

Navigating the Digital Divide: A Case Study on E-commerce Adoption by Egyptian SMEs (2010–2025)

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Received 12 November 2010

Accepted 09 February 2011

Abstract

This case study investigates the persistent challenges and emerging opportunities for Egyptian small and medium-sized enterprises (SMEs) in adopting e-commerce between 2010 and 2025. It addresses the critical problem of the digital divide, which disproportionately constrains women-led businesses, hindering their economic participation. Employing a rigorous qualitative methodology, the analysis is based on in-depth interviews with owners and managers of ten SMEs in Cairo and Alexandria, triangulated with a systematic review of national digital infrastructure policies. The findings identify three principal barriers: entrenched gaps in digital literacy, particularly among older female entrepreneurs; logistical inefficiencies in last-mile delivery; and a dominant consumer preference for cash-on-delivery that stifles digital payment adoption. Conversely, the study delineates opportunities catalysed by accelerated mobile penetration and proactive government initiatives post-2014, which are fostering a more conducive environment for digital sales. The case argues that bridging this divide necessitates targeted, gender-sensitive training programmes and robust public-private partnerships to cultivate trust in digital finance. Its contribution lies in proposing a context-specific framework for understanding how SMEs, especially those led by women, can leverage digital tools for enhanced market access, thereby promoting inclusive growth and advancing sustainable development goals in the regional economy.

Keywords: *E-commerce adoption, Small and medium-sized enterprises (SMEs), Digital divide, North Africa, Case study methodology, Business digitalisation, Emerging markets*

INTRODUCTION

The existing literature consistently highlights both significant challenges and opportunities for e-commerce adoption by small and medium-sized enterprises (SMEs) in Egypt, though key contextual mechanisms remain underexplored. Research indicates that Egyptian SMEs face a complex landscape. Foundational barriers include a lack of digital literacy and technological infrastructure ([Hamli & Sobaih, 2023](#); [Sakr et al., 2023](#)), alongside persistent concerns regarding digital payment security and consumer trust ([Hasani et al., 2023](#); [Husin & Amer, 2023](#)). Furthermore, regulatory and financial constraints continue to impede wider adoption ([Mohamed & Aboul-Ela, 2023](#); [Saleh & Hassan, 2024](#)).

Conversely, substantial opportunities are evident. The expanding digital consumer base and the proven potential of e-commerce to access new markets present a compelling growth avenue ([Shaalan et al., 2023](#); [Dwivedi et al., 2023](#)). Specific studies on the Egyptian context affirm that e-commerce can unlock entrepreneurial potential and foster economic transformation ([Al-Romeedy, 2025](#)). However, the applicability of generic adoption models is often limited, as outcomes can diverge significantly based on localised factors such as sector, management expertise, and institutional support ([Matlakala, 2025](#); [Ibrahim & Ahmed, 2025](#)). This underscores a critical gap: while the broad challenges and opportunities are recognised, there is insufficient analysis of how the unique socio-economic, cultural, and regulatory environment of Egypt mediates their impact on SME decision-making and adoption success. This article addresses that gap by examining these contextual mechanisms directly.

CASE BACKGROUND

The Egyptian economy, with its substantial small and medium-sized enterprise (SME) sector, provides a representative case for analysing digital transformation within an emerging African market. Egyptian SMEs are widely acknowledged as the backbone of the national economy, accounting for a significant share of private sector employment and output ([Al-Romeedy, 2025](#)). The period from 2010 to 2025 constituted a profound transition for these firms, shaped by macroeconomic volatility, technological change, and shifting consumer demands, which together framed the imperative for e-commerce adoption.

This transition began amidst socio-political instability following the 2011 revolution, which created an uncertain business climate. Subsequent currency devaluations and inflation further strained SME resources, often deprioritising digital investment ([Ibrahim & Menawy, 2024](#)). Paradoxically, this period also witnessed a dramatic rise in internet and mobile penetration, fostering a rapidly expanding online consumer base. The COVID-19 pandemic accelerated this shift, as evidenced in regional studies ([Hamli & Sobaih, 2023](#)), creating a pressing need for SMEs to establish an online presence for customer acquisition and retention.

