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College of Management

Master of Business Administration

**The Role of Management Information Systems in Enhancing
Administrative Decision-Making: An Applied Study on Small and
Medium-Sized Enterprises in Riyadh**

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Chapter 1: Introduction

1.1 Background

Small and medium-sized enterprises (SMEs) significantly contribute to economic growth and development globally and particularly within Saudi Arabia. SMEs are recognized for their pivotal role in enhancing innovation, employment generation, and economic diversification (Alqahtani et al., 2024). However, SMEs frequently face unique operational challenges such as limited resources, information asymmetry, inadequate infrastructure, and weak management capabilities, which collectively affect their administrative decision-making efficiency and competitiveness (Kumar et al., 2023; Muhail & Abdullah, 2024).

The increasingly competitive global market necessitates the adoption of robust information technologies and systems to enhance organizational decision-making (Bozkus, 2024). Management Information Systems (MIS) have become essential tools for providing accurate, timely, and relevant information, supporting managers in making informed and strategic administrative decisions (Sutton et al., 2024; Al-Mamary et al., 2014). MIS integrate technology, people, and organizational processes to facilitate the collection, processing, storage, and dissemination of critical business information (Sternad Zabukovše et al., 2023). Given the substantial support that MIS can provide, evaluating their effectiveness within SMEs is vital, particularly in a dynamic and developing business environment such as Riyadh.

In the context of Saudi Arabia's Vision 2030, substantial efforts are being directed towards enhancing technological infrastructure and digitization, with particular emphasis on SMEs (Alayed et al., 2025; Yusuf & Lytras, 2023). Riyadh, as a central economic and technological hub, provides a conducive environment for examining the role and impact of MIS in SMEs. Therefore, investigating MIS adoption

and its effectiveness in supporting administrative decision-making within SMEs in Riyadh represents a timely and pertinent area of research.

1.2 Statement of the Problem

SMEs in Riyadh often experience challenges in administrative decision-making due to constraints such as limited access to timely and accurate information, insufficient technological integration, and inadequate understanding of the potential benefits of adopting advanced information systems (Zafar et al., 2015; AlBar & Hoque, 2019). Despite the recognized importance of MIS in enhancing decision-making capabilities, many SMEs continue to operate using traditional and less efficient decision-making processes, resulting in slower response times, lower quality decisions, and reduced competitive advantage (Muhail & Abdullah, 2024; Hamdat et al., 2024; Alsuhaime, 2025; Bani Hushayyish et al., 2023).

Although previous research emphasizes the general benefits of MIS in larger enterprises (Khudhur, 2017; Allahawiah et al., 2020; Egbuniwe, 2019; Ali & Gürkan, 2022; Musa et al., 2020), empirical evidence specifically addressing the effectiveness and impact of MIS within SMEs in the Saudi Arabian context, particularly Riyadh, remains limited. Hence, there is a critical need for focused empirical research to explore the actual role, effectiveness, and impact of MIS on administrative decision-making in Riyadh-based SMEs, as well as understanding how demographic factors of administrative staff might influence MIS usage and perceptions.

1.3 Important of the study

This research holds substantial significance, particularly in the context of Saudi Arabia's ambitious economic transformation efforts under Vision 2030. By empirically examining the role of Management Information Systems (MIS) in enhancing administrative decision-making within small and medium-sized enterprises (SMEs) in

Riyadh, this study contributes critical insights and evidence to support decision-makers and stakeholders in SMEs. Specifically, it underscores the practical value of MIS adoption, helping SMEs understand how such systems can improve decision-making quality, timeliness, and efficiency, consequently promoting organizational competitiveness and productivity within the dynamic Saudi economic environment.

Furthermore, the findings of this study will inform policy makers and enterprise leaders on the demographic and user-related factors influencing MIS adoption and effectiveness. By analyzing how demographic characteristics correlate with perceptions and usage of MIS among administrative staff, the study provides actionable knowledge for targeted training and capacity-building programs. Ultimately, this research enhances the theoretical understanding of MIS effectiveness in SMEs, contributes new empirical evidence to the existing academic literature, and provides practical guidelines to policymakers, SME owners, managers, and researchers interested in enhancing enterprise efficiency and performance through effective technology integration and adoption.

1.4 Research Objectives

1.4.1 General Objective

The general objective of this study is to evaluate the role and effectiveness of management information systems in enhancing administrative decision-making processes within small and medium-sized enterprises in Riyadh.

