

ICT Usage Mediation in Uganda of Management Proactiveness and Organisational Resilience: Empirical Evidence from Kampala SMEs

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Abstract

Guided by the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Resource-Based View (RBV), this study explores how management proactiveness and information and communication technology (ICT) usage enhance organisational resilience in Kampala's small and medium-sized enterprises (SMEs). A cross-sectional quantitative survey drew a systematic sample of 384 owners-managers from a population of 85,544 firms, using Krejcie and Morgan's (1970) table. Validity and reliability tests were performed, and all study variables exceeded 0.7 on both tests. SPSS version 23 addressed descriptive and inferential statistics (frequencies, correlations, and regression analysis). A med graph by Jose was used to determine the mediation effect of ICT usage in the relationship between management proactiveness and organisational resilience. Findings show that both management proactiveness and ICT usage are positively associated with organisational resilience and, together, account for a significant share of its variance. ICT usage further emerges as a partial mediator between management proactiveness and resilience. Theoretically, the results extend resilience research by integrating behavioural (proactiveness) and technological (ICT) capabilities; practically, they inform policymakers and SME stakeholders seeking to strengthen firm adaptability. Recommendations for policy and future research are provided.

Keywords: ICT usage, Management Proactiveness, Organisational Resilience, SMEs

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Introduction

Small and Medium-sized Enterprises (SMEs) in both industrialised and developing nations, like Uganda, are regarded as the engines of economic growth (Muhammad *et al.*, 2024). Proceeding researchers assert that SMEs account for about 90 per cent of businesses globally,

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making them the foundation of both the formal and informal business sectors of the global economy (Zongo, 2024; Badiru, 2024). Regarding employment, Europe accounts for more than 53 per cent of the region's employment and up to 90 per cent in Sub-Saharan Africa (Kovalov, 2024; Svobodova *et al.*, 2024). It is worth noting that SMEs are vulnerable to various environmental uncertainties, such as economic shocks and the adverse effects of the recent Covid-19 pandemic, despite their apparent vital role (Pathak *et al.*, 2024). This is also because the majority of SMEs rely heavily on small amounts of capital, which is disrupted when ordinary trade demand suddenly declines, as it did during the COVID-19 pandemic (Canwat, 2024). In such circumstances, the SMEs need to survive by developing organisational resilience (Fidelia & Onuoha, 2024).

Organisational resilience is the ability of an organisation to continue meeting its objectives in the face of challenges, withstand shocks, and adapt and transform to environmental changes (Bartuseviciene, Butkus, & Schiuma, 2024). To survive in an uncertain environment and to foster future success, SMEs must be able to handle all manifestations of the unexpected (Otter & Uschkurat, 2024). This implies that SMEs need to develop resilience capabilities to respond adequately to unexpected events and capitalise on opportunities that could threaten an organisation's survival (Otter & Uschkurat, 2024). Resilience includes adaptive aspects, situational awareness, vulnerability responses, organisational competitiveness, and organisational values (Bartuseviciene, Butkus, & Schiuma, 2024). It enables SMEs to emerge from a crisis stronger than before (Vasi, Sansone, & English, 2024). The literature review shows that several scholars contend that building organisational resilience for SMEs requires proactive management (Apasrawirote & Yawised, 2024). According to Kostal (2025), SMEs should focus on revitalising themselves through strong, proactive management. Pro-active management will provide the knowledge and capability to monitor and analyse various environmental trends and prepare appropriate strategies in time for any challenging eventuality (Ferrazzi *et al.*, 2025). Furthermore, proactive management enhances opportunity-seeking, fosters future orientation, and addresses risk-management challenges (Rashid *et al.*, 2025). It is believed that technological developments can have a profound mediating impact on the relationship between proactive management and organisational resilience. An ICT application will promote attitude change, ease of use will enhance development, and will become helpful in establishing both managerial pro-activeness and resilience.

This study was guided by the resource-based view, which holds that a firm's internal resources matter. Firms that use valuable, rare, inimitable, and non-substitutable resources, such as management proactiveness and ICT use, are bound to gain sustained competitive advantage and, as a result, superior firm performance (Rahman *et al.*, 2024). In addition, the TAM model, which predicts technology adoption and investigates individual user reactions to a new application, will guide the study (Ma *et al.*, 2024). According to According to Mayanja *et al.* (2024), consistent with Ayres and Carter (2024), Ministry of finance, planning and economic development (2017), Zongo (2024), Financial Sector Deepening Uganda (FSDU), and Private Sector Foundation, SMEs in Uganda experience some of the highest mortality rates globally 90 per cent of them operating below 20 years. Notably, over 75 per cent of SMEs in Uganda have operated for less than 10 years, while 33 per cent are still in the early stages of operation (Gwokyalaya, Okumu, & Rukundo, 2024). Furthermore, fewer than half of all SMEs in Uganda fail during their first year of existence, which is troubling (Kundu, Anderson & Ramdas, 2024).

