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Growth Determinants, Challenges, and the Role of Micro and Small Enterprises in Debre Birhan City, Ethiopia, by Zewdu Adefris*

Abstract

Micro and small enterprises (MSEs) are vital components of the economic landscape in Debre Birhan City, Ethiopia. This study examines the factors influencing the growth, challenges, and the role of MSEs in the city. Through primary data collection from MSE owners/operators, key determinants such as the gender, level of education, and family business background of MSEs owners/operators, ownership structure of MSEs, start-up size, market opportunities, and competition from the informal sector were identified as crucial drivers of MSEs growth in the city. However, challenges such as insufficient working capital, limited market linkage, inadequate working premises, lack of technical skills, and inadequate infrastructure and services were found to impede the expansion of MSEs in the city. Despite these challenges, MSEs in Debre Birhan City play a significant role in generating employment, creating wealth, reducing poverty, satisfying customers, and promoting local entrepreneurship. To capitalize on these opportunities and address the challenges faced by MSEs, local authorities and relevant stakeholders must collaborate to create an enabling environment that fosters entrepreneurship, provides access to finance, provides working premises, and improves infrastructure. By addressing these factors, MSEs in Debre Birhan City can realize their full potential as engines of economic growth and job creation. This study provides valuable insights for policymakers, stakeholders, and supporting organizations looking to support the sustainable development of MSEs in Debre Birhan city.

Keywords: Factors influencing growth, Challenges, Role, Micro and small enterprises, Debre Birhan City

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Introduction

Given Ethiopia‘s high unemployment and poverty figures and the expected roles of MSEs, the government has in the past devised policies and incentives for the development of MSEs. MSEs are recognized as important vehicles of economic growth, employment creation, income generation, and poverty reduction and provide opportunities for entrepreneurial sourcing, training, development, and empowerment. Therefore, MSEs hold a significant place in Ethiopia's development agenda. Despite the government's efforts to promote the growth of MSEs in the country, numerous factors and challenges continue to influence their development.

In a study conducted by Haftom Haile et al. (2014), it was found that factors such as access to credit from formal financial institutions, availability of infrastructure, and access to suitable operating premises significantly affect the growth of MSEs. Additionally, a study by Habtamu et al. (2013) in Mekele City suggests that the gender of the manager, initial investment in the business, location, and sector of operation play a crucial role in determining the growth of MSEs. As noted by Berihu (2017), various factors such as the age of the operator, the age of the enterprise, access to credit, initial capital amount, market competition level, government policies, training availability, operator's gender, technology utilization, and market access significantly affected the performance of MSEs in Godere Woreda of Gambella Regional State, Ethiopia. MSEs face many challenges that hinder their sustainability and optimal contribution to the economy. The research findings highlight that insufficient startup capital, regulatory issues, limited infrastructure, unfair competition, lack of training, credit constraints, and technology skills gaps negatively affect MSE performance (Berihu, 2017). Similarly, Tekabe's (2019) study found factors such as insufficient funding, absence of suitable workspaces, marketing challenges, infrastructure deficiencies, ineffective management techniques, and various technological, entrepreneurial, and regulatory obstacles as detrimental to MSE performance.

Despite the importance of MSEs, there is a lack of comprehensive research specifically focusing on factors influencing their growth in Debre Birhan City. This gap in the literature hinders stakeholders from implementing targeted interventions to support the sustainable development of MSEs in the city. While some past research surveys conducted on MSEs in Ethiopia, they have primarily focused on challenges and performance at the organizational level, explaining the relationships between MSEs’ performance and internal factors or combined internal and external factors. Thus, there is a need for a detailed examination of the specific challenges encountered by MSEs in Debre Birhan City. Understanding these challenges is crucial for designing effective support mechanisms. Examining factors that can positively or negatively affect the future growth of MSEs in the city is crucial for sustainable economic development. Assessing the role of MSEs in Debre Birhan City is vital for strategic planning and policy formulation. Given these considerations, this study seeks to examine the growth determinants, challenges, and the role of MSEs in Debre Birhan City, Ethiopia, have been a topic of interest due to their substantial contribution to the local economy.

Literature Review

Theoretical Literature Review

Definition of Micro and Small Enterprises

Micro and small enterprises are defined based on the number of employees they have, with variations in definitions across different contexts. The United Nations Industrial Development Organization (UNIDO) defines microenterprises as those with fewer than five employees and small enterprises as those with 5 to 19 employees in developing countries (UNIDO, 2002).

