

Factors Affecting the Performance of Micro and Small Enterprises with the Mediating Role of Institutional Support Evidenced from Samara-Logia City Administration, Afar Region, Ethiopia.

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Abstract

Micro and small enterprises play a vital role in economic development, particularly in developing regions, yet several challenges often constrain their performance. This study investigates the key determinants of micro and small enterprises' performance in the Samara Logia city administration in the Afar Region, with specific emphasis on the mediating role of institutional support. An explanatory research design was employed, and primary data were collected from 212 enterprises using a structured questionnaire measured on a five-point Likert scale. The sample was drawn through stratified and simple random sampling. Data analysis was conducted through structural equation modeling with Smart PLS version 4 to examine both direct and indirect relationships among the study variables. The findings reveal that managerial skills, technology factors, infrastructure availability, access to finance, and social factors are statistically significant and have a positive influence on the performance of enterprises. Moreover, these relationships are partially mediated by institutional support, highlighting its central role in enhancing enterprise outcomes. The structural model accounts for 69.9% of the variance in MSE performance and 64.8% of the variance in institutional support, while satisfying established criteria of reliability, validity, and collinearity. Based on these results, the study recommends that policymakers, institutions, and enterprise owners strengthen managerial skills, expand access to finance, improve infrastructure, encourage technological utilization, and leverage social networks while ensuring consistent and responsive institutional support to sustainably improve enterprise performance.

Keywords: *Performance of MSEs, Technological Factors, Managerial Skills, Access to Finance, Social Factors, Infrastructure, Institutional Support.*

1. Introduction

Today, micro and small enterprises play a pivotal role in promoting long-term socio-economic development and prosperity (Tadesse, 2016). Their importance lies in that these enterprises have been observed to play a role in promoting socio-economic development sustainably, with a focus on building long-term employment opportunities (Zambad & Londhe, 2014). Their importance is also felt worldwide, with micro and small enterprises being observed to significantly contribute to socio-economic development, with a focus on building employment opportunities (Matthew et al., 2020; Osotimehin et

al., 2012). The importance and relevance of micro and small enterprises as a key driver in promoting socio-economic development is evident in various nations, including developed and developing nations, amidst various socio-economic challenges that affect these nations (Bai et al., 2021; Miah et al., 2015; OECD, 2017). In many regions, the SME sector is observed to generate more than 90% of total income generated in different countries (Razak et al., 2018; Tambunan, 2020). The importance and relevance of the SME sector in promoting socio-economic development, with a focus on building employment opportunities, is evident in that this sector is observed to be a key driver in promoting employment, reducing unemployment, and promoting socio-economic development, with a focus on its substantial workforce contribution to national economies, with 48-51% in Latin America, 65% in Asia, and 72% in Sub-Saharan Africa (Awartani & Millis, 2018; ILO, 2018).

In Africa, the contribution of Micro and Small Enterprises to employment and the Gross Domestic Product has not been properly valued over time (Li & Rama, 2015). MSEs have been used as a means to spur economic growth through their operations. This is supported by the employment created by MSEs in Nigeria (Matthew et al., 2020). MSEs have a significant impact on the economy, creating more than 50% of the GDP and 60% of employment in Africa (White, 2018; Muiruri, 2017). Despite creating 80% of employment, MSEs are subject to more redundancies than other enterprises (ILO, 2019a). In South Africa, the emphasis on entrepreneurship and new ventures highlights the employment created by MSEs, which is consistent with MSEs' contribution to the economy beyond poverty reduction to meet other economic needs (Rambe & Mosweunyane, 2017).

In five countries in Sub-Saharan Africa, such as Botswana, Kenya, Malawi, Swaziland, and Zimbabwe, the employment created by MSEs represents more than 49% of the total employment growth attributed to the expansion of the labour force (Diao et al., 2018). In Tanzania, MSEs represent 80% of employment in the economy (Diao et al., 2018). MSEs have a significant contribution to total employment in the economy of Ethiopia, particularly in the manufacturing sector, representing 97% of employment in the sector.

In the case of Ethiopia, the MSE sector is of great significance to the country's agriculture-based economy, which is the largest employer of the labour force. The MSE sector is considered to be the main engine of the economy in developing countries (IFC, 2013). The MSE sector is of great significance to the country's economy because of its crucial role in the creation of employment and income opportunities, mainly in urban centres (Wasihun & Paul, 2010). The MSE sector is also characterized by high employment growth and makes a significant contribution to the country's export and industrial production (Abebe & Gebremariam, 2021; Geremewe, 2018). The MSE sector is of great significance to the country's economy because of its crucial role in the country's economic growth, facilitating the country's transition from an agriculture-based to an industrial economy (Ermias et al., 2017). The country has 974,676 micro and 31,863 small businesses, contributing 99.40% and 0.46%, respectively, to the total number of industrial establishments (Fufa, 2015).