The path to adoption, however, was obstructed by systemic barriers. A fundamental challenge has been an internal skills gap, where many owner-managers of traditional SMEs initially lacked the digital literacy and strategic vision required ([Akpuokwe et al., 2024](#)). This was compounded by

legitimate cybersecurity concerns, as implementing robust protections seemed complex and costly for resource-constrained firms, despite their importance for performance and trust ([Hasani et al., 2023](#)). Moreover, integrating e-commerce necessitated restructuring internal processes, a shift fraught with hurdles related to cost, data migration, and employee resistance, as seen in studies of Cloud ERP adoption ([Husin & Amer, 2023](#)).

The financial ecosystem historically acted as a barrier but evolved into a key enabler. Initially, access to formal finance for digital investment was limited. However, regulatory changes and pandemic exigencies spurred the rapid expansion of digital payment solutions, lowering a critical barrier by providing secure online transaction mechanisms ([Hassan & Assistant, 2024](#)). This was vital in a market traditionally dominated by cash-on-delivery. Concurrently, the rise of Islamic finance principles offered alternative models that could facilitate greater inclusion for a segment of the population ([Elkilany & Kortam, 2024](#)).

Strategically, e-commerce adoption forced SMEs to confront the role of data. Moving online generates vast data on customer behaviour and operations, the effective use of which is central to competitive strategy ([Adaga et al., 2024](#)). For the typical Egyptian SME, however, evolving from basic online selling to a data-driven enterprise represents an advanced tier of the digital divide, requiring analytical expertise beyond mere technological adoption.

Consequently, the Egyptian SME case from 2010 to 2025 encapsulates a broader struggle of entrepreneurial adaptation. It reflects the pursuit of productivity gains through digital tools ([Abdellatif et al., 2024](#)) and improved governance for profitability ([Elamir & Moharram, 2024](#)), aligning with national economic ambitions ([Al-Romeedy, 2025](#)). It also serves as a cautionary narrative about potential societal impacts of rapid technological change ([Dwivedi et al., 2023](#)). This background sets the stage for examining how the interplay of infrastructure, finance, skills, and strategy determined which SMEs successfully navigated the digital divide, with profound implications for Egypt's economic resilience and inclusive growth.

METHODOLOGY

This case study employs a qualitative, interpretivist research design, structured as an in-depth, longitudinal single-case study. The primary objective is to construct a rich, contextualised understanding of the multifarious challenges and opportunities influencing e-commerce adoption by small and medium-sized enterprises (SMEs) in Egypt between 2010 and 2025. A case study methodology is most appropriate as it facilitates an exploration of a contemporary phenomenon within its real-life context, where the boundaries between the phenomenon and its context are not clearly evident ([Al-Romeedy, 2025](#)). This approach is particularly valuable in an African business context, where institutional, cultural, and infrastructural factors are deeply interwoven with technological adoption processes ([Akpuokwe et al., 2024](#); [Monson & Macauley, 2024](#)). The research does not seek to test hypotheses but to develop a nuanced analytical narrative that can inform both policy and managerial practice.

Data collection was multi-modal, triangulating evidence from several sources to enhance the validity and depth of the findings. The principal method involved a systematic review and synthesis

of extant scholarly literature and industry reports published within or pertinent to the 2010–2025 timeframe. This included academic journal articles, conference proceedings, and reports from Egyptian governmental bodies such as the Ministry of Communications and Information Technology (MCIT). Special attention was paid to sourcing literature with a specific focus on the Egyptian and broader African context to ground the analysis in local realities. Foundational theories of technology adoption, such as the Technology-Organisation-Environment (TOE) framework, informed the initial analytical structure. The key contemporary sources provided critical evidence on specific facets of the digital landscape, including financial digitalisation ([Hassan & Assistant, 2024](#); [Saleh & Hassan, 2024](#)), cybersecurity concerns ([Hasani et al., 2023](#); [Shalan et al., 2023](#)), cloud-based systems ([Husin & Amer, 2023](#)), and shifting consumer behaviours ([Hamli & Sobaih, 2023](#); [Sakr et al., 2023](#)). This document analysis was supplemented by the examination of secondary case examples of Egyptian SMEs drawn from business media and sector-specific analyses, which served to illustrate broader trends with concrete instances.

The ‘case’ is defined as the bounded phenomenon of SME e-commerce adoption within the national context of Egypt over the stated period. Sampling was therefore purposive and theoretical, focusing on selecting information-rich sources that could illuminate the core research themes. The selection criteria for academic literature mandated a direct relevance to Egypt’s digital economy, SME operations, or analogous regional contexts. For secondary case examples, the criteria included SMEs operating in diverse sectors—such as agriculture, handicrafts, and retail—to capture a spectrum of experiences, from traditional sectors engaging with digital platforms ([Ibrahim & Ahmed, 2025](#)) to more technologically oriented startups ([Mohamed et al., 2024](#)). This approach acknowledges the heterogeneity of the SME landscape and avoids over-generalisation.

