



From innovativeness to sales performance of IT-based SMEs in Tanzania: The mediating role of basic digital skills

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ABSTRACT

While innovativeness is consistently linked to superior performance in Small and Medium-sized Enterprises (SMEs), the specific mechanisms through which it drives sales growth in the context of Sub-Saharan Africa's digital economy remain underexplored. This study employed Entrepreneurial Orientation (EO) theory and Resource Based View (RBV) theory to investigate the mediating role of basic digital skills in the relationship between firm innovativeness and sales growth, focusing on Information Technology (IT)-based small and medium-sized enterprises (SMEs) in Tanzania. The research employs a quantitative, explanatory design, utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyse data collected using five Likert scale questionnaire from 689 Tanzanian IT-based SMEs which were sampled using stratified sampling technique among 1200 Tanzanian IT-based SMEs. The results confirm a significant direct effect of innovativeness on sales growth. More importantly, the analysis reveals a significant indirect effect, demonstrating that basic digital skills partially mediate the relationship between innovativeness and sales performance. This indicates that a substantial portion of innovation's impact on growth is channelled through the firm's capacity to utilize fundamental digital tools for marketing, sales, and operational processes. The study concludes that basic digital skills are a crucial micro-foundational capability that translates innovative potential into tangible commercial outcomes. This research contributes to theory by unpacking a key mechanism in the innovation-performance relationship and provides practical implications for SME managers and policymakers in Tanzania. The study recommends that there is necessary to integrate basic digital literacy initiatives with innovation support programs to fully harness the growth potential of IT-based enterprises in emerging economies.

Keywords: Basic Digital Skills, Innovativeness, Sales Growth, SMEs, Tanzania

I. INTRODUCTION

The Tanzania's Information Technology (IT)-based Small and Medium-sized Enterprises (SMEs) operate in highly competitive market whereby the ability of the firms to innovate is likely to enhance sales growth. Studies based on SMEs from the emerging economy provide that the level of innovativeness of the firms is linked to SMEs performance including sales growth (Bedi, 2025; Keelson et al., 2024). The East African studies also link innovativeness with export as well as sales growth, which provide that innovation within an organization is not a luxury but a strategic motive to enhance sales performance (Tsai et al., 2022). Yet despite this overall agreement, the precise mechanisms through which innovativeness is translated into sales growth in Sub-Saharan African contexts in particular in IT-based Tanzanian SMEs are less well-defined, calling for a closer scrutiny of the capabilities that translate innovativeness into sales performance.

A growing stream of digitalization research suggests that basic digital skills may be a pivotal mechanism that enables SMEs to transform innovative ideas into scalable sales processes (online customer acquisition, digital promotions, and data-enabled selling). The studies indicate that an organization is likely to achieve digital transformation easily when the firm's manager as well as employs have adequate digital literacy, the situation which in turn enhance SMEs performance including sales growth (Zahoor et al., 2023; Yuwono et al., 2024). The empirical studies based on digital marketing as well as ICT capabilities in Tanzania also provide that there is a relationship between innovativeness and SMEs performance (Mushi, 2024; Rutainurwa et al., 2024). Similarly, the studies indicate that without basic digital skills, the SMEs are likely not realizing the full potential innovation within the organization (IFC, 2023; World Bank, 2020). In this essence innovation only enhance sales growth when SMEs managers as well as employees possess the basic digital skills which enable to implementation, communication, and scaling of the innovation in the organization.



This mediation logic is also viewed in Tanzania context. Given the increase in momentum on digital adoption as provided by national as well as international assessment in Tanzania, still this momentum is challenged by persistent gaps in skills, affordability, and usage especially for SMEs outside major urban centres (Okeleke, 2019; UNIDO, 2023; EU Action Document, 2021). The studies show that there are ongoing efforts to ensure the digital skill gap is closed and yet also, this skill gap hinders SMEs to realize sales growth despite of innovativeness among the firms (Bedi, 2025). Furthermore, recent studies show that digital-skills deficits limit technology uptake by small firms despite demonstrated sales and productivity gains where digital tools are used (IFC, 2023; Brookings, 2023). These realities imply that even highly innovative IT-based SMEs may underperform on sales growth when basic digital skills are weak, thereby motivating an explicit test of digital skills as an enabling pathway from innovativeness to sales outcomes in Tanzania.