However, this study argues that it is not enough to develop a strategy for MSEs alone if it is intended to address MSE problems or promote sectoral development (Hunegnaw, 2019). The sustainability of MSEs depends on the capacity of MSEs to maintain both long- and short-term investments (Dinku, 2013). According to the Central Statistical Agency, various surveys conducted on MSEs at the national level reveal that over 1.3 million people are employed by MSEs (CSA, 2007). Nevertheless, MSEs are facing problems of growth and sustainability, with most MSEs struggling to survive and failing to create employment opportunities (Gebremeskel, 2018). Of all MSEs surveyed, 69% of them can be considered survival-oriented (Tefera et al., 2013). Even though there is rapid growth of small enterprises in Ethiopia, it is happening simultaneously with high rates of business failure (Page & Söderbom, 2015). Business failure is likely to occur within 2-4 years of business (Woldehanna et al., 2018). The main problems facing MSEs include poor financial access, lack of skilled labour (Endris & Kassegn, 2023; Tarfasa et al., 2016), lack of proper financial records (Effendy et al., 2022), marketing problems, and lack of working space (Ayalu et al., 2022). Additionally, the environmental factors affecting business operations include social

(Mendoza et al., 2023), economic (Situm, 2013), cultural, political, and legal dimensions (Ayinaddis, 2023; Beshir, 2022), as well as technology (Mansur & Djaelani, 2023; Teka, 2022). Internal factors, which include individual attitudes, training, and competency, are another aspect that affects the performance of MSEs (Assefa & Cheru, 2018; Ferejo et al., 2022).

The existing studies on the subject matter is not sufficiently explored. Therefore, gaps in understanding, methodology, and findings have not been sufficiently addressed in the area. Therefore, to bridge the gaps and have an in-depth understanding of the subject matter, the study aims to investigate the determinants of micro and small enterprise performance, with emphasis on the mediating effects of institutional support in the Samara-Logia city administration of the Afar Region, Ethiopia.

2. Literature Review

2.1. Micro and Small Enterprises and Institutional Supports

Micro and small enterprises play a critical role in community development through the mobilization of local resources and employment creation, yet their performance is constrained by persistent structural and managerial challenges (Matthew et al., 2020; Osotimehin et al., 2012). Evidence from emerging economies shows that inadequate access to finance, poor managerial skills, poor access to infrastructure, and low technological capability remain the dominant challenges to MSE performance. So, necessary support from institutions is important for helping MSEs improve their performance and sustainability by offering training, information, financial help, and easing regulations. Empirical studies indicate that institutional requirements enhance access to resources and improves firm performance (Cao et al., 2022; Falahat et al., 2020; Njeru et al., 2021). In Ethiopia, institutional support has been shown to exert a direct and positive influence on MSE performance (Mohammed, 2020).

2.2. Theoretical Foundations

2.2.1. Institutional Theory

The institutional theory explains how formal rules, regulations, practices, and informal norms influence the organizational behaviours and performance within a given environment (Scott, 2008). In the context of MSEs, institutional support collected efforts required from government, microfinance, academic institutions, and NGOs to improve enterprises' performance (Abate & Sheferaw, 2023; Abebe & Kegne, 2023; Abubeker et al., 2025; Zhang & Ayele, 2022; Zindiye et al., 2012). Empirical evidences depict that assistances from these institutions include providing training service, advisory service, necessary resources and creating network and enable environments, particularly in resource-constrained economies (Balzano et al., 2025; de Sousa Jabbour et al., 2020).

2.2.2. Resource-Based View

The resource-based view focus that enterprises' sustainable competitive advantage arises from internal resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). For the MSEs, resources such as entrepreneurial expertise, social capital, and innovation capabilities are critical for their success (Isenberg, 2011; Ofori-Baafi & Opoku, 2025). Empirical studies reveal that the effective deployment of internal resources through management systems enhances financial and operational performance in MSEs (Bhatti & Akhtar, 2025; Ramon-Jeronimo et al., 2019).

2.3. Determinant of Performance of MSEs

Managerial skills represent how the owner manages the overall activities of the enterprise to achieve its goal. So, it is one of the key factors in the growth of small businesses. According to Olowale and Garwe (2010), managerial skills encompass a spectrum of knowledge, skills, and competencies that enhance the efficiency of micro and small-sized enterprises. Similarly, Ates et al. (2013) highlight the critical role of management skills in enhancing growth of MSEs.

Technological capabilities enable enterprises to improve productivity, operational efficiency, and quality service, with the overarching goal of enhancing overall performance. Empirical evidence shows that there

is a statistically significant and positive relationship between technology adoption and MSEs' performance, particularly in resource mobilization and customer service (Cherkos et al., 2018; Durowoju, 2020; Yakubu & Lily, 2019; Yusuf et al., 2017).

Access of infrastructure is one of the critical determinants of MSE performance. Reliable energy, transport, water, and communication systems directly influence productivity, market access, and competitiveness, especially in developing economies (Calderon et al., 2018; Ndiaye et al., 2018; Ombi et al., 2018). Despite contextual disparities, empirical evidence confirms a positive association between infrastructure availability and MSE performance (Cámara & Tuesta, 2017; Islam & Hossain, 2018; Obokoh & Goldman, 2016; Sefiani & Bown, 2013).

