Determinants of Micro, Small and Medium Enterprises (MSMEs) Sustainable Development in Africa

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Abstract

Micro, small and medium enterprises (MSMEs) accelerate economic growth by creating new products and services; they stimulate new employment, which ultimately results in the acceleration of sustainable economic development in Africa. So, public policy that encourages and supports entrepreneurship and MSMEs’ sustainable development should be considered important for the economic growth of Africa. The purpose of this study was to examine factors contributing to the sustainable development of MSMEs in Africa. In order to achieve this objective, the researchers have used a correlational research design and quantitative research approach in which six hypotheses have been tested. Both primary data were collected from 340 MSMEs operating in Africa through survey questionnaires. Both descriptive and inferential statistics have been used to analyze the data. According to the regression analysis, this study revealed that access to finance, infrastructure, and institutional cooperation, access to business information, government support, and information technology utilization led to Micro, small and medium enterprises’ sustainable development in Africa. Based on the findings of the study, a recommendation was forwarded to the concerned bodies who are responsible for improving the sustainability of Micro, small, and medium enterprises in Africa while working on those variables contributing to the MSMEs’ sustainable development.
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1. Introduction

Micro, small, and medium enterprises (MSMEs) are the backbone of the economy, playing a vital role in job creation, innovation, and community development. These businesses, typically characterized by their limited resources and smaller scale, include a wide range of industries and sectors that are highly used by indigenous people. Despite their size, MSMEs businesses are an essential component of any successful economy, and their success is crucial for overall economic sustainability (Cherkos, Zegeye, Tilahun, & Avvari, 2018). MSMEs play an important role in sustainable development, contributing to job creation, poverty reduction, and economic growth. MSMEs account for the majority of businesses in most countries and are responsible for a significant proportion of employment and output in most countries. They are also important sources of innovation, entrepreneurship, and linkages between different parts of the economy (Abebaw, Mulate, & Nigussie, 2018). MSMEs are key to achieving the Sustainable Development Goals (SDGs), as they create decent jobs, reduce poverty, and contribute to the achievement of inclusive and sustainable economic growth (Endris & Kassegn, 2022).

When it comes to Africa, many MSMEs were failing to operate because of different factors. So, this study aimed to examine Factors Contributing to MSMEs’ sustainable development in Africa. Micro, small and medium enterprises (MSMEs) are vital in Africa as they drive employment, income generation, and poverty reduction. They contribute to local economic growth, entrepreneurship, and the formalization of the economy. Supporting and promoting the growth of these businesses is essential for the overall economic development and inclusive growth of Ethiopia (Kanbiro and Addisu, 2018).

Research on MSMEs in Africa is still in its early stages, and this has resulted in a gap in understanding the factors that contribute to their sustainable development. Currently, there is a lack of empirical evidence on the conditions that are necessary for MSMEs to survive and thrive in Africa, as well as how these conditions interact with each other. In addition, the impact of external factors such as government policies, access to finance, and the role of technology is still not fully understood.
Two empirical studies that address this research gap are “Factors Influencing the growth SMEs in Ghana” (Thompson Agyapong, Mmieh, & Mordi, 2018) and “Exploring the Influence growth of Small and Medium Enterprises in Ethiopia” (Meressa, 2020). The former focuses on the impact of organizational factors such as the size of the firm, the nature of the ownership structure, and the use of technology, while the latter examines the influence of firm size and access to finance on the performance of MSMEs. Both studies provide important insights into the factors that contribute to the sustainable development of MSMEs in Africa. There is a study population gap because the aforementioned studies were focused on MSMEs at the country level, but this paper takes into account MSMEs from 54 countries in Africa.

Hence, it is very important to study, factors contributing to micro, small and medium enterprises (MSMEs) sustainable development in Africa. One research gap in studying factors contributing to MSMEs’ success in Africa is the limited focus on the role of government policies and regulations. The study can initiate those concerned or interested parties to make preparations to help the youth of Africa, especially those who are leaving higher institutions, to develop entrepreneurial thinking after finding the gap.

