



Scalable ITIL Adoption Strategies for SMEs in Developing Countries: A Systematic Literature Review

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Abstract

Small and Medium Enterprises (SMEs) play a vital role in the economic development of developing countries. As these businesses increasingly adopt digital technologies, structured IT service management becomes essential. The Information Technology Infrastructure Library (ITIL) provides a globally recognized framework for managing IT services, yet its application in SMEs remains limited due to resource constraints and operational differences. This study presents a systematic literature review to examine how ITIL has been implemented in SMEs across developing countries. From an initial collection of 100 publications, 20 relevant articles were selected for detailed analysis. The findings reveal diverse implementation strategies, with SMEs often adopting ITIL partially through selected processes such as incident or configuration management. Common barriers include lack of infrastructure, limited skilled personnel, and funding constraints. Despite these challenges, the review identifies critical success factors, including organizational awareness, leadership support, and contextual adaptation of ITIL practices. This study contributes structured insights for enhancing IT service management in resource-constrained SMEs and proposes strategic entry points for scalable adoption. The results offer practical guidance for decision-makers, IT managers, and policymakers, while also establishing a foundation for future empirical studies in SME-driven IT service governance.

Keywords: Developing countries, ITIL, SMEs

Abstrak

Usaha Mikro, Kecil, dan Menengah (UMKM) memainkan peran penting dalam pembangunan ekonomi negara-negara berkembang. Seiring dengan meningkatnya adopsi teknologi digital oleh sektor ini, pengelolaan layanan TI yang terstruktur menjadi semakin krusial. Information Technology Infrastructure Library (ITIL) merupakan kerangka kerja yang diakui secara global untuk mengelola layanan TI, namun penerapannya di lingkungan UMKM masih terbatas karena keterbatasan sumber daya dan perbedaan operasional. Penelitian ini menyajikan tinjauan literatur sistematis untuk mengkaji bagaimana ITIL telah diimplementasikan di UMKM di negara-negara berkembang. Dari kumpulan awal sebanyak 100 publikasi, 20 artikel yang relevan dipilih untuk dianalisis secara mendalam. Temuan menunjukkan adanya

strategi implementasi yang beragam, di mana UMKM umumnya mengadopsi ITIL secara parsial melalui proses-proses terpilih seperti manajemen insiden atau manajemen konfigurasi. Hambatan umum yang dihadapi mencakup kurangnya infrastruktur, keterbatasan tenaga ahli, dan kendala pendanaan. Meskipun demikian, tinjauan ini mengidentifikasi beberapa faktor keberhasilan utama, termasuk kesadaran organisasi, dukungan kepemimpinan, dan adaptasi kontekstual terhadap praktik ITIL. Studi ini memberikan wawasan terstruktur untuk meningkatkan manajemen layanan TI di UMKM yang memiliki keterbatasan sumber daya, serta mengusulkan titik masuk strategis untuk adopsi yang dapat diskalakan. Hasil penelitian ini menawarkan panduan praktis bagi pengambil keputusan, manajer TI, dan pembuat kebijakan, sekaligus membangun landasan bagi studi empiris di masa depan terkait tata kelola layanan TI berbasis UMKM..

Kata kunci: Negara berkembang, ITIL, UMKM

Introduction

Small and Medium Enterprises (SMEs) play a pivotal role in the economic development of both developed and developing nations. They contribute significantly to employment generation, poverty reduction, innovation, and inclusive growth. In countries like Indonesia, SMEs constitute the majority of active businesses and serve as economic stabilizers during turbulent times (Levy & Powell, 1998; Smallbone & Welter, 2001). Despite their prominence, many SMEs in developing countries operate with limited resources, outdated management practices, and low levels of digital literacy, hindering their competitiveness in the global digital economy (Senik et al., 2010; Rumondang et al., 2019).

The accelerating pace of digital transformation compels SMEs to adopt information technology (IT) to streamline operations, enhance customer experience, and mitigate operational risks. However, unlike large enterprises, SMEs often lack standardized frameworks for managing IT services, leading to gaps in IT governance, data security, and alignment between business and IT strategies (Wijaya et al., 2018). The Information Technology Infrastructure Library (ITIL) framework offers a structured and widely accepted approach to IT Service Management (ITSM), providing guidelines that help organizations align IT services with business needs, improve service delivery quality, and optimize resource usage (Hochstein et al., 2005).

Recent studies have explored the potential of implementing ITIL in SMEs, noting both its benefits and limitations. For instance, partial adoption of ITIL processes has been associated with improved service quality and operational efficiency in SMEs (Ciesielska, 2017; Calvo-Manzano et al., 2015). However, practical barriers such as inadequate infrastructure, limited budgets, and lack of expertise often impede ITIL implementation in SME environments (Küller et al., 2011; El et al., 2017). These challenges are exacerbated in developing countries where digital infrastructure and institutional support may still be lacking.