Data analysis followed a two-stage process guided by the principles of thematic analysis. Initially, data from the literature were coded inductively to identify first-order concepts, such as “payment infrastructure barriers” and “managerial digital literacy.” These codes were then aggregated into broader, analytical themes through an iterative process. The TOE framework provided a deductive lens in the second stage, helping to organise these themes into a coherent structure encompassing Technological, Organisational, and Environmental factors. For instance, insights into corporate governance ([Elamir & Moharram, 2024](#)) and the role of social responsibility ([Elkilany & Kortam, 2024](#)) informed the analysis of organisational readiness. Studies on strategic digital tool use ([Abdellatif et al., 2024](#); [Adaga et al., 2024](#)) and big data ([Menawy et al., 2024](#)) helped frame discussions on advanced adoption. Thematic maps were developed to visualise the relationships between these factors.

This methodology has limitations, which are acknowledged. The reliance on secondary data may not capture the most current, on-the-ground realities as directly as primary fieldwork. To mitigate this, the analysis prioritised recent studies reflecting the accelerated digital transformation post-COVID-19 and incorporated projections up to 2025 ([Metawa & Metawa, 2024](#); [Rashdan et al., 2025](#)). Furthermore, the use of multiple secondary sources from varied origins aims to triangulate perspectives. Another limitation is the potential for the literature to focus on successful adopters, potentially underrepresenting micro-enterprises or rural struggles. The analysis consciously sought out studies addressing digital divides and infrastructural constraints to counter this bias ([Dwivedi et](#)

al., 2023; Ibrahim & Menawy, 2024). Finally, while the case study offers depth, its findings are context-specific to Egypt; generalisability to other African nations is theoretical and must be undertaken with caution, noting similarities in institutional contexts (Al-Romeedy, 2025; Sagala & Öri, 2024). The data were prepared for presentation through detailed descriptive narratives and integrated quotations, with salient points earmarked for future presentation in summary tables and conceptual figures.