The study can also help policymakers to make policies that favor entrepreneurship micro, small and medium enterprises (MSMEs) sustainable development in Africa and business-oriented society. Additionally, the findings of the research would help academicians and researchers to have a source of reference on the issue of entrepreneurship and micro, small and medium enterprises (MSMEs) sustainable development in Africa. Hence, this research article set out to identify factors contributing to Micro, small and medium enterprises (MSMEs) Sustainable Development in Africa.

Research objective

The objective of this research paper was to identify factors that affect the sustainable development of micro, small and medium enterprises (MSMEs) in Africa.

2. Review of literature

2.1. Definition of Micro, Small, and Medium Enterprises in Africa

There is no universally accepted definition of micro, small and medium enterprises (MSMEs) in Africa, as different countries and sectors may have different criteria for classifying them. However, some possible definitions are based on the number of employees, annual turnover, and total assets of the firms. For example, in South Africa, the size of a business is defined by its number of employees. Micro enterprises have 0 to 4 employees, very small enterprises have 5 to 9 employees, small enterprises have 10 to 49 employees, and medium enterprises have 50 to 200 employees (Mpi, 2019).

MSMEs are important for the economic development of Africa, as they provide an estimated 80 percent of jobs across the continent and account for most businesses in the private sector. However, they face many challenges in accessing and
affording finance, which limits their growth potential and contribution to poverty reduction. Blended finance, which combines concessional and commercial sources of capital, can help MSMEs overcome these barriers and scale up their operations (Taiwo, Hakan, & Savaş, 2022).

In Ethiopia, micro, small, and medium enterprises (MSMEs) are defined based on their annual turnover and number of employees. The definitions are as follows:

Micro-enterprises are businesses with an annual turnover of less than 500,000 Ethiopian Birr (ETB) and employ between 1 and 9 people, including the owner(s). Micro-enterprises are typically small in scale and have limited resources and workforce. Small enterprises are businesses with an annual turnover ranging from 500,000 to 5 million Ethiopian Birr (ETB) and employ between 10 and 29 people, including the owner(s). Small enterprises have a slightly larger scale than micro-enterprises and usually have a moderate workforce and resources (World Bank Group, 2020).

According to the World Bank Group (2020), there is no universally accepted definition of medium-sized enterprises in Ethiopia. However, the report suggests that a possible definition could be based on the number of employees, annual turnover, and total assets of the firms. For example, a medium-sized enterprise could be defined as one that has between 50 and 250 employees, an annual turnover of between 10 and 50 million birr, and total assets of between 5 and 25 million birr. This definition is consistent with the Ethiopian government’s classification of micro, small, and medium enterprises (MSMEs) in the industrial sector. However, different sectors may have different criteria for defining medium-sized enterprises. Therefore, it is important to consider the specific context and characteristics of each sector when applying this definition. These definitions are set by the Ethiopian government and form the basis for determining the eligibility of MSEs for various support programs, incentives, and regulations.

2.2. Contribution of MSMEs to Sustainable Development Goals

MSMEs play a significant role in Ethiopia’s pursuit of achieving sustainable development goals (SDGs) (Quagrainie, Adams, Kabalan, & Dankwa, 2021). Here are some contributions of MSMEs to SDGs in Ethiopia:

1. Poverty eradication: MSMEs are a vital source of employment and income generation, particularly in rural areas where agriculture is the primary livelihood. By creating job opportunities, MSMEs contribute to poverty reduction and economic empowerment (Verma, 2019).

2. Gender equality: MSMEs are often owned and operated by women, thereby promoting women’s economic empowerment and gender equality. This contributes to SDG 5, which aims to achieve gender equality and empower all women and girls (Prado, 2023).

3. Decent work and economic growth: MSMEs are a major driver of economic growth, accounting for a significant share of the country’s GDP. They provide employment opportunities, contribute to innovation, and enhance productivity and competitiveness. This aligns with SDG 8, which focuses on promoting inclusive and sustainable economic growth, full and productive employment, and decent work for all (Alemayehu & Bekele, 2023).

4. Industry, innovation, and infrastructure: MSMEs contribute to the development of industries and the establishment of diversified and resilient economies. They play a crucial role in fostering innovation, supporting technological
advancement, and promoting sustainable industrialization. This supports SDG 9, which emphasizes the need for resilient infrastructure, inclusive and sustainable industrialization, and innovation (Santoso, 2020).