1.4.2 Specific Objectives

1. To evaluate the effectiveness of management information systems (MIS) in providing accurate, timely, and relevant information to support administrative decision-making in small and medium-sized enterprises (SMEs) in Riyadh.

2. To examine the impact of management information systems on the quality, speed, and overall efficiency of administrative decision-making processes within SMEs in Riyadh.
3. To identify the demographic characteristics of administrative staff in SMEs in Riyadh and analyze the relationship between these characteristics and their use and perceptions of management information systems in the decision-making process.

1.5 Research Questions

This research seeks to address the following research questions:

1. To what extent are Management Information Systems (MIS) effective in providing accurate, timely, and relevant information to support administrative decision-making within small and medium-sized enterprises (SMEs) in Riyadh?
2. What impact do Management Information Systems (MIS) have on the quality, speed, and overall efficiency of administrative decision-making processes in SMEs in Riyadh?
3. What are the demographic characteristics of administrative staff in SMEs in Riyadh, and how are these characteristics related to their use and perceptions of Management Information Systems (MIS) in administrative decision-making?

1.6 Research Hypotheses

The following hypotheses will be tested in this study:

Hypothesis 1 (H1): There is a statistically significant positive relationship between the use of Management Information Systems (MIS) and the provision of accurate, timely, and relevant information to support administrative decision-making in SMEs in Riyadh.

Hypothesis 2 (H2): There is a statistically significant positive impact of Management Information Systems (MIS) on the quality, speed, and overall efficiency of administrative decision-making processes in SMEs in Riyadh.

Hypothesis 3 (H3): There is a statistically significant relationship between demographic characteristics (age, gender, educational level, experience, and position) of administrative staff and their perceptions and use of Management Information Systems (MIS) in SMEs in Riyadh.

1.7 Definitions of Key Terms

Management Information Systems (MIS): Computer-based systems designed to provide managerial and administrative staff with essential, accurate, timely, and relevant information to facilitate decision-making, coordination, control, analysis, and visualization of information within organizational contexts (Laudon & Laudon, 2020).

Administrative Decision-Making: The process by which managers and administrators select suitable alternatives and solutions to organizational issues and business problems based on available information, resources, and strategies, aiming to achieve organizational objectives efficiently (Robbins & Coulter, 2016). The measure of how effectively administrative decisions are made concerning the accuracy, quality, speed, resource utilization, and timeliness of such decisions in achieving intended outcomes and organizational goals (Robbins & Coulter, 2016).

1.8 Theoretical Model

The theoretical framework guiding this research integrates elements from DeLone and McLean's Information Systems Success Model (DeLone & McLean, 2003) and the Technology Acceptance Model (TAM) (Davis, 1989). These models are

combined and specifically adapted to address the current study's objectives, hypotheses, and variables.

DeLone and McLean's Information Systems Success Model (2003) provides a comprehensive framework for evaluating the effectiveness and impact of Management Information Systems (MIS). This model specifically identifies critical dimensions such as information quality, system quality, user satisfaction, and net benefits as essential determinants of information systems success. Technology Acceptance Model (TAM) emphasizes users' perceptions, attitudes, and behaviors concerning information technology acceptance and utilization. This model helps explain the demographic factors and their influence on perceptions toward MIS usage.

1.9 Summary

This chapter clearly defined the research questions addressing MIS effectiveness, its impact on administrative decision-making, and its association with demographic characteristics of SME administrative staff in Riyadh. Additionally, specific hypotheses to be statistically tested were formulated. Key terms were explicitly defined to ensure conceptual clarity, and the theoretical model, integrating the Technology Acceptance Model (TAM) and Information Systems Success Model, was presented to guide the study. This comprehensive framework provides clarity and direction for the subsequent phases of the research.

Chapter 2: Literature Review

2.1 Introduction

This chapter has provided a comprehensive review of the literature concerning the relationship between Management Information Systems (MIS) and decision-making quality in organizations. Understanding how MIS contributes to decision-making processes is essential for evaluating its overall effectiveness and for identifying factors that enhance or inhibit its role in administrative contexts.