Access to finance is widely known as both a catalyst and constraint to MSE performance. While several studies reports that adequate access to finance and its proper management have a positive effect on the operation and performance of MSEs (Ates et al., 2013; Ibor et al., 2017; Parvin et al., 2020), others find neutral or context dependent outcomes (Cámara & Tuesta, 2017; Kijkasiwat & Phuensane, 2010). Nonetheless, poor financial management negatively affect MSEs' growth and operational capacity (Fowowe, 2017; Khan & Anuar, 2018).

Social factors play a pivotal role in fostering the performance of MSEs. Numerous studies have highlighted that when the MSEs have strong connection with community, there is significant contribution of social factors to enhancing their performance (Abebe, 2014; Amine & Staub, 2009; Animaw, 2019; Khan et al., 2021; Mozumdar et al., 2020; Raheem, 2013).

2.4. The Mediating Role of Institutional Supports in MSEs

Institutional support presents different guidance from organizations, plays a critical mediating role in improving the performance of MSEs by providing different assistances (Acheampong et al., 2025; Jayeola et al., 2025; Sudarnice et al., 2023; Zhao et al., 2023). Therefore, to get these supports, MSEs with better managerial attributes, having good knowledge of financial literacy, most likely adopt technologies, with good access of infrastructure and strong social ties, they have most likely to get institutional supports and enhance their performance (Eniola & Entebang, 2017; Kassa & Kegne, 2025; Hansen et al., 2021; Mushtaq et al., 2022; Sendawula et al., 2023).

2.5. Conceptual Framework

This study theoretically anchored the institutional theory and the resource-based view to explain MSEs performance. Institutional theory explains how institutional support shapes access to finance, infrastructure and social factors. The resource-based view explains how managerial skills and technological capability function as internal resources driving performance. Based on a review of past studies on the factors influencing the performance of micro and small enterprises with mediating role of institutional supports, the following conceptual frameworks are presented.

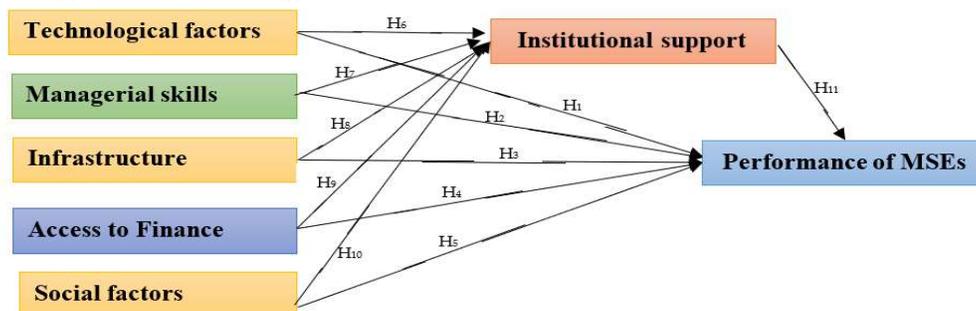


Figure 1. Conceptual Framework.

3. Methods

This study employed a quantitative approach through an explanatory research design. An explanatory research approach was also employed in the study to identify the key variables and their influences on MSE performance. A representative sample size of respondents determined using Yemane's (1967) formula, and 212 sample enterprises were selected for this purpose. The population is too heterogeneous, and the sample size selected here is considered representative of all enterprises. Therefore, the study employed a stratified sampling technique, grouping MSEs by construction, services, urban agriculture, and manufacturing. To achieve the study's objectives, data were collected from primary sources through questionnaires. The primary sources of this study were enterprises which are selected as a sample. To collect the primary data, a questionnaire was used, primarily consisting of closed-ended questions measured on a 5-point Likert scale.

The study employed inferential statistics, which enable the inference of relationships between two or more variables from the data through analysis, and how several independent variables might explain the variance in a dependent variable. The study used a structural equation model to show the direct and indirect effects of independent variables on the dependent variable. In SEM, a model is tested for the quality of the measures (measurement model) through tests of validity and reliability, and then for the interrelationship between the variables (structural model), which focuses on assessing the interrelationship between variables via the examination of direct and indirect effects, as well as testing the mediation effect. A PLS-SEM (Partial Least Squares Structural Equation Modelling) data analysis technique was employed, and the process was facilitated using the Smart PLS 4 software.

