

The effect of digital marketing adoption on the performance of small and medium enterprises in Lusaka

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ABSTRACT

Entrepreneurship has emerged as a vital pathway for addressing youth unemployment and stimulating inclusive economic growth in Zambia. This study investigates the influence of entrepreneurship education on entrepreneurial intentions among university students, drawing on Ajzen's (1991) Theory of Planned Behaviour and Bandura's (1997) Self-Efficacy Theory. A quantitative research design was employed, with data collected via structured questionnaires from 390 students at the University of Zambia across various academic programs. Using factor, correlation, and regression analyses, the study examined relationships among entrepreneurial attitudes, self-efficacy, perceived behavioural control, subjective norms, and entrepreneurship education. Correlation results revealed that attitudes toward entrepreneurship ($r = 0.781$), entrepreneurial self-efficacy ($r = 0.688$), and perceived behavioral control ($r = 0.652$) were positively and significantly associated with entrepreneurial intentions. Subjective norms exhibited a moderate positive relationship ($r = 0.582$), while entrepreneurship education ($r = 0.482$) and duration of exposure ($r = 0.013$) showed weaker correlations. Regression analysis confirmed that attitudes toward entrepreneurship ($\beta = 0.580$, $p < 0.001$), perceived behavioral control ($\beta = 0.258$, $p < 0.001$), and entrepreneurial self-efficacy ($\beta = 0.149$, $p = 0.002$) were significant predictors. Conversely, subjective norms ($\beta = 0.019$, $p = 0.640$), entrepreneurship education ($\beta = -0.072$, $p = 0.051$), and entrepreneurship duration ($\beta = 0.010$, $p = 0.711$) were not statistically significant. This suggests that education alone does not automatically foster entrepreneurial intention unless it promotes confidence, experiential learning, and a supportive ecosystem. The study concludes that fostering a positive entrepreneurial mindset, strengthening self-belief, and ensuring practical, context-specific education are critical to nurturing Zambian entrepreneurs.

1. Introduction

1.1. Introduction

Digital marketing is the use of online channels and tools to reach customers, promote products or services, and drive measurable outcomes like sales, traffic, or brand awareness. It includes tactics such as Search Engine Optimization (SEO), social media, email marketing, and online advertisements, which are powered by data and technology to continuously improve performance Ford (2025).

Small and medium enterprises (SMEs) refer to businesses that fall below a certain number of employees. The abbreviation SME differentiates small and medium-sized businesses from large corporations. Since every country determines what defines SMEs, there is no one set global guideline to establish which businesses classify as such Indeed Editorial Team (2025). In Zambia, SMEs are classified based on annual turnover, number of employees, and total investment (excluding land and buildings). Small enterprises are defined as having 11–50 employees and an annual turnover between K1–10 million, while medium enterprises have 51–100 employees and an annual turnover between K10–50 million Ministry of Small and Medium Enterprise Development (2023).

SMEs operate in a rapidly evolving digital world of increased complexity, fueled by a maturing global economy. The hyper-competitiveness that defines the global marketplace makes cutting-edge technologies a requirement for escalating performance Sharabati (2024). In Zambia, understanding the effects of digital marketing on the performance of SMEs will help these businesses identify key factors to optimize their operations, which may lead to increased productivity and a gain in competitive advantage. By understanding the challenges and opportunities, SMEs can develop effective strategies to overcome obstacles, which promotes economic growth and informed decision-making.

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This study aims to examine the effects of digital marketing adoption on the performance of small and medium-sized enterprises (SMEs) in Lusaka, focusing on technological, organizational, and environmental factors. The primary users of this study include SME owners, policymakers, and researchers interested in business growth and digital innovation. The study will provide users with insights into how digital marketing can enhance SME performance, guiding strategic decisions and supporting sustainable business development.

1.2. Background

The digital economy has transformed the way businesses operate worldwide, demanding that even SMEs adopt their marketing strategies to remain competitive [Chicha \(2024\)](#). Electronic marketing (E-marketing) is one of the fastest-growing forms of digital marketing in both developed and developing countries in Africa, as it provides opportunities for business enterprises to attract new customers and reach existing ones effectively [Mapunda \(2021\)](#). In Zambia, SMEs play a critical role in economic development, contributing significantly to employment creation, income generation, and innovation [Chicha \(2024\)](#). While the benefits of digital transformation are undeniable, SMEs often face significant challenges that can make the process overwhelming; some of these challenges are limited resources, lack of digital expertise, and resistance to change.

