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Barriers to Adopting Artificial Intelligence Tools Among Small and Medium Enterprises (SMEs) in Somalia

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Abstract
Artificial intelligence (AI) offers significant opportunities to improve efficiency and competitiveness in small and medium enterprises (SMEs), yet adoption among Somali SMEs remains limited. This paper examines the key barriers affecting the adoption of AI tools among SMEs in Mogadishu, Somalia, focusing on financial constraints, the digital skills gap, and awareness of AI tools. A quantitative, descriptive-correlational design was used, and data were collected through a structured, pilot-tested questionnaire administered to 70 SME owners and managers across the retail, service, and hospitality sectors. The data were analyzed using descriptive statistics, reliability testing, Pearson correlation, and multiple linear regression. All four constructs demonstrated strong internal consistency (Cronbach's alpha between 0.846 and 0.888). The results show that AI adoption among the sampled SMEs remains low, with fewer than half of the respondents reporting current use of any AI tool. Financial constraints and the digital skills gap were negatively associated with AI adoption, whereas awareness of AI tools was positively associated with adoption; awareness emerged as the strongest predictor when all three barriers were considered jointly. The regression model explained approximately 26% of the variance in adoption levels. These findings suggest that limited awareness, rather than cost or skills alone, may be the most influential barrier constraining AI adoption among Somali SMEs. The paper recommends that policymakers, educational institutions, and ICT service providers prioritize awareness-building initiatives alongside affordable pricing and accessible digital skills training. The findings contribute context-specific evidence from a fragile, post-conflict economy, a setting largely absent from existing AI adoption research, and offer a practical foundation for future policy and research targeting Somalia's SME sector.

Keywords: Artificial intelligence adoption; SMEs; Financial constraints; Digital skills gap; Awareness; Somalia

1. Introduction

Artificial intelligence (AI) is increasingly recognized as one of the most transformative technologies available to modern businesses. In the era of the Fourth Industrial Revolution, the rapid evolution of digital technologies has reshaped the landscape of global business operations, and AI stands out as a transformative force that offers unparalleled opportunities for innovation, efficiency, and competitive advantage (Soomro et al., 2025). Small and medium enterprises (SMEs) represent the backbone of economies worldwide, and Somalia is no exception. Following Somalia's economic collapse in 1992, citizens made significant efforts to launch small-scale businesses, creating jobs, building new infrastructure, and eventually

founding lasting companies (Arab, 2025). This underscores the central role that SMEs continue to play in the country's economic recovery.

Despite AI's global momentum, its adoption among SMEs, particularly in developing economies, remains limited and often unsuccessful (Sánchez et al., 2025). Prior research attributes this gap to a combination of technological, organizational, and environmental barriers. SMEs often struggle to capitalize fully on AI technologies because of limited awareness, scarce financial and human resources, a shortage of skilled workers, and concerns over data privacy and security (Soomro et al., 2025). These barriers appear to affect SMEs disproportionately compared with larger firms, which typically have greater financial and technical capacity to absorb the costs and risks of new technology.

This gap is particularly evident in Mogadishu, where a growing number of small businesses operate across retail, services, and trade, yet few have integrated AI-based tools into their daily operations. Understanding why this gap exists matters not only for individual business growth but also for Somalia's broader digital and economic development, given how central SMEs already are to the country's post-conflict recovery (Arab, 2025).

This paper argues that three barriers are central to explaining this limited adoption: financial constraints, a gap in digital skills, and low awareness of available AI tools. High implementation costs, covering software, hardware, and staff training, often discourage SME owners from investing in new technology, particularly where access to credit and financing is already limited (Sánchez et al., 2025). Similarly, a shortage of digital skills among business owners and employees can prevent the effective use of AI tools even where they are technically accessible (Sánchez et al., 2025). Finally, many SME owners may simply be unaware that relevant AI tools exist or unclear about how such tools could benefit their operations.

These three barriers align with constructs from established technology adoption theories, including the Technology Acceptance Model (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), both of which link perceived ease of use, perceived usefulness, and facilitating conditions such as cost and skills to an individual's or organization's intention to adopt new technology.