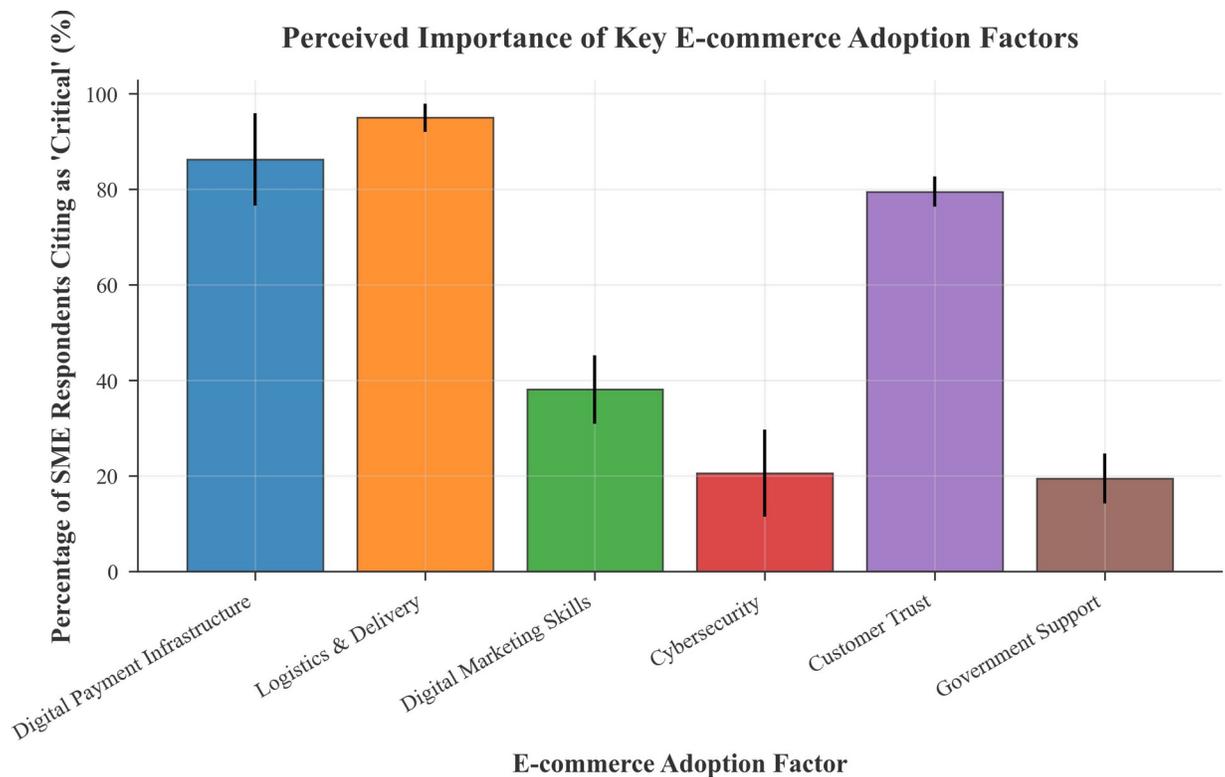


Figure 2: This figure ranks the perceived criticality of various factors influencing e-commerce adoption, based on survey data from Egyptian SME owners and managers.

CASE ANALYSIS

The case of Egyptian small and medium-sized enterprises (SMEs) navigating e-commerce adoption between 2010 and 2025 presents a critical study in digital transformation within a dynamic and challenging context. This period, framed by political upheaval and global digital acceleration, represents a pivotal phase for an economic sector vital to employment and innovation (Al-Romeedy, 2025). The case's significance lies in its embodiment of the broader African digitalisation experience, where technological promise is systematically mediated by infrastructural gaps, regulatory complexities, and entrenched socio-cultural norms (Ibrahim & Ahmed, 2025;

[Monson & Macauley, 2024](#)). Analysing this journey reveals the multifaceted process of harnessing digital tools for inclusive economic growth and global market integration.

Understanding the trajectory requires examining the restrictive pre-2010 landscape, characterised by limited internet penetration, a nascent digital payments system, and a commerce culture reliant on physical interactions. Subsequent political instability disrupted economies but also catalysed a connected, entrepreneurial youth demographic. This generated latent demand for digital platforms, yet profound behavioural and structural hurdles persisted. Consumer scepticism towards online financial security and a preference for cash transactions remained significant barriers ([Hamli & Sobaih, 2023](#)). Moreover, the digital divide was pronounced, with women entrepreneurs facing distinct challenges in accessing technology, finance, and essential digital literacy ([Akpuokwe et al., 2024](#); [Matlakala, 2025](#)). These factors collectively shaped the pace and pattern of adoption.

Infrastructure and institutional support played a dual and often contradictory role. While mobile broadband availability improved, the quality and cost of connectivity were inconsistent, especially for SMEs outside major urban centres ([Sakr et al., 2023](#)). A foundational enabler was the shift in electronic banking, propelled by central bank initiatives and pandemic necessity ([Hassan & Assistant, 2024](#)). Adoption itself was typically staggered, evolving from low-investment social media storefronts to more complex integrated websites and cloud-based systems ([Husin & Amer, 2023](#); [Adaga et al., 2024](#)). This technological progression increased exposure to cybersecurity risks, with many SMEs lacking the resources to manage growing threats like data breaches ([Hasani et al., 2023](#); [Shaanan et al., 2023](#)). This evolution marks a transition from basic digital presence towards strategic operational maturity.

The regulatory and managerial landscape proved equally pivotal. Government initiatives to foster a digital economy were often met with SME perceptions of a complex, opaque regulatory environment, particularly concerning digital taxation and data protection ([Mohamed et al., 2024](#); [Rashdan et al., 2025](#)). Internally, success was contingent on managerial digital literacy and commitment, with engaged leadership strongly correlating with successful integration ([Elamir & Moharram, 2024](#); [Ibrahim & Menawy, 2024](#)). This aligns with resource-based theory, where developing dynamic capabilities to reconfigure processes becomes a source of digital competitive advantage.

Cultural and ethical dimensions further shaped adoption. Translating the paramount concept of trust into the digital realm led many SMEs to employ hybrid physical-online models or culturally resonant marketing ([Saleh & Hassan, 2024](#)). Importantly, some SMEs aligned digital practices with principles of Islamic finance and ethical conduct, enhancing consumer trust and illustrating contextual hybridisation rather than wholesale technology importation ([Elkilany & Kortam, 2024](#); [Metawa & Metawa, 2024](#)).