Empirical studies reinforce each link in this proposed pathway. First, cross-country and regional SME studies consistently show that innovativeness predicts financial and sales performance (Bedi, 2025; Keelson et al., 2024; Garrido-Prada et al., 2024). Second, Tanzania-focused research using firm-level data finds that ICT capabilities, digital marketing, and supply-chain digital integration are associated with improved SME performance (Mushi, 2024; Rutainurwa et al., 2024; Pasape, 2022). Third, digital-skills-oriented studies show managers' and employees' digital literacy catalyzes SME digital transformation and commercialization processes (Zahoor et al., 2023), while systematic reviews continue to flag skills shortages as a barrier to ICT adoption in developing-country SMEs (Yuwono et al., 2024). Collectively, these studies justify a mediated model in which innovativeness → (basic digital skills) → sales growth, with basic digital skills functioning as the day-to-day operational capability that translates innovative intent into acquisition, conversion, and retention activities that grow sales.

Despite this momentum, a clear research gap persists. First, within Tanzania, most empirical studies examine direct effects of digital strategies or ICT adoption on performance, or the innovativeness performance link, but rarely models basic digital skills as an explicit mediator especially among IT-based SMEs whose value propositions and sales processes are inherently digital. Second, many studies aggregate “digital capability” into broad constructs, making it difficult to isolate the contribution of basic digital skills (using office suites, online collaboration tools, social media managers, basic analytics dashboards) to the commercialization of innovations (Mushi, 2024; Pasape, 2024; Yuwono et al., 2024). Third, scholars in the region have emphasized exports, process innovation, or macro-level digitalization trends more than sales growth pathways at the firm level and within the IT-based SME segment (Keelson et al., 2024; UNIDO, 2023). This study addresses these gaps by providing that basic digital skills as mediator that translate the mechanism by which innovation enhance sales performance of IT-Based SMEs

1.1 Research Objectives

- i. To examine the influence of innovativeness on sales performance of IT-based SMEs in Tanzania
- ii. To determine the mediating role of basic digital skills on the relationship between innovativeness and sales performance of IT-based SMEs in Tanzania

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 The Entrepreneurial Orientation (EO) Theory

The Entrepreneurial Orientation (EO) theory, established by Gregory Lumpkin and Gregory Dess in 1996, is widely recognized as a significant framework in entrepreneurship research. EO encompasses five dimensions innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy which reflect a firm's entrepreneurial behaviour and strategic approach (Lumpkin & Dess, 1996; Rauch et al., 2009; Kraus et al., 2020). The fundamental assumption of EO is that firms exhibiting a high degree of entrepreneurial orientation are predisposed to engage in innovative practices, embrace calculated risks, and proactively identify and seize new opportunities, which are essential for superior performance, especially in competitive and rapidly changing environments (Rauch et al., 2009; Agyabeng-Mensah et al., 2020).

While the strengths of EO theory lie in its comprehensive framework that elucidates the multi-dimensional nature of entrepreneurial behaviour, it is equally critical to address its limitations. One of the primary weaknesses of EO theory is its challenging measurement due to its inherent complexity; quantifying dimensions like “innovativeness” or “autonomy” can lead to subjective interpretations (Rauch et al., 2009). Additionally, EO theory may not sufficiently account for external variables, such as market conditions, cultural contexts, and regulatory environments, which significantly influence firm performance (Ferreira & Azevedo, 2020). In the context of SMEs, especially in developing regions like Tanzania, these external factors can shape entrepreneurial behaviours and outcomes in ways that the EO framework does not fully capture. To enhance the theoretical foundation of EO, it is valuable to consider complementary theories like the Resource-Based View (RBV)

2.1.2 Resource Based View Theory

The Resource Based Theory (RBT) conceptually represented in Figure 2.1 is a composite theory derived from the Resource Based View (RBV) and Knowledge Based View (KBV) (Theriou *et al.*, 2009).