2.2 Dependent Variables: Decision-Making Quality

Decision-making quality refers to the extent to which decisions are timely, accurate, relevant, and effective in achieving organizational objectives. High-quality decision-making involves not only the selection of optimal alternatives but also the ability to anticipate outcomes, manage risks, and align decisions with strategic goals (Ali & Gürkan, 2022; Khudhur, 2017). In organizational research, decision-making quality is frequently assessed through criteria such as accuracy, reliability, timeliness, comprehensiveness, and appropriateness of the decision outcomes (Alsulaiman et al., 2024; Muhail & Abdullah, 2024).

Recent empirical studies provide robust support for the positive impact of MIS on decision-making quality across different organizational contexts, including SMEs. For example, Alsuhaime (2025) demonstrated that data-driven decision-making, facilitated by robust MIS infrastructure, leads to significant improvements in the accuracy and effectiveness of managerial decisions within Saudi Arabia's public sector. Similarly, Hamdat et al. (2024) reported that organizations with strategically aligned MIS are more agile and capable of making faster, more informed decisions, thus enhancing overall performance.

In the educational sector, Allahawiah et al. (2020) found a strong correlation between the use of MIS and the quality of administrative decisions in Jordanian universities, noting that MIS provides timely, accurate, and relevant information crucial for effective decision-making. Comparable findings were reported in the healthcare sector, where Bani Hushayyish et al. (2023) identified a significant relationship between healthcare information systems and improved decision-making efficiency among hospital administrators.

In the context of SMEs, the literature underscores several challenges and enablers of decision-making quality. Effective MIS implementation enhances not only the accuracy and reliability of information but also supports strategic alignment and knowledge sharing, both of which are critical for decision quality in resource-constrained environments (Alsulaiman et al., 2024; Ali & Gürkan, 2022). Conversely, barriers such as inadequate user training, limited technological infrastructure, and resistance to change can inhibit the positive impact of MIS on decision quality (Musa et al., 2020; Khudhur, 2017).

The key factors identified in the literature that influence the relationship between MIS and decision-making quality include system quality, information quality, user proficiency, and organizational support (Shniekat et al., 2022; Alsulaiman et al., 2024). High-quality MIS are characterized by data accuracy, user-friendly interfaces, timely reporting, and strong security features, all of which contribute to more effective and reliable decision-making processes. Moreover, ongoing training and management support are crucial for ensuring that end-users can leverage MIS capabilities to their full potential (Musa et al., 2020; Muhail & Abdullah, 2024).

The reviewed literature consistently highlights the significant positive effect of MIS on decision-making quality, across various sectors and organizational scales. However, specific evidence regarding the application and outcomes of MIS in SMEs, especially within the Riyadh context, remains limited. This underscores the need for applied research that evaluates the unique challenges, benefits, and contextual factors influencing MIS-driven decision-making quality in Riyadh's SMEs.

2.3 Independent Variable: Management Information Systems (MIS)

Management Information Systems (MIS) are integrated systems that collect, process, store, and disseminate information to support managerial functions within organizations (Laudon & Laudon, 2020; Musa et al., 2020). MIS combines people, technology, and organizational processes to facilitate planning, control, coordination, and decision-making (Hamdat et al., 2024). The core components of an MIS include hardware, software, data, procedures, and human resources (Shniekat et al., 2022). Each component plays a critical role in ensuring the effective functioning of the system, with modern MIS often relying on digital databases, real-time analytics, and user-friendly interfaces to enhance accessibility and utility (Bani Hushayyish et al., 2023).

In organizational settings, MIS serves as the backbone for administrative processes by enabling efficient data flow, improved communication, and timely reporting (Khudhur, 2017; Allahawiah et al., 2020). Within SMEs, the deployment of MIS can be particularly transformative, given the typically limited resources and the need for agility in decision-making (Alsuhaimi, 2025). Effective MIS implementation helps SMEs streamline operations, monitor performance, and respond proactively to environmental changes (Alsulaiman et al., 2024).

Research highlights that MIS adoption in SMEs faces unique challenges, including limited IT expertise, budget constraints, and resistance to change (Musa et al., 2020; Khudhur, 2017). Nevertheless, studies demonstrate that when SMEs implement MIS successfully, they experience improvements in operational efficiency, transparency, and adaptability (Ali & Gürkan, 2022; Alsuhaime, 2025). In the Saudi context, Alsuhaime (2025) emphasized the importance of robust MIS infrastructure for data-driven management and alignment with national development initiatives. Additionally, training and continuous development are essential for maximizing MIS effectiveness in SMEs. The presence of user-friendly systems and ongoing support significantly enhances user adoption and the realization of MIS benefits (Shniekat et al., 2022).