In Ethiopia, the Micro and Small Enterprise Development Policy and Strategy (MSEDS) of 2016 provides specific criteria for categorizing enterprises. Microenterprises in Ethiopia are defined as businesses employing no more than five individuals, including owners and family members, with total assets not exceeding ETB 100,000. In the industrial sector (including manufacturing, construction, and mining), microenterprises employ a maximum of five persons with total assets not exceeding ETB 100,000. In the service sector (retail trade, transport, hotel, tourism, and information technology and maintenance services), microenterprises employ a maximum of five individuals with total assets not exceeding ETB 50,000. On the other hand, small enterprises in Ethiopia employ between 6 to 30 people with total assets ranging from ETB 100,001 to ETB 1,500,000 in the industrial sector and between ETB 50,001 and ETB 500,000 in the service sector.

Assessing the Growth of Micro and Small Enterprises

The success of enterprises is commonly evaluated based on factors such as increased turnover, expanded workforce, and changes in sales volume (Kolvereid and Isaksen, 2006; Papadaki and Chami, 2002, as cited in Mesfin, S.K., 2015). While various metrics can be used to measure the growth of small businesses, the most often utilized indicator is the change in the number of employees since start-up (Holmes and Zimmer, 1994; Liedholm and Joan, 1989, as cited in Mesfin, S.K., 2015). This metric is preferred due to its simplicity, ease of recall over time, and lack of need for adjustment. Consequently, the standard measure of small enterprise growth typically changes in workforce size from the establishment phase (Liedholm and Mead, 1999; USAID, 2002, as cited in Mesfin, S.K., 2015).

Mead and Liedholm (1998) proposed an alternative formula for calculating annual employment growth in small enterprises as follows:

- Average annual growth rate (simple average):
  [(current employment-initial employment)/initial employment]/enterprise age
- Average annual growth rate (compound):
  [(current employment/initial employment) ($^{1/\text{final age}}$)] - 1.

However, Dockel and Ligthelm (2005), Everett and Watson (1998), and USAID (2002), as cited in Mesfin, S.K. (2015), argue against solely relying on employment figures to measure growth. They highlighted potential biases arising from overlooking alternative indicators such as changes in sales, outputs, or assets. This is because of the seasonal nature of employment, prevalence of part-time workers, and the use of unpaid family labor. Critics also point out that job quality may not necessarily align with employment growth figures (Huang and Brown, 1999, as cited in Mesfin, S.K., 2015). As a result, they propose considering the average change in sales as an alternative measure of enterprise growth.

Despite differing viewpoints, the significance of employment as a key measure of small enterprise growth stays undisputed. Assessing growth through employment figures reflects not only the performance and profitability of enterprises but also their contribution to job creation (Timmons, 1999, as cited in Mesfin, S.K., 2015). Various methodologies exist for calculating employment growth rates, ranging from simple annual averages to compound rates. While some studies focus on total employment changes since start-up, others emphasize the importance of consistent measurement using established criteria (Goedhuys, 2002; Liedholm, 2001; USAID, 2002, as cited in Mesfin, S.K., 2015; Liedholm and Mead, 1999).

Factors and Obstacles Influencing the Performance of Micro and Small Enterprises

According to Roy and Wheeler (2006), the performance of micro and small enterprises can be influenced by various factors such as the extent of training received by micro entrepreneurs (both formal and informal), their level of experience and years in business, knowledge of the market, ability to differentiate through pricing, quality, or other factors, product diversification, access to necessary resources and technology, level of planning, ability to anticipate future trends, and the entrepreneur's economic status. Conversely, obstacles to progress and development in the MSE sector encompass inadequate market knowledge and training, limited access to capital, and a lack of cooperation among potential business partners.

Workneh's (2007) study highlighted constraints faced by MSEs including lack of capital, market access, unfavorable policies, inadequate infrastructure, insufficient training, governmental structures, and processes. Similarly, Adil's (2007) research in Addis Ababa found incorrect government intervention, capital shortages, location disadvantages, lack of market access, and inadequate display facilities as major hindrances to MSE development. Dereje's (2008) study on MSEs in the construction sector revealed key constraints such as lack of capital, raw materials, government support, market access, credit facilities, and high interest rates based on a sample of 125 enterprises.

Mulugeta (2011) also found and described the critical challenges faced by micro and small enterprises (MSEs). These challenges include market-related issues resulting from inadequate market connections and ineffective promotional activities. Problems related to institutions include bureaucratic obstacles, limited institutional capacity, lack of awareness, non-compliance with policies, regulations, and rules, absence of executive training, and inadequate monitoring and follow-up. Operator-related challenges involve developing a reliance on tradition, extravagant spending habits, and a lack of vision and commitment among operators. MSE-related constraints consist of inadequate marketing strategies, poor accounting practices,

limited knowledge sharing, and insufficient collaboration within and among MSEs. Lastly, societal challenges include distorted perceptions of MSE operators and their products.

