Slide 1 - Introduction

Slide 2 - Significance & Study Contribution

Our study begins with a simple fact: Small and medium-sized enterprises (SMEs) are the backbone of Indonesia's economy, accounting for over 99% of all businesses and contributing more than 60% to national GDP (Tambunan & Busnetti, 2024).

Despite this economic centrality, most SMEs are lagging in effective digital transformation.

The adoption of Information Systems (IS)—such as e-commerce platforms and digital payment tools—is a critical pathway, demonstrably driving operational efficiency, competitiveness, and economic inclusion (Ghobakhloo & Iranmanesh, 2021). These benefits are vital for Indonesia's rapidly evolving economy.

However, existing research is fragmented and urban-focused (Wiweko & Anggara, 2025). This leaves a crucial gap by neglecting the unique infrastructural and digital literacy challenges faced by rural and regional SMEs.

This study addresses these disparities.

We contribute context-specific insights into the factors that drive and hinder IS adoption across Indonesia's diverse regions and sectors. Crucially, our findings will be synthesized into a framework for sustainable SME digital transformation that can inform policymakers and practitioners in emerging economies."

Slide 3 – Research Problem and Rationale

Although the Indonesian government has introduced several programs—such as *UMKM Go Digital* and the *National Digital Literacy Movement*—digital transformation among small businesses remains uneven. Tambunan and Busnetti (2024) report that fewer than four million of Indonesia's more than sixty-five million SMEs currently operate online, revealing a substantial digital divide.

Much of the existing academic research has focused on limited geographical and thematic areas. For instance, Ardiansah et al. (2024) examined 237 SMEs in Central Java and identified perceived usefulness and consumer integration as the strongest determinants of Information Systems adoption. However, their study, like many others, concentrated on early adoption behaviour in urban areas, offering little insight into rural or sectoral variations.

Similarly, Wiweko and Anggara (2025) highlight that while digital platforms such as Tokopedia and Shopee have enabled many SMEs to go online, adoption remains fragmented and heavily urban-centric. Their review also notes that most existing research

analyses adoption factors rather than long-term transformation outcomes—such as sustained performance improvements or innovation.

Therefore, the research problem addressed by this study is the limited, fragmented understanding of how IS adoption leads to measurable transformation across diverse SME contexts in Indonesia. The rationale for this research is to fill these gaps by providing regionally inclusive, outcome-oriented insights to guide future policy and practice.

Slide 4 – Research Questions

Building on the gaps identified in the literature, this study is guided by three central research questions.

The first question asks: *What factors influence the adoption of Information Systems among small businesses in Indonesia?* This question addresses the need to understand the drivers and barriers influencing digitalisation — including organisational readiness, digital literacy, infrastructure, and perceived usefulness. It builds upon findings from Ardiansah et al. (2024), who identified consumer integration and perceived usefulness as key determinants, but extends this to include broader contextual factors such as resource availability and government support.

The second question explores: *How do small businesses integrate Information Systems into their operations and strategies?* This goes beyond initial adoption, examining how SMEs embed digital tools — such as e-commerce platforms, ERP systems, and mobile banking — into everyday business processes to achieve operational and strategic benefits.

The third question focuses on outcomes: *In what ways does IS adoption contribute to the long-term transformation and performance of Indonesian SMEs across different regions?* This question directly responds to the research gap noted by Wiweko and Anggara (2025), who observed limited empirical evidence on post-adoption outcomes, particularly for rural and underserved SMEs.

Slide 5 – Aims and Objectives

Based on the research problem and the three guiding questions, this study has one overarching aim: to investigate how Information Systems adoption transforms small businesses in Indonesia and to identify the factors that enable or hinder this transformation.

The first objective is to examine both internal and external factors influencing adoption. Internal factors include organisational readiness, digital literacy, and managerial attitudes, while external factors include infrastructure availability, government support,

and the role of digital ecosystems such as e-commerce platforms and fintech solutions. This directly relates to findings by Ardiansah et al. (2024), who emphasised perceived usefulness but did not explore contextual influences.