Recent evidence underscores the precarious position of many small and medium-sized enterprises (SMEs). Szabó, Szabó, and Kása (2024) report that more than 71 per cent of the

firms in their sample experienced failure, prolonged closures, substandard service delivery, and weakened competitiveness. Similarly, Kahancová et al. (2023) show that the strict three-month Covid-19 lockdowns precipitated a surge in business closures, from which most firms have yet to recover. These findings suggest that many SMEs struggle to quickly interpret shifting conditions to remain competitive, leaving them vulnerable to collapse. To address this vulnerability, the present study investigates whether proactive managerial behaviour can bolster organisational resilience and whether this relationship is enhanced by the use of information and communication technologies (ICTs). Focusing on SMEs in Kampala Capital City, the study examines the direct effect of management proactiveness on resilience and the mediating role of ICT usage.

Research Objectives

The study pursues four interrelated objectives: (1) to assess how managerial proactiveness influences organisational resilience among SMEs in Kampala Capital City; (2) to determine the association between managerial proactiveness and firms' adoption of ICT; (3) to evaluate the link between ICT usage and organisational resilience; and (4) to test whether ICT usage mediates the effect of managerial proactiveness on organisational resilience. Three research questions guide this study:

1. How does managerial proactiveness affect organisational resilience in SMEs operating within Kampala Capital City?
2. What association exists between managerial proactiveness and the extent of ICT adoption among these firms?
3. In what ways does ICT usage influence organisational resilience in Kampala-based SMEs?

Literature Review

Theoretical Framework

From the theoretical point of view, this study utilised the theories of Technology Adoption Models (TAM) (Lin & Fan, 2024; Liu *et al.*, 2024; Venkatesh, 2022); Unified theory of acceptance and use of Technology (UTAUT); and Resource-Based view (Ferreira & Ferreira, 2025). This aimed to examine the study variables, namely management proactiveness, ICT usage, and organisational resilience, which are discussed in detail.

Technology Adoption Models (TAM)

To understand workers' acceptance and use of information technology in organisations, the Technology Acceptance Model (TAM) (Sachitra & Wimalasena, 2024) was employed. The TAM model, in particular, was created to predict technology adoption and to investigate individual user reactions to a new application by identifying what motivates prospective adopters to accept or reject the use of ICT (Hosain & Kamal, 2024). TAM is designed to simulate users' acceptance of information systems or technologies (Gonzales & Gonzales, 2024). TAM is purposely for general antecedents of computer acceptance and application behaviour. Individual usage behaviour is influenced in two aspects: perceived usefulness (PU) and perceived ease of use (PEU) (Alshurideh et al., 2024). Perceived usefulness refers to the extent to which using a system improves individual work performance and is defined as the subjective likelihood that a specific system will enhance a user's actions (Farooq et al., 2024).



Perceived ease of use refers to the condition in which an individual uses a specific system without exerting any effort (Ma *et al.*, 2024). Hence, a person's belief towards a system may be influenced by external variables in TAM (Mardiana, 2020).

According to Wang *et al.* (2025), TAM serves as a foundation for forming views about the system's effectiveness. Although the TAM model is frequently used in information technology literature, scholars have critiqued it. It was criticised for lacking adaptability in a changing information technology environment and for failing to account for social effects in the information technology deployment process (Wang *et al.*, 2024). Similarly, it does not explain the concepts of managerial proactiveness and organisational resilience, which are explained by personality traits theory and resource-based theory, respectively.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT was developed in 2003 by Venkatesh and others as an integrated model to measure technology acceptance in organisational environments (Alkhwaldi *et al.*, 2025; Venkatesh, 2022). In this model, both technology acceptance theories and models are combined (Börstler *et al.*, 2024). UTAUT has been widely adopted in studies on technology adoption (Alwadain *et al.*, 2024; Kagoya & Mbamba, 2021; Kagoya & Mkwizu, 2022). UTAUT is an outcome of eight theories, including: 1. Theory of reasoned action, 2. Motivation model, 3. Theory of planned behaviour, 4. Combined TAM and 5. TPB, 6. Model of PC utilisation, 7. Innovation diffusion theory and 8. Social cognitive theory (Alghazi *et al.*, 2021; Kagoya & Mbamba, 2021). According to Alghazi *et al.* (2021), UTAUT was found to outperform several previous theories and most used models. This is evident in the recent review examining technology and acceptance models from 2010 to 2020. UTAUT is used to assess user acceptance of technology and is applicable across diverse situations and timeframes (Gonzalez-Tamayo *et al.*, 2024). This theory is explained by four factors: effort expectations, social influence, facilitating conditions (Kagoya & Mkwizu, 2022; Gonzalez-Tamayo *et al.*, 2024), performance expectation and convenience, which are direct determinants of behavioural intention and behaviour to use technology (Alghazi *et al.*, 2021). Behavioural intention is crucial while choosing and using a product or service (Jokom *et al.*, 2025). Performance expectancy is driven by perceived usefulness, relative advantage, extrinsic motivation, job fit, and outcome expectations (Candra *et al.*, 2024). Moreover, Effort Expectancy is the degree of ease associated with using a system (Kagoya & Mkwizu, 2022). Social influence is the adoption of a new system in a society that facilitates behavioural change (Candra *et al.*, 2024).