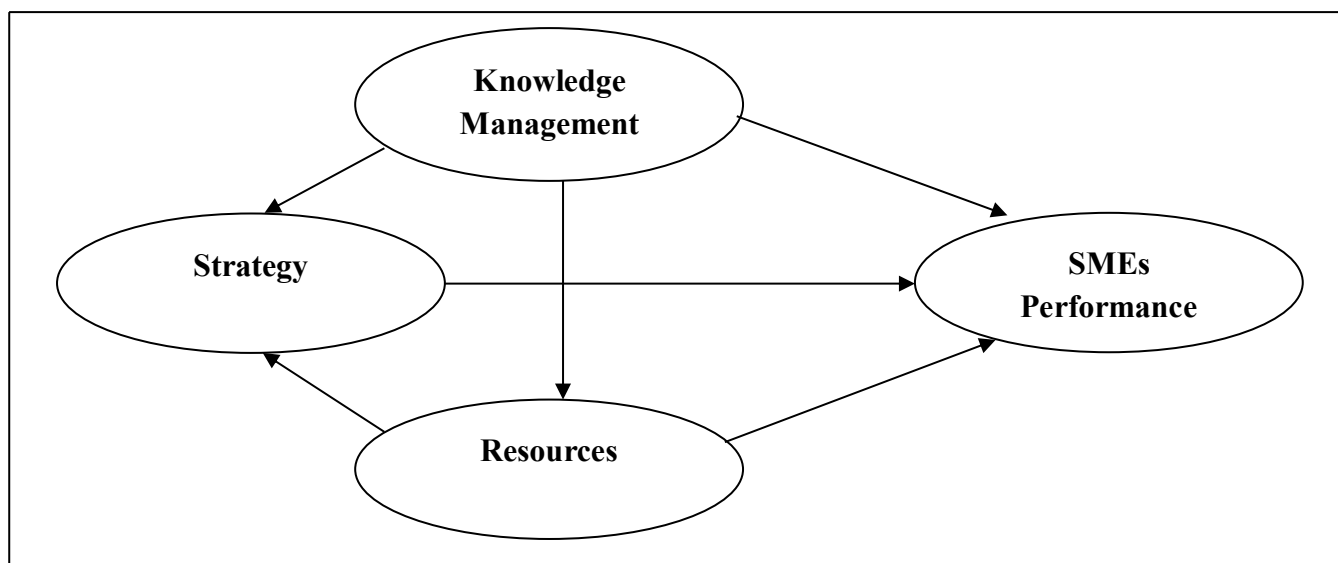


Figure 1

Resource Based Theory Conceptual Framework

Source: Adapted from Theriou *et al.* (2009) cited by Kibeshi, (2019)

The conceptual framework of the theory has three independent variables viz. Knowledge management capabilities, strategy and firm resources. The dependent variable is firm performance revealed through market performance which leads to profitability. The independent variables have both direct and indirect effects on the dependent variable. The Resource-Based View (RBV), and its evolved form, Resource-Based Theory (RBT), is a foundational framework in strategic management that explains firm performance through the lens of internal resources and capabilities. The theory posits that a firm's sustainable competitive advantage and superior performance are not derived from its external market position alone but primarily from the bundle of valuable, firm-specific resources it controls (Barney, 1991; Penrose, 1959).

For a resource to be the source of a *sustained* competitive advantage, it must meet the VRIN criteria: it must be Valuable (exploit opportunities and neutralize threats), Rare (not possessed by numerous current or potential competitors), Inimitable (costly to copy due to unique historical conditions, causal ambiguity, or social complexity), and non-substitutable (cannot be replaced by a different resource performing the same strategic function). The central premise of RBT is that in the absence of such unique, VRIN resources, firms within an industry would be homogenous, and any strategy could be replicated, leading to competitive parity and no significant performance differences (Barney, 1991).

The theory has evolved significantly since its early articulations (e.g., Penrose, 1959; Wernerfelt, 1984), maturing through the development of related extensions such as the Knowledge-Based View (Grant, 1996) and the concept of Dynamic Capabilities (Teece, Pisano, & Shuen, 1997). These advancements address early critiques, such as the theory's initial static nature, by incorporating the role of knowledge and the ability to reconfigure resources to adapt to rapidly changing environments. The Knowledge-Based View (KBV) is a critical extension of the RBV that refines the concept of resources by positioning knowledge as the most strategically significant resource of the firm (Grant, 1996). While the RBV treats knowledge as a generic resource, the KBV theorizes it as a unique, intangible, and dynamic asset that does not depreciate with use and is the primary source of all other capabilities and strategies (Curado, 2006).

The KBV contends that competitive advantage is governed by a firm's capability to develop and manage knowledge-based assets. This requires effective Knowledge Management (KM) processes creating, acquiring, storing, sharing, and deploying knowledge to build distinctive core competencies (Pemberton & Stonehouse, 2000). Consequently, a firm's knowledge management capability is itself a potential VRIN resource that facilitates the development of all other competitive advantages. There is a growing consensus that superior KM capabilities can directly lead to a competitive edge, especially in environments where intangible assets are more critical than physical ones (Halawi, Aronson, & McCarthy, 2005).



Together, the RBV and KBV form a comprehensive Resource-Based Theory (RBT) that argues a firm's strategy and performance are dependent on its unique portfolio of tangible and intangible resources and, crucially, its capabilities to manage and deploy them, particularly knowledge. This study leverages the RBT framework to argue that Innovativeness and Basic Digital Skills are intangible strategic resources that constitute the foundation of a competitive advantage for SMEs in Tanzania. Their interaction is theorized to be a key driver of firm performance.