The second objective is to analyse how SMEs integrate IS tools into their day-to-day operations and long-term strategies. This step moves beyond adoption to explore how businesses embed systems like ERP, CRM, and digital payments for sustained improvement.

Finally, the third objective is to evaluate the outcomes of IS adoption — including improvements in productivity, innovation, and competitiveness — while comparing different regional contexts across Indonesia. This objective responds to the gap identified by Wiweko and Anggara (2025), who noted a lack of evidence on post-adoption performance.

Together, these objectives provide a structured pathway to achieve the overall aim and contribute meaningful insights to both academic research and SME policy development.

Slide 6 – Key Literatures Insights or Summary of the Existing Studies

The literature reveals both progress and persistent gaps in understanding how Information Systems transform Indonesian SMEs.

Ardiansah et al. (2024) used a quantitative structural-equation-model approach with 237 SMEs in Central Java. They found that perceived usefulness and consumer integration are the strongest predictors of adoption. While statistically robust, their sample was largely urban, providing limited insight into rural contexts.

Complementing this, Tambunan and Busnetti (2024) combined survey and secondary government data to show that digital-literacy levels and infrastructural constraints remain the dominant barriers, particularly outside major cities. Their work reinforces the existence of a persistent digital divide.

A broader perspective is offered by Wiweko and Anggara (2025), whose systematic review concluded that many SMEs engage in short-term, platform-based digitalisation without full integration into business strategy. They also identified a lack of longitudinal or comparative research, leaving uncertainty about long-term transformation.

Purnomo et al. (2024) echoed this limitation, calling for sector-specific and regional studies to reflect Indonesia’s diversity.

Finally, in the wider context, Ghobakhloo and Iranmanesh (2021) demonstrated how digital transformation under Industry 4.0 increases SME competitiveness globally. Their work provides theoretical grounding and illustrates why IS should be viewed not merely as operational tools but as strategic enablers of growth.

Together, these studies highlight consistent benefits of IS adoption but also expose methodological and contextual gaps that justify the need for a regionally inclusive, outcome-focused investigation such as the one proposed here.

Slide 7 – Comparison Table of Key Literature

This slide contains the summary of comparison between the key literatures that I explained earlier.

Slide 8 – Propose Methodology and Research Design

To address the methodological gaps identified in the literature, this research adopts a mixed-methods approach combining quantitative and qualitative techniques.

The quantitative component will involve an online survey of approximately 100 SMEs across multiple Indonesian provinces, including both urban and rural regions. This will provide statistically meaningful insights into the relationships between Information Systems adoption, business performance, and organisational characteristics.

The qualitative component will consist of 8 to 10 semi-structured interviews with SME owners and policymakers. These interviews will explore in greater depth the motivations, experiences, and challenges associated with IS adoption. This qualitative data will help interpret the numerical trends and reveal contextual nuances that surveys alone cannot capture.

Sampling will follow a purposive strategy, ensuring diversity in terms of business size, sector, and geography. For example, participants will be selected from sectors such as retail, manufacturing, and services across Java, Sumatra, and Eastern Indonesia to reflect regional differences.

Data analysis will employ descriptive and regression analysis for survey results using SPSS, while interview transcripts will be coded thematically using NVivo.

This design directly responds to the limitations of earlier studies. Whereas Ardiansah et al. (2024) used a single urban sample and Wiweko and Anggara (2025) lacked empirical grounding, this mixed-methods approach ensures both breadth and depth, capturing not only adoption factors but also the integration processes and long-term impacts of Information Systems on SME transformation.

Slide 9 – Research Process Overview

This study follows a sequential mixed-methods process, as illustrated in the diagram. It begins with a literature review to refine the research framework, followed by a quantitative survey and qualitative interviews. The findings from both phases will then be integrated and analysed to produce context-specific recommendations for SME digital transformation.