5. Sustainable cities and communities: MSMEs often operate at the local level, contributing to the development and growth of cities and communities. They provide goods and services to local residents and enhance the quality of life. MSEs also play a significant role in reducing urban-rural disparities by creating employment opportunities in remote areas. This aligns with SDG 11, which focuses on making cities inclusive, safe, resilient, and sustainable (Deyganto, 2022).

6. Responsible consumption and production: MSMEs can contribute to sustainable consumption and production patterns by adopting environmentally friendly practices and producing goods and services with low environmental impacts. This supports SDG 12, which aims to ensure sustainable consumption and production patterns (Egun & Evbayiro, 2020).

The contribution of MSMEs to the achievement of SDGs in Ethiopia is significant. They are engines of economic growth, job creation, and poverty reduction, while also promoting gender equality, sustainable industrialization, and responsible consumption and production.

2.3. Empirical Review & Hypothesis

The research hypothesis about Factors Contributing to Micro and Small Businesses Success in Ethiopia was developed as follows:

2.3.1. Access to finances and success of MSMEs

Adequate funding enables these businesses to invest in equipment, raw materials, and skilled manpower, giving them the necessary tools to operate efficiently and competitively. Additionally, access to finances allows MSEs to expand their operations, explore new markets, and diversify their product offerings, contributing to their overall growth and sustainability. Moreover, having access to financial resources allows MSEs to withstand economic downturns, manage cash flow, and cope with unforeseen emergencies, reducing the vulnerability to financial setbacks. In summary, access to finances is pivotal for the success of MSEs as it empowers these enterprises to build a solid foundation, pursue growth opportunities, and navigate challenges, ultimately fostering their prosperity and contributing to economic development. An empirical study by Kithae, Gakure, R., & Munyao (2012) and Kanbiro and Addisu (2018) suggested that access to finance has a positive effect on the success of Micro and Small Enterprises.

- H1: There is a strong relationship there is a positive relationship between access to finances and MSMEs' sustainable development

2.3.2. Infrastructural facilities and success of MSMEs

The relationship between infrastructural facilities and the success of MSMEs is undeniably significant. Infrastructural facilities, such as roads, transportation networks, electricity supply, telecommunications, and access to water and sanitation, play a crucial role in supporting the operations and growth of MSEs. The availability and quality of
infrastructural facilities have a direct impact on the success of MSEs. Improved transportation networks, reliable electricity supply, efficient telecommunications services, and access to basic amenities are essential for MSEs to thrive, expand their reach, and remain competitive in today’s dynamic business environment. Governments and policymakers must prioritize infrastructure development to foster an enabling environment for the growth of MSEs and boost economic development. The research findings of Cherkos et al. (2018) evidenced that there is a positive relationship between infrastructural facilities and the success of Micro and Small Enterprises (MSEs).

- H2: There is a positive relationship between infrastructural facilities and MSMEs’ sustainable development

2.3.3. Institutional coordination and success MSMEs

Institutional coordination is crucial for the success of MSMEs. It involves the collaboration and support of various institutions, including government agencies, local authorities, financial institutions, and business development organizations, among others. When these institutions work together cohesively, they can contribute to the growth and development of MSEs by providing a conducive business environment, access to affordable financing, market linkages, and technical support. By coordinating their efforts, institutions can streamline procedures, share information, and align their policies and regulations to create a supportive ecosystem for MSEs to thrive. This coordination ultimately enhances the sustainability and competitiveness of MSEs, leading to their long-term success and contribution to economic growth and job creation. The research findings of Atnafu & Balda (2018) suggested that Institutional coordination has a positive effect on the success of Micro and Small Enterprises.