2.1.3 Concept of Innovativeness

Innovativeness refers to a firm's ability and willingness to generate, adopt, and implement new ideas, processes, products, or services that enhance competitiveness and customer value. Within SME contexts, innovativeness is often conceptualized as a component of entrepreneurial orientation and is widely linked to performance outcomes such as market growth, profitability, and customer acquisition (Bedi, 2025). Empirical studies across emerging markets demonstrate that innovativeness fosters adaptive responses to turbulent environments, improves firms' ability to differentiate offerings, and drives customer satisfaction (Keelson et al., 2024; Garrido-Prada et al., 2024). Specifically, in Sub-Saharan Africa, innovativeness has been shown to predict export and sales growth among SMEs by allowing firms to compete beyond price-based strategies (Ringo et al., 2022; Ringo & Msonge, 2023). In Tanzania's IT sector, where product lifecycles are short and customer expectations evolve rapidly, innovativeness is critical for SMEs to capture market share and sustain growth. This makes innovativeness not just a desirable trait, but a strategic capability that can determine the survival and expansion of SMEs in digitally driven markets.

2.1.4 Concept of Sales Growth

Sales growth is a tangible and frequently used measure of firm performance that reflects both short-term effectiveness in generating revenue and long-term competitiveness in retaining and expanding market share. For SMEs, sales growth is particularly salient as it directly influences cash flow, reinvestment capacity, and scalability (Ringo et al., 2022). Empirical evidence shows that innovative SMEs often outperform less innovative peers in achieving higher sales growth, owing to their ability to introduce differentiated products and leverage new market opportunities (Garrido-Prada et al., 2024; Keelson et al., 2024). In Tanzanian IT-based SMEs, sales growth is a pressing indicator given the sector's reliance on rapid adoption of technological solutions and the necessity of sustaining customer bases through continuous innovation (Mushi, 2024). Moreover, sales growth has policy relevance: Tanzanian economic development frameworks increasingly emphasize SME performance as a driver of employment and GDP contribution (UNIDO, 2023). As such, positioning sales growth as the focal outcome variable aligns with both firm-level strategic objectives and broader developmental priorities, reinforcing its centrality in academic and applied research.

2.1.5 Basic Digital Skills

Basic digital skills encompass competencies in using everyday digital tools such as office productivity software, internet navigation, email communication, social media platforms, and entry-level analytics that enable individuals and firms to function effectively in a digital economy. Scholars argue that without these foundational skills, SMEs struggle to exploit more advanced digital technologies or to commercialize innovative ideas effectively (Yuwono et al., 2024). Zahoor et al. (2023) find that managers' digital literacy is a micro-foundation of SME digital transformation, shaping how innovations are scaled and marketed. Similarly, IFC (2023) reports that African SMEs with stronger basic digital capabilities are more likely to reach new customers online and to translate innovative offerings into measurable sales growth. In Tanzania, recent empirical studies show that ICT adoption and digital marketing strategies improve SME performance, but also highlight that gaps in basic digital literacy limit effectiveness (Mushi, 2024; Rutainurwa et al., 2024). Thus, conceptualizing basic digital skills as a mediator is theoretically sound: they represent the operational bridge between the strategic intent to innovate and the sales performance outcomes that depend on the effective execution of such innovations.

2.2 Empirical Review

2.2.1 Innovativeness and Sales Growth

The first hypothesis proposes that innovativeness has a direct and positive effect on sales growth among IT-based SMEs in Tanzania. Innovativeness is widely recognized as a central driver of firm competitiveness, as it enables businesses to generate and introduce new products, processes, and marketing approaches that differentiate them from rivals and capture greater customer demand (Bedi, 2025; Keelson et al., 2024). In SME contexts, particularly in fast-changing digital markets, innovativeness is essential for responding to customer expectations and technological advancements with agility. Empirical studies have consistently found that SMEs with stronger innovative capacities outperform less innovative peers in achieving higher sales growth, largely because innovation allows them to create



unique value propositions and exploit market opportunities (Ringo et al., 2022; Garrido-Prada et al., 2024). For Tanzanian IT-based SMEs, innovativeness is especially relevant as these firms compete in knowledge-intensive industries where solutions quickly become obsolete if not continuously improved. By innovating, these SMEs can penetrate new market segments, increase product adoption, and sustain revenue growth. Therefore, Hypothesis 1 reflects the theoretical and empirical expectation that greater innovativeness directly translates into measurable increases in sales growth.