The realisation of Information Technology within firms requires an understanding of user behaviour, which is often lacking because of how people utilise technology (Li *et al.*, 2024). Based on this, this study used it to illustrate how Small and Medium Enterprises adopt ICT. To ensure business effectiveness, proper implementation, and continuity, a digital platform is utilised as a complement to enhance business activities (Tavares *et al.*, 2024; Ufua *et al.*, 2020). Given the significant role SMEs play worldwide in accelerating the growth of any country's economy (Osano, 2023). Technology adoption by SMEs should be taken seriously because businesses currently have new opportunities (Prasetyani *et al.*, 2025). However, to achieve a competitive advantage, SMEs should consider organisational adaptability as a vital factor (Harahap *et al.*, 2024).

The UTAUT model will be highly relevant to this study, as it focuses on the perceived usefulness and ease of use of technology; its application is appropriate (Kagoya, Tinali & Caine, 2021). It also plays a significant role in influencing individual productivity, which, in

turn, increases organisational productivity and enables the organisation to perform its activities continuously and remain in the market. The ease of use of technology and its usefulness in performing organisational activities reduce operating costs. In this regard, the organisation can motivate its staff, pay salaries on time, settle outstanding invoices, and develop innovative ideas and production methods, enabling it to operate smoothly and compete favourably in the market.

The Resource-Based View

The resource-based theory focuses on internal resources to achieve a competitive advantage (Paauwe, 2024). It posits that such internal resources must be valuable, non-substitutable, scarce, specialised, and unique in their ability to improve the firm's performance (Paauwe, 2024). Therefore, the effective and efficient deployment of all usable resources available to the organisation helps develop its competitive advantage, growth, and resilience (Huang *et al.*, 2023).

Moreover, Kaur (2025) contended that an organisation can attain a competitive advantage through unique resources that cannot be easily purchased, relocated, or copied, and that, at the same time, add value to a firm while being rare. That is to say, the funds the firm has, the organisation's employees' skills and experience, the organisation's geographical location (as evidenced by the fact that some of the country's competitive SMEs are located in Kampala), management competence, and so on. In the spirit of the resource-based view, resources such as management proactiveness and ICT usage are bound to create sustained competitive advantages (Hanafizadeh & Tavakoli, 2025) and, as a result, superior organisational performance and organisational resilience (Mehmood *et al.*, 2023).

Furthermore, Paauwe (2024) argued that resource-based theory focuses on firm-specific capabilities that drive superior performance. In particular, appropriate management proactiveness and ICT use are predicted to promote organisational resilience. As a result, enterprises must focus on developing and deploying resources to capitalise on market opportunities to boost SMEs' competitiveness (Tariq, 2025). Resource-based theory is the origin of long-term competitive advantage (Paauwe, 2024). The ability of enterprises to secure specific resources to develop uniqueness is central to sustaining competitive advantage.

Similarly, RBV characteristics include value, rarity, imitability, and non-substitutability and lead to firm excellence. The four qualities are regarded as strategic instruments to support structural design and work process decisions, enabling the development of advantages and efficient adaptation to the environment. Furthermore, organisations have focused on strengthening internal management and acquiring external information to modify and implement effectively, meeting consumer needs. According to resource-based theory, a firm's resources are the primary determinants of its performance and contribute to the firm's long-term competitive advantage (Robb *et al.*, 2024). These resources enable the organisation to conceive of and implement strategies that improve its efficiency and effectiveness (Robb *et al.*, 2024). The practical application of Management Pro-activeness and ICT usage as organisational resources enables institutions to remain in operation irrespective of the situation at hand. SMEs need the ability and adaptability to use resources (such as technology, structural, and relational) effectively to resolve issues as they arise (Kahveci *et al.*, 2025). This differentiates resilient organisations from less resilient ones. In this case, therefore, Management Pro-activeness and ICT usage are critical to influencing organisational resilience.



Methodology

The study adopted a cross-sectional design and used a quantitative approach. A cross-sectional study design was chosen because the data collected relate to a single specified time point and because various groups can be studied at the same time point (Hunziker & Blankenagel, 2024). A quantitative approach was applied to collect data using a self-administered questionnaire because it enables the researcher to obtain numerical data to explain, predict, and control phenomena of interest, and then subject this data to statistical analysis. According to Turinawe (2023), Kampala Capital City has about 133,663 business establishments, of which about 64% are SMEs. This, therefore, means that a population of about 85,544 SMEs was considered. The unit of analysis comprised SMEs operating in Kampala Capital City, while data were collected from those best informed about day-to-day operations—the firms’ owners and managers.