4. Result and Discussion

4.1. Demographic information

Table 1. Demographic information (N = 212)

Items	Options	Frequency	Percent
Sex	Male	159	75.00
	Female	53	25.00
Age	20-29 years	44	21.00
	30-39 years	131	61.79
	40-49 years	30	14.15
	50 and above years	7	3.06
Marital status	Single	93	43.86
	Married	106	50.00
	Divorced	10	4.72
	Widowed	3	1.42
Service year	0-3 years	61	29.6
	3-6 years	108	52.4
	6-9 years	33	16.0
	10 years and above	4	1.9
Level of education	Primary school	86	40.56
	High school	81	38.21
	Diploma/degree	45	21.23
Sectors	Construction	9	4.24
	Manufacturing	24	11.32
	Service	62	29.25

	Urban Agriculture	5	2.36
	Trade	112	52.83
	Total	212	100.0

Table 1 reveals that the demographic information of respondents out of 212 respondents, the majority were male (75%) and within the age range of 30–39 years (61.8%), while only 3.06% were aged 50 and above. Regarding marital status, half of the respondents were married (50%), followed by singles (43.9%), with a few divorced (4.7%) and widowed (1.4%). In terms of business experience, most had operated for 3–6 years (52.4%), while a very few had operated for 10 years or more (1.9%). Educationally, a large proportion had primary (40.6%) or high school education (38.2%), with only 21.2% holding a diploma or degree. Sector-wise, trade dominated (52.8%), followed by services (29.3%), while construction (4.2%), manufacturing (11.3%), and urban agriculture (2.4%) were less represented.

4.2. Measurement Model

In SEM, there are two types of models: measurement and structural models. Measurement model assessment was performed to ensure the validity and reliability of the measures before developing and making a decision about the structural model.

4.2.1. Indicators Reliability

The indicators' reliability is important to examine a measurement model through determining the percentage of each indicator's variance that can be attributed to its corresponding construct.

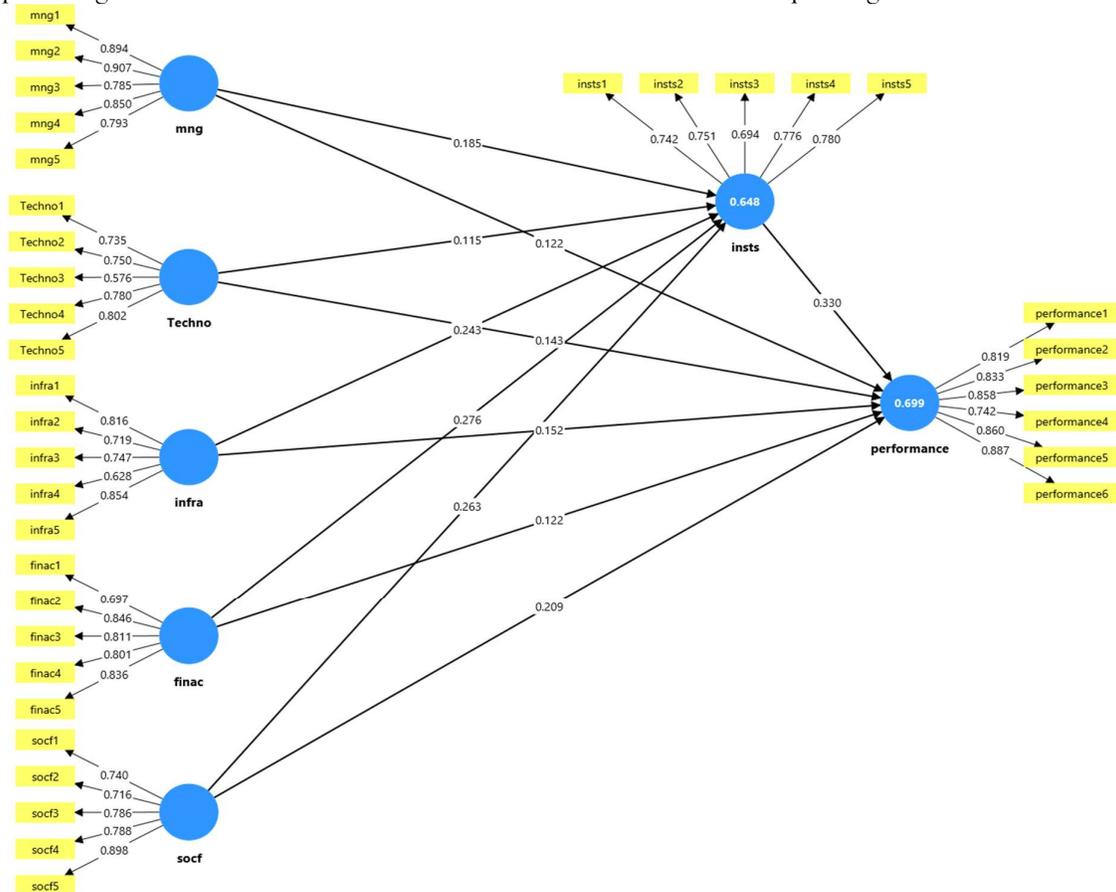


Figure 2. Graphical output of indicator loading

Note: Techno; technological factors, Finac; financial factors, Infra; infrastructure, Insts; institutional support, Mng; managerial capability, Performance; enterprise performance, and Socf; social factors.

Figure 2 depict that the graphical chart for indicators' loadings for all constructs, and it verified that all the indicators are retained as their value is meeting the recommended thresholds.