Several similar studies have been conducted worldwide regarding digital marketing adoption by SMEs. For instance, Teixeira et al. [Teixeira, Marques and Borralho \(2018\)](#) conducted a literature review to identify the determinants of digital marketing by Portuguese SMEs, and the results indicated that SMEs face a number of challenges in digital marketing adoption, such as limited knowledge on digital marketing strategies and difficulty in recruiting and training skilled professionals [Chicha \(2024\)](#). However, despite these challenges, there is clear evidence to suggest the positive return on investment that SMEs can achieve when they invest in the digital space, as can be concluded from various case studies.

Although some studies have explored the effects of adopting technology on the performance of SMEs using models like the Unified Theory of Acceptance and Use of Technology (UTAUT), most studies have focused on large firms and not SMEs, resulting in a knowledge vacuum [Sharabati \(2024\)](#). There is a lack of specific research focusing on how digital marketing adoption affects the performance of SMEs in Lusaka. With most existing literature focusing on broader Information and Communication Technology (ICT) adoption in other regions, a gap in localized understanding remains.

This study closes this gap by investigating how the performance of SMEs in Lusaka, particularly Kamwala trading, is affected by technological factors, organizational factors, and environmental factors, using the Technology-Organization-Environment (TOE) framework. [Image of Technology-Organization-Environment (TOE) Framework Diagram]

1.3. Problem Statement

SMEs are crucial for global economies, driving growth and employment. Their economic stability hinges on effective marketing, but traditional methods are becoming less effective and more costly. This makes digital marketing a vital alternative for SMEs to expand their reach, engage customers, and boost growth.

However, in a fiercely competitive landscape, every SME strives to achieve optimal performance. SME performance is defined as their ability to attain specific goals through a series of activities [Ramdan \(2022\)](#), with a particular focus on marketing activities that drive SME performance [Ali Abbasi \(2022\)](#). Previous research has investigated various determinants of SME performance, often focusing on specific variables that have the potential to influence performance [Ipinnaiye \(2017\)](#). Yet, only a few local studies have delved into how internal and external determinants collectively affect business performance in Zambia, creating a need for a more comprehensive examination of the factors driving SME performance.

To address this gap, the study develops an evidence-based understanding of the factors influencing SME performance by employing the TOE model to identify the determinants of adopting digital marketing as their primary strategy, which, in turn, drives SME performance in Lusaka's Kamwala trading area. Without these insights, Lusaka's SMEs will lack the strategic knowledge needed to effectively pursue digital transformation and maximize their potential growth. The findings will provide valuable empirical evidence, enhancing academic understanding of digital marketing's spread in developing economies and offering practical guidance for SMEs, policymakers, and other stakeholders to foster a more digitally empowered and economically vibrant business environment in the region and beyond.

1.4. General Objectives

1. To investigate the effects of digital marketing adoption on the performance of small and medium-sized enterprises in Lusaka.

1.5. Specific Objectives

1. To assess the effects of Technological factors on SME performance.
2. To assess the effects of Organizational factors on SME performance.
3. To assess the effect of Environmental factors on SME performance.

1.6. Research Questions

1. What is the effect of technological factors on the performance of small and medium enterprises in Lusaka?
2. What is the effect of organizational factors on the performance of small and medium enterprises in Lusaka?
3. What is the effect of environmental factors on the performance of small and medium enterprises in Lusaka?

1.7. Justification of the Study

This study provides a granular view of the digital marketing adoption process and its effects on SME performance. This academic enrichment is coupled with practical utility, offering a foundational pillar for SMEs to enhance their marketing effectiveness and, ultimately, their overall performance. Therefore, this research not only contributes to the academic advancement of the TOE model but also delineates an effective paradigm for addressing the multifaceted challenges that SMEs face in implementing digital marketing strategies and improving performance within the digital domain [Ali Abbasi \(2022\)](#).

Further, this study will not only help SMEs in Lusaka but also other stakeholders and groups across different geographical areas internationally and globally. Firstly, the study will enable SME managers and owners to have an insight into how technological, organizational, and environmental factors affect the performance of their businesses. Additionally, the study is of relevance to market researchers who would want to know changes and trends in marketing, enabling them to advise their clients accurately in order to adopt the most effective marketing mix. Secondly, the study is significant to policy makers in government, such as representatives of small and medium enterprises as well as those from the Ministry of Commerce and Industry, who would want to know how to improve business opportunities for SMEs and other companies. With this, the government would be able to provide an enabling environment with regards to information and technology infrastructure and laws and policies guiding digital marketing.