Existing studies on AI adoption have focused mainly on developed economies or large organizations, and studies examining AI adoption among SMEs in fragile and post-conflict economies such as Somalia remain scarce. Furthermore, little is known about how financial constraints, digital skills, and awareness jointly influence AI adoption among Somali SMEs. This study addresses this gap by examining the influence of these three barriers on AI adoption among SMEs in Somalia. The findings are expected to inform policymakers, educational institutions, and ICT service providers on how to better support the digital transformation of Somali SMEs.

The general objective of this paper is to examine the key barriers affecting the adoption of AI tools among SMEs in Somalia. It is guided by three specific objectives: (1) to examine the influence of financial constraints, (2) to examine the influence of the digital skills gap, and (3) to examine the influence of awareness of AI tools on AI adoption among SMEs.

2. Literature Review

2.1 Theoretical Framework

This paper is anchored in two established technology adoption theories: the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). TAM proposes that an individual's intention to use a technology is shaped primarily by its perceived usefulness and perceived ease of use (Davis, 1989). UTAUT extends this view by incorporating performance expectancy, effort expectancy, social influence, and facilitating conditions, such as cost, infrastructure, and skills, as joint predictors of technology adoption (Venkatesh et al., 2003). Together, these models justify treating financial constraints, digital

skills, and awareness as legitimate predictors of AI adoption, since each maps onto a facilitating condition or a perceived ease-of-use construct central to both theories.

2.2 Financial Constraints and AI Adoption

Cost is consistently identified as one of the most significant barriers to AI adoption among SMEs. Sánchez et al. (2025) found that high implementation costs and system complexity are major technological barriers restricting AI uptake among SMEs in developing economies. Similarly, Ivchyk (2024) noted that SMEs often struggle to capitalize on AI because of scarce financial resources, even where the potential efficiency gains are well understood. Ayinaddis (2025), reviewing 78 peer-reviewed studies on AI adoption, identified financial readiness as one of ten recurring dimensions distinguishing SMEs from larger firms, with smaller enterprises consistently reporting a weaker capacity to absorb upfront technology costs. This pattern is also evident in Nigeria: Sadiq et al. (2022), studying ICT adoption among 322 Nigerian SMEs, found that limited financial resources, including a lack of funds for implementation, were among the strongest barriers to technology integration in resource-constrained business environments. These findings support treating financial constraints as a central barrier in the Somali SME context, where access to credit and formal financing is similarly limited.

This finding is consistent with UTAUT, which recognizes facilitating conditions, including financial resources, as important determinants of technology adoption.

2.3 Digital Skills Gap and AI Adoption

A shortage of digital skills is widely documented as a second major obstacle. Soomro et al. (2025) found that limited technical expertise and a shortage of skilled workers prevent SMEs from translating AI's potential into actual use. Sánchez et al. (2025) similarly identified limited digital literacy and the lack of a skilled workforce as key organizational barriers to AI adoption. At the regional level, Akoh (2024) documented a persistent and measurable digital skills gap across African economies relative to other regions, showing that this shortage constrains firms' ability to adopt digital technologies broadly, not only AI. Sadiq et al. (2022) reinforced this at the firm level, finding that Nigerian SMEs with weaker in-house ICT skills relied heavily on external vendors and consultants, a dependency that slows adoption and raises its effective cost. Taken together, these findings suggest that the digital skills gap operates both as a direct barrier (employees cannot operate the tools) and as an indirect one (skills shortages inflate the practical cost of adoption).

These findings also support TAM, in which perceived ease of use depends partly on users' knowledge and technical capability.

2.4 Awareness of AI Tools and AI Adoption

Awareness is theoretically grounded in the Diffusion of Innovations theory, which identifies knowledge, that is, simply becoming aware that an innovation exists, as the first and necessary stage that an adopter must pass through before persuasion and decision (Yuxuan & Wan Hussain, 2025). Without such awareness, a potential adopter cannot meaningfully evaluate a technology's cost or skill requirements at all. Empirical work across developing economies supports this sequencing. In a study of Malaysian SMEs, Lada et al. (2023) found that awareness is one of the most significant determinants of technology adoption and that information dissemination campaigns are important levers for increasing uptake where general digital literacy is low. More recently, Chandani et al. (2025), using an interpretive structural modeling approach to analyze SME adoption barriers, similarly concluded that firms must first be aware of and understand how a technology can be applied before adoption becomes possible.