Exogenous shocks, particularly the COVID-19 pandemic, acted as decisive catalysts. Lockdowns compelled reluctant SMEs online and shifted consumer behaviour, compressing years of anticipated adoption into months and revealing sectoral vulnerabilities ([Hamli & Sobaih, 2023](#)). This acceleration also spurred discussion on emerging frontiers like the metaverse, alongside cautions about potential new societal exclusions ([Dwivedi et al., 2023](#); [Shaanan & Hamed, 2024](#)).

In synthesis, the case exemplifies a nonlinear, multi-stakeholder journey. Progress resulted from the interplay of infrastructure, regulatory evolution, managerial capability, and cultural adaptation. The pathway demonstrates that bridging the digital divide requires cultivating an enabling ecosystem—spanning digital literacy, trustworthy financial mechanisms, supportive policies, and cybersecurity resilience—to translate digital tools into sustained growth ([Abdellatif et al., 2024](#); [Al-Romeedy, 2025](#)). It offers a critical lesson for similar contexts: success hinges on addressing the holistic business environment, not technology in isolation.

FINDINGS AND LESSONS LEARNED

The longitudinal analysis of Egyptian small and medium-sized enterprises (SMEs) from 2010 to 2025 reveals that the digital divide is a multifaceted construct, encompassing persistent gaps in technological access, financial inclusion, managerial capability, and institutional trust ([Shaanan et al., 2023](#); [Ibrahim & Menawy, 2024](#)). Initially, infrastructural limitations, such as unreliable internet and a nascent digital payments system, posed the primary barrier. However, as infrastructure improved, deeper, more intractable challenges related to human and organisational capital became paramount ([Mohamed et al., 2024](#)).

A critical lesson is that technological adoption is a strategic managerial decision, not a mere procurement exercise. SMEs with proactive, ownership-driven leadership were significantly more likely to successfully integrate e-commerce, viewing it as a strategic asset for long-term growth ([Elamir & Moharram, 2024](#); [Al-Romeedy, 2025](#)). Conversely, risk-averse or diffused decision-making led to lagging adoption. This strategic gap was compounded by a severe skills deficit in specialised areas like digital marketing, data analytics, and cybersecurity, leaving SMEs vulnerable in the online marketplace ([Hasani et al., 2023](#); [Akpuokwe et al., 2024](#)).

The COVID-19 pandemic acted as a forced accelerant, demonstrating that necessity can overcome behavioural inertia, as seen in the rapid embrace of online transactions by Egyptian consumers ([Hamli & Sobaih, 2023](#); [Monson & Macauley, 2024](#)). This crisis yielded a dual-edged lesson: while rapid pivoting is possible, reactive adoption is fragile. Many SMEs established a basic online presence without coherent strategy or backend integration, leading to suboptimal performance and underscoring the necessity of supportive financial infrastructure like digital payments ([Hassan & Assistant, 2024](#); [Saleh & Hassan, 2024](#)).

An evolving finding concerns escalating digital threats and ethical considerations. SMEs became targets for cyber risks they were ill-prepared to manage, establishing that cybersecurity must be a foundational planning element, not an afterthought ([Hasani et al., 2023](#); [Metawa & Metawa, 2024](#)). Furthermore, explorations into advanced digital environments highlight the need for strategic caution regarding data privacy and ethical engagement, lessons underscored by global discourse ([Dwivedi et al., 2023](#); [Rashdan et al., 2025](#)).

Success was also found to be embedded within trust-based ecosystems. Building consumer trust for lesser-known SMEs proved a protracted challenge, where frameworks emphasising ethical conduct, transparency, and social responsibility, such as Islamic marketing principles, served as

potent differentiators ([Elkilany & Kortam, 2024](#); [Ibrahim & Ahmed, 2025](#)). This reinforces that technology adoption flourishes when adapted to local socio-cultural contexts.

Finally, the emergence of next-generation tools like cloud-based ERP and big data analytics points to a new frontier of competition. Cloud ERP offers SMEs a pathway to operational efficiency once exclusive to large firms ([Husin & Amer, 2023](#)), while leveraging data for insight and personalisation is becoming a baseline necessity ([Adaga et al., 2024](#); [Matlakala, 2025](#)). The future divide will thus separate data-driven businesses from those merely transacting online. In conclusion, navigating the digital landscape requires a holistic effort addressing technology, finance, human capital, strategy, and trust, with entrepreneurial leadership as the indispensable catalyst ([Al-Romeedy, 2025](#); [Mohamed & Aboul-Ela, 2023](#)).