Role of the Micro and Small Enterprises Sector

The MSEs sector plays a crucial role in contributing to the economy by creating employment opportunities, increasing income levels, reducing costs, and enhancing business convenience (Fatoki, 2012). MSEs have dual roles: they drive economic growth by boosting their output contributions to the Gross Domestic Product (GDP) and alleviate poverty through the employment and income generation effects of their output growth (Tambunan, 2019). In developing countries, MSEs are vital for job creation, income generation, skill development, goods, and services delivery, and more (Cherkos et al., 2018). The importance of MSEs, particularly new businesses, significantly addresses socio-economic challenges like unemployment, poverty, income disparities, political stability, and economic growth (Musara and Gwaindepi, 2014).

In Ethiopia, the government places special emphasis on MSEs as they represent most enterprises and employment in non-agricultural sectors. Recognizing the crucial role MSEs play in fostering income generation, job creation, and poverty reduction, the government formulated its first micro and small enterprise development strategy in 1997. The MSE sector is pivotal in driving economic growth, creating jobs, and developing an industrial economy. MSEs effectively utilize local resources and are labor-intensive (FMSEDA, 2012).

Empirical Literature

Mead and Liedholm (1998) identified that the success of micro and small enterprises in developing countries is not determined by their size but by their isolation, which hinders access to markets, knowledge, finance, and institutional support. Kinyua's study (2013), as cited in Shimels (2021), highlighted that access to finance could have a positive impact on the performance of micro and small enterprises in the Jua Kali sector. Many businesses expressed challenges in obtaining loans due to the requirements for credit records and a lack of understanding of loan acquisition and repayment processes (Kinyua, 2014, cited in Shimels, 2021). Despite the potential benefits, access to finance has not been effectively leveraged by MSEs in the study area. Khizra (2011) found that factors such as firm age, owner's education level, managerial attitude, family business connections, networks, innovation, market share, on-the-job training, and specialized knowledge significantly and positively influence firm growth in Gujrat and Sialkot Districts.

Bekele and Worku (2008) undertook a longitudinal investigation to assess the influential factors affecting the sustained presence and viability of small and medium enterprises in Ethiopia. The study identified that the long-term survival of micro, small, and medium enterprises (MSMEs) in Ethiopia is influenced by factors such as the adequacy of financial resources, levels of education, managerial and technical skills, and the ability to reinvest a portion of profits. The findings revealed that businesses that did not survive during the study period lacked sufficient finance (61%), had lower educational levels (55%), exhibited poor managerial skills (54%), lacked technical skills (49%), and failed to reinvest profits (46%). Additionally, the study emphasized the critical role of engaging in social capital and networking schemes like Iqub for the sustained success of enterprises. Moreover, a study by Wolday and Gebrehiowot (2004) on business development services in Ethiopia highlighted the status, prospects, and challenges faced by MSEs sector. The research showed that operators in MSEs had limited vocational and technical training prior to starting their businesses and received minimal short-term training,

extension services, counseling, and marketing support. The primary constraints found were specifically related to challenges in accessing markets and financial resources.

A study by Hadis and Ali (2018), as cited in Shimels (2021) regarding MSEs in Ethiopia, specifically in Kombolcha town, highlighted the weak linkages between MSEs and financial institutions due to ineffective managerial practices and policy-related barriers. The study also found entrepreneurs' perception of limited importance of local government support and deficiencies in product quality and technical skills as key factors impacting MSEs' business performance. Furthermore, according to the World Bank (2012), inadequate infrastructure poses a significant constraint on business performance in Ethiopia. Issues such as poor road conditions, lack of access to land, workspace, energy, and utility services contribute to this infrastructural challenge. Additionally, limited access to land and insufficient property rights hinders MSEs' ability to access necessary infrastructure and utilities (Ginbite, 2017; as cited in Shimels, 2021).

Methodology

Description of the Study Area

Debre Birhan city, situated in the North Shewa Zone of the Amhara regional state, lies approximately 130 kilometers northeast of Ethiopia's capital, Addis Ababa. Serving as the administrative hub of the North Shewa Zone, the city has a latitude and longitude of 9°41′N 39°32′E and an elevation of 2,840 meters. As of 2022/2023, Debre Birhan city has attained regiopolitan status and is structured into five sub-cities (Atse Zerayakob, Etege Taytu, Emiye Menelik Tabase, and Chacha) clustering twenty-four urban, thirteen rural, and two satellite kebeles. The city's total population stands at 436,711, forming 210,283 men and 225,428 women (Debre Birhan City Finance and Economic Development Office, 2022).