Numerous studies confirm the significant role of MIS in facilitating effective management and supporting strategic objectives. Shniekat et al. (2022) identified a positive correlation between MIS dimensions and institutional performance in Jordanian universities. In healthcare and educational institutions, Bani Hushayyish et al. (2023) and Allahawiah et al. (2020) found that MIS deployment directly improves decision quality, resource utilization, and information accessibility. In Nigerian academic libraries, Musa et al. (2020) reported that MIS is critical for effective record-keeping and administrative decision-making, despite challenges related to ICT skills and infrastructure.

For SMEs, evidence suggests that the adoption of MIS is positively associated with enhanced decision-making quality, increased competitiveness, and better resource management (Alsuhaime, 2025; Ali & Gürkan, 2022). However, the realization of these benefits depends on several factors, including system quality, management

involvement, and the alignment of MIS with organizational needs (Hamdat et al., 2024; Alsulaiman et al., 2024).

In summary, the literature demonstrates that Management Information Systems serve as a foundational independent variable influencing a range of organizational outcomes, particularly decision-making quality. The effectiveness of MIS in SMEs hinges on the integration of high-quality technology, relevant and timely information, user skills, and organizational support. The next sections will explore the interplay between these variables in the context of SMEs in Riyadh.

2.4 Summary of Previous Studies

1. Khudhur (2017).

Khudhur (2017) conducted a quantitative study at Hawler Polytechnic University in Iraq to investigate the impact of management information systems (MIS) on the quality of administrative decision making. Utilizing descriptive and analytical methodologies, the research gathered data from administrative staff via questionnaires and employed statistical techniques, including correlation and regression analysis, to analyze the responses. The findings revealed a significant positive relationship between the adoption of MIS—encompassing operational, functional, and decision support systems—and the enhancement of decision-making quality at all management levels. The study emphasized that MIS notably contributes to improved decision quality, particularly at lower and middle management levels, by delivering timely, accurate, and relevant information. Key recommendations included the regular updating of MIS infrastructure, increased staff training, and greater employee involvement in system development to maximize the benefits of MIS in administrative processes (Khudhur, 2017).

2. Hamdat et al. (2024)

Hamdat et al. (2024) explored the influence of management information systems on decision-making efficiency through a mixed-methods approach, focusing primarily on organizations in Indonesia. The study combined quantitative surveys from senior managers and IT professionals across multiple sectors with a qualitative review of theoretical frameworks such as the Technology Acceptance Model (TAM) and Resource-Based View (RBV). Analysis of both empirical and literature-based data demonstrated that MIS plays a significant role in enhancing decision-making efficiency by delivering real-time, relevant information and advanced analytics. The results showed that organizations with strategically integrated MIS experienced greater decision accuracy, speed, and overall agility. However, the effectiveness of MIS was found to be contingent upon organizational culture, user proficiency, and ongoing technological updates. The authors stressed the necessity of aligning MIS with organizational goals and highlighted the importance of investments in user training and data governance for achieving optimal decision-making outcomes (Hamdat et al., 2024).

3. Bani Hushayyish et al. (2023).

Bani Hushayyish et al. (2023) assessed the impact of healthcare information systems (HIS)—a subset of MIS—on administrative and operational management within Alhada Military Hospital in Saudi Arabia. Using a descriptive and analytical methodology, the study surveyed 94 healthcare staff and analyzed the data with SPSS. The findings indicated that HIS had a positive and significant effect on both administrative and operational decision-making, particularly in the areas of information retrieval and staff efficiency. Respondents demonstrated high proficiency in HIS use,

though the study identified areas for improvement, such as the provision of more robust statistical data. The results underscored the essential role of HIS in facilitating timely and accurate decisions and emphasized the need for ongoing system development and staff training to further enhance decision-making processes in healthcare settings (Bani Hushayyish et al., 2023).