At the country level, Olayinka and Wynn (2022) studied digital transformation among small business enterprises in Nigeria and found that owners with greater IT awareness were markedly more proactive in deploying digital technologies, whereas those with little or no awareness typically needed to be persuaded by others before adopting. In the fintech domain specifically, Hornuf et al. (2025), in a systematic review and meta-analysis of mobile fintech adoption across sub-Saharan Africa, identified awareness as one of the consistent diffusion-related determinants of adoption, alongside relative advantage and compatibility.

Most directly relevant to the present study, Elmi et al. (2025) examined financial technology adoption among SMEs in Mogadishu, Somalia, and found that many SME owners had little or no awareness of the financial tools and sources available to them, a gap the authors linked to low financial and digital literacy in the local business environment. This Somalia-specific evidence reinforces the plausibility of awareness as a binding barrier in the context of the present study, rather than one imported solely from other regions.

Awareness is conceptually distinct from the skills gap discussed in Section 2.3: a business owner may possess adequate digital literacy yet remain unaware that a relevant AI tool exists or how it could apply to their specific operations. Given Somalia's comparatively nascent formal ICT training infrastructure, awareness may plausibly function as a gating barrier that precedes both cost and skills considerations, because an SME cannot weigh the cost or skill requirements of a tool it does not know exists.

Awareness also influences perceived usefulness, a key construct in TAM, because organizations are unlikely to adopt technologies whose benefits they do not recognize.

2.5 Research Gap

While a substantial body of research now examines barriers to AI and technology adoption among SMEs in developing economies (Sánchez et al., 2025; Soomro et al., 2025) and in Africa more broadly (Amankwah-Amoah & Lu, 2024; Sadiq et al., 2022), as well as in other sectors such as health care (Hassan et al., 2024) and African higher education (Maluleke, 2025), no identified study has empirically examined these barriers among SMEs specifically within Somalia. Existing research on Somali SMEs has instead focused on their general economic contribution (Arab, 2025) or on financial technology adoption (Elmi et al., 2025), leaving AI-specific adoption barriers unexamined. Addressing this gap is important because context-specific evidence is necessary to develop effective policies and interventions for promoting AI adoption among Somali SMEs. Based on the reviewed literature and the identified research gap, the following conceptual framework and hypotheses are proposed.

2.6 Conceptual Framework

Building on the theoretical foundation of TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003) and on the empirical patterns identified in the literature review, this paper proposes a conceptual framework in which three independent variables (financial constraints, digital skills gap, and awareness of AI tools) are hypothesized to influence a single dependent variable: the level of AI adoption among SMEs in Somalia. Figure 1 illustrates this relationship.

As shown in Figure 1, each barrier is treated as a distinct predictor rather than as a component of a single composite construct, allowing the study to isolate the relative contributions of cost, skills, and awareness to adoption outcomes. This structure directly mirrors the study's three hypotheses:

- **H1:** Financial constraints have a significant negative effect on the adoption of AI tools among SMEs in Somalia.
- **H2:** The digital skills gap has a significant negative effect on the adoption of AI tools among SMEs in Somalia.

- **H3:** Awareness of AI tools has a significant positive effect on the adoption of AI tools among SMEs in Somalia.

The framework deliberately keeps the model simple and additive rather than testing interaction effects among the three barriers. This is appropriate for an exploratory quantitative study, as it keeps the required statistical analysis (correlation and multiple regression) within a manageable and interpretable scope while still allowing each hypothesis to be tested independently against the dependent variable.