Sampling and Sample Size

The researcher used simple random sampling to select respondents for the study. This was used because it allows the researcher to select any SME and ensures that all respondents in the population have an equal chance of being selected. Simple random sampling is easy to apply and minimises the risk of bias (Kumar & Praveenakumar, 2025). The sample size was 384 SMEs, determined using the Krejcie and Morgan (1970) table. The study obtained views from Owners or owner-managers because they have the most accurate information about operations in their respective SMEs. The study used primary data sources during the analysis and interpretation of findings. The researcher collected original, fresh data from respondents who are the owners and employees of the respective SMEs. The information was directly obtained from the targeted respondents. This primary source was preferred to ensure that recent information about each subject matter is obtained.

Data was collected using a closed-ended questionnaire. The researcher received a letter from Makerere University Business School (FGRS offices) after successfully addressing the corrections to the submitted proposal. The researcher presented the letter to the respective authorities at the SMEs’ offices. Once the respective heads allowed the research, the researcher collected data using a self-administered closed-ended questionnaire and interviews. The questionnaire asked respondents to indicate the degree to which they agreed or disagreed with the statements provided to examine the various concepts under study. The questionnaire was distributed among individuals in different SME firms. Table 1 illustrates the measurement of variables:

Table 1: Measurement of Variables

Variable	Dimensions	Author
Organisational Resilience	Adaptability Situational awareness Vulnerability responsiveness Organizational competitiveness Organizational value	Butkus <i>et al.</i> (2024), Huang, Yang and Yang (2024)

ICT Usage	Perceived ease of use Usefulness Attitude	Opatha and Dooradarshani (2024)
Management Proactiveness	Opportunity seeking Anticipation of future demand Risk Management	Yu <i>et al.</i> (2024)

All variables and sub-variables were anchored on a six-point Likert scale ranging from 1=strongly disagree, 2=disagree, 3=slightly disagree, 4=slightly agree, 5=agree, and 6=strongly agree.

Validity and Reliability of the Research Instruments

To ensure the validity of the data collection instruments, the researcher subjected them to the scrutiny of experts, practitioners, and supervisors. They were asked to state whether each item was relevant. They were asked to check for language and clarity of the questions. Once this was done, the researcher adjusted the data collection instruments in accordance with the supervisors' advice. The content validity index was calculated, and all variables yielded CVI values above 0.7, enabling the researcher to proceed to the next level of data collection and to test for reliability. Table 2 represents the validity of the study instrument:

Table 2: Validity of Research Instrument

Variable	No of original Items	Retained Items	CVI (No of Retained Items/ No of Original Items)
Management Proactiveness	27	26	.963
Ict Usage	26	24	.923
Organisational resilience	32	27	.844
Overall	85	77	.906

Source: Primary Data

Reliability

To ensure that the survey questionnaire is reliable and consistent, a reliability test was conducted in this study. An instrument is reliable if it produces the same results when repeatedly used to measure the same traits or concepts across the same respondents, even by other researchers (Singh & Quandt, 2024). The questionnaire variables yielded a Cronbach's Alpha coefficient of 0.7 or higher. Table 3 clearly depicts the reliability statistics for the variables, Cronbach's alpha values, and the number of Items.

Table 3: Reliability Statistics

Variable	Cronbach's Alpha	N of Items
Management Proactiveness	.773	26
ICT Usage	.938	24
Organisational resilience	.811	27



Source: System-generated data**Data Analysis, Interpretation and Presentation**

The quantitative analysis used Tables, in which data were summarised as percentages, averages, and frequencies. The raw data were edited, organised into groups, and analysed using the Statistical Package for the Social Sciences (SPSS) software (Version 23). Correlations and regressions were used to test the research questions. Demographic characteristics were analysed as percentages. Demographic analysis measured the dimensions and dynamics of the population and was used to describe characteristics relevant to this study. Descriptive statistics were presented in percentages, mean, and standard deviation. Descriptive statistics helped present the data more meaningfully, enabling straightforward interpretation. They showed how the data was spread across the entire dataset. Relationships between variables were presented using correlation analysis. Correlation analysis was used to study the strength of the relationship between two variables. This was done by calculating the Pearson correlation coefficient to indicate the magnitude and direction of the association. Regression analysis was used to predict the behaviour of the dependent variable from the independent variable. Regression analysis was used to determine which independent variable is most important. MedGraph was used to illustrate the mediation graphically and to determine the direct, indirect, and total effects of all variables.

Ethical considerations

Full consent was obtained from the participants before the study, the protection of the privacy of research participants was ensured, adequate level of confidentiality of the research data was also ensured, anonymity of individuals and organizations participating in the research was ensured, any deception or exaggeration about the aims and objectives of the research were avoided, affiliations in any forms, sources of funding, as well as any possible conflicts of interests were declared, any communication about the research was done with honesty and transparency, any misleading information, as well as representation of primary data findings in a biased way was avoided.