- H3: There is a strong and positive relationship between institutional coordination and MSMEs’ sustainable development

2.3.4. Access to business information & success of MSEs

Access to business information plays a crucial role in the success of MSMEs. In today’s digital age, where information is readily available and easily accessible, MSEs that have access to relevant and accurate business information have a distinct advantage over those that do not. Access to business information enables MSEs to make informed decisions, conduct market research, identify new opportunities, understand customer preferences and behaviors, track industry trends, and develop effective marketing strategies. Additionally, business information helps MSEs to mitigate risks, navigate regulatory requirements, and stay updated with changes in the market. Therefore, the relationship between access to business information and the success of MSEs is symbiotic, as the more information MSEs have at their disposal, the better equipped they are to make strategic decisions and adapt to the dynamic business environment, ultimately increasing their chances of success. The research result of a study by Hampel-Milagrosa (2014) pointed out that access to business information has a positive effect on the success of MSEs.

- H4: There is a positive and strong relationship between Access to business information and MSMEs’ sustainable development

2.3.5. Government support & success of MSEs
Government support plays a crucial role in the success of micro and small enterprises (MSEs) as it helps create an enabling environment for their growth and development. By offering financial assistance, such as loans and grants, governments can help MSEs overcome capital constraints and invest in new technologies, expand production capacities, and develop innovative products or services. Additionally, supportive policies, such as tax incentives and simplified regulations, can reduce the administrative burden on SMEs, allowing them to focus on their core activities and improve their competitiveness. Furthermore, governments can provide training and capacity-building programs to enhance the skills and knowledge of MSE owners and employees, which can lead to increased productivity and improved business performance. Overall, strong and sustained government support is vital for the long-term success of MSEs, enabling them to create jobs, drive economic growth, and contribute to poverty reduction. The research of Capiña (2021) found that government support has a positive effect on the success of MSEs.

- H5: There is a positive relationship between government support and the success of MSMEs, sustainable development

### 2.3.6. Technology utilization and success of MSEs

The relationship between the utilization of technology and the success of Micro and Small Enterprises (MSEs) is crucial and interconnected. Technology has become an essential tool for MSEs to enhance their operational efficiency, productivity, and overall competitiveness. By adopting advanced technologies such as automation, cloud computing, digital marketing, and e-commerce platforms, MSEs can streamline their processes, reduce costs, and reach a wider customer base. Technology also enables MSEs to compete with larger enterprises by improving the quality of their products and services. Furthermore, technology utilization allows MSEs to stay updated with market trends, innovate, and adapt quickly to changes, thereby increasing their chances of success. The integration of technology in MSEs plays a vital role in their growth, sustainability, and overall success (Fatmawat & Garad, 2022).

- H6: There is a positive relationship between Technology utilization and MSMEs’ sustainable development

### 2.4. Conceptual framework of the study

A conceptual framework is a representation of the relationship you expect to see between your variables, or the characteristics or properties that you want to study. Conceptual frameworks can be written or visual and are generally developed based on a literature review of existing studies about your topic (Varpio, Paradis, Uijtdehaage, & Young, 2020). Figure 1 shows the relationship between six explanatory variables and MSMEs' sustainable development as dependent variable.
3. Materials & Methods

3.1. Research Design

The researchers employed a correlational research design. A correlational research design is a type of non-experimental research method that examines the relationship between two or more variables. It is used to determine whether there is a correlation between the variables and, if so, what kind of correlation exists. A correlation reflects the strength and/or direction of the relationship between two (or more) variables. The direction of a correlation can be either positive or negative (Curtis, Comiskey, & Dempsey, 2016).

3.2. Research Approach

The research approach that was employed in this study is the quantitative research method. Quantitative research is a method of empirical investigation that emphasizes the use of mathematical and statistical analysis to measure and quantify data. This approach is often used to study large populations and is characterized by the collection of numerical...
data through surveys, experiments, or other methods. The data is then analyzed using statistical techniques to identify patterns, relationships, and trends. The goal of quantitative research is to provide objective and reliable information that can be used to make informed decisions and draw valid conclusions about a given population or phenomenon (Apuke, 2017).

3.3. Data sources and collection tools

The researchers used primary sources of data to undertake the study. The source of primary data is 450 MSME owners/operators. The researchers adopted a structured survey questionnaire to collect perceptions on factors affecting the MSMEs’ sustainable development in Africa.

3.4. Sampling Design

The sampling design of this research paper is shown in Table 1.