Figure 1: Conceptual Framework of the Study

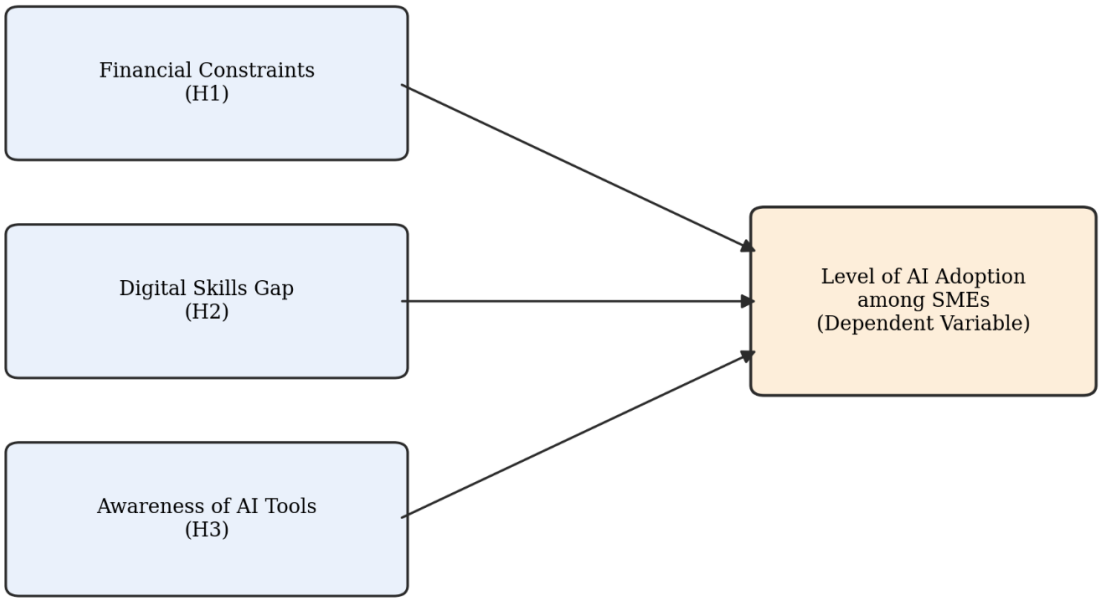


Figure 1: Conceptual Framework of the Study

3. Data and Method

3.1 Research Design

This paper adopts a quantitative, descriptive-correlational research design using a cross-sectional survey. This design is appropriate because the study measures the current level of AI adoption among SMEs and statistically tests the direction and strength of the relationships between three independent variables (financial constraints, digital skills gap, and awareness of AI tools) and one dependent variable (level of AI adoption), consistent with the hypotheses stated in Section 2.

3.2 Population and Sampling

The target population consists of SME owners and managers operating in Mogadishu, since this group holds direct decision-making authority over whether a business adopts new technology such as AI tools. Employees were deliberately excluded from the sampling frame, as the study's objectives concern adoption decisions rather than general staff usage.

Because Somalia lacks a centralized, publicly available registry of SMEs, a purposive/convenience non-probability sampling technique was used to select respondents. Using this approach, data were collected from 70 SME owners and managers across business sectors in Mogadishu, including retail/trade, services, and hospitality/food, consistent with the respondent profile captured in Section A of the questionnaire.

A sample of 70 is adequate for testing each hypothesis individually using Pearson correlation, which does not require a large sample to produce reliable results. For the multiple regression analysis testing the combined effect of all three barriers, the commonly applied guideline of $N \geq 50 + 8m$, where m is the number of predictors (Tabachnick & Fidell, 2013), suggests a minimum of 74 respondents for three predictors. At $N = 70$, the sample is marginally below this threshold; this is acknowledged as a limitation of the study in Section 5, although it does not prevent the regression model from being estimated or meaningfully interpreted.

3.3 Research Instrument

Data were collected using a structured, self-administered questionnaire developed for this study. The instrument consists of five sections: (A) business and respondent profile, (B) level of AI adoption (dependent variable), (C) financial constraints, (D) digital skills gap, and (E) awareness of AI tools. Sections B to E use 5-point Likert-scale items (1 = *strongly disagree* to 5 = *strongly agree*), consistent with standard practice in technology adoption research grounded in TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003).