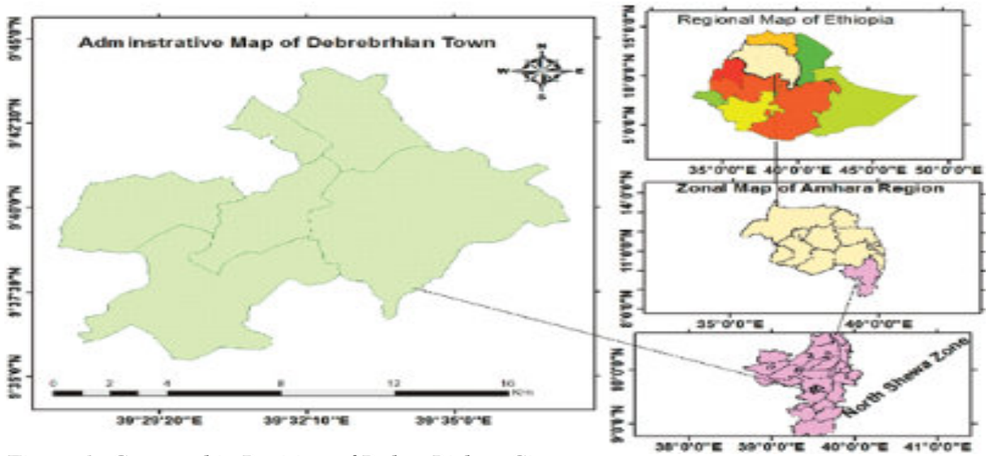

Figure 1: Geographic Position of Debre Birhan City

Study Design

To meet the specified objectives, this study utilized both descriptive and explanatory research designs, incorporating both quantitative and qualitative research methods. The quantitative approach was used to examine growth determinants, identify key challenges, and assess the role

of Micro and Small Enterprises (MSEs) growth in Debre Birhan City. Qualitative methods, specifically interviews, are utilized to capture non-numeric variables.

Target Population and Sampling Framework

According to the Debre Birhan City Bureau of Labor and Training (2022) report, there are 1740 formally registered MSEs operating in the manufacturing, services, trade, construction, and urban agriculture sectors in the city. Hence, the target population for this study comprises these 1740 MSEs. The sampling frame needs to be representative of this target population, with the sampling units being formally registered MSE owners/operators who have been in operation for at least one year within the study area.

Sampling Techniques and Sample Size Determination

To ensure representation from MSEs of varied sizes, a stratified random sampling technique was employed. This technique involves dividing the sampling frame into homogeneous groups (strata) before selecting items for the sample. Stratified random sampling allows for accurate representation across sectors (manufacturing, construction, service, trade, and urban agriculture). The sample size calculation in this study follows the Yamane (1967:86) formula, which is suitable for finite populations is computed as follows:

$$n = \frac{N}{1+N(e)^2} = \frac{1740}{1+1740(0.05)^2} = 326$$

Where: N = Population size, which is 1740

n = Sample size required; and

e = Level of precision, expressed as a decimal of 0.05 for a 5% level.

A proportional stratified sampling technique is employed with a population of 1740 MSEs, resulting in a sample of 326 MSEs randomly selected proportionally across sectors (manufacturing, construction, service, trade, and urban agriculture). While there are some differences, the study sample is considered representative of the sector structure of MSEs in the study area, with a notable overrepresentation of the trade sector. Additionally, face-to-face interviews will be conducted with 8 MSE officials and experts using purposeful sampling to explore their perspectives on growth determinants, challenges, and the role of MSEs in Debre Birhan City. These discussions would enrich and verify the data obtained through the questionnaire.

Source of Data and Data Collection Instrument

The study incorporated both primary and secondary data sources. Primary data was collected by administering a structured questionnaire to a representative sample of MSE owners/ operators. Additionally, key informant interviews with MSE officials and experts were conducted using specific checklists to gather qualitative insights not covered in the questionnaire. Secondary data was sourced from various published and unpublished materials ch as reports from the Debre Birhan City Bureau of Labor and Training, journal articles, research papers, and websites.

Table 1: Distribution of Sample Size by Sector

Sectors	Micro Enterprises		Small Enterprises		Total	
	Target population	Sample Size	Target population	Sample Size	Target population	Sample Size
Manufacturing	135	26	41	5	176	31
Construction	166	31	12	3	178	34
Service	491	92	6	2	497	94
Trade	847	158	3	1	850	159
Urban agriculture	38	7	1	1	39	8
Total	1677	314	63	12	1740	326

Source: Debre Birhan City Bureau of Labor and Training Report, 2022

Methods of Data Analysis

Descriptive Statistics

Quantitative data collected was analyzed using descriptive statistics, including frequency and percentage, to summarize the characteristics of enterprises and their owners/operators.