4. Alsuhaimi (2025)

Alsuhaimi (2025) examined the implementation of data-driven decision-making (DDDM) in Saudi Arabia's public sector, employing a quantitative cross-sectional survey of 382 employees from various governmental organizations. The study utilized the Technology-Organization-Environment (TOE) framework, along with structural equation modeling (SEM) and regression analyses, to assess factors influencing the adoption and outcomes of DDDM. The findings revealed that DDDM is positively associated with higher decision quality, operational efficiency, and the alignment of organizational actions with the strategic objectives outlined in Saudi Arabia's Vision 2030. Key factors facilitating DDDM adoption included robust IT infrastructure, high data quality, advanced analytics capabilities, strong top management support, a supportive data culture, employee skill levels, and government policy. Nevertheless, the research also highlighted ongoing challenges, such as data quality concerns, skill shortages, and organizational resistance to change. The study recommended investing in robust data systems, comprehensive capacity-building initiatives, and alignment of policy frameworks to optimize the benefits of DDDM in the public sector (Alsuhaimi, 2025).

5. Egbuniwe (2019)

Egbuniwe (2019) investigated the relationship between management information systems (MIS) and the quality of management decisions in a major Libyan telecommunications company, Almadar. The descriptive and quantitative research surveyed 700 employees and utilized SPSS for correlation and regression analyses. Results indicated a strong and significant association between the use of MIS—including operational, administrative, and decision support systems—and enhanced decision-making quality across all levels of management. MIS implementation contributed to more accurate, comprehensive, and timely managerial decisions, which in turn positively influenced overall organizational performance. The study recommended continuous improvements to MIS infrastructure and processes, as well as the addressing of information gaps, to further support high-quality decision-making within organizations (Egbuniwe, 2019).

6. Ali and Gürkan (2022)

Ali and Gürkan (2022) focused on the impact of information systems on the financial management decision-making process within Libya's Ministry of Education. The study, which surveyed a sample of 200 managers, department heads, accountants, and auditors, employed partial least squares regression (PLS) for data analysis. Findings demonstrated that the quality of information systems has a significant effect on both the quality of information available and the quality of financial decision-making itself. Information systems that deliver accurate, reliable, and timely data were shown to improve the efficiency and correctness of financial decisions. Importantly, the research highlighted that information quality mediates the relationship between system quality and decision quality, and recommended ongoing enhancement of information system features to further support effective financial decision-making (Ali & Gürkan, 2022).

7. Allahawiah et al. (2020)

Allahawiah et al. (2020) examined the impact of management information systems (MIS) on decision making within Jordanian private universities through a descriptive, cross-sectional survey of 315 university employees (with 290 valid responses). The analysis, based on descriptive statistics, revealed a strong relationship between the accuracy of information provided by MIS and its utilization by university officials in their decision-making processes, with a reported relative weight of 80%. The study highlighted the critical role of MIS in ensuring that managerial decisions are based on adequate, relevant, and timely information. It further recommended the continuous development and updating of MIS, along with improved provision of statistical information, to further enhance decision-making quality in academic institutions (Allahawiah et al., 2020).

8. Musa, Mohammed, and Abdullahi (2020)

Musa, Mohammed, and Abdullahi (2020) explored the effect of management information systems on the routine of academic librarians at the Federal University of Technology Minna Library in Nigeria. Using a descriptive survey of 30 academic librarians (with an 86% response rate), the research found that MIS facilities were available and effectively supported smooth record-keeping and decision-making activities. Despite these benefits, the study identified significant challenges, including a lack of ICT skills among staff, inadequate power supply, insufficient management involvement in MIS design, low data centralization, and a shortage of ICT professionals. The authors recommended prioritizing MIS for efficient records management and decision-making and addressing existing barriers to enhance the reliability and impact of MIS in academic libraries (Musa et al., 2020).

9. Shniekat et al. (2022)

Shniekat et al. (2022) investigated the influence of management information system dimensions on institutional performance in Jordan, focusing on faculty members at Al-Balqa Applied University. This quantitative, cross-sectional study used a structured questionnaire administered to 140 faculty members, with data analyzed through ANOVA and regression techniques. The results indicated a moderate positive relationship between the implementation of MIS and institutional performance, with dimensions such as hardware/software, security, and training all contributing to this effect. Interestingly, the analysis found that user qualifications did not significantly influence MIS-related performance. The study concluded with recommendations for ongoing MIS upgrades and staff training as strategies to maximize institutional performance and the overall benefits derived from MIS use (Shniekat et al., 2022).