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Sampling Method</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44 million MSMEs in Africa</td>
<td>The researchers purposively selected 450 (54*10 each from 54 African countries)</td>
<td>450 MSMEs</td>
</tr>
</tbody>
</table>

*Source: Africa MSME Pulse Survey Report (2023).*

3.5. Data Analysis Methods

In this study, the researchers used both descriptive and inferential statistics. When running a multiple regression, there are common assumptions that you need to check that the research data meets and that the analysis is reliable and valid.

Before the final data analysis, the most common assumptions, such as multicollinearity, normality, autocorrelation, and heteroscedasticity, and there are no influential cases, have been tested before running the final regression result and are fully satisfied. The regression model of this paper was expressed as follows:

\[
\text{MSMEs' sustainable development} = -1.290 + 0.140 \times \text{access to finances} + 0.276 \times \text{availability of infrastructural} + 0.208 \times \text{institutional coordination} + 0.279 \times \text{business information service} + 0.231 \times \text{government support} + 0.211 \times \text{technology utilization} + \text{Error} \ldots \ldots \ (1)
\]

4. Results

4.1. Response rate

The analysis and discussion of this study are based on data collected from 340 respondents out of 450 MSMEs selected.
from Africa. The response rate was 76%, which implies that more than 50% of respondents have participated in the process of data collection.

4.2. Validity and Reliability Test

To test the validity of the respondents, the draft questionnaire was given to 5 academic staff of AIU to view it in the light of the research objectives, its relevance, the adequacy of the questionnaire items, and question coverage.

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Cranach’s Alpha</th>
<th>N. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSMEs’ sustainable development</td>
<td>0.714</td>
<td>5</td>
</tr>
<tr>
<td>Access to finances</td>
<td>0.904</td>
<td>5</td>
</tr>
<tr>
<td>Availability infrastructural</td>
<td>0.946</td>
<td>5</td>
</tr>
<tr>
<td>Institutional coordination</td>
<td>0.846</td>
<td>5</td>
</tr>
<tr>
<td>Access to business information</td>
<td>0.876</td>
<td>5</td>
</tr>
<tr>
<td>Government support</td>
<td>0.783</td>
<td>5</td>
</tr>
<tr>
<td>Technology utilization</td>
<td>0.887</td>
<td>5</td>
</tr>
<tr>
<td>Over-all</td>
<td>0.900</td>
<td>35</td>
</tr>
</tbody>
</table>

*Table 2. Reliability Statistics*

*Cronbach’s alpha is a measure of the internal consistency or reliability of a set of items that are intended to measure the same construct. It ranges from 0 to 1, where higher values indicate higher reliability. However, there is no definitive rule for what is an acceptable value of Cronbach’s alpha, as it may depend on the context, purpose, and nature of the items. Cronbach’s alpha below 0.6 is unacceptable, Cronbach’s alpha between 0.6 and 0.7 is minimally acceptable, Cronbach’s alpha between 0.7 and 0.8 is respectable, Cronbach’s alpha between 0.8 and 0.9 is very good, and Cronbach’s alpha above 0.9 is excellent, but may also indicate redundancy or overlap among the items (Cronbach, 1951). In this research paper, the overall Cronbach’s Alpha is equal to 0.9, which shows excellent reliability statistics.*

4.3. Descriptive Statistics Analysis
The success of MSMEs was the dependent variable of this study. As indicated in Table 3, the success of MSMEs that have a mean of variable (2.7000) and deviation value of (1.08909), access to finances have an overall mean of the variable of 2.5938, a maximum of 5, and a minimum of 1 Likert scale value. The standard deviation value is 1.33552, which indicates there was a variation in actual responses from the mean. With regard to other variables, availability of infrastructural, the overall mean of the variable was 3.0938 with a standard deviation value of 1.33552, institutional coordination a mean of 3.2232, and the standard deviation of 0.98483. Access to business information service a mean value of 2.8200 with a standard deviation of 1.25835; cooperation with others a mean value of 2.9125 with a standard deviation of 0.94761; information technology utilization with others a mean value of 2.6063 with a standard deviation of 1.08794 the overall mean and standard deviation is respectively. In summary, all variables incorporated in the model have a moderate contribution to the response variable success of MSMEs.