2.2.2 Mediating Role of Basic Digital Skills

While innovativeness is an important predictor of sales growth, its effect may not always be realized unless SMEs possess the necessary basic digital skills to operationalize and commercialize innovations effectively. The fourth hypothesis therefore posits that basic digital skills mediate the relationship between innovativeness and sales growth. Recent research highlights that digital literacy functions as a micro-foundation of digital transformation, enabling firms to use simple yet critical tools such as email, social media platforms, and online collaboration applications to promote and deliver innovative offerings (Zahoor et al., 2023; Yuwono et al., 2024). Without these competencies, innovative products or processes may remain underutilized or fail to reach the intended market, thereby weakening the link between innovation and sales performance. In Tanzania, studies indicate that while SMEs are adopting ICT and digital marketing strategies, limited digital literacy continues to constrain their ability to fully leverage innovations for improved performance (Mushi, 2024; Rutainurwa et al., 2024). This suggests that innovativeness alone may not guarantee sales growth unless firms possess foundational digital skills that allow them to integrate innovations into customer-facing processes and digital sales channels. Thus, Hypothesis 4 captures the idea that the pathway from innovativeness to sales growth is partially or fully explained by the presence of basic digital skills, making them a crucial mediator in this relationship.

III. METHODOLOGY

3.1 Research Design

The study adopted quantitative explanatory research design in testing the hypothesized relationship between innovativeness, basic digital skills and sales growth among IT-based SMEs in Tanzania. According to Hair et al. (2021) quantitative research design is when researcher intends to establish causal pathways to measure the strength of the relationship across the constructs when complex models involving mediation are tested. Furthermore, the predictive nature of the study, and the robustness in handling the complex models with latent constructs which are measured with multiple indicators made researcher to opt for using Partial Least Square Structural Equation Modelling for this study. The researchers recommend the use of PLS-SEM when the data deviate from multivariate normality and sample size used is small (Sarstedt et al., 2021)

3.2 Study Area

The study was conducted among IT-based companies operating in Dar es Salaam, Tanzania. This location was chosen because it served as the country's commercial capital and a leading hub for small and medium-sized enterprises, particularly within the technology sector (Kapaya & Shayo, 2018). The high concentration of IT-based SMEs in Dar es Salaam provided an ideal environment for investigating the influence of innovativeness on sales growth through basic digital skills. Additionally, the dynamic and competitive nature of the city's technology industry offered a rich context for exploring innovative and strategic behaviours that could drive growth among SMEs.

3.3 Population

The study population targeted 1200 IT-based SMEs operating in Dar es Salaam, Tanzania. The SMEs were classified based on Tanzania SMEs policy report which provide SMEs based on the number of employees and capital investment. In this regard micro-enterprises having 1-4 employees, small enterprises 5-49, and medium enterprises 50-99 employees. For capital investment, micro enterprises have up to TZS 5 million, small enterprises between TZS 5 million and 200 million, and medium enterprises between TZS 200 million and 800 million.

3.4 Sampling and Sample Size

Among 1200 IT-based SMEs owners, 689 respondents selected as a sample size for the study whereby 94 were micro-SMEs owners, 320 were small Enterprises owners while 275 were medium Enterprises owners. Researchers recommends that the minimum sample size required for the study which employ PLS-SEM is determined by ten times the largest number of structural paths directed at any construct in the model (Hair et al., 2021). Given the maximum predictors for this model is two (Innovativeness → Basic Digital Skills and Sales Growth), the sample size



of 301 exceed the threshold ensuring statistical power as well as the stable estimates. The respondents were selected used stratified sampling technique.

3.5 Data Collection Tools and Procedure

The closed ended questionnaire was formulated in 5-Points Likert scale format were distributed through online. This is consistent with recent SME-focused digitalization studies in Sub-Saharan Africa (Rutainurwa et al., 2024; Zahoor et al., 2023). The questionnaire was based on the constructs used in this study which was adopted from the previous studies. For innovativeness construct it was measured through indicators which captured product, process as well as market related issues (Bedi, 2025; Keelson et al., 2024). The basic digital skills construct was measured with 5 items which provide the ability to use fundamental digital tools such as office applications, navigation through the internet, social media and emails for business purposes (Yuwono et al., 2024; Zahoor et al., 2023). For Sales growth construct it was measured through five items which reflect the self-reported increase in sales over past three years relevant to the current SMEs performance related studies (Garrido-Prada et al., 2024; Mushi, 2024). A five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5) was employed for innovativeness and digital skills items and sales growth items. This ensured construct validity and reliability while making the model comparable with prior research.