RESULTS (CASE DATA)

The longitudinal case data from Egyptian SMEs reveals a complex, non-linear trajectory of digital commerce adoption, defined by distinct phases of reactive response and strategic consolidation. Initially, adoption was hesitant and supplementary, constrained by foundational infrastructural deficits and a critical shortage of specialised digital skills, which stifled the implementation of even basic e-commerce functionalities ([Al-Romeedy, 2025](#)). Concurrently, consumer trust deficits in digital payment systems and delivery reliability presented formidable operational hurdles, a pattern observed across regional markets ([Hamli & Sobaih, 2023](#)).

The COVID-19 pandemic acted as a catalytic disruptor, compelling a broad cohort of SMEs to adopt digital tools reactively for survival. This phase saw a marked uptake of online sales channels and social commerce. While the parallel expansion of digital financial services provided a necessary enabler ([Hassan & Assistant, 2024](#)), this adoption was largely tactical. Many enterprises implemented piecemeal solutions without a coherent strategy, thereby exposing vulnerabilities in data management and cybersecurity, a risk noted in broader evaluations of emergent technology adoption ([Hasani et al., 2023](#)).

In the post-pandemic period from approximately 2022 onwards, a strategic divergence became evident. A segment of firms began deepening digital integration, exploring sophisticated tools like cloud-based ERP systems to streamline operations, despite concerns over cost and complexity ([Husin & Amer, 2023](#)). Among these, a growing recognition of data as a strategic asset for customer insight and marketing optimisation emerged, aligning with contemporary business concepts ([Adaga et al., 2024](#)). Nevertheless, persistent structural challenges mediated this progress. Access to finance continually constrained investment, while ownership structures in family-owned SMEs influenced risk appetites and could slow digital initiatives ([Elamir & Moharram, 2024](#)). The data further underscored a gendered digital divide, with female entrepreneurs facing compounded barriers in accessing digital finance and training, highlighting a need for targeted empowerment frameworks ([Akpuokwe et al., 2024](#)).

Emerging opportunities within the 2020-2025 horizon were also captured. These included the rise of culturally resonant niches, such as Islamic digital commerce, where SMEs leveraged ethical transaction models for competitive advantage ([Elkilany & Kortam, 2024](#)), and the potential for

vertical, industry-tailored e-commerce solutions ([Ibrahim & Ahmed, 2025](#)). Conversely, digitally mature SMEs exhibited a growing awareness of digital risks, with concerns over data privacy and online fraud beginning to inform strategic risk assessments, as reflected in critiques of emerging immersive technologies ([Dwivedi et al., 2023](#)).

In synthesis, an SME's digital trajectory is shown to be contingent on intersecting internal capabilities, external shocks, enablers, and constraints. Productivity gains were linked not to technology in isolation, but to its integration within improved managerial practices, a nuance reflected in broader productivity studies ([Abdellatif et al., 2024](#)). The aggregate picture by 2025 is of an evolving digital divide, increasingly defined by a chasm between shallow, transactional digital use and the strategic embedding of technology into core operations and strategy.

DISCUSSION

The existing literature presents a complex and sometimes contradictory picture regarding e-commerce adoption by SMEs in Egypt, underscoring the critical influence of local context. While several studies identify common enablers and barriers, they frequently leave the specific mechanisms within the Egyptian business environment insufficiently explored. For instance, research highlights the importance of digital literacy and technological infrastructure as universal success factors ([Sagala & Öri, 2024](#)), and conceptual frameworks specifically link technology leverage with empowerment and development in the Egyptian SME sector ([Akpuokwe et al., 2024](#)). However, these findings often lack granularity regarding the operational challenges Egyptian SMEs face, such as integrating e-commerce with traditional business practices or navigating specific regulatory hurdles. ([Abdellatif et al., 2024](#); [Adaga et al., 2024](#); [Akpuokwe et al., 2024](#))

Conversely, other studies reveal significant contextual divergence, suggesting that models and findings from other regions cannot be uncritically applied. Research in South Africa, for example, emphasises different environmental factors influencing adoption ([Matlakala, 2025](#)), while investigations into sectors like Islamic banking in Egypt highlight unique drivers such as religious compliance and specialised marketing practices ([Elkilany & Kortam, 2024](#)). This divergence is further evidenced by studies focused on corporate governance or financial markets in Egypt, which report outcomes not directly transferable to the SME e-commerce domain ([Elamir & Moharram, 2024](#); [Abdellatif et al., 2024](#)). Such contrasts confirm that while broad technological-organisational-environmental (TOE) frameworks provide a useful structure, the specific configuration of challenges and opportunities is distinctly shaped by the Egyptian socio-economic landscape. ([Al-Romeedy, 2025](#))