Findings

This section envisages the respondents' results: their interpretations and discussions. The demographic information, correlation, regression, and mediation interpretations are presented. The response rates are presented in Table 4:

Table 4 Response Rate

Distributed questionnaire	Answered questionnaires Returned	Response rate $\left(\frac{\text{Returned questionnaire}}{\text{Distributed questionnaires}} * 100 \right)$
384	231	$\frac{231}{384} = 60.2$

Source: Primary data

Table 4 indicates that of the 384 questionnaires distributed, 231 were returned, yielding a response rate of 60.2%. The respondents' background information is presented in Table 5:

Table 5: Background information of respondents

VARIABLE	FREQUENCY	PERCENT	VALID PERCENT
A Gender			
Male	140	60.6	61
Female	91	39.4	39
Total	231	100.0	100
B Age			
18 – 30	93	40.3	42
31 – 40	92	39.8	41
41 – 50	23	10.0	11
51 – 60	11	4.8	5
above 61	1	.4	1
Total	220	95.2	100
System	11	4.8	
Total	231	100.0	
C Highest level of education			
High School or Lower	22	9.5	11
Diploma and below	116	50.2	58
Bachelors	55	23.8	28
Masters	7	3.0	3
Total	200	86.6	100.0
System	31	13.4	
Total	231	100.0	
D Years of working in an organisation			
1 - 4	62	26.8	30
5 – 10	99	42.9	49
11 – 15	27	11.7	13
16 and above	16	6.9	8
Total	204	88.3	100.0
System	27	11.7	
Total	231	100.0	

Source: Primary data

Gender: Table 5 indicates that the majority (61%) were male respondents. Meaning that SMEs employed both males and females, but the males contributed largely to this study. **Age:** Table 2 indicates that the majority (42%) of respondents were in the 18-30 age bracket, followed by those in the 31-40 age bracket. that represent 41%. This implies that the youth participated more actively in this study than other categories.

Highest level of education



Results at the highest level of education indicate that the majority (58%) of respondents held a diploma. This implies that this category was dominant in this study. It also implies that respondents were able to read and interpret the questionnaire statements.

Years of working in an organisation

Statistical results in Table 5 indicate that the majority (49%) of respondents had worked for the entities for 5-10 years, followed by those who had worked for 1-4 years (30%). Table 6 presents the firm's characteristics:

Table 6: Firm Characteristics

VARIABLE		FREQUENCY	PERCENTAGE	VALID PERCENTAGE
E	Size of the Business			
	Small	135	58.4	60.8
	Medium	87	37.7	39.2
	Total	222	96.1	100.0
	System	9	3.9	
	Total	231	100.0	
F	Age of SME Business			
	5 and below	57	24.7	26.9
	6 – 10	92	39.8	43.4
	11 – 15	28	12.1	13.2
	16 – 20	23	10.0	10.8
	20 and above	12	5.2	5.7
	Total	212	91.8	100.0
	System	19	8.2	
	Total	231	100.0	
G	Location of the Business			
	Home	3	1.3	1.5
	Informal Premises	36	15.6	18.5
	Formal Premises	156	67.5	80.0
	Total	195	84.4	100.0
	System	36	15.6	
	Total	231	100.0	
H	Number of employees			
	5 – 9	107	46.3	53.8
	10 – 29	53	22.9	26.6
	30 – 49	27	11.7	13.6
	50 and above	12	5.2	6.0
	Total	199	86.1	100.0
	System	32	13.9	
	Total	231	100.0	

I Ownership or status of Business			
Sole Proprietorship	109	47.2	47.8
Partnership	76	32.9	33.3
Private Company	40	17.3	17.5
Communal Ownership	3	1.3	1.3
Total	228	98.7	100.0
System	3	1.3	
Total	231	100.0	

Source: Primary Data

Results in Table 6 indicate firm characteristics, including size, age, location, number of employees, and employee ownership or status.

Size of the Business

Results in Table 6 indicate that the majority (60.8%) of SMEs participating in the study were small. This implies that small enterprises contributed more to this study than medium enterprises.

Age of SME Business

Results in Table 6 indicate that many SMEs (43.4%) had been in existence for 6-10 years, followed by those that had existed for 5 years or less (26.9%). This implies that many SMEs exit the market due to challenges in their businesses.

Location of the Business

In Table 6, the results indicate that the majority of SMEs (80%) were located in formal premises. This implies that they were operating legally.

Number of employees

Results in Table 3 indicate that the Majority of SMEs (53.8%) employed 5–9 employees. This implies that small enterprises participated more than medium enterprises in this study. This is because the parameter used to measure the size of participating enterprises was the number of employees.

Ownership or status of Business

Results in Table 4 indicate that the majority (47.8%) of SMEs were sole proprietorships, followed by partnerships (33.3%). This implies that these two categories participated more in this study than other firms. Table 7 below represents the relationship between variables.