2. Literature review

2.1. Theoretical Literature Review

Technology adoption has been widely studied, and several theoretical frameworks have been developed to explain why individuals and organizations embrace innovations. This study draws on four prominent frameworks: the Diffusion of Innovation (DOI) theory, the Theory of Planned Behavior (TPB), the Technology–Organization–Environment (TOE) framework, and the Unified Theory of Acceptance and Use of Technology (UTAUT).

Rogers' ([Rogers, 1960, 2003](#)) Diffusion of Innovation theory provides a macro-level understanding of how innovations spread through social systems. Adoption is influenced by five key attributes: relative advantage, compatibility, complexity, trialability, and observability. Communication channels, the temporal process of adoption, adopter categories, and social system norms also shape the adoption trajectory. Although widely applied, DOI's agrarian origins have prompted scrutiny regarding its applicability in fast-paced digital contexts ([MacVaugh, 2010](#); [Atkin, Hunt and Lin, 2015](#)).

The Theory of Planned Behavior (TPB) by Ajzen ([Ajzen, 1991](#)) complements DOI by offering a micro-level perspective focused on individual intentions. TPB posits that behavioral intention is influenced by attitudes toward the behavior, subjective norms, and perceived behavioral control. TPB has been extended for technology adoption, including Taylor and Todd's ([Taylor and Todd, 1995](#)) decomposition and integration with the Technology Acceptance Model (TAM) to study SMEs' website adoption ([Riemenschneider, Harrison and Mykytyn, 2003](#)). In developing country contexts, attitude, accessibility, and management support are often key adoption drivers ([Uzoka et al., 2007](#); [Thong, 1999](#); [Chicha, 2024](#)).

At the organizational level, the TOE framework by Tornatzky and Fleischer ([Tornatzky and Fleischer, 1990](#)) categorizes adoption determinants into three contexts: technological (e.g., availability and characteristics of relevant

technologies), organizational (e.g., size, structure, managerial support), and environmental (e.g., market dynamics, regulatory pressures). Recent studies highlight TOE's continued relevance, including stakeholder-focused extensions (Adade and de Vries, 2025) and multi-sectoral reviews (Prakash, 2024), though limitations remain in capturing dynamic post-adoption processes.

Finally, the UTAUT model (Venkatesh et al., 2003) synthesizes eight major adoption theories, including TPB and TAM, to explain user intentions and behavior. Core constructs include performance expectancy, effort expectancy, social influence, and facilitating conditions, moderated by factors such as gender, age, experience, and voluntariness. UTAUT provides a comprehensive framework for understanding individual decision-making in technology adoption.

In summary, these theories collectively offer multi-level insights into digital marketing adoption. DOI and UTAUT address user-level and system-level adoption, TPB highlights individual behavioral intentions, and TOE provides a holistic organizational and environmental perspective. The integration of these frameworks informs the current study by guiding the identification of technological, organizational, and environmental factors affecting digital marketing adoption in SMEs.

2.1.1. Empirical Literature Review

Empirical studies across global, regional, and local contexts provide extensive evidence on the determinants of digital marketing adoption and its effects on the performance of small and medium-sized enterprises (SMEs). A recurring theme in this literature is the relevance of technological, organisational, and environmental factors, as framed within the Technology–Organisation–Environment (TOE) model.

A considerable body of research emphasises the role of *perceived relative advantage* in influencing SMEs' adoption of digital marketing tools. According to Abbasi et al. (2022), perceived relative advantage reflects the extent to which potential users view digital marketing as offering superior value compared to existing practices. Empirical findings consistently show that SMEs are more likely to adopt digital technologies when the perceived benefits—such as improved customer reach, cost-efficiency, and enhanced competitiveness—are clear and substantial.

Another technological factor widely examined is *perceived complexity*. Amoah et al. (2023) argue that the level of difficulty associated with learning and using digital marketing systems can impede adoption. Studies in African and Asian SME contexts reveal that technologies perceived as too complex reduce managerial willingness to invest in digital solutions, particularly where digital skills are limited or training opportunities are scarce.