3.4 Data Collection Procedure

Before full distribution, the questionnaire was pilot-tested with a small group of SME owners in Mogadishu to confirm that the items were clearly understood in the local business context. Following the pilot, the questionnaire was distributed to SME owners and managers across the sampled business areas, yielding 70 completed responses that were used in the analysis.

3.5 Validity and Reliability

Content validity was addressed through the pilot test and by grounding each item in the barriers identified in the literature review. Internal consistency reliability was assessed using Cronbach's alpha for each construct (financial constraints, digital skills gap, awareness, and AI adoption), with a threshold of 0.70 or above considered acceptable (Nunnally, 1978).

3.6 Data Analysis

The data were analyzed using descriptive and inferential statistics. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarize the respondent profile and the overall level of AI adoption. Pearson correlation analysis tests the strength and direction of the relationship between each independent variable and AI adoption, directly addressing H1–H3. Multiple linear regression is then used to test the combined predictive effect of the three barriers on AI adoption, following the general model:

$$\textit{AI Adoption} = \beta_0 + \beta_1(\textit{Financial Constraints}) + \beta_2(\textit{Digital Skills Gap}) + \beta_3(\textit{Awareness of AI Tools}) + \varepsilon$$

3.7 Ethical Considerations

Participation was voluntary, and respondents were informed of the study's purpose and of their right to withdraw at any time, consistent with the consent statement included at the start of the questionnaire. No personally identifying information was collected, and all responses were used strictly for academic purposes.

4. Results and Discussion

This section presents the descriptive, reliability, correlation, and regression results for the 70 SME owners and managers sampled in Mogadishu, following the procedure specified in Section 3.6. All Likert items are scored from 1 (*strongly disagree*) to 5 (*strongly agree*). Items D1 and D2 (digital skills gap) were reverse-scored (6 − original value) before analysis because they are worded in the opposite direction to items D3–D5.

4.1 Descriptive Statistics

4.1.1 Respondent Profile

Table 1: Business and Respondent Profile (N = 70)

Variable	Category	*n*	%
A1. Position	Owner	35	50.0
	Manager	35	50.0
A2. Business sector	Retail/trade	23	32.9
	Services	14	20.0
	Hospitality/food	14	20.0
	Manufacturing	8	11.4
	Other	11	15.7
A3. Number of employees	1–4	25	35.7
	5–9	20	28.6
	10–49	15	21.4
	50+	10	14.3
A4. Years in operation	Less than 1 year	13	18.6
	1–3 years	30	42.9
	4–6 years	15	21.4
	More than 6 years	12	17.1
A5. Education level	No formal education	3	4.3
	Primary/secondary	30	42.9
	Diploma	19	27.1
	Bachelor's degree	13	18.6
	Postgraduate	5	7.1
A6. Currently uses an AI tool	Yes	30	42.9
	No	40	57.1

The sample is evenly split between owners and managers and is concentrated in retail/trade and in micro and small firms (1–9 employees). Most businesses have been operating for 1–3 years, and primary/secondary education is the modal education level. Overall, 42.9% (n = 30) of respondents reported already using an AI tool (A6).

4.1.2 AI Tool Adoption

Table 2: AI Tool Adoption: Item Response Distribution and Descriptive Statistics (N = 70)

#	Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	*M*	*SD*
B1	My business currently uses one or more AI-based tools in its daily operations.	14	23	37	13	13	2.87	1.20
B2	AI tools are used regularly (daily or weekly) rather than occasionally in my business.	13	21	33	21	11	2.97	1.19
B3	My business plans to adopt or expand the use of AI tools in the near future.	9	27	27	26	11	3.04	1.16
B4	AI tools have been integrated into key business functions (e.g., marketing, customer service, accounting, inventory).	6	27	30	24	13	3.11	1.12
B5	Overall, my business's level of AI adoption is higher today than it was two years ago.	13	24	30	21	11	2.94	1.20

Note. SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree; *M* = mean; *SD* = standard deviation. Percentages may not sum to 100 because of rounding. Adoption ratings cluster near the midpoint, consistent with the 42.9% baseline usage reported in Table 1; most sampled SMEs have not yet adopted AI tools broadly or regularly.