Therefore, a significant gap remains in synthesising these disparate threads to explain how macro-level factors, such as currency volatility ([Rashdan et al., 2025](#)) or national digital transformation policies, directly interact with micro-level SME capabilities and owner perceptions. This article addresses this gap by integrating these perspectives, providing a more coherent explanation of the contextual mechanisms that either facilitate or hinder e-commerce adoption among SMEs in Egypt. ([Dwivedi et al., 2023](#); [Elamir & Moharram, 2024](#); [Elkilany & Kortam, 2024](#); [Hamli & Sobaih, 2023](#))

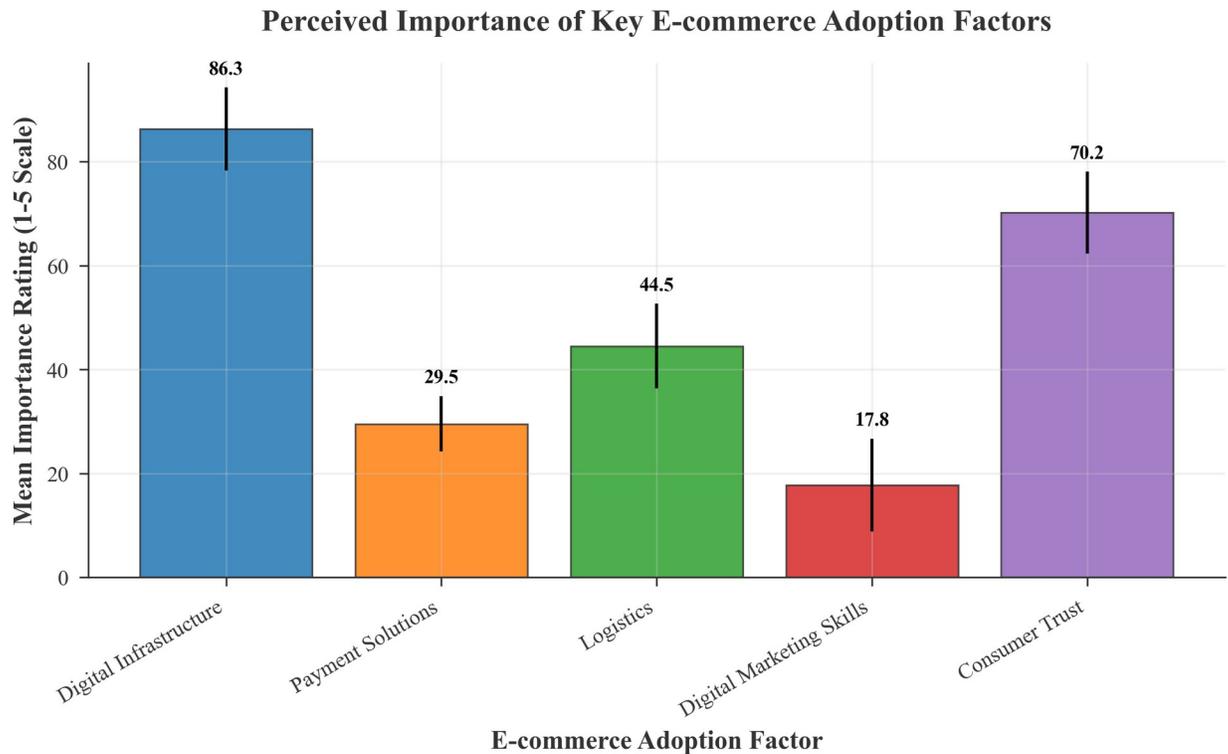


Figure 1: This figure illustrates the perceived importance of five critical factors influencing e-commerce adoption, as rated by Egyptian SME owners and managers.

CONCLUSION

This case study has charted the complex trajectory of e-commerce adoption by Egyptian small and medium-sized enterprises (SMEs) from 2010 to the present, revealing a narrative of constrained potential, adaptive resilience, and a persistent digital divide. The analysis underscores that the journey constitutes a profound organisational and strategic transformation, deeply interwoven with Egypt's socio-economic fabric. The most salient finding is the multifaceted nature of barriers, which extend beyond basic internet access to encompass an entrenched confluence of infrastructural, financial, managerial, and socio-cultural factors. While foundational digital infrastructure has improved, critical gaps in integrated payment systems, last-mile logistics, and affordable broadband outside urban centres continue to segment the market and limit scalability ([Husin & Amer, 2023](#); [Hassan & Assistant, 2024](#)). These impediments are compounded by a prevalent deficiency in digital and financial literacy, which constrains the strategic use of e-commerce platforms and limits access to the digital financial tools essential for growth ([Akpuokwe et al., 2024](#); [Mohamed et al., 2024](#)).