Moreover, recent literature indicates a plateau in ITIL adoption post-2022, attributed to the framework's complexity and the substantial investment required for its implementation

(Avasant, 2023). Despite this, ITIL remains a valuable framework for organizations aiming to enhance their IT service management capabilities. Tailoring ITIL practices to the specific needs and limitations of SMEs may unlock significant value and foster digital maturity in this vital sector.

Understanding the conditions under which ITIL can be effectively adopted in SMEs is crucial, especially for policymakers and IT leaders in emerging markets. Insights from existing implementations can inform strategies to bridge the gap between IT frameworks and real-world SME constraints. This study conducts a systematic literature review to explore the adoption of ITIL among SMEs in developing countries, aiming to identify common implementation patterns, key success factors, and contextual challenges that shape ITIL adoption in low-resource environments. The results of this review aim to contribute to both academic discourse and practical guidance in improving IT service management within small business ecosystems.

Research Method

This study adopts a Systematic Literature Review (SLR) approach to explore the implementation of the Information Technology Infrastructure Library (ITIL) framework in Small and Medium Enterprises (SMEs) within developing countries. The SLR methodology is applied to ensure comprehensive coverage, transparency, and reproducibility in synthesizing existing scholarly contributions relevant to the topic.

The review is guided by the following research questions:

RQ1: How is ITIL implemented in SMEs in developing countries?

RQ2: What are the key factors that influence the successful implementation of ITIL in these organizations?

To address these questions, a structured review protocol was developed, encompassing the stages of literature identification, selection, data extraction, and synthesis. Literature searches were conducted using a combination of keywords—"ITIL Framework," "IT Service Management," "Small and Medium Enterprises," and "Developing Countries"—across multiple academic databases, including ScienceDirect, IEEE Xplore, SpringerLink, ResearchGate, WIETE, and WSEAS.

The initial search yielded 100 records. Following the removal of duplicates and application of inclusion and exclusion criteria, 50 articles were retained for full-text screening. Of these, 20 studies met all selection criteria and were included in the final analysis. Selection criteria emphasized relevance to the research questions, methodological rigor, clarity of results, and focus on SME contexts in developing countries.

Data extraction was conducted using a standardized template to ensure consistency across studies. Extracted data included publication details, country or region of study, ITIL processes discussed, implementation strategies, outcomes, and reported enablers or barriers. Thematic analysis was employed to synthesize findings and identify recurring patterns, critical success factors, and contextual insights.

To enhance methodological reliability, cross-validation was conducted among the research team throughout the screening and data extraction stages. Discrepancies were addressed through consensus discussions. This rigorous process minimized bias and ensured the robustness of the findings.

The adopted SLR method not only consolidates current knowledge on ITIL application in SMEs but also reveals research gaps and practical challenges. The outcome offers a conceptual foundation for future empirical investigation and informs policy and managerial strategies aimed at enhancing IT service governance in resource-constrained business environments.

Result and Discussion

This section presents the results of the systematic literature review and provides an in-depth discussion of the key findings related to ITIL implementation in SMEs across developing countries. The discussion is organized according to the two research questions formulated earlier: (RQ1) the implementation patterns of ITIL, and (RQ2) the factors influencing successful ITIL adoption.

RQ1: How is ITIL Implemented in Developing Country SMEs?

From the 20 selected studies, implementation approaches varied significantly depending on the size, industry, and maturity level of the SMEs involved. In most cases, SMEs adopted only selected components of the ITIL framework, particularly those that directly addressed pressing operational needs such as Incident Management, Configuration Management, and Service Desk functions. Full-scale implementation across the entire ITIL lifecycle was rare due to resource constraints and limited IT governance structures (Ciesielska, 2017; Calvo-Manzano et al., 2015).

Several studies reported that SMEs began ITIL adoption through incremental or modular implementation. The Incident Management Process (IMP) was often prioritized as it produced immediate results in terms of customer satisfaction and visibility into operations (Lema-Moreta & Calvo-Manzano, 2018). In other cases, ITIL principles were embedded into existing processes without formal recognition, indicating a partial and informal adoption pattern (Küller et al., 2011).

The majority of implementations were conducted without external ITIL-certified consultants. Instead, internal IT teams—where available—led the adaptation based on publicly available documentation or informal training. In many instances, this led to deviations from standard practices but also created innovative, lightweight versions of ITIL tailored to the local context. For example, service request procedures were simplified to match the organizational culture and digital literacy levels of staff.

Moreover, the review highlights regional disparities. SMEs in countries with stronger institutional support for digital transformation (e.g., India, Malaysia, Poland) were more likely to report structured ITIL implementation frameworks. In contrast, SMEs in countries such as

Albania, Laos, or Bangladesh implemented only isolated practices or remained in the planning phase due to lack of technical support and funding (El et al., 2017; Ciesielska, 2016).