10. Muhail and Abdullah (2024)

Muhail and Abdullah (2024) conducted an analytical investigation into the impact of management information systems (MIS) on security decision-making among officers in Al-Muthana Governorate, Iraq. Utilizing a descriptive-analytical approach, the researchers surveyed 191 security services officers through a structured questionnaire, with the data analyzed using descriptive statistics and the AmosV23 statistical software. The findings revealed a significant positive relationship between the development and continuous improvement of MIS and the quality of security-related decision-making. Key MIS dimensions—such as senior management attention, human, material, and software resources, as well as training—were all found to be positively correlated with the quality of security decisions. The study concluded by recommending ongoing MIS development and enhanced training initiatives as essential

measures to further optimize the effectiveness of security decision-making processes (Muhail & Abdullah, 2024).

2.5 Gaps in the Literature

Despite a substantial body of research demonstrating the positive impact of Management Information Systems (MIS) on decision-making quality in various sectors and regions—including Iraq (Khudhur, 2017; Muhail & Abdullah, 2024), Indonesia (Hamdat et al., 2024), Saudi Arabia (Alsuhaimi, 2025; Bani Hushayyish et al., 2023; Alsulaiman et al., 2024), Jordan (Allahawiah et al., 2020; Shniekat et al., 2022), Libya (Egbuniwe, 2019; Ali & Gürkan, 2022), and Nigeria (Musa et al., 2020)—notable gaps remain in the literature. First, the majority of empirical studies have focused on public sector organizations, educational institutions, and healthcare settings, with limited research addressing the unique context of small and medium-sized enterprises (SMEs), particularly in the Gulf region and Saudi Arabia. Existing research often emphasizes large organizations or government entities, neglecting the specific challenges and enablers of MIS adoption in SMEs, such as resource constraints, limited IT expertise, and the dynamic business environment (Alsuhaimi, 2025; Musa et al., 2020).

Furthermore, while studies such as those by Hamdat et al. (2024) and Shniekat et al. (2022) have explored the dimensions of MIS and their effects on institutional performance or decision-making efficiency, there is limited evidence on how these findings translate to SMEs' administrative decision-making processes, especially in the Saudi context. Issues such as user training, top management support, and data quality have been identified as significant factors affecting MIS outcomes (Egbuniwe, 2019; Khudhur, 2017), but the interplay between these factors within SMEs remains under-explored. Additionally, the fast-evolving landscape of digital transformation, spurred by Saudi Vision 2030, necessitates updated, context-specific investigations to

understand how MIS can be leveraged most effectively by SMEs to enhance administrative decision-making and overall organizational performance (Alsuhaime, 2025).

Thus, there is a clear need for applied research that investigates the role and effectiveness of MIS in supporting administrative decision-making in SMEs in Saudi Arabia, with particular attention to the Riyadh region. Addressing this gap will not only contribute to the academic literature but also offer practical insights for policymakers and SME leaders aiming to leverage MIS for enhanced competitiveness and decision quality.

2.6 Summary of the Chapter

This chapter has provided a comprehensive review of the literature concerning the relationship between Management Information Systems (MIS) and decision-making quality in organizations. The reviewed studies consistently highlight the significant role of MIS in improving the accuracy, efficiency, and strategic value of organizational decision-making. However, the literature also reveals notable gaps, particularly a lack of focused research on the application and outcomes of MIS within small and medium-sized enterprises in Saudi Arabia. By identifying these gaps, this chapter establishes a clear justification for the current study, which aims to evaluate the role of MIS in enhancing administrative decision-making within SMEs in Riyadh.

Chapter 3: Methodology

3.1 Introduction

This chapter delineates the detailed methodological procedures employed in evaluating the role of Management Information Systems (MIS) in enhancing administrative decision-making within small and medium-sized enterprises (SMEs) in Riyadh. Specifically, this chapter addresses the research design, study setting, target population, sampling strategy, data collection instrument and procedure, pilot testing, data analysis approach, and ethical considerations to ensure reliability and validity of the research findings.

3.2 Research Design

A quantitative, descriptive, cross-sectional research design will be employed for this study. This design facilitates the efficient collection of data at one point in time, allowing for the description of existing relationships, opinions, behaviors, and perceptions among administrative personnel regarding the effectiveness and impact of MIS within SMEs in Riyadh (Creswell & Creswell, 2017).

3.3 Study Setting

The study will be conducted within various small and medium-sized enterprises situated in Riyadh, the capital city of Saudi Arabia. Riyadh was specifically selected due to its prominent role as the economic and administrative hub, housing a large concentration of SMEs that actively utilize various technological and managerial systems, making it an ideal setting for this research.