3.6 Data Analysis

The researcher employed descriptive statistic to analyse demographic characteristics of respondents and business characteristics as presented in Table 2 and Table 3. The demographic information and business characteristics were analysed using Microsoft-Excel. The researcher used PLS-SEM to test hypothesis due its accuracy in outperforming partial least squares in terms of reliability, validity, the parameter consistency and model fit (Hair et al., 2019). Moreover, this study employed theories for prediction purposes that involve complex constructs and relationships in which PLS-SEM can handle (Katekele et al., 2025). Therefore, the complexity of our model and the predictive purpose make PLS-SEM suitable for data analysis. In marketing and business research, PLS-SEM has been commonly used (Sarstedt et al., 2022)

3.7 Ethical Consideration

The researcher adhered with ethical consideration in this study as follows. First researcher ensured that the respondents are not forced or coerced to respond the given data collection tool. Secondly, privacy of the respondents was enhanced as respondents were not required to provide their names and other personal information which were not relevant to this study. Lastly researcher ensured the respondents that the data collected are used for academic purpose only of fulfilling the aim of this study and not otherwise

IV. FINDINGS & DISCUSSION

4.1 Demographic Characteristics

Table 1 presents the demographic characteristics of the 689 respondents included in the study. The respondents had a mean age of 32.5 years, with ages ranging from 18 to 56 years. The majority of respondents were male (64.2%), while females accounted for 35.8% of the sample. With respect to educational attainment, most respondents had either a diploma (42.8%) or a bachelor's degree (41.2%). Respondents with secondary education constituted 11.0% of the sample, while those with postgraduate qualifications accounted for 3.6%. Only 1.3% had primary-level education. This distribution indicates that the study predominantly captured respondents with post-secondary education, which is potentially relevant to their capacity to understand and engage with business, innovation, and digital practices. Regarding work experience, respondents with 7–10 years of experience constituted the largest group (33.4%), followed by those with 4–6 years (25.0%). Respondents with 1–3 years of experience accounted for 23.8%, while 17.9% had less than one year of experience. In terms of organizational position, managers represented 66.9% of the respondents, compared with 33.1% who were founders. The relatively high representation of managers and experienced respondents suggests that a substantial proportion of participants had direct knowledge of the operational and strategic activities of the SMEs represented in the study.

**Table 1***Demographic Characteristics (n=689)*

	Frequency	Percentage	Min	Max	Mean	StD
Respondents' Age			18	56	32.5	0.75
Respondent's Sex						
Male	442	64.2	1	2	1.36	.480
Female	247	35.8				
Education Level						
Primary	9	1.3	1	5	3.35	.774
Secondary	76	11				
Diploma	295	42.8				
Bachelor	284	41.2				
Postgraduate	25	3.6				
Working Experience						
Less than 1 year	123	17.9	1	4	2.74	1.104
1-3 years	164	23.8				
4-6 years	172	25				
7- 10 years	230	33.4				
Position in SME						
Manager	461	66.9	1	2	1.33	.471
Founder	228	33.1				

The demographic profile suggests that the sample comprised predominantly relatively young but economically active respondents with moderate to substantial work experience and relatively high levels of formal education. The predominance of managers is particularly relevant because managers are likely to possess direct knowledge of organizational practices, innovation activities, and business performance.

4.2 Business Characteristics

The study also examined the characteristics of the SMEs represented by the respondents. Four indicators were used to profile the businesses: age of the business, firm size, annual turnover, and ownership structure. The results are presented in Table 2.

Table 2*Business Characteristics (n=689)*

Age of business	Frequency	Percentage
Below 1 year	430	62.4
1-3 years	212	30.8
4-5 years	24	3.5
Above 5 years	23	3.3
Firm Size (Number of Employees)		
Micro (1-9)	443	64.3
Small (10-49)	226	32.8
Medium (50-250)	20	2.9
Annual turnover (Revenue)		
< TZS 50M	450	65.3
50M-200M	228	33.1
> TZS 200M	11	1.6
Ownership Structure		
Sole proprietorship	460	66.8
Partnership	229	33.2

The age distribution of the businesses surveyed reveals that the majority are relatively young, with 62.4% (430 firms) operating for less than one year. This is followed by 30.8% (212 firms) that have been in operation for 1 to 3 years. Only a small fraction of firms has been established for 4 to 5 years (3.5%, or 24 firms), and those older than five years represent just 3.3% (23 firms). Firm size data indicate that most businesses are micro-enterprises, with



64.3% (443 firms) having between 1 and 9 employees. Small-sized firms with 10 to 49 employees account for 32.8% (226 firms), while medium-sized businesses with 50 to 250 employees make up only 2.9% (20 firms). In terms of annual turnover, the data show that 65.3% (450 firms) of businesses generate less than TZS 50 million in revenue, while 33.1% (228 firms) fall within the 50 to 200 million range. Only a marginal 1.6% (11 firms) exceed TZS 200 million in annual turnover. Ownership structure is primarily dominated by sole proprietorships, with 66.8% (460 firms) operating under this model. Partnerships represent the remaining 33.2% (229 firms).