Perceived cost also emerges as a critical determinant. As noted by Maduku and Mpinganjira (2016), high financial costs related to acquiring digital tools, maintaining systems, and training employees significantly influence SMEs' decision-making. Empirical research consistently points to cost concerns as a major constraint for SMEs in developing economies, where resource limitations heighten sensitivity to upfront and ongoing expenditures.

Organisational factors, such as *top management support*, strongly shape adoption outcomes. Abbasi et al. (2022) highlight that leadership commitment, allocation of resources, and strategic prioritisation of digital initiatives significantly improve the likelihood of successful technology integration. Empirical evidence shows that SMEs with proactive managerial support experience higher adoption rates and more positive performance outcomes.

Similarly, the *availability of financial support* has been identified as a key facilitator of digital marketing adoption. As shown in studies cited by Abbasi et al. (2022), access to internal funds, credit facilities, or targeted financial assistance programmes enables SMEs to acquire necessary tools and invest in capacity-building activities.

Research also underscores the importance of *perceived employee capability*. Firms with staff who possess adequate digital skills or adaptability are more likely to implement digital marketing effectively (Abbasi et al., 2022). Empirical studies demonstrate that employee expertise enhances integration outcomes and strengthens the impact of digital adoption on SME performance.

Environmental factors further shape adoption behaviours. *Perceived competitive pressure* has been widely documented as a motivating force, with SMEs feeling compelled to embrace digital marketing to remain competitive (Abbasi et al., 2022). Likewise, *perceived customer pressure*, as articulated by Qalati et al. (2022), reflects the growing customer expectations for online engagement, which drives SMEs to adapt their marketing strategies.

Perceived vendor support also plays a facilitative role. Vendor-provided training, technical assistance, and after-sale services reduce risks associated with digital adoption (Abbasi et al., 2022). Empirical studies find that SMEs with supportive vendors are better positioned to implement and sustain digital marketing technologies.

Finally, the literature consistently links digital marketing adoption to improved *SME performance*. Qalati et al. (2021) conceptualise SME performance as the extent to which firms achieve their intended goals through operational

and strategic initiatives. Empirical evidence across multiple countries shows that digital marketing adoption positively affects sales growth, customer acquisition, brand visibility, and overall competitiveness.

Taken together, empirical studies affirm that technological readiness, organisational capability, and environmental pressures jointly shape SMEs' adoption of digital marketing and influence their performance outcomes. These findings justify the relevance of the TOE model in explaining adoption patterns within diverse SME contexts, including those in Zambia.

3. Methodology

This study investigated the effects of digital marketing adoption on the performance of small and medium-sized enterprises (SMEs) in Kamwala Trading Area, Lusaka. A case study research design was adopted, which is defined as a strategy aimed at understanding the dynamics within a single setting (Yin, 2018). The case study approach was deemed appropriate because it enables an in-depth, multi-faceted exploration of complex phenomena and facilitates the generation of new insights or the challenging of existing assumptions.

A mixed-method research approach was employed, combining both quantitative and qualitative data collection techniques. This approach allowed for flexibility in addressing the research questions, providing a more comprehensive understanding of the phenomenon than would have been possible with purely quantitative or qualitative methods (Creswell and Creswell, 2018). Quantitative data facilitated the identification of patterns and trends in digital marketing adoption among SMEs, while qualitative data provided insights into the lived experiences, perceptions, and decision-making processes of SME owners and employees.

The study was conducted in Kamwala Trading Area, one of Lusaka's busiest and largest trading hubs (Stien, 2013). The target population comprised all SMEs operating in Kamwala, estimated at approximately 4,700 enterprises across various sectors. The study specifically targeted SME owners and employees who actively utilized digital marketing channels in their business operations.

A sample size is defined as a subset of the population selected for study, representing the characteristics of the larger population (Babbie, 2010). A non-probability purposive sampling technique was employed to select participants who met specific inclusion criteria, namely SMEs actively using social media for marketing (Huang et al., 2022, 2024). Ethical clearance for data collection was obtained from the Ethical Review Board of the University of Zambia.

Primary data were collected using a structured questionnaire designed on Google Forms. The survey instrument was divided into three sections. The first section requested informed consent from participants. The second section collected demographic and organizational data, such as SME ownership status and employee count. The third section contained items related to the study objectives, capturing participants' perceptions and experiences with digital marketing adoption. The survey link was distributed randomly via social media platforms, including Facebook, Instagram, and WhatsApp. Data collection spanned two months, yielding 490 completed responses, exceeding the minimum required sample size.