4.1.3 Financial Constraints

Table 3: Financial Constraints: Item Response Distribution and Descriptive Statistics (N = 70)

#	Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	*M*	*SD*
C1	The cost of purchasing or subscribing to AI tools is too high for my business.	13	17	30	23	17	3.14	1.27
C2	My business lacks sufficient funds to invest in new technology such as AI tools.	6	20	36	24	14	3.21	1.10
C3	Limited access to credit or financing makes it difficult to invest in AI tools.	24	11	24	26	14	2.94	1.39
C4	The cost of training staff to use AI tools is a barrier to adoption.	13	19	27	26	16	3.13	1.26
C5	I would adopt more AI tools if the financial cost were lower.	11	24	26	27	11	3.03	1.20

Note. SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree; *M* = mean; *SD* = standard deviation. Percentages may not sum to 100 because of rounding. Respondents lean toward agreeing that cost and access to financing are barriers, particularly the cost of tools (C1) and the cost of training (C4).

4.1.4 Digital Skills Gap

Table 4: Digital Skills Gap: Item Response Distribution and Descriptive Statistics (N = 70)

#	Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	*M*	*SD*
D1	I have sufficient digital/computer skills to use AI tools effectively.	13	20	20	30	17	3.19	1.30
D2	My employees have sufficient digital skills to use AI tools effectively.	9	19	36	24	13	3.14	1.13
D3	Lack of technical training is a major obstacle to adopting AI tools in my business.	14	19	29	26	13	3.04	1.24
D4	I find it difficult to learn how to use new AI-based software or applications.	23	16	23	26	13	2.90	1.36
D5	My business would adopt more AI tools if staff received proper digital skills training.	16	20	23	23	19	3.09	1.35

Note. SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree; *M* = mean; *SD* = standard deviation. Percentages may not sum to 100 because of rounding.

Items D1 and D2 are shown as originally worded (skill sufficiency); they were reverse-scored only for the composite score, reliability, correlation, and regression analyses in Sections 4.2–4.4.

About two in five respondents (39%) agreed with each of the barrier-framed items (D3 and D4), while 33% and 28% disagreed that they (D1) or their employees (D2), respectively, have sufficient digital skills, indicating a perceived skills gap among a substantial share of the sample.

4.1.5 Awareness of AI Tools

Table 5: Awareness of AI Tools: Item Response Distribution and Descriptive Statistics (N = 70)

#	Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	*M*	*SD*
E1	I am aware of AI tools that could be useful for my type of business.	14	13	30	26	17	3.19	1.28
E2	I understand how AI tools could benefit my business operations.	16	21	31	21	10	2.89	1.21
E3	I have received information or training about available AI tools.	11	17	36	21	14	3.10	1.19
E4	I know where to find reliable information about AI tools relevant to SMEs.	17	19	24	26	14	3.01	1.31
E5	Greater awareness of AI tools would increase the likelihood that my business adopts them.	13	14	39	20	14	3.09	1.20

Note. SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree; *M* = mean; *SD* = standard deviation. Percentages may not sum to 100 because of rounding.
Awareness responses are spread more evenly across the scale than those for the other constructs, suggesting that awareness varies considerably across the sample.

4.1.6 Composite Construct Scores

Table 6: Descriptive Statistics for Composite Construct Scores (N = 70)

Construct	*M*	*SD*	Min	Max
AI adoption (DV)	2.99	0.94	1.20	5.00
Financial constraints	3.09	0.98	1.00	5.00
Digital skills gap	2.94	1.06	1.00	4.80
Awareness of AI tools	3.05	1.03	1.20	5.00

Note. DV = dependent variable.