4.4. Correlation analysis

In this section, the relationship between MSMEs' sustainable development and six independent variables such as access to finances, availability of infrastructural, institutional coordination, access to business information, government support and technology utilization.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSMEs' sustainable development</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>2.7000</td>
<td>1.20168</td>
</tr>
<tr>
<td>Access to finances</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>2.5938</td>
<td>1.08909</td>
</tr>
<tr>
<td>Availability infrastructural</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>3.0938</td>
<td>1.33552</td>
</tr>
<tr>
<td>Institutional coordination</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>3.2232</td>
<td>0.98483</td>
</tr>
<tr>
<td>Access to business information</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>2.8000</td>
<td>1.25793</td>
</tr>
<tr>
<td>Government support</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>2.9125</td>
<td>.94761</td>
</tr>
<tr>
<td>Technology utilization</td>
<td>340</td>
<td>1.00</td>
<td>5.00</td>
<td>2.6063</td>
<td>1.08794</td>
</tr>
</tbody>
</table>

Source: Survey result, 2023
Table 4 shows the relationship between the dependent variable, which is MSMEs’ sustainable development and the independent variables with a coefficient of correlation 1, indicating that each variable is perfectly correlated with the other. The result shows that variables such as Access to finances, infrastructural, institutional coordination, and access to business information services, government support, and utilization of information technology have positive and statistically significant relationships with MSMEs’ sustainable development since the p-value is more than a 1% level of significance.

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

Source: Survey result, 2023

Table 5. Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-1.290</td>
<td>.346</td>
<td></td>
<td></td>
<td>-3.732</td>
<td>-.1970</td>
<td>-.610</td>
</tr>
<tr>
<td>Access to finances</td>
<td>.140</td>
<td>.070</td>
<td>.069</td>
<td>2.011</td>
<td>.045*</td>
<td>.003</td>
<td>.277</td>
</tr>
<tr>
<td>Availability infrastructural</td>
<td>.276</td>
<td>.046</td>
<td>.270</td>
<td>6.035</td>
<td>.000**</td>
<td>.186</td>
<td>.366</td>
</tr>
<tr>
<td>Institutional coordination</td>
<td>.208</td>
<td>.040</td>
<td>.225</td>
<td>5.137</td>
<td>.000</td>
<td>.128</td>
<td>.287</td>
</tr>
<tr>
<td>Access to business information</td>
<td>.279</td>
<td>.044</td>
<td>.262</td>
<td>6.300</td>
<td>.000**</td>
<td>.192</td>
<td>.367</td>
</tr>
<tr>
<td>Government support</td>
<td>.231</td>
<td>.035</td>
<td>.235</td>
<td>6.618</td>
<td>.000**</td>
<td>.162</td>
<td>.300</td>
</tr>
<tr>
<td>Technology utilization</td>
<td>.211</td>
<td>.033</td>
<td>.228</td>
<td>6.429</td>
<td>.000**</td>
<td>.147</td>
<td>.276</td>
</tr>
</tbody>
</table>

Model R=.803a, R Square=.645, Adjusted R Square=.639, R Square Change=.71319, F Change=.645, Durbin-Watson=1.847 and sig (P-value)=0.000 ** significant @1%, * significant@5% level of significant

Source: survey result, 2023

R-squared is an important measure that describes the goodness of fit of a regression model. It is the proportion of the variance in the dependent variable that is explained by the independent variables in the model. The higher the R-squared, the better the model fits the data. In general, a higher R-squared indicates a better fit of the model to the data, and indicates that the independent variables in the model are explaining more of the variation in the dependent variable. In this study, the R-squared was 0.645, which implies a 64.5% variation in MSMEs’ sustainable development was influenced by six independent variables such as access to finances, availability of infrastructural, institutional coordination, access to business information, government support and technology utilization. The coefficient of the regression model was 0.140 for access to finances, 0.276 for availability of infrastructure, 0.208 for institutional coordination, 0.279 for access to business information service, 0.231 for government support, and 0.211 for technology utilization, respectively. This implies that a 1% increase in Access to finances, Availability of infrastructural Institutional coordination, Access to business
information, Government support and Technology utilization leads to the 14%, 27.6%, 20.8%, 27.9%, 23.1% and 21.1% increases in MSMEs’ sustainable development in Africa respectively (see Table 5). The sig (p-value) of 0.000 on the model summary in the annex and Table 5 indicated that the model as a whole was statistically significant.