The sample size was calculated using the Raosoft calculator for a population of 4,700 SMEs, with a 5% margin of error, 95% confidence level, and an assumed response rate of 50%, resulting in a target sample of 356 SMEs.

Questionnaires were chosen as the primary data collection tool because they allow for systematic, efficient, and standardized data collection from a large number of respondents (Faddy, 1995). Both closed- and open-ended questions were included to capture quantitative measures and qualitative insights.

Data analysis involved a systematic process of organizing, cleaning, and synthesizing the collected data (Sedgwick, 2015). Quantitative data were analyzed using descriptive and inferential statistics in SPSS, providing summarized quantitative descriptions and enabling hypothesis testing. Qualitative responses were analyzed narratively, allowing for interpretation of participants' experiences and perceptions. After cleaning and verification, the data were further processed and visualized using Microsoft Excel and Word to facilitate presentation and reporting.

4. Empirical Results

4.1. Sample Profile

Table 1 shows the sample profile. The largest age group among the respondents consists of individuals between 21 to 30 years old, accounting for 39.5% of the total sample. Following Cleary, individuals between 31 to 40 years old make up the second-largest portion, representing 34.7% of the sample. The remaining age groups formed the rest of the sample. The majority of respondents (55.6%) were male, while 44.4% were female. Furthermore, the majority

Table 1
Sample Profile

Category	Sub-category	Frequency	Percent	Cumulative Percent
Age Group	20 or under	28.0	7.9	7.9
	21–30	140.0	39.5	47.5
	31–40	123.0	34.7	82.2
	41–50	57.0	16.1	98.3
	51+	6.0	1.7	100.0
	Total		354.0	100.0
Marital Status	Divorced	40.0	11.3	12.7
	Married	128.0	36.2	48.9
	Single	181.0	51.1	100.0
	Total	354.0	100.0	
Gender	Female	157.0	44.4	44.4
	Male	197.0	55.6	100.0
	Total	354.0	100.0	

Source: SPSS Field data, 2025

of respondents were single (51.1%), followed by those who were married (36.2%), and the remaining 11.3% were divorced. These findings provide an overview of the demographics within the sample.

4.2. Validity and Reliability Test

Table 2 shows the results of the principal component analysis. Six components were extracted, and all components had a factor loading above 0.6, which meets the recommended threshold (Tabachnick & Fidell, 2019). Regarding reliability, the Cronbach's alpha coefficients are presented in the bottom row of the table. These coefficients assess the internal consistency or reliability of measures within each construct. The coefficients range from 0.273 to 0.941, indicating fairly good to excellent reliability (with one exception). High values of Cronbach's alpha suggest that the items within each construct are measuring the same underlying concept consistently (Nunnally & Bernstein, 1994).

4.3. Correlation Analysis

Table 3 indicates the correlation coefficients between different variables: SMEs performance, perceived vendor support, perceived cost, top management support, perceived employee capabilities, and perceived relative advantage.

4.4. Regression Analysis

The results of the regression analysis on SMEs performance reveal the effects of five independent variables: perceived vendor support, perceived cost, perceived employee capabilities, and top management support.

Controlling for other factors, the constant term (intercept) is 6.274 ($B = 6.274$, $SE = 0.545$, $t = 11.507$, $p < 0.001$), indicating the expected value of SMEs performance when all independent variables are zero. Perceived vendor support has a positive effect on SMEs performance, with a coefficient of 0.182 ($B = 0.182$, $SE = 0.056$, $\beta = 0.166$, $t = 3.234$, $p = 0.001$). This suggests that for every one-unit increase in perceived vendor support, SMEs performance is expected to increase by 0.182 units.

Controlling for other variables in the model, perceived costs have a significant negative effect on SMEs performance at the conventional level ($B = -0.308$, $SE = 0.055$, $\beta = -0.276$, $t = -5.563$, $p < 0.001$). This indicates that for every one-unit increase in perceived cost, SMEs performance reduces by 0.308 units.

Further, perceived employee capabilities have a positive effect on SMEs performance, although it is not statistically significant ($B = 0.089$, $SE = 0.100$, $\beta = 0.047$, $t = 0.895$, $p = 0.371$). This indicates that for every one-unit increase in perceived employee capabilities, there is a 0.089 increase in SMEs performance. While there is a positive relationship, the observed effect is not statistically strong enough to be deemed significant.