3.4 Target Population and Sampling

3.4.1 Target Population

The target population comprises administrative staff, supervisors, and managers employed in small and medium-sized enterprises (SMEs) operating in diverse business sectors within Riyadh.

3.4.2 Inclusion and Exclusion Criteria

Inclusion Criteria:

- Administrative employees currently working in SMEs in Riyadh.
- Employees with at least 1 year of experience in their current position.
- Employees willing to voluntarily participate.

Exclusion Criteria:

- Employees with less than 1 year of employment experience.
- Employees not actively involved in administrative decision-making processes.
- Employees unwilling or unable to provide informed consent.

3.4.3 Sampling Technique

The convenience sampling technique, a type of non-probability sampling, will be utilized. Convenience sampling was selected due to ease of accessibility and practicality in reaching administrative personnel across SMEs located in Riyadh (Etikan, Musa, & Alkassim, 2016).

3.4.4 Sample Size Calculation

The sample size was calculated using Raosoft's sample size calculator. Considering an estimated target population of approximately 2000 administrative staff across SMEs in Riyadh, a 95% confidence level, a margin of error at $\pm 5\%$, and

assuming a 50% response distribution (to maximize variability and representativeness), the recommended sample size is approximately 323 participants.

3.5 Data Collection Instrument

The data for this study will be collected using a structured self-administered questionnaire specifically developed based on existing literature (Khudhur, 2017; Muhail & Abdullah, 2024; Hamdat et al., 2024; Alsuhaimi, 2025; Bani Hushayyish et al., 2023; Alsulaiman et al., 2024; Shniekat et al., 2022). The questionnaire comprises four sections (Sections A–D) and includes a total of 20 items. It is designed to obtain demographic data, assess the effectiveness of MIS in supporting decision-making, evaluate the perceived impact of MIS on decision-making processes, and understand user perceptions regarding MIS implementation. (*See Appendix 1*).

Section A (Demographic Information) consists of 5 items aimed at collecting demographic data from participants, including gender, age group, educational level, years of experience in administrative roles, and organizational position. This section will assist in characterizing the respondents, and will further enable examination of any associations between demographic characteristics and MIS usage or perception.

Section B (User Perceptions Regarding MIS) contains 5 items designed to capture participants' attitudes, experiences, confidence, and overall satisfaction with MIS in their organizational roles. Similar to previous sections, responses are measured on a 5-point Likert scale, resulting in scores ranging from 5 to 25 points. Scores are interpreted as follows: 5–11 denote negative or unfavorable perceptions, 12–18 neutral to moderately positive perceptions, and 19–25 highly positive perceptions. These insights will clarify participant comfort, satisfaction, and willingness to continue using MIS, providing valuable information for future organizational MIS improvements.

Section C (Effectiveness of MIS) includes 5 items designed to measure the effectiveness of Management Information Systems (MIS) in providing accurate, timely, and relevant information for administrative decision-making within SMEs. Items are formulated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), yielding scores between 5 and 25 points. Scores from this section are interpreted as follows: 5–11 indicate low effectiveness, 12–18 moderate effectiveness, and 19–25 high effectiveness, reflecting the degree to which MIS is perceived to meet organizational informational needs effectively.

Section D (Impact of MIS on Decision-Making) comprises 5 items assessing the perceived impact of MIS implementation on administrative decision-making processes concerning decision quality, speed, and overall efficiency. Responses to these items utilize the same 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree), with total scores ranging from 5 to 25 points. Interpretation of scores follows the pattern of 5–11 (low impact), 12–18 (moderate impact), and 19–25 (high impact), enabling the identification of the perceived significance of MIS in enhancing organizational decision-making capacities within SMEs.

3.6 Pilot Testing

Before the main data collection, a pilot study involving 20 administrative staff participants (5% of the intended sample size) will be conducted to test questionnaire clarity, wording, length, and feasibility. Reliability testing using Cronbach's alpha will be conducted, with values ≥ 0.70 indicating acceptable internal consistency (Pallant, 2020). The results from this pilot test will guide minor modifications to improve questionnaire clarity and validity.

3.7 Data Collection Procedure

The finalized questionnaire will be administered electronically using Google Forms, an efficient, secure, and user-friendly survey tool. Links to the Google Form questionnaire will be distributed to SMEs via official emails, LinkedIn, WhatsApp, and other relevant social media platforms. Data collection will be conducted over four weeks, with weekly reminders sent to improve response rates. The participants will be provided clear instructions and assurance of confidentiality and anonymity throughout the data collection phase.