4.2.2. Construct Reliability

Cronbach's alpha and composite reliability used to assess the construct reliability or internal consistency of each variable.

Table 2. Cronbach's alpha, Composite Reliability, rho-a, rho-c, and AVE

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Managerial skills	0.901	0.908	0.927	0.718
Technology	0.785	0.820	0.852	0.537
Infrastructure	0.810	0.822	0.869	0.573
Finance	0.858	0.863	0.898	0.640
Social factors	0.846	0.858	0.891	0.621
Institutional support	0.807	0.821	0.865	0.561
Performance of MSEs	0.912	0.913	0.932	0.696

Table 2 presents that all Cronbach's alpha values in this study ranged from 0.785 to 0.912, the rho-a values range from 0.820 to 0.913, and all composite reliability rho-c values are between 0.852 and 0.932. Therefore, the results confirm that each variable considered in this study satisfied the conditions of construct reliability or internal consistency.

4.2.3. Convergent Validity

Convergent validity is a critical indicator of the quality of a measurement model, particularly to assess the extent of items effectively represent the intended construct. The result presented in Table 2, the Average Variance Extracted (AVE) values for all constructs exceeded the minimum threshold. Therefore, the study meets the criteria of convergent validity.

4.2.4. Discriminant Validity

To determine how effectively the tested constructs differentiated from the other components, discriminant validity analysis was performed. Three tests should be conducted to evaluate discriminant validity through Cross Loading, Criteria Fornell & Larcker and Heterotrait Monotrait Ratio (HTMT).

Table 3. Discriminant Validity-Cross Loading

Categories	Techno	Finac	Infra	Insts	Mng	Performance	Socf
Techno1	0.735	0.413	0.336	0.336	0.199	0.441	0.207
Techno2	0.750	0.326	0.367	0.322	0.176	0.338	0.171
Techno3	0.576	0.323	0.307	0.281	0.076	0.263	0.147
Techno4	0.780	0.499	0.418	0.532	0.303	0.552	0.382
Techno5	0.802	0.333	0.363	0.340	0.160	0.339	0.196
finac1	0.395	0.697	0.488	0.476	0.212	0.446	0.258
finac2	0.479	0.846	0.494	0.518	0.221	0.511	0.309
finac3	0.440	0.811	0.505	0.561	0.353	0.581	0.425
finac4	0.403	0.801	0.524	0.606	0.361	0.549	0.460
finac5	0.418	0.836	0.497	0.496	0.203	0.489	0.274
infra1	0.431	0.505	0.816	0.524	0.168	0.510	0.318
infra2	0.344	0.354	0.719	0.422	0.267	0.388	0.288
infra3	0.399	0.469	0.747	0.510	0.351	0.480	0.345
infra4	0.247	0.450	0.628	0.424	0.266	0.509	0.455

infra5	0.432	0.567	0.854	0.590	0.229	0.576	0.389
insts1	0.442	0.413	0.465	0.742	0.268	0.439	0.279
insts2	0.373	0.509	0.489	0.751	0.331	0.425	0.284
insts3	0.301	0.378	0.427	0.694	0.454	0.615	0.492
insts4	0.348	0.527	0.418	0.776	0.319	0.467	0.471
insts5	0.458	0.629	0.625	0.780	0.386	0.817	0.615
mng1	0.240	0.283	0.272	0.371	0.894	0.421	0.244
mng2	0.266	0.321	0.339	0.460	0.907	0.420	0.289
mng3	0.159	0.291	0.226	0.413	0.785	0.378	0.306
mng4	0.221	0.317	0.319	0.418	0.850	0.458	0.292
mng5	0.265	0.237	0.247	0.338	0.793	0.327	0.204
performance1	0.461	0.579	0.537	0.599	0.387	0.819	0.427
performance2	0.441	0.484	0.477	0.645	0.412	0.833	0.636
performance3	0.498	0.531	0.551	0.616	0.396	0.858	0.543
performance4	0.404	0.560	0.543	0.637	0.388	0.742	0.416
performance5	0.483	0.605	0.633	0.706	0.392	0.860	0.507
performance6	0.488	0.486	0.541	0.636	0.413	0.887	0.552
socf1	0.249	0.253	0.284	0.374	0.211	0.437	0.740
socf2	0.194	0.333	0.282	0.384	0.113	0.424	0.716
socf3	0.262	0.362	0.376	0.482	0.287	0.472	0.786
socf4	0.289	0.433	0.505	0.574	0.320	0.527	0.788
socf5	0.277	0.331	0.386	0.498	0.287	0.552	0.898

The cross loading evaluates values in the observed variables in the original constructs should have higher factorial loads than the rest in the model to ensure discriminant validity. Table 3 indicates that the cross-loading value for an item under its parent construct was greater than the loading value for another construct. Therefore, it provides evidence of validity for the measurement model construct.