Top management support has a moderately strong negative effect on SMEs performance ($B = -0.493$, $SE = 0.079$, $\beta = -0.344$, $t = -6.216$, $p < 0.001$). This shows that for every one-unit increase in top management support, SMEs performance reduces significantly by 0.493 units.

Table 2
Validity and Reliability Test

Variable	1	2	3	4	5	6
SMEs Performance						
SP5	0.919	0.027	-0.143	-0.130	0.029	-0.076
SP7	0.911	0.018	-0.121	-0.104	-0.010	-0.066
SP4	0.892	-0.045	-0.070	-0.126	0.008	-0.063
SP6	0.886	0.074	-0.195	-0.099	-0.031	0.103
Perceived Vendor Support						
PVS3	0.165	0.884	0.072	0.112	-0.018	0.078
PVS2	0.207	0.861	0.074	0.096	0.069	0.037
PVS4	-0.156	0.856	-0.016	0.117	-0.023	-0.081
PVS1	-0.112	0.802	-0.024	0.123	0.098	0.050
Perceived Cost						
PC3	-0.090	-0.058	0.857	0.195	-0.104	-0.133
PC2	-0.166	-0.032	0.838	0.106	-0.095	0.067
PC4	-0.020	0.064	0.828	-0.018	-0.112	-0.085
PC1	-0.296	0.139	0.765	-0.174	0.005	0.083
Top Management Support						
TMS2	-0.135	0.017	0.111	0.864	0.168	0.022
TMS1	-0.137	0.305	-0.014	0.797	0.023	0.111
TMS3	-0.240	0.296	0.025	0.687	0.274	0.210
Perceived Employee Capabilities						
PEC4	0.001	0.027	-0.059	0.095	0.852	-0.031
PEC2	-0.024	-0.022	-0.125	0.195	0.787	-0.005
PEC3	0.029	0.118	-0.102	0.026	0.738	0.275
Perceived Relative Advantage						
PRA2	-0.094	0.146	-0.107	0.036	-0.033	0.804
PRA1	0.015	-0.091	0.046	0.162	0.198	0.638
Cronbach's α	0.941	0.887	0.858	0.821	0.749	0.273

Source: SPSS Field data, 2025

Table 3
Correlation Analysis

Variable	1	2	3	4	5	6
1 SMEs Performance	1					
2 Perceived Vendor Support	.030	1				
3 Perceived Cost	-.306**	.059	1			
4 Top Management Support	-.311**	.347**	.097	1		
5 Perceived Employee Capabilities	.001	.095	-.195**	.309**	1	
6 Perceived Relative Advantage	-.090	.097	-.059	.258**	.209**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Field data, 2025

Similarly, perceived relative advantage also has a negative effect on SMEs performance ($B = -0.079$, $SE = 0.091$, $\beta = -0.044$, $t = -0.875$, $p = 0.382$), showing that for every one-unit increase in perceived relative advantage, SMEs performance reduces by 0.079 units, although the effect is not statistically significant.

4.5. Hypothesis Test Results

Table 5 shows the hypothesis test results. It is found that perceived vendor support, perceived cost, and top management support have a significant effect on SMEs performance, implying that an increase or decrease in any of these variables will predictably affect SMEs performance. On the other hand, perceived employee capabilities and perceived relative advantage have no significant effect on SMEs performance, implying that changes in these variables do not statistically influence SMEs performance within this model.

Table 4
Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	6.274	.545		11.507	.000
Perceived Vendor Support	.182	.056	.166	3.234	.001
Perceived Cost	-.308	.055	-.276	-5.563	.000
Perceived Employee Capabilities	.089	.100	.047	.895	.371
Top Management Support	-.493	.079	-.344	-6.216	.000
Perceived Relative Advantage	-.079	.091	-.044	-.875	.382

Dependent Variable: SMEs PERFORMANCE

Source: SPSS Field data, 2025

Table 5
Hypothesis Test Results

Hypothesis	Statement	Supported
H3.a	Perceived Vendor Support has an effect on SMEs performance	Yes
H1.b	Perceived Cost has an effect on SMEs performance	Yes
H2.a	Top Management Support has an effect on SMEs performance	Yes
H2.b	Perceived Employee Capabilities has an effect on SMEs performance	No
H1.a	Perceived Relative advantage has an effect on SMEs performance	No

Source: SPSS Field data, 2025

Figure 1 illustrates the conceptual model of the study based on the Technology-Organization-Environment (TOE) framework, mapping the empirical results of the regression analysis. The diagram visually summarizes the structural relationships between the independent variables and SME performance, displaying the standardized coefficients (β) and their respective significance levels. As depicted, the environmental factor (perceived vendor support) exerts a significant positive influence, whereas specific technological and organizational factors (perceived cost and top management support) exhibit significant negative impacts on the performance of SMEs in Lusaka.