Table 7: Correlation Results

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
MP (1)	4.1	.41	1								
OS (2)	4.3	.57	.785**	1							
RM(3)	3.6	.65	.708**	.223**	1						
	25	7									



AFD(4)	4.580	.436	.724**	.566**	.199**	1					
IU(5)	4.573	.398	.574**	.551**	.180**	.623**	1				
PEU(6)	4.459	.527	.448**	.402**	.169*	.483**	.889**	1			
PU(7)	4.674	.420	.547**	.536**	.135*	.635**	.911**	.699**	1		
A(8)	4.587	.397	.551**	.556**	.175**	.561**	.865**	.606**	.752**	1	
OR(9)	4.471	.330	.599**	.605**	.257**	.507**	.642**	.502**	.624**	.603**	1

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

MP-Management Proactiveness, OS-Opportunity seeking, AFO- Anticipation of Future Orientation, RM-Risk Management, IU- ICT Usage, PEU Perceived ease of use, PU- Usefulness, A-Attitude and OR-Organisational resilience

Source: System-generated Results

Management proactiveness and organisational resilience

The correlation results in Table 7 indicate a significant positive association between Management proactiveness and organisational resilience among SMEs in Kampala Capital City ($r = .599$; $p < .01$). This implies that improvements in Management proactiveness are associated with increases in organisational resilience. Results further indicate that all dimensions of management proactiveness (Opportunity Seeking (.605**), Risk Management (.257**), and Anticipation of future demand (.257**) have significant positive associations with organisational resilience.

Management proactiveness and ICT usage

The correlation results in Table 7 indicate a significant positive association between Management proactiveness and ICT usage among SMEs in Kampala Capital City ($r = .574$; $p < .01$), suggesting that higher Management proactiveness is associated with greater ICT usage. Results further indicate that all dimensions of management proactiveness (Opportunity Seeking (.551**), Risk Management (.180**), and Anticipation of future demand (.623**) have a significant positive association with ICT Usage.

ICT usage and organisational resilience

The correlation results in Table 7 indicate a significant positive association between ICT Usage and organisational resilience among SMEs in Kampala Capital City ($r = .642$; $p < .01$), suggesting that increases in ICT usage are associated with increases in organisational resilience. Results further indicate that all dimensions of ICT usage (Perceived ease of use (.502**), Perceived Usefulness (.624**) and Attitude (.603**) have a significant positive association with organizational resilience.

Regression Results

Table 8 presents regression Results, with Unstandardised Coefficients, standardised coefficients, and Collinearity Statistics.

Table 8: Regression Results

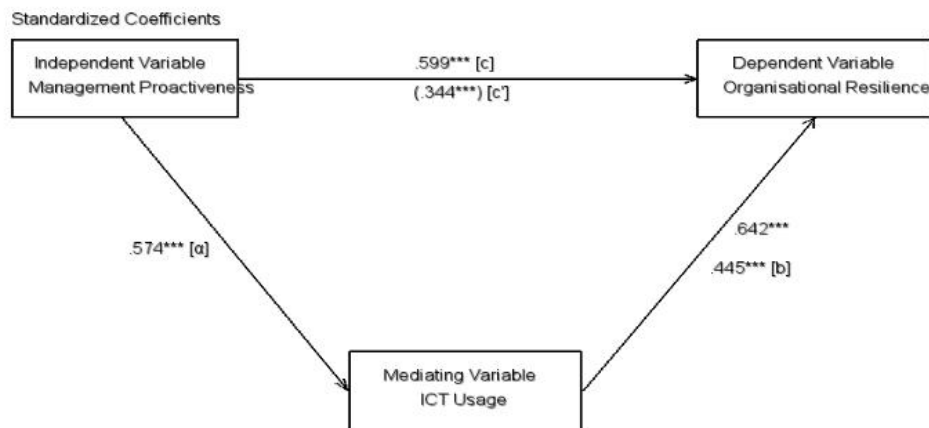
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.633	.192		8.499	.000		
Management Proactiveness	.276	.046	.344	5.966	.000	.671	1.490
ICT Usage	.368	.048	.445	7.710	.000	.671	1.490
R		.701					
R Square		.491					
Adjusted R-Square		.487					
Std. Error of the Estimate		.23623					
R Square Change		.491					
F Change		110.113					
Sig. F Change		.000					
F		110.113					
Sign		.000					

a. Dependent Variable: Organisational Resilience; b. Predictors: (Constant), ICT Usage, Management Proactiveness

Source: System-generated Results

Regression results in Table 8 indicate that the model is good at predicting organisational resilience ($F=110.113$; $Sign=.000$). Results also indicate that all predictors (Management Proactiveness ($Beta=.344$; $p=.00$) and ICT Usage ($Beta=.445$; $p=.00$) in the model contribute significantly to organisational resilience. In terms of model fit, the results further indicate that, in totality, all predictors in the model explain up to 48.7 per cent of the variation in organisational resilience (Adjusted R Square = .487). The remaining 51.3 per cent can be attributed to other factors not included in the model. Figure 1 illustrates the system-generated medGraph of the mediating results:

Significance of Mediation		Significant
Sobel z-value	6.230537	$p < 0.000001$
95% Symmetrical Confidence Interval		
Lower	.14024	
Upper	.26897	
Unstandardized indirect effect		
a*b	.20461	
se	.03284	
Effect size Measures		
Standardized Coefficients		
Total:	.599	
Direct:	.344	
Indirect:	.255	
Indirect to Total Ratio:	.426	