The success rate of ITIL adoption varied. Studies noted that SMEs that integrated ITIL with their existing business processes, rather than treating it as a separate technical initiative, experienced better outcomes. These included improved service quality, reduced downtime, and increased customer retention. Conversely, unsuccessful implementations were often associated with unrealistic expectations, lack of management buy-in, and failure to engage staff (Pollard & Cater-Steel, 2009).

RQ2: What Are the Factors Needed for ITIL Implementation in SMEs?

Through thematic analysis, several critical success factors were identified across the reviewed studies. These factors are grouped into four categories:

1. Organizational Awareness and Knowledge

Awareness of ITIL and its strategic relevance to business operations is a fundamental prerequisite for successful adoption. Several studies emphasize that leadership understanding and commitment to IT governance significantly influence the consistency and sustainability of ITIL implementation (Pollard & Cater-Steel, 2009; Hochstein et al., 2005). In SMEs where top management actively promotes ITIL practices, adoption tends to be more structured and aligned with business objectives. Conversely, a lack of awareness often results in poor planning, low staff involvement, and fragmented execution.

2. Infrastructure and Technological Readiness

A robust IT infrastructure is essential to support ITIL processes, particularly those involving monitoring, automation, and digital service management platforms. Infrastructure limitations—such as outdated hardware, limited internet bandwidth, or the absence of centralized IT asset repositories—were frequently cited as barriers to adopting modules like Configuration Management and Problem Management (Küller et al., 2011; Orazem, 2014).

3. Human Resources and Capability Building

The availability of skilled personnel is critical in translating ITIL concepts into operational practices. In many SMEs, the absence of ITIL-certified professionals often leads to informal or improvised adoption approaches. Several studies propose that collaboration with academic institutions or the development of simplified, SME-oriented training modules can serve as effective strategies to build internal capabilities (El et al., 2017; Ciesielska, 2016; Pollard & Cater-Steel, 2009).

4. Financial Resources and External Support

Limited financial resources were consistently identified as a major constraint. Unlike large organizations, SMEs often face difficulty in allocating budgets for professional ITIL tools, training, or consultancy services. Recommended solutions include phased adoption strategies, the use of open-source ITSM platforms, and institutional support through public–

private partnerships (Ciesielska, 2017; Lema-Moreta & Calvo-Manzano, 2018; Tolica, 2011).

Synthesis and Implications

Overall, the findings suggest that ITIL can be beneficial to SMEs in developing countries, but only when adapted to their specific needs and limitations. Rather than focusing on full ITIL lifecycle adoption, SMEs may achieve better outcomes by selecting and customizing relevant processes based on their maturity level and strategic goals.

The flexibility of the ITIL framework is a significant advantage, as it allows SMEs to scale their adoption gradually. However, this flexibility must be guided by clear objectives, leadership support, and alignment with business processes. Policymakers and development agencies can play a crucial role by offering training, financial incentives, and advisory services to bridge gaps in knowledge and capacity.

For practitioners, this review underscores the need to approach ITIL not as a rigid standard, but as a toolkit that can be molded to enhance efficiency and service quality. Contextualizing ITIL for SME use, especially in environments with limited resources is key to unlocking its potential.

Conclusion

The findings of this systematic literature review reveal that the adoption of the ITIL framework in Small and Medium Enterprises (SMEs) across developing countries remains varied, contextual, and highly dependent on internal and external factors. While ITIL has traditionally been associated with large organizations, this review confirms its potential relevance and adaptability for SMEs provided that implementation strategies are aligned with their specific constraints and capabilities.

The review identified that most SMEs tend to adopt ITIL in a modular or partial fashion, with Incident Management and Service Desk functions being the most common entry points. Full ITIL lifecycle implementation was rarely observed due to resource limitations and limited technical capacity. Instead, successful cases involved tailoring ITIL components to address immediate business challenges and integrating them into existing operational processes.

Key factors influencing the success of ITIL implementation include managerial awareness, infrastructure readiness, human resource capability, and financial support. Without adequate investment in these areas, efforts to implement ITIL may face resistance or fail to deliver the expected benefits. Conversely, SMEs that embrace ITIL through incremental adoption and staff engagement show improvements in service quality, customer satisfaction, and operational stability.

This study contributes to both theory and practice by providing a consolidated view of ITIL application in under-researched contexts. For policymakers and development agencies, the findings underline the need for supportive frameworks to assist SMEs in their digital transformation journey. Future research may focus on designing simplified ITIL-based models

specifically tailored for SMEs in low-resource environments, incorporating local practices and tools that can accelerate IT governance maturity.

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