5. Discussion of Findings

5.1. Introduction

This study investigated the effects of digital marketing adoption on SME performance within the Technological, Organizational, and Environmental (TOE) framework. The discussion is structured around the study's objectives and hypotheses, linking the findings with prior literature in the context of digital marketing adoption.

5.2. Technological Factors and SME Performance

The study tested the following hypotheses:

- **H1.a:** Perceived Relative Advantage has an effect on SME performance.
- **H1.b:** Perceived Cost has an effect on SME performance.

Regression results indicated that perceived relative advantage was negatively and statistically insignificantly associated with SME performance ($B = -0.079$, $p = 0.382$). This suggests that while SMEs recognize digital marketing as potentially advantageous, they struggle to translate these perceived benefits into improved performance, likely due to limited digital competences or inadequate integration of digital strategies into business models.

Conversely, perceived cost significantly and negatively affected SME performance ($B = -0.308$, $p < 0.001$), implying that high implementation and maintenance costs are major inhibitors for SMEs. These results align with [Maduku and Mpinganjira \(2016\)](#), who identified cost as a critical barrier to technological innovation in developing

economies. Similarly, [Qalati et al. \(2021\)](#) highlighted financial constraints as limiting SMEs' capacity to invest in digital tools effectively. However, the insignificant effect of perceived relative advantage contrasts with [Ali Abbasi \(2022\)](#), who found positive associations between perceived benefits and adoption outcomes, reflecting contextual differences in Lusaka SMEs.

5.3. Organizational Factors and SME Performance

The hypotheses tested were:

- **H2.a:** Top Management Support has an effect on SME performance.
- **H2.b:** Perceived Employee Capabilities have an effect on SME performance.

Perceived employee capabilities had a positive but nonsignificant effect on SME performance ($B = 0.089$, $p = 0.371$), indicating that employee digital skills alone do not guarantee performance improvement without effective organizational support.

Top management support showed a significant but negative effect on SME performance ($B = -0.493$, $p < 0.01$). This unexpected outcome suggests that managerial involvement in SMEs may sometimes hinder innovation through over-control, poor resource allocation, or ineffective leadership practices. While prior studies ([Ali Abbasi, 2022](#); [Amoah et al., 2023](#)) reported positive effects of leadership on digital adoption, the current results indicate that leadership quality and strategic empowerment are crucial for performance improvements.

5.4. Environmental Factors and SME Performance

Hypothesis H3.a tested whether perceived vendor support affects SME performance. The findings revealed a significant positive effect ($B = 0.182$, $p = 0.001$), indicating that vendor assistance, including training, technical support, and ongoing guidance, facilitates effective use of digital marketing tools, improving SME performance. These results are consistent with [Ali Abbasi \(2022\)](#), [Qalati et al. \(2021\)](#), and [Amoah et al. \(2023\)](#), who emphasized the importance of external support in mitigating adoption barriers.

5.5. Overall Discussion

Overall, environmental and financial factors—specifically vendor support and perceived cost—emerged as the strongest predictors of SME performance. In contrast, technological and organizational factors such as perceived relative advantage, top management support, and employee capability showed mixed or negative effects.

The findings underscore that while digital marketing adoption has theoretical potential to enhance SME competitiveness, practical limitations such as financial constraints, managerial inefficiencies, and limited employee capacity inhibit performance realization. High perceived cost confirms that SMEs operate under tight budgets where technology acquisition and maintenance costs outweigh perceived benefits ([Maduku and Mpinganjira, 2016](#); [Qalati et al., 2021](#)).

Vendor support was the most significant enabler, highlighting the role of external partnerships in bridging internal capability gaps ([Ali Abbasi, 2022](#); [Amoah et al., 2023](#)). Conversely, the negative impact of top management support and the limited effect of employee capabilities point to potential organizational inefficiencies, where managerial involvement may stifle innovation or fail to utilize employees' digital skills effectively ([Qalati et al., 2022](#)).