Table 4. Fornell- Larcker Criterion

Categories	Techno	Finac	Infra	Insts	Mng	Performance	Socf
Techno	0.733						
finac	0.534	0.800					
infra	0.495	0.628	0.757				
insts	0.518	0.669	0.660	0.749			
mng	0.271	0.345	0.334	0.475	0.847		
performance	0.555	0.649	0.657	0.468	0.477	0.834	
socf	0.325	0.440	0.476	0.596	0.318	0.617	0.788

The Fornell-Larcker criterion is also important for accurately detecting discriminant validity issues by comparing the value of the AVE square root with the construct correlation value that displays the highest value in any column or row relative to the highest correlation value of any other construct. Table 4 illustrates that the bold diagonal values represent the square root of the AVE exceed the off diagonal values in their corresponding row and columns. Consequently, the study achieved the criteria of discriminant validity model.

To address the limitations of the Fornell and Larcker criterion, the Heterotrait-Monotrait (HTMT) ratio was conducted to assess the discriminant validity. Figure 3 demonstrates the robust evidence that the model successfully fulfills all the requirements of discriminant validity.

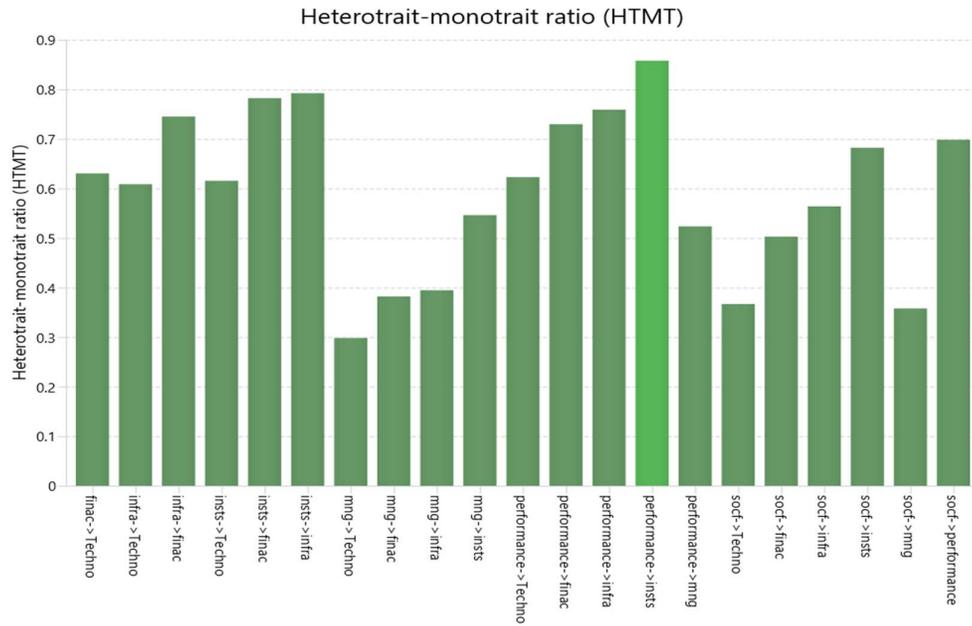


Figure 3. Charts of HTMT-Criterion

4.3. Structural Model Assessment

After the measurement model was checked, the conceptual model was developed to address the direct, indirect and total effects in the structural model. Using the PLS Bootstrapping method, collinearity tests, effect sizes (f^2), coefficients of determination (R^2), and path coefficients are conducted.

4.3.1. The Collinearity Test

To examine any possible collinearity problems in the structural model regressions, the VIF values were analysed for all constructs.

Table 5. Inner values of the VIF and Effect size of the model

Categories	Inner values of the VIF		Effect size of the model	
	insts	performance	insts	performance
Techno	1.497	1.534	0.025	0.045
finac	1.944	2.160	0.111	0.023
infra	1.906	2.074	0.088	0.037
Mng	1.201	1.298	0.081	0.038
Socf	1.388	1.585	0.142	0.092
insts	-	2.844	-	0.127

Table 5 presents that the VIF values for the inner model is remained well. Therefore, the study had no collinearity issues.

4.3.2. Model explanatory power

The explanatory power of the model is indicated by the coefficient of determination (R^2), which shows the variance explained in each endogenous construct.

Table 6. R-square value

Categories	R-square	R-square adjusted
Institutional support	0.648	0.640
MSEs performance	0.699	0.690

Table 6 revealed that the R² values for MSE performance and institutional support were concurrently 0.699 and 0.648, as determined by the PLS algorithm. This indicates that the model explains 69.9 percent of the variance in MSEs' performance and 64.8 percent of the variance in institutional support, with the remaining variance attributable to factors not included in the study.

The effect size (f²) measures the unique contribution of each exogenous construct to the R² of the endogenous variables. Table 5 indicate that the predictors individually exert small effect sizes on both Institutional Support and Performance.

4.3.2. Direct Effect

Direct effect refers to the analysis of the impact of independent variables on dependent variables without the influence of mediators.