Source: System-generated results
Figure 1: MedGraph Shows Mediating Results

Mediation results in Figure 1 indicate a significant effect of management proactiveness (Beta = .599; $p < .01$) and ICT usage (Beta = .642; $p < .01$) on organisational resilience, and also a significant influence of management proactiveness on ICT usage. This indicated that the model passed the mediation test. When ICT usage was controlled, the effect of management proactiveness on organisational resilience decreased (from $c = .344^{***}$ to $c1 = .344^{***}$, as indicated in Figure 1 above), but remained significant. This condition indicates a partial mediation. This therefore implies that management proactivity can directly or indirectly influence organisational resilience through ICT use. This is confirmed by a Sobel test, which indicated a significant indirect effect (Beta = .255; $p < .000001$).

Discussion of Findings

Management Proactiveness and Organisational Resilience among SMEs

The analysis of the results revealed a strong, positive relationship between managerial proactiveness and organisational resilience among SMEs in Kampala: higher levels of proactiveness were associated with greater resilience (Lin, Wu & Luo, 2025). Each dimension of proactiveness—opportunity seeking, risk management, and anticipation of future demand—was likewise positively and significantly linked to resilience. These results mirror earlier findings: Fidelia and Onuoha (2024) reported the same association in Nigerian mobile-telecommunications firms; Ufua et al. (2020) observed it across Nigerian SMEs; and Liu et al. (2024) showed that managerial proactiveness, when coupled with information technology, enhances net-enabled organisational resilience. Fidelia and Onuoha’s (2024) study of food-

and-beverage manufacturers in South-South Nigeria further corroborates the pivotal role of proactiveness in fostering resilience.

In a related study by Ogundare and Van der Merwe (2024) on the proactiveness and survival of small and medium-scale enterprises in Nigeria, results revealed a statistically significant positive association between proactiveness and survival. Lastly, the study carried out by Adum et al. (2024) on Pro-Activeness and Organisational Sustainability of Selected Manufacturing Firms in Anambra State found that proactiveness is significantly associated with sustainability dimensions, including resilience. It was also revealed in the study conducted by Eichholz, Hoffmann, and Schwering (2024), examining leadership capabilities, risk management practices, and organisational resilience: A case of state-owned enterprises in Indonesia, that risk management is significantly associated with organisational resilience. The empirical results support the view of Tessema and Birhane (2024) who suggest that proactiveness as an attribute of persons within the organisation enables active thinking and planning, which reflects change positioning and responsiveness and as such contributes toward improved outcomes of organisational resilience, such as adaptability, situation awareness and the management of vulnerabilities. Those arguments and empirical findings clearly show that managerial proactiveness plays a vital role in ensuring organisational resilience. Therefore, SME management needs to be proactive in the Ugandan context.

Management Proactiveness and ICT Usage

The correlation results in Table 4 show a significant positive association between Management proactiveness and ICT usage among SMEs in Kampala Capital City. This implies that improved management proactivity is associated with increased ICT usage. Additionally, results indicate that, post, all dimensions of management proactiveness (Opportunity Seeking, Risk Management, and Anticipation of future demand) are significantly positively associated with ICT Usage (Eichholz, Hoffmann, and Schwering, 2024). The result of this study aligns with the view of Sharif et al. (2024), who posited that pro-activeness is critical for businesses to sense and discover IT-enabled opportunities in uncertain environments. Sharif *et al.* (2024) also argued that management pro-activeness can facilitate the proactive adoption of innovative e-business solutions, enabling rapid response and operating in new ways to continue doing business and minimise the effects of uncertainties on supply chains. According to Yazo-Cabuya, Ibeas, and Herrera-Cuartas (2024), risk management is a global issue, and failure to adequately manage its organisational outcomes affects it. The use of ICT for risk management has become a growing concern for business owners and researchers. In this regard, the use of ICT in risk management is vital and should not be underestimated. It is worth noting that ICT cuts across all sectors, including that of agriculture (Rajpoot *et al.*, 2024; Qi *et al.*, 2024). At the time this research was conducted, no empirical studies contradicting the current findings were found. This triggers further studies in other contexts.

ICT Usage and Organisational Resilience

Correlation results indicate a significant positive association between ICT Usage and organisational resilience among SMEs in Kampala Capital City. This implies that increased ICT use is associated with greater organisational resilience. Moreover, results indicate that all dimensions of ICT usage (Perceived ease of use, Perceived Usefulness, and Attitude) are



significantly positively associated with organisational resilience. Furthermore, the study by Al-Omouh, Ribeiro-Navarrete, and MCDowell (2023) revealed that ICT usage significantly affects organisational resilience during crises among telecommunication companies in Jordan. The results of this study also align with the literature of previous scholars; for example, Wided (2025) argues that efficient ICTs are necessary to reduce ambiguity, uncertainty, and information saturation, thereby improving organisations' resilience. ICT could help SMEs to overcome some key barriers to business development and growth (Asaithambi *et al.*, 2024). Additionally, Asaithambi and others assert that ICT applications can help SMEs with limited resources improve business efficiency and liquidity and reduce transaction costs. The introduction of ICT in organisations enhances the proper utilisation of resources, reduces workload, and increases efficiency and productivity (Qi *et al.*, 2024), thereby contributing to organisational resilience.