Recommendations include continuous training programs to improve digital literacy, leveraging vendor partnerships, adopting data-driven marketing strategies, and policy interventions to reduce technological barriers. Future studies should explore post-adoption effects, conduct comparative research across regions or sectors, incorporate additional moderating or mediating variables, and consider longitudinal designs to capture cumulative impacts of digital marketing adoption on SME performance.

6. Conclusion

This study examined the effects of digital marketing adoption on SME performance in Lusaka using the TOE framework. Environmental and financial factors, particularly vendor support and perceived cost, were identified as the most influential determinants of SME performance. Although SMEs recognized the strategic advantages of digital marketing, constraints such as high costs, suboptimal management practices, and limited employee skills hindered the translation of perceived benefits into performance outcomes. Effective leadership, strengthened employee capabilities, vendor partnerships, and supportive policy environments are critical to realizing the potential of digital marketing for

SME growth. Future research should investigate long-term adoption effects and explore comparative studies across different sectors or regions.

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Declarations

The authors have no conflicts of interest to declare.

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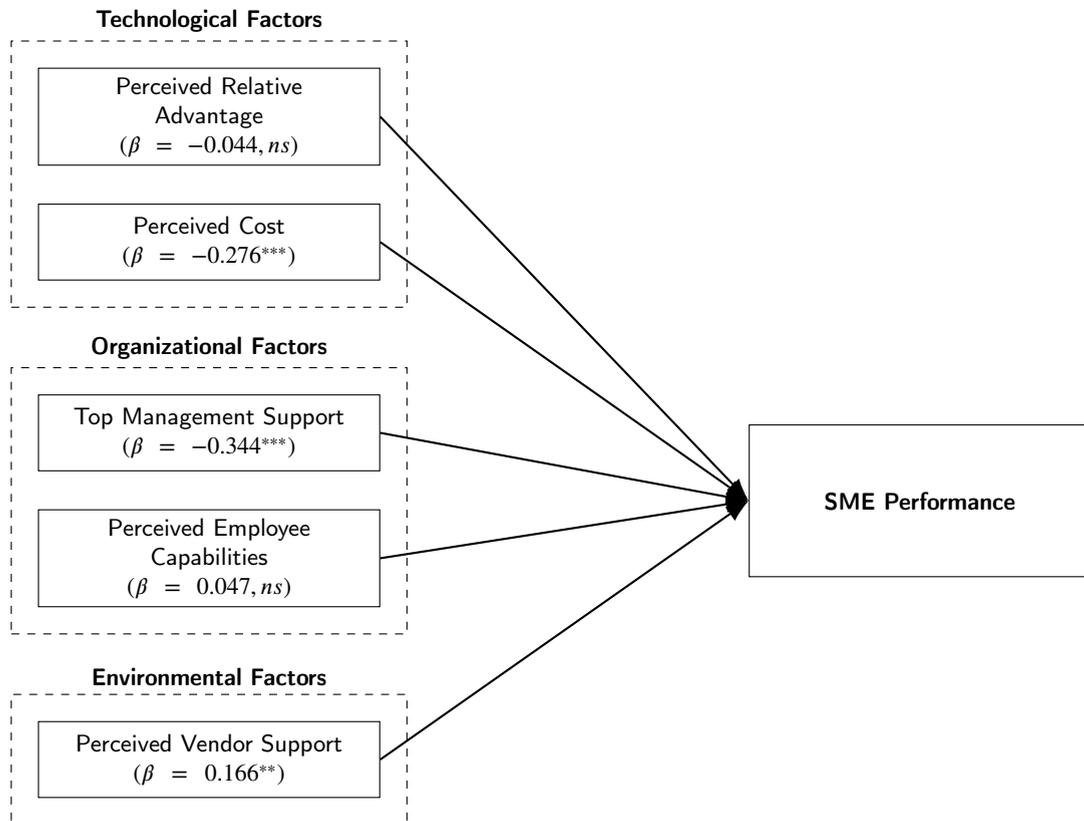


Figure 1: Conceptual Framework of Digital Marketing Adoption based on the TOE Model.

Notes: *** $p < 0.001$, ** $p < 0.01$, $ns = not\ significant$.