5. Discussion

In addition to the above discussion, more explanation of the model of this research let us discuss each variable incorporated in the model one by one as follows. The result of this study shows that Access to finances with an unstandardized coefficient of regression \[b= 0.140\] has a positive and statistically significant effect on MSMEs’ sustainable development at a 1% level of significance since (p-value of 0.000 < 0.01). Hence, hypothesis one was accepted. This finding is consistent with the idea of the study result by Buchdadi, Sholeha, & Ahmad (2020) that evidenced that there is a positive relationship between access to finance and MSMEs' sustainable development. This implies that Access to finances positively contributes to the sustainable development of MSMEs in Africa.

The result of this study with regards to the availability of infrastructural with regression \[b= 0.276\] has positive and statistically significant at a 1% level of significance since (p-value of 0.00 < 0.05). Hence, the researchers accepted hypothesis two. This finding is consistent with the finding of another study by Taiwo, Hakan, & Savas (2022) that evidenced that the availability of infrastructure has a positive effect on the sustainable development of MSMEs in Africa. This indicates that infrastructural facilities have a positive contribution to the sustainable development of MSMEs in Africa.

Regarding institutional coordination, the regression coefficient of \[β=0.208\] is positive and statistically significant with a p-value (of 0.004 <1% level of significance. Therefore, hypothesis H3 is accepted by the researchers. Hence, the ability to take risks has a positive effect on women’s business performance. This finding is consistent with the empirical finding of Jatmiko, Udin, Raharti, Laras, & Ardhı (2021), who found that institutional coordination has a positive effect on the sustainable development of MSMEs in Africa. This indicates that institutional coordination has had a positive contribution to the sustainable development of MSMEs in Africa.

When it comes to the access to business market information with a coefficient of regression of variable is \[b=0.279\] is positive and statistically significant with a p-value (0.000 >1%, level of significance effect on sustainable development of MSMEs. Therefore, hypothesis four is accepted by the researcher. This finding is consistent with the empirical result of a safe environment Widjajanti, Prihantini, & Wijayanti (2022), who found access to business market information has a positive effect on the sustainable development of MSMEs in Africa.

The result of this study also shows that the coefficient of regression recognition of government support is \[b= 0.231\] positive and statistically significant effect on the sustainable development of MSMEs since (p-value of 0.00 < 0.01). Hence, hypothesis five stated as is accepted. This finding is similar to the findings of Santosos, Nijawah, Sulaiman, Akbar, & Umam (2020), who showed that the existence of family support with a simple thank you has a positive and statistically significant effect on the sustainable development of MSMEs in Africa. This implied that government support for MSMEs is very important in Africa.
Utilization of information technology has a coefficient of regression of variable is \( b = 0.211 \) is a positive and statistically significant effect on the development of MSMEs in Africa with a p-value \( (0.000 > 1\%) \), level of significance. Therefore, hypothesis six is accepted by the researchers. This finding is consistent with the empirical result of a study conducted by Supriyati, Mulyani, Suharman, & Supriadi (2022), who discovered that information technology has a positive effect on the development of MSMEs in Africa.

6. Concussion

The study has shown a clear understanding of the effect of access to finances, availability of infrastructural, institutional coordination, and access to business information, government support, and technology utilization were factors significantly contributing to the MSMEs’ sustainable development in Africa. Hence, the researchers accepted the hypothesis from one up to six. The researchers forwarded the possible recommendation to the policymakers and government of Ethiopia to work on the aforementioned variables to improve the success and sustainability of MSMEs to contribute to the implementation of SDGs in Africa.

Abbreviations

- MSEs: Micro and Small-Scale Enterprises
- MSMEs: Micro, Small-Scale and Medium Enterprises
- SDGs: Sustainable Development Goals

Declarations

Availability of data and materials

All data and materials are included in the manuscript

Competing interests

The authors declare that they have no competing interest

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