4.3 Measurement Model Assessment

The researcher assessed the measurement model before testing the hypothesis. The outer loadings were used to test the indicator reliability as shown in Table 3. Except for IN5, BDS1 and SP5, all the outer loadings for the remaining items were above 0.721 (See Table 4). Since the outer loadings had adverse effect on AVE values these items were removed in their respective constructs as suggested by researchers (Sarstedt et al., 2022). Second, the researcher obtained Chronbach Alpha and Composite reliability (Rho_a) which were above 0.7 (See Table 5). This meets the recommended threshold. Third the average variance extracted (AVE) were obtained and were found above 0.5 (See Table 5). Lastly HTMT values used to test divergent validity were also obtained. The HTMT values were below 0.85 (See Table 5). This confirms that all constructs used in this study were distinct from each other (Henseler et al., 2015)

Table 3

Outer Loadings

Constructs' Items		Loadings
Basic Digital Skills (BDS)		
BDS2:	Employees can effectively use email and internet tools.	0.834
BDS3:	Our team can use basic digital platforms independently.	0.867
BDS4:	Staff are comfortable with office productivity software.	0.790
BDS5:	We handle digital communication and file management with ease.	0.848
Innovativeness (IN)		
IN1:	Our organization frequently develops new and improved products or services	0.864
IN2:	We invest resources in research and development to enhance our offerings	0.874
IN3:	Our business is known for bringing innovative ideas to the market ahead of competitors	0.829
IN4:	New ideas and technologies are rapidly integrated into our business model	0.841
Sales Performance (SP)		
SP1:	Sales revenue has grown steadily in recent years.	0.881
SP2:	Customer base has expanded significantly.	0.867
SP3:	Market share has improved over time.	0.891
SP4:	Sales from new offerings have increased.	0.721

Table 4

Construct Reliability, Convergent Validity and Discriminant Validity

Construct	CA	CR (rho_a)	AVE	HTMT Values		
				BDS	IN	SP
BDS	0.855	0.859	0.697			
IN	0.874	0.874	0.726	0.832		
SP	0.861	0.860	0.711	0.797	0.721	

4.3 Structural Model Assessment

The researcher assessed the common method bias by using the VIF values of the inner model. The results on Table 5 indicates that all VIF values are below 3, indicating that there was no multicollinearity problem existed. Then researcher assessed to determine the explanatory power of the model using R^2 . The R^2 found 0.520 for basic digital skills and 0.512 for sales performance. Based on Hair et al. (2019) the R^2 values indicate that exogeneous constructs moderately explain the endogenic construct. Third researcher was interested to establish the model predictive power. The Q^2 values for basic digital skills and sales performance were 0.518 and 0.394 respectively. This implies that the model had strong predictive power for basic digital skills as well as sales performance (Hair et al., 2017). Lastly researcher obtained standardized root mean square residual (SRMR) to measure model fit. The SRMR value was 0.070, which is below the recommended threshold value of 0.080 (See Table 6). This suggests that the difference



between the observed and predicted association matrices is insignificant, indicating that the model satisfactorily represents the data.

4.4 Hypothesis Test Results

The researcher conducted hypothesis test using a bootstrapping procedure including 10,000 resamples. Table 6 present the results of hypothesis test. The results show that innovativeness significantly affect sales growth ($\beta=0.277$, $t=4.430$, $p=0.000$). Hence, supporting H1. Moreover, the mediating role of basic digital skills was established. Basic digital skills mediate the effect of innovativeness ($\beta=0.353$, $t=7.033$, $p=0.000$) on sales growth. Thus, supporting H2. This implies that basic digital skills mediate the relationship between innovativeness and sales growth among IT-based SMEs

Table 5

Established Direct and Indirect Relationships

	β	T	VIF	P values	Decision
IN -> SP	0.277	4.430	2.085	0.000	Accepted
IN -> BDS -> SP	0.353	7.033		0.000	Accepted

Note(s) Relationships are significant at $p < 0.05$; β =Beta Coefficient; T =t-Statistics; P = Probability value; R^2 : BDS (0.520); SP (0.512); Q^2 predict: BDS (0.518); SP (0.394); Model fit (SRMR)= 0.070; f^2 : BDS (0.350); SP (0.012); IN (0.020)

The previous studies found that innovativeness influence sales performance; However, researchers provided little attention to the complex relationship between innovativeness and sales performance while mediating the role of basic digital skills. Based on survey design this study investigated the influence of innovativeness on sales performance among IT-Based SMEs. Moreover, the mediating role of basic digital skills was examined to understand whether innovativeness influence sales performance through basic digital skills. Moreover, combining the EO theory and RBV theory the study provides the explanatory power of EO's dual process framework by positioning innovativeness in line with basic digital skills as mediator to impact the sales performance among IT-based SMEs in Tanzania