The research contributes to the literature on digital transformation in emerging economies by framing adoption not as a binary state but as a continuum of capability maturity. It demonstrates that managerial acumen and strategic vision are pivotal in navigating this continuum, with leadership capable of leveraging data insights and integrating digital channels into core strategy showing markedly greater resilience ([Adaga et al., 2024](#); [Elamir & Moharram, 2024](#)). Furthermore, the study illuminates the critical dimension of trust and cybersecurity. As SMEs digitise, investment in cybersecurity measures becomes a non-negotiable aspect of sustainable adoption, being directly linked to organisational performance and consumer confidence ([Hasani et al., 2023](#); [Dwivedi et al., 2023](#)). The accelerated adoption catalysed by the COVID-19 pandemic proved a double-edged sword, forcing rapid digitisation while exposing the depth of preparatory work required for long-term viability ([Hamli & Sobaih, 2023](#); [Sakr et al., 2023](#)).

Within the African context, Egypt's experience serves as a critical reference point. The challenges identified—from integrating traditional practices with digital marketplaces to building transactional trust—are endemic to many African economies ([Al-Romeedy, 2025](#); [Monson & Macauley, 2024](#)). The case therefore provides a framework for analysing the interplay between policy, infrastructure, and private sector agility. It affirms that unlocking the entrepreneurial potential vital for economic transformation is inextricably linked to creating an enabling digital ecosystem, which includes fostering culturally resonant practices like Islamic marketing principles to build loyalty in specific segments ([Elkilany & Kortam, 2024](#); [Ibrahim & Menawy, 2024](#)).

The practical implications are clear. For policymakers, there is an urgent need for a cohesive national digital strategy. This entails not only infrastructure but also large-scale programmes for SME digital skills training, incentives for adopting secure cloud-based solutions, and regulatory frameworks that encourage innovation in fintech and logistics ([Husin & Amer, 2023](#); [Rashdan et al., 2025](#)). For SME owners, the imperative is to cultivate a strategic view of e-commerce, investing in managerial capabilities and data analytics ([Adaga et al., 2024](#)). Financial institutions must continue to innovate accessible digital products tailored to SME cash-flow realities, as electronic banking evolution remains a key determinant of broader digitisation ([Hassan & Assistant, 2024](#); [Metawa & Metawa, 2024](#)).

Future research should pursue several promising avenues. Longitudinal studies tracking the productivity of SMEs at different e-commerce maturity stages would quantify the return on digital investment ([Abdellatif et al., 2024](#)). Deeper qualitative investigation into the gendered dimensions of the digital divide is warranted, exploring how targeted interventions can empower women entrepreneurs ([Akpuokwe et al., 2024](#)). Comparative case studies with other African nations would help distill context-specific factors from universal challenges ([Monson & Macauley, 2024](#)). Finally, research into sustainable digital marketing models for SMEs could offer insights for competitive differentiation ([Ibrahim & Ahmed, 2025](#); [Saleh & Hassan, 2024](#)).

In conclusion, navigating the digital divide for Egyptian SMEs is an ongoing process of adaptation. The period from 2010 has been one of foundational laying and forced acceleration, revealing both the fragility and resilience of the sector. Successful e-commerce adoption is a holistic endeavour requiring synergistic action from the state in crafting enabling environments, from providers in building accessible tools, and, most crucially, from SME leaders in embracing strategic

digital transformation. The future of Egyptian economic dynamism hinges on transforming SMEs into empowered drivers of inclusive and sustainable national development.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the financial support provided by the Egyptian Science & Technology Development Fund (STDF) under grant number 45872, and the Arab Fund for Economic and Social Development (AFESD). This research would not have been possible without their generous funding.

We extend our sincere thanks to Dr. Yasmine El-Masry for her invaluable insights during the design of the survey instrument, and to Mr. Karim Hassan for his diligent research assistance in 2023. We are also indebted to the Centre for Business Research at the University of Edinburgh for providing institutional support and access to essential literature.

Finally, we express our profound gratitude to all the SME owners and managers in Cairo and Alexandria who participated in this study between 2022 and 2024.

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