Table 7. Path coefficients for direct effects

Categories	β	M	SD	T	P
finac -> insts	0.274	0.278	0.086	3.198	0.001
finac -> performance	0.117	0.117	0.079	1.486	0.137
infra -> insts	0.243	0.237	0.073	3.310	0.001
infra -> performance	0.147	0.141	0.057	2.570	0.010
insts -> performance	0.348	0.345	0.096	3.631	0.000
mng -> insts	0.186	0.182	0.059	3.135	0.002
mng -> performance	0.118	0.119	0.047	2.500	0.012
socf -> insts	0.270	0.273	0.065	4.129	0.000
socf -> performance	0.203	0.207	0.073	2.783	0.005
Techno -> insts	0.113	0.115	0.046	2.450	0.014
Techno -> performance	0.142	0.143	0.055	2.606	0.009

Table 7 presents the direct path coefficients, including standardized estimates (β), T-values, and p-values, assessing the influence of independent and mediating variables on the dependent variable. The effect of finance on institutional support was positive and statistically significant ($\beta = 0.274$, $t = 3.198$, $p < 0.001$). This means that sound financial management increase likelihood of accessing institutional supports. However, it hasn't direct and statistically significant effect on MSEs' performance as the result indicated the p value exceed the significance level ($\beta = 0.117$, $t = 1.486$, $p = 0.137$), as the t-value was less than 1.96 and the p-value was greater than 0.05. Similarly, infrastructure has positive and statistically significant relationship with institutional support and predicts MSEs' performance ($\beta = 0.243$, $t = 3.310$, $p < 0.001$) and ($\beta = 0.147$, $t = 2.570$, $p = 0.010$) respectively. This means that having good access of infrastructure implies greater the chance of getting external assistance and also able to enhance the MSEs' performance.

The institutional support itself has positive and statistically significant influence on MSEs' performance ($\beta = 0.348$, $t = 3.631$, $p < 0.001$). This suggests that when the MSEs got institutional assistance positively predict their performance. The results further depicts that managerial skills have statistically significant and positively predict the institutional supports ($\beta = 0.186$, $t = 3.135$, $p = 0.002$) and performance ($\beta = 0.118$, $t = 2.500$, $p = 0.012$). This indicates that strengthening managerial capabilities improves both institutional support and MSE performance. Likewise, social factors significantly and positively associated with both institutional support ($\beta = 0.270$, $t = 4.129$, $p < 0.001$) and performance ($\beta = 0.203$, $t = 2.783$, $p = 0.005$). This implies that when the MSEs have strong social ties with the community, they can easily enable to get institutional support and enhance their performance same time. Finally, technology had a positive and significant effect on institutional support ($\beta = 0.113$, $t = 2.450$, $p = 0.014$) and also on performance ($\beta = 0.142$, $t = 2.606$, $p = 0.009$). This indicates that the adoption of technology contributes to external support opportunities and improving the performance of MSEs.

4.3.2. Indirect Effect (Mediation Analysis)

This was based on the results of smart PLS4-SEM to determine whether institutional support mediates the relationship between each determinant factor and MSE performance.

Table 8. Mediation Analysis

Categories	β	M	SD	T	P
Techno -> insts -> performance	0.039	0.039	0.019	2.023	0.043
finac -> insts -> performance	0.095	0.094	0.037	2.547	0.011
infra -> insts -> performance	0.085	0.083	0.039	2.188	0.029
mng -> insts -> performance	0.065	0.062	0.026	2.540	0.011
socf -> insts -> performance	0.094	0.095	0.037	2.508	0.012

Table 8 reveals the mediation results that proved that institutional support indeed plays the role of mediator on the way technology, finance, infrastructure, managerial skills, and social factors translate into MSE performance. Indeed, every path through institutional support gives a positive statistically significant indirect effect on performance. Technology enhances performance indirectly via institutional support ($\beta = 0.039$, $t = 2.023$, $p = 0.043$), which means, better tech gains lead to better performance by building on institutional support. Finance also operates through institutional support, $\beta = 0.095$, $t = 2.547$, $p = 0.011$; better financing therefore translates into higher performance when there is institutional backing. Infrastructure shows a positive indirect impact through institutional support ($\beta = 0.085$, $t = 2.188$, $p = 0.029$), indicating that stronger infrastructure helps performance by enabling institutional assistance. Managerial skills have an indirect positive effect via Institutional support ($\beta = 0.065$, $t = 2.540$, $p = 0.011$), indicating that improved managerial capacity enhances performance by leveraging support mechanisms. Social factors also exert a positive indirect effect through institutional support ($\beta = 0.094$, $t = 2.508$, $p = 0.012$), underscoring how social ties help marshal institutional resources to lift firm outcomes.

This, in turn, means that the responses from all five determinants are highly mediated by institutional support in driving MSE performance. Applying Hair et al. (2017) mediation criteria, technology, infrastructure, managerial skills, and social factors demonstrate complementary mediation, they have statistically significant and positive direct and indirect effect on MSEs' performance. Finance, by contrast, demonstrates full mediation as its indirect effect via institutional support is significant, while its own direct effect on performance is not. These patterns highlight how institutional support represents the critical channel through which financial capabilities affect MSE performance.