Slide 10 – Ethical Considerations and Risk Management

Ethical integrity is central to this research design, especially since it involves human participants from small and medium-sized businesses.

Before any data collection begins, all participants will be provided with an information sheet outlining the research purpose, procedures, and expected duration. They will also be required to sign an informed consent form, confirming voluntary participation and the right to withdraw at any time without penalty.

To protect confidentiality, participants' names, company details, and identifiable information will not appear in any part of the published research. Responses will be coded, anonymised, and stored securely on encrypted university-approved platforms.

Data handling will comply with the UK GDPR and institutional data management policies. Only the researcher and supervisor will have access to raw data, which will be destroyed after the completion of the study.

Given the nature of the topic — focusing on technology adoption rather than sensitive personal issues — the ethical risks are minimal. However, reputational and privacy concerns are acknowledged, particularly when SMEs discuss operational weaknesses. These will be mitigated by ensuring confidentiality, careful reporting, and secure communication channels.

Formal ethical approval will be obtained from the university's ethics committee prior to fieldwork, ensuring full compliance with research ethics standards.

Slide 11- Data Analysis and Expected Outcomes

This study's data analysis strategy combines both quantitative and qualitative techniques to ensure a comprehensive understanding of Information Systems adoption among SMEs.

The quantitative survey data will be processed and analysed using SPSS. Descriptive statistics will summarise general trends in IS adoption, while regression analysis will

identify relationships between adoption factors — such as organisational readiness, digital literacy, and infrastructure — and business outcomes like productivity and growth.

The qualitative interview data will be transcribed and analysed thematically using NVivo, enabling deeper exploration of participants' experiences and perceptions. This method will reveal nuanced insights about integration processes, challenges, and the perceived value of IS in everyday operations.

Both data sets will be triangulated, meaning that survey findings and interview insights will be compared and integrated to strengthen the validity of the results. This mixed-method approach ensures that both measurable patterns and contextual understanding are captured.

The expected outcomes include identifying the key factors influencing IS adoption, providing empirical evidence of how IS integration improves SME performance, and revealing regional disparities that affect transformation. Ultimately, the research aims to produce a practical framework for inclusive and sustainable SME digital transformation in Indonesia — a contribution that can inform both academic understanding and national SME policy development.

Slide 12 – Proposed Timeline and Activities

To ensure the study is structured and achievable, a seven research timeline has been developed.

The project will begin with a preliminary phase over the first month, focusing on refining the literature review, finalising the conceptual framework, and securing ethical approval.

Phase two will prepare for data collection — including the design and pilot testing of the survey and the recruitment of participants from both urban and rural regions.

Data collection will take place after phase two, consisting of both online surveys and semi-structured interviews. Following this, data analysis will occur in months six and seven, using SPSS for quantitative data and NVivo for qualitative data.

The integration phase in month six will combine both data sets through triangulation, producing a clear analytical framework for understanding SME digital transformation.

Finally, months seven will focus on writing, review, and submission of the final report, including visual presentation of findings.

This phased timeline not only ensures adequate time for analysis and quality control but also reflects a realistic and ethical approach to conducting postgraduate-level research.

Slide 13 Conclusion and The Next Steps

In conclusion, this research highlights the transformative potential of Information Systems for small businesses in Indonesia. By exploring the factors influencing adoption, the impact on business performance, and the challenges in digital transformation, the study aims to provide both academic insights and practical guidance for SMEs and policymakers.

The next steps begin with contacting SMEs willing to participate and engaging relevant policymakers to ensure effective participation. After that, we will complete the ethics review, finalize research instruments, and proceed with data collection. Subsequently, the results will be analyzed, integrated into a practical digital transformation framework, and shared through a final report and presentation. This process will ensure that the research is both rigorous and actionable, supporting small businesses in leveraging technology for sustainable growth.

Slide 14 – Thank You

Slide 15 - References