Regarding the influence of innovativeness on sales performance, results indicate that innovativeness significantly influence sales performance. Our results concur with previous findings that innovativeness particularly in terms of new products, services as well as process is the primary driver of sales growth among SMEs (Le et al., 2023; Carrasco-Carvajal et al., 2023). Moreover, previous studies found that innovativeness is important for IT-based SMEs as it help it to create the competitive products which will attract the consumers to purchase it more making it to gain sales revenue (Rumanti et al., 2022; Tsai et al., 2022). Furthermore, Audretsch et al. (2023) provide that innovativeness is a key driver for SMEs sales performance, so the firm to realize better sales performance it must ensure concentrate on innovating the products and processes. These finding also enriches Innovation theory which provide that the adoption of new ideas, technologies, and processes drives competitive advantage and long-term business sustainability, which directly contributes to sales growth.

By continuously introducing innovative products or services, firms can differentiate themselves from competitors, attract new customers, and enhance customer loyalty through improved value propositions. Innovation also enables organizations to respond effectively to changing market demands, streamline operations, and reduce costs, which further supports revenue expansion. Recent studies emphasize that businesses investing in research and development, digital transformation, and customer-driven innovations experience higher sales growth compared to those relying on traditional strategies, as innovation fosters adaptability and opens new market opportunities (Schumpeter, 1934; Tidd & Bessant, 2021). Thus, innovation serves not only as a catalyst for organizational competitiveness but also as a key determinant of sustained sales performance.

The mediation analysis reveals that the relationship between innovativeness and sales performance is not merely direct but is significantly channeled through a critical mechanism: Basic Digital Skills. The statistically significant indirect effect ($\beta = 0.353$, $p < 0.001$) provides compelling evidence for the study concerning how innovativeness translates into commercial success in a developing world context. This finding directly addresses a gap identified by Mchopa & Mwaitete (2021), who treated digital skills as an external environmental factor rather than an internal mediating capability.

It demonstrates that while innovation generates valuable products or services, it is the competency in digital marketing, e-commerce platforms, online customer relationship management, and data-driven sales analysis the core components of BDS that effectively monetizes that innovation. This result suggests that the "commercialization gap" often observed in innovative SMEs, particularly in regions like Tanzania, can be attributed to a deficiency in these foundational digital skills. Therefore, the mediating role of BDS acts as an amplifier, capturing and executing the



market potential inherent in innovative ideas, a process that is less pronounced in studies focusing only on advanced technologies or infrastructure.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The theoretical contribution of this study is twofold. First, it moves beyond the established direct-effects models of innovation-performance by opening the "black box" and identifying a specific mediating variable. In doing so, it enriches the Resource-Based View by illustrating how an intangible resource (innovativeness) builds another critical resource (digital skills) to ultimately enhance performance. Second, it introduces and empirically validates the concept of *basic* digital skills as a key construct within SME and innovation literature, shifting the focus from advanced technological adoption to the foundational literacies that enable daily commercial operations. This addresses a significant gap in the existing literature, which has often overlooked these fundamental skills in favour of studying more complex technologies or treating digital readiness as an external factor. Consequently, this research offers a more refined theoretical framework for understanding growth mechanisms in SMEs operating in digitally evolving economies.

5.2 Recommendations

Based on these findings, concrete recommendations are proposed. For SME owners and managers, it is imperative to recognize that investment in basic digital skills is as strategic as investment in innovation itself. This involves implementing continuous digital literacy training programs focused on practical skills like social media marketing, data analytics, e-commerce platform management, and digital customer service. For policymakers and development agencies, the study advocates for integrating digital skills development into broader national innovation and SME support strategies. Initiatives could include subsidizing digital training for SMEs, establishing public-private partnerships to provide affordable digital tools, and creating innovation hubs that offer both technical incubation and digital commercialization support. By simultaneously fostering innovativeness and basic digital capabilities, stakeholders can create a powerful synergy that significantly accelerates the sales growth and sustainability of Tanzania's vital IT sector.

The current study enriches the literatures on influence of innovativeness on sales performance of IT-Based SMEs. However, the study has some limitations which should be noted when interpreting the results. First the study was conducted in Dar es Salaam, Tanzania; thus, the results reflect the sales performance of IT-based in Tanzania context. Second the current study reflects the digital skills in foundational level (basic digital skills). Yet little is known on other levels of digital skills such as intermediate digital skills and advanced digital skills which warrant further studies. Therefore, further studies can extend the model into high order constructs of performance such as customer satisfaction and operational performance and asset growth while including intermediate digital skills and advanced digital skills as mediators.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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