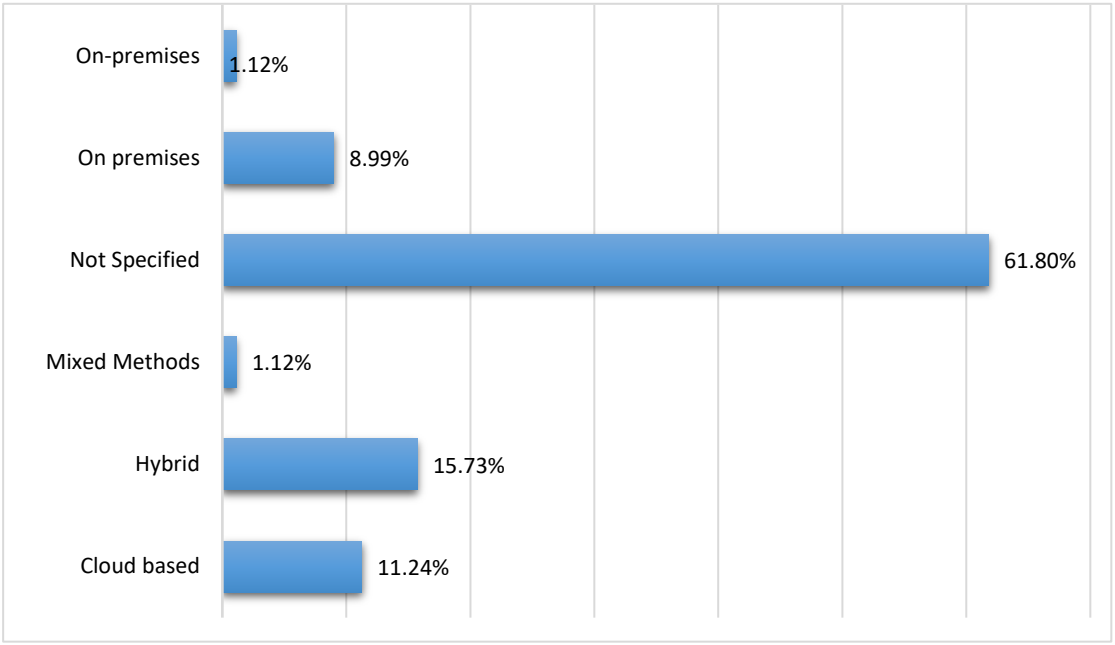

Figure 17. Implementation of Technology.

4. Discussion

IT strategic planning in SMEs enhances operational efficiency by aligning technology with business goals. It streamlines processes, improves decision-making, and increases competitiveness. However, SMEs face challenges like limited resources, technical expertise, and knowledge gaps in IT strategy, which can hinder effective implementation. External factors such as market changes, regulations, and modern technologies further shape the IT strategy process.

Q1. *How does integrating IT strategic planning with business methods impact SMEs' operational performance?*

The integration of IT strategic planning with business methods allows SMEs to synchronize their technology investments with operational needs. By aligning IT strategy with business goals, SMEs can enhance operational efficiency, reduce redundancies, and optimize workflows. For instance, integrating IT systems for inventory management, customer relationship management (CRM), and financial processes can lead to faster decision-making and improved customer service. Furthermore, it allows for real-time data insights, helping SMEs adjust strategies and remain agile in competitive markets. Therefore, the effective integration of IT into business methods drives operational performance by increasing efficiency and responsiveness.

Q2. What are the significant challenges faced by SMEs in incorporating IT strategic planning, and what techniques can be employed to overcome these obstacles?

SMEs often face challenges such as limited financial resources, lack of technical expertise, and inadequate knowledge of strategic IT planning. They may struggle with adopting the right

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technology due to budget constraints or understanding which IT systems align best with their business objectives.

Q3. How does the resource constraint of SMEs affect the efficacy of IT strategic planning, and what resource optimization techniques can be employed?

The resource constraints of SMEs, particularly in terms of finance and human capital, significantly affect the efficacy of IT strategic planning. SMEs often have limited budgets to invest in advanced technologies or specialized IT staff, which can delay the implementation of comprehensive IT strategies. Additionally, without proper resource allocation, IT projects may suffer from poor execution and fail to achieve desired outcomes.

Q4. What roles do external factors such as market dynamics, regulatory adjustments, and technological advancements play in shaping the IT strategic planning process of SMEs?

External factors like market dynamics, regulatory changes, and technological advancements influence the IT strategic planning process for SMEs. Rapid market shifts require SMEs to stay agile and adapt their IT strategies to meet changing customer expectations, competitive pressures, and economic conditions. For example, the rise of e-commerce and digital marketing has pushed SMEs to adopt online platforms for better customer engagement. Regulatory adjustments also play a significant role, as compliance with data protection laws, cybersecurity standards, and industry regulations is essential for maintaining trust and avoiding legal issues. Technological advancements, such as the emergence of artificial intelligence, blockchain, and IoT, provide SMEs with new opportunities to innovate and stay competitive. As a result, IT strategic planning in SMEs must consider these external factors to ensure resilience and future proofing.

Q5. How do SMEs measure the success of their IT strategic planning efforts, and what metrics or frameworks are best for this evaluation?

SMEs measure the success of their IT strategic planning efforts by evaluating how well IT initiatives align with business objectives and the extent to which they contribute to operational efficiency, revenue growth, and competitive advantage. Metrics such as return on investment (ROI), cost savings, customer satisfaction, and productivity improvements are commonly used to assess the impact of IT strategy.

4. Practical Recommendations

Based on the findings of this study, SMEs can enhance their IT strategic planning by adopting the following practical strategies to optimize resources, overcome constraints, and integrate recent technologies effectively as shown in Table 12. These recommendations focus on addressing the common challenges SMEs face, such as limited resources, lack of expertise, and adapting to external factors.