3.8 Data Analysis

Collected data will be analyzed using the Statistical Package for Social Sciences (SPSS version 28). Statistical analyses will include:

- Descriptive statistics (frequency distributions, percentages, mean, standard deviation) to summarize demographic characteristics and questionnaire responses.
- Reliability analysis (Cronbach's Alpha) to test internal consistency.
- Inferential statistics will include the following: Pearson's correlation to investigate relationships among demographic variables and MIS-related factors. Independent samples t-tests and one-way ANOVA to assess differences across demographic groups. Multiple linear regression to identify predictive relationships between demographic characteristics and MIS perceptions. The significance level (α) will be set at 0.05 for all statistical tests.

3.9 Ethical Considerations

Ethical considerations will include: Clearly informing participants of the study purpose and procedures. Voluntary participation with the right to withdraw at any stage

without repercussions. Ensuring confidentiality and anonymity by assigning identification numbers instead of participant names. Secure data storage in password-protected electronic devices accessible only by authorized personnel.

3.10 Chapter Summary

This chapter described the quantitative methodological approach employed in the study. It included a detailed account of the research design, setting, population, sampling strategy, and data collection instrument. Additionally, the procedure for conducting a pilot test, data collection, and statistical analysis was outlined clearly. Finally, ethical considerations were highlighted to ensure the ethical integrity of the research process.

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Appendixes

Appendix 1: Questionnaire

Dear Participant,

This questionnaire aims to evaluate the role and impact of Management Information Systems (MIS) on administrative decision-making in small and medium-sized enterprises (SMEs) in Riyadh. Your participation is voluntary and confidential. Your responses will be used exclusively for academic research purposes. Thank you for your cooperation.

Section A: Demographic Information

Gender

- ☐ Male
- ☐ Female

Age

- ☐ 20–30 years
- ☐ 31–40 years
- ☐ 41–50 years
- ☐ Over 50 years

Educational Level

- ☐ Diploma
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate

Years of experience in administrative roles

- ☐ Less than 1 year
- ☐ 1–5 years
- ☐ 6–10 years
- ☐ Over 10 years

Position in the organization

- ☐ Top management
- ☐ Middle management
- ☐ Administrative staff
- ☐ Other (please specify): _____

Section B: User Perceptions Regarding MIS

Please indicate your level of agreement with the following statements on a 5-point Likert scale.

Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
D1. MIS is user-friendly and easy to navigate.	☐	☐	☐	☐	☐
D2. I feel confident using MIS in performing my administrative duties.	☐	☐	☐	☐	☐
D3. The organization provides sufficient training to effectively use MIS.	☐	☐	☐	☐	☐
D4. MIS positively contributes to my job satisfaction and productivity.	☐	☐	☐	☐	☐
D5. I would recommend broader implementation and usage of MIS across my organization.	☐	☐	☐	☐	☐

Section C: Effectiveness of MIS (Accuracy, Timeliness, Relevance)

Please indicate your level of agreement with the following statements on a 5-point Likert scale.

Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
B1. MIS consistently provides accurate information necessary for decision-making.	☐	☐	☐	☐	☐
B2. Information obtained from MIS is regularly updated and timely.	☐	☐	☐	☐	☐
B3. MIS provides information relevant to administrative decision-making tasks.	☐	☐	☐	☐	☐
B4. Information from MIS effectively supports routine administrative tasks.	☐	☐	☐	☐	☐
B5. MIS provides comprehensive reports and summaries suitable for administrative decision-making.	☐	☐	☐	☐	☐

Section D: Impact of MIS on Decision-Making Quality, Speed, and Efficiency

Please indicate your level of agreement with the following statements on a 5-point Likert scale.

Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
C1. Using MIS has improved the quality of administrative decisions.	☐	☐	☐	☐	☐
C2. Decision-making speed has increased significantly with the implementation of MIS.	☐	☐	☐	☐	☐

C3. MIS enhances overall efficiency in the administrative decision-making process.	☐	☐	☐	☐	☐
C4. MIS enables faster identification and response to business opportunities and problems.	☐	☐	☐	☐	☐
C5. MIS implementation has minimized administrative errors during decision-making processes.	☐	☐	☐	☐	☐