4.3.2. Total Effect

The total effect is a combination of direct and indirect effects; however, most studies have only indicated the direct effects.

Table 9. Total effects

Categories	β	M	SD	T	P
finac -> insts	0.274	0.278	0.086	3.198	0.001
finac -> performance	0.212	0.212	0.080	2.648	0.008
infra -> insts	0.243	0.237	0.073	3.310	0.001
infra -> performance	0.231	0.225	0.063	3.648	0.000
insts -> performance	0.348	0.345	0.096	3.631	0.000
mng -> insts	0.186	0.182	0.059	3.135	0.002
mng -> performance	0.183	0.181	0.049	3.758	0.000
socf -> insts	0.270	0.273	0.065	4.129	0.000
socf -> performance	0.297	0.303	0.072	4.138	0.000
Techno -> insts	0.113	0.115	0.046	2.450	0.014
Techno -> performance	0.182	0.182	0.053	3.449	0.001

Table 9 presents the overall results that the contribution of finance, infrastructure, management skills, social factors, and technology, which highlights each variable promotes both institutional support and MSEs' performance positively and statistically significant. Finance exerts a considerable influence on institutional support ($\beta = 0.274$; $t = 3.198$; $p = 0.001$) and MSEs' performance ($\beta = 0.212$; $t = 2.648$; $p = 0.008$). Similarly, infrastructure contributes significantly to MSEs' performance ($\beta = 0.243$; $t = 3.310$; $p = 0.001$) and institutional support ($\beta = 0.243$; $t = 3.310$; $p = 0.001$). Institutional support itself also exerts considerable influence on MSEs' performance ($\beta = 0.348$; $t = 3.631$; $p < 0.001$). Managerial skills exert considerable total effects on both institutional support ($\beta = 0.186$; $t = 3.135$; $p = 0.002$) and MSEs' performance ($\beta = 0.183$; $t = 3.758$; $p < 0.001$). Social factors exert the strongest total effects on both institutional support ($\beta = 0.270$; $t = 4.129$; $p < 0.001$) and MSEs' performance ($\beta = 0.297$; $t = 4.138$; $p < 0.001$). Finally, technology influences institutional support ($\beta = 0.113$; $t = 2.450$; $p = 0.014$) and MSEs' performance ($\beta = 0.182$; $t = 3.449$; $p = 0.001$) positively. These overall results confirm the value of each variable significantly enhancing MSEs' performance both directly and indirectly via institutional support. Therefore, all proposed research hypotheses are accepted, except the hypothesized the direct of finance on MSEs performance, which is not supported by the results.

4.3.3. Limitations and Suggestions for Further Research

This study was limited to selected determinant factors of MSE performance and may not have captured all potential influencing factors, such as personality traits, cultural dynamics, and external macroeconomic conditions. Investigate additional determinants of MSE performance, including entrepreneurial orientation, innovation capacity, and market dynamics. Examine the role of institutional support in various contexts and across broader regions, as challenges facing MSEs vary significantly across districts and regions. Use mixed-method or longitudinal designs to better capture the dynamics of performance over time and address the limitations of self-reported measures.

5. Conclusion and Recommendations

The findings of this study confirm that the measurement and structural models employed were valid, reliable, and free from collinearity issues, making them suitable for further analysis. The measurement model demonstrated strong indicator reliability, internal consistency, and both convergent and discriminant validity, ensuring that the constructs were measured accurately and reliably. The structural model revealed that institutional support significantly mediates the relationship between finance, infrastructure, managerial skills, social factors, and technology on the performance of MSEs. While finance did not directly affect performance, its influence was realized through institutional support. Overall, the model explained 69.9 percent of the variance in MSE performance and 64.8 percent of the variance in institutional support, demonstrating strong explanatory power. The total effect analysis revealed that all five determinants make a positive and significant contribution to MSE performance. These results underscore the crucial role of institutional support in strengthening the direct and indirect effects of key determinants on MSE performance.

Government offices, NGOs, Universities, financial institutions and other support agencies should expand institutional support services such as advisory services, market linkage, incubation centers, and technical assistance that help MSEs access finance, adopt technology, and improve their management practices. Training programs should be developed in collaboration with educational institutions and industry experts to ensure their effectiveness and relevance. Workshops and mentoring sessions focusing on business planning, record-keeping, leadership, and innovation will directly enhance managerial skills that improves overall performance. Since direct access to finance did not significantly influence performance without institutional support, financial institutions should design credit schemes tied to institutional programs. For example, loans may be bundled with training, monitoring, and technical assistance to ensure proper utilization of financial resources and repayment. Investment in infrastructure, such as reliable electricity, water, and transportation, should be complemented by institutional coordination. This ensures that

improved infrastructure is accessible to MSEs and effectively utilized to boost the performance. Technology adoption programs should be implemented through access to digital tools, platforms, and capacity-building. The MSEs should strengthen social ties with different stakeholders for improving their performance.

Declarations

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Conflict of Interest

The authors declare no conflict of interest.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon request.

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