Table 12. Proposed Practical Recommendations.

Challenge	Recommendation	Proposed Actionable Steps
Limited Financial Resources	Prioritize cloud-based solutions to offer flexibility, scalability, and cost savings.	- Shift non-critical IT functions to cloud-based platforms to reduce upfront hardware costs. - Use pay-as-you-go models to match the company's growth stage and avoid large initial investments.
Lack of Technical Expertise	Leverage outsourced IT services by partnering with third-party providers for IT support.	- Engage with managed IT service providers to handle technical tasks such as cybersecurity and data management. - Conduct periodic reviews of outsourced services to ensure alignment with business goals.
Resource Optimization	Implement IT Resource Planning tools using software	- Adopt project management and IT resource allocation tools (e.g., Trello, Asana) to track project timelines and

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	to track and optimize resource usage.	resources. - Regularly assess IT asset utilization to reduce inefficiencies.
Adapting to Market Dynamics	Focus on Agile IT Strategies like implementing flexible IT plans that can adapt to market changes.	- Incorporate agile methodologies to quickly adjust IT infrastructure to market trends. - Regularly update IT plans based on current business performance and external market signals.
Technology Integration	Adopt scalable technologies that can grow with the business.	- Start with basic versions of essential technologies (e.g., CRM, ERP) and upgrade as the business expands. - Regularly review emerging technologies (e.g., AI, blockchain) for potential future integration.
Employee Training and Retention	Develop continuous IT Training programs to build internal capabilities for IT strategy execution.	- Organize regular IT training for employees to improve internal expertise. - Utilize free or low-cost online training platforms like Coursera, Udemy, and LinkedIn Learning to keep staff up to date.
Compliance and Regulatory Changes	Automate Compliance Monitoring by using softwares to track regulatory compliance.	- Invest in compliance monitoring tools that automatically update according to changes in regulations. - Train staff on the latest regulatory requirements and cybersecurity best practices.
Innovation and Competitiveness	Utilize data analytics by invest in data-driven decision-making to stay competitive.	- Implement affordable data analytics tools (e.g., Power BI, Tableau) to track key performance indicators. - Use predictive analytics for demand forecasting and identifying market trends.

We propose a framework for IT strategic planning in SMEs, as shown in Figure 18, which provides a structured approach for addressing the unique challenges SMEs face when incorporating IT into their business strategies. This framework integrates essential components such as resource optimization, external factor adaptation, performance measurement, and continuous improvement, enabling SMEs to navigate the complexities of IT planning more effectively.

The framework, informed by the findings of multiple studies included in this analysis, offers practical steps for aligning IT strategies with business objectives, optimizing limited resources, and ensuring flexibility in response to market dynamics, regulatory changes, and technological advancements. By following this structured approach, SMEs can enhance their competitiveness, operational efficiency, and long-term sustainability.

Table 12 provides a detailed breakdown of the framework's key components, descriptions, actionable steps, and examples drawn from the studies reviewed.

Table 12. Proposed Framework for IT Strategic Planning in SMEs.

Framework Component	Description	Key Actions	Example from Study
IT Alignment with Business Goals	Ensuring that IT investments support key business objectives like customer service and operational efficiency.	- Conduct business needs analysis. - Align IT projects with business metrics.	SMEs in Pakistan used CRM tools to enhance customer service and project success [43].
Resource Optimization	Maximizing the impact of IT investments while minimizing resource waste.	- Use cloud-based solutions. - Implement IT resource tracking tools. - Review IT spending.	German SMEs optimized resources by adopting cloud services, resulting in cost savings [46].
Adaptation to External Factors	Adjusting IT strategies in response to market,	- Monitor external trends. - Implement	UK SMEs adopted automated compliance

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	regulatory, and technological changes.	compliance tools. - Adopt new technologies gradually. - Define KPIs.	tools to meet GDPR requirements [58].
Performance Measurement	Tracking financial and operational metrics to evaluate the success of IT investments.	- Use data analytics to monitor performance. - Review IT outcomes regularly.	Greek SMEs measured IT success through metrics like customer satisfaction and revenue growth [48].
Continuous Improvement	Regularly updating IT strategies to incorporate new technologies and align with business growth.	- Conduct annual reviews. - Incrementally adopt scalable technologies. - Encourage innovation.	Greek SMEs gradually adopted AI tools to improve customer satisfaction [48].

It is also beneficial to consider real-world examples to better understand how these strategies have been successfully implemented. These case studies showcase the practical application of IT strategic planning and how it supports operational efficiency, cost savings, and competitive advantage in the digital economy. Table 13 presents real-world examples of SMEs that have successfully implemented IT strategies to achieve significant performance improvements.

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	[121]
UPS	Logistics	AI-powered logistics platform (ORION) for delivery optimization	Reduced travel distance, resulting in cost savings and environmental benefits	[121]
Manufacturing SME (Unnamed)	Manufacturing	AI for predictive maintenance and quality control	20% reduction in delivery times and enhanced product quality	[122]
Retail SME (Unnamed)	Retail	AI-driven analytics for personalized marketing	25% increase in sales within one quarter	[122]
IBM Watson Health	Healthcare	AI for medical image analysis and patient data management	Improved diagnostic accuracy and personalized treatment plans	[123]

These case studies reflect the tangible benefits SMEs can achieve by strategically integrating IT and AI solutions into their operations. Whether through enhancing customer service, improving supply chain management, or optimizing marketing efforts, these examples provide practical

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insights into how SMEs can leverage modern technology to overcome operational challenges and drive growth.

5. 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. 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.

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