Indeed, Ambarwati, Dijaya, and Anshory (2024) posit that ICT is enhanced by leveraging the extraordinary potential to interconnect business processes and stakeholders, thereby enabling better monitoring of business activities, improving organisation and coordination, and enhancing the quality of work and responsiveness to varying market conditions. In contrast, a similar study by Liu *et al.* (2024) found no significant influence of ICT on organisational resilience among firms operating in Italy and Germany. This could be due to rapid changes and the high level of competition that occur continuously around the globe, which forces telecom companies to exit the market due to the high costs of maintaining standards.

Management Proactiveness, ICT Usage and Organisational Resilience

Multiple regression results indicate that all predictors (Management proactiveness and ICT usage) in the model explain up to 48.7 per cent of the variation in organisational resilience. Similarly, mediation results indicated a partial mediation. This implies that management proactiveness influences organisational resilience directly or indirectly through ICT usage. This was confirmed by a Sobel test, which indicated a significant indirect effect.

The findings of this study align with the literature suggested by previous scholars (such as Krotzeno, Afuzova, & Naydonova, 2024; Araque-Hontangas, 2024). Also, Krotzeno, Afuzova, and Naydonova (2024) and Kagoya (2020) contend that efficient ICTs are necessary for decision-making to reduce ambiguity, uncertainty, and information saturation. Moreover, Araque-Hontangas (2024) argues that ICTs support business promotion and strategic positioning and that firms adopt a more aggressive stance to be the first to capture the market because the technology acceptance model directly enhances proactivity toward new technology, which, in turn, affects firms' resilience. The empirical evidence on the mediating role of ICT usage in the relationship between management proactiveness and organisational resilience has been scanty. This makes the study particularly relevant to SMEs in a developing economy like Uganda.

Conclusion, Limitations of the study and Areas for Future Studies

Small and Medium-sized Enterprises (SMEs) in both industrialised and developing nations, such as Uganda, are regarded as the engines of economic growth (Eton *et al.*, 2021). However, they are vulnerable to various environmental uncertainties, including economic shocks and the adverse effects of the recent COVID-19 pandemic. Therefore, this study contributes to the

existing literature by examining the relationship between management proactiveness, ICT usage, and organisational resilience among SMEs in Kampala Capital City. This study concurs with previous studies, which found a significant relationship among management proactiveness, ICT usage, and organisational resilience. SMEs need to act for the future rather than wait for certain things to happen. ICT usage is a vital element in influencing (mediating) the relationship between management proactiveness and organisational resilience. Therefore, SMEs need to adopt technology (ICT) to streamline work methods and processes, enabling them to reduce resource wastage and time. If all those are put in place, SMEs can continue to operate even during times of uncertainty.

The limitations of the study include results that further signal that, in totality, all predictors in the model explain up to 48.7 per cent of the variation in organisational resilience (Adjusted R Square = .487). The remaining 51.3 per cent can be attributed to other factors not included in the model. As this study was limited to a quantitative research approach, there is a need for a qualitative approach to obtain respondents' individual opinions on the subject matter, or for a mixed-methods approach to facilitate generalisation of findings. Moreover, this study was limited to SMEs in Kampala; future studies should examine large enterprises and compare findings. The study limited data collection to questionnaires in the cross-sectional survey; future researchers should employ other techniques to examine similarities and differences in the findings. The study was further limited to the three variables in the model, which explain 48.7 per cent of the variation in organisational resilience, leaving 51.3 per cent unexplained. This necessitates further studies to investigate the remaining factors excluded from the model (such as leadership style, external support, and digital literacy) to enrich the findings and increase predictive power. Since the study focused on SMEs in Kampala Capital City alone, further studies should cover other regions of the country to provide a more representative sample of SME resilience. Finally, future studies should compare Uganda with other countries to examine the differences and similarities.

Implications and Recommendations of the Study

SME stakeholders and policymakers should endeavour to employ advanced technologies, informed by the TAM and UTAUT theories, to enhance production processes, enabling faster production at a relatively low average cost. Policy makers should also endeavour to formulate policies that aid risk management and establish a department that can easily forecast risks and dangers that may affect firms' operations, markets, and competitiveness. Moreover, all stakeholders of SMEs should ensure they are sufficiently creative, especially in their approach to work methods and processes. This can help SMEs bounce back regardless of operational challenges. Furthermore, SME owners and Managers should ensure that employees who use available technologies have a positive attitude towards them and are open to learning and adapting to new technologies. Also, implicitly, the three theories (TAM, UTAUT, and resource-based theory) work in concert mediate the relationship between management proactiveness and organisational resilience among SMEs in Kampala Capital City.

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