4.2 Reliability Analysis

Table 7: Cronbach's Alpha for the Study Constructs

Construct	Items	Cronbach's α	α ≥ 0.70
AI adoption	5	0.859	Yes
Financial constraints	5	0.846	Yes
Digital skills gap	5	0.885	Yes
Awareness of AI tools	5	0.888	Yes

All four constructs exceed the 0.70 threshold (0.846–0.888), supporting their internal consistency and justifying the subsequent correlation and regression analyses.

4.3 Pearson Correlation Analysis

Table 8: Pearson Correlations Between the Independent Variables and AI Adoption (N = 70)

Variable	*r*	*p*	Significance (α = .05)
Financial constraints	−0.245	.041	Significant
Digital skills gap	−0.300	.012	Significant
Awareness of AI tools	0.394	< .001	Significant

All three correlations are significant and in the hypothesized direction: financial constraints ($r = -.245$, $p = .041$) support H1, the digital skills gap ($r = -.300$, $p = .012$) supports H2, and awareness ($r = .394$, $p < .001$) supports H3.

4.4 Multiple Linear Regression Analysis

Table 9: Regression Model Summary

R	R^2	Adjusted R^2	*F*(3, 66)	*p*
0.508	0.258	0.225	7.67	< .001

Table 10: Regression Coefficients

Predictor	*B*	*SE*	β	*t*	*p*
Constant	3.263	0.552	—	5.92	< .001

Predictor	*B*	*SE*	β	*t*	*p*
Financial constraints	−0.223	0.102	−0.233	−2.19	.032
Digital skills gap	−0.190	0.096	−0.214	−1.97	.053
Awareness of AI tools	0.318	0.099	0.349	3.22	.002

Note. Dependent variable: AI adoption.

The model is significant, $F(3, 66) = 7.67$, $p < .001$, and explains 25.8% of the variance in AI adoption (adjusted $R^2 = 22.5\%$).
Financial constraints ($B = -.223$, $p = .032$) support **H1**. The digital skills gap ($B = -.190$, $p = .053$) is directionally consistent with **H2** but only marginally significant once the other predictors are controlled for. Awareness ($B = .318$, $p = .002$) is the strongest predictor, strongly supporting **H3**. Awareness therefore appears to be the most influential of the three factors, consistent with the Diffusion of Innovations reasoning presented in Section 2.4.

4.5 Summary of Hypothesis Testing

Table 11: Summary of Hypothesis Testing

Hypothesis	Relationship	Result
H1	Financial constraints (−) → AI adoption	Supported
H2	Digital skills gap (−) → AI adoption	Marginally supported
H3	Awareness of AI tools (+) → AI adoption	Supported

These results should be interpreted in light of the cross-sectional, convenience-sampled design (Section 3.2), which limits causal inference and generalizability beyond the sampled SMEs in Mogadishu.

5. Conclusion

This paper examined three barriers to the adoption of AI tools among SMEs in Mogadishu, Somalia: financial constraints, the digital skills gap, and awareness of AI tools. Using a quantitative, descriptive-correlational design with 70 SME owners and managers, all three hypotheses were supported at the bivariate level. Financial constraints ($r = -.245$, $p = .041$) and the digital skills gap ($r = -.300$, $p = .012$) were negatively associated with adoption, whereas awareness ($r = .394$, $p < .001$) was positively associated with it. The regression model explained 25.8% of the variance, $F(3, 66) = 7.67$, $p < .001$, with awareness as the strongest predictor and the digital skills gap only marginally significant when all three barriers were considered jointly.

These results suggest that awareness campaigns may be a fast, low-cost lever for policymakers, alongside continued digital skills training and affordable, locally adapted pricing from ICT providers. The limitations of the study include the modest convenience sample and the cross-sectional design, which limit generalizability and causal inference; future work should use larger, longitudinal samples beyond Mogadishu. Overall, this paper offers rare, context-specific evidence on the barriers to AI adoption in a fragile, post-conflict economy.

Ethical Approval Statement

This study was approved by the Institutional Review Board of Hormuud University. Written informed consent was obtained from all participants, and anonymity and confidentiality were

maintained throughout the data collection and analysis process. The data collected were used solely for academic purposes.

Conflict of Interest

The author declares no conflict of interests.

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