Econometric Analysis

To investigate the relationship between the growth of Micro and Small Enterprises (MSEs) and various independent variables, a multiple linear regression model was utilized. Prior to fitting the multiple regression model, it was vital to assess the assumptions of multiple regression. Addressing the issue of heteroscedasticity commonly present in cross-sectional datasets, robust standard errors were employed in estimating the regression. By using the robust option, the coefficients' point estimates remained the same as in ordinary least squares (OLS), while accounting for heterogeneity and non-normality concerns through adjusted standard errors. A multicollinearity test, utilizing Variance Inflation Factors (VIF) and correlation matrix, was conducted to address potential multicollinearity among the explanatory variables. The correlation matrix indicated values below 0.8, and VIF values were all below 10, except for the correlation between age and age square, which was logically expected to be high. If VIF values range from 1 to 10, it can be inferred that there is no multicollinearity among the independent variables in the regression model (Pallant, 2010).

Econometrics Model Specification

In addition to descriptive analysis, it is valuable to identify and quantify the factors influencing the growth of Micro and Small Enterprises (MSEs). Following Evans (1987), the functional relationship between firm growth, age (At), and firm size (St) can be expressed as:

$$S_t^{\prime}=[G(S_t,A_t)]^d (S_t) e^{ut} \quad (1)$$

where $S_t^{\prime}$ and S_t represent the firm's final and initial size, respectively, d denotes the time interval, G represents the growth function, A represents firm age, and ut is the log-normally distributed error term.

By taking the logarithm on both sides of equation (1) and rearranging, a specific functional form can be derived to understand the effect of different variables on firm growth as expressed below.

$$\log[(A_t,S_t)+u_t]=\beta_0+\beta_1 \log(A_t)+]\beta_2 \log S_t)+\beta_3 \log[(A_t) \log[(S_t)+\beta_4]] ([logA]_t)^2+[[\beta]_5 ([logS]_t)]^2+u_t \quad (2)$$

Augmenting the equation (2) with a vector of factors (X) that account for various influences on firm growth, the model captures the average annual growth rate of a firm in terms of employment (Yi), we have the following equation (3) (Iacovone et al., 2012).

$$Y_i=\beta_0+\beta_1 \log[(A_t)+]\beta_2 \log S_t)+\beta_3 \log[(A_t) \log(S_t)+]] [\beta_4 (logA_t)]^2 + [\beta_5 (logS_t)]^2 + \sum_{i=3}^{n} \beta_i X_i] + u_t \quad (3)$$

Table 2: Variable Notation, Description, and Measurement

Notation	Description	Measurement
msegrw	Growth of MSE	Continuous: The difference in employment size between the time of survey (current employment) and establishment year (initial employment) divided by initial employment and divided by enterprise age.
gendo	Gender of MSE owner/operator	Dummy: male owned = 1, otherwise = 0.
ageo	Age of owner/operator	Continuous: in years
ageosqu	Age square of MSE operator	Continuous: in years
married	Marital status of MSE owner/operator	Dummy: Married = 1, otherwise = 0.
educi	Education level of MSE owner/operator	Dummy: no formal education =1, otherwise = 0.
educ8		Dummy: primary education =1, otherwise = 0.
educ9		Dummy: secondary education =1, otherwise = 0.
fjob	Family business background	Dummy: business =1, otherwise = 0.
exper	Business experience of owner/operator	Continuous: in years
stsiz	Startup size of MSEs	Continuous: initial employment
ownership	Forms of MSE ownership	Dummy: owned by privately = 1; otherwise = 0.
agemse	Age of MSEs	Continuous: number of years in the firm's life
acr	Access to credit from formal institutions	Dummy: Access = 1; otherwise = 0.
amkt	Access to the market	Dummy: Access = 1; otherwise = 0.
elect	Power outage	Continuous: Number of hours per week the MSEs without access to electricity
comp	Market competition	Dummy: MSEs face competition from unregistered informal firms = 1; otherwise = 0.

Thus, the current size of the firm (Y) is a function of starting size (S), age (A), and a vector (X) encompasses factors such as owner/operator characteristics, firm attributes, location, and business environment conditions that affect MSE growth. In this study, the dependent variable, MSE growth is measured in terms of employment growth (the relative change in a firm's number of permanent employees between the establishment year and the time of the survey, 2022/23), which is considered a robust measure compared to sales or profits due to its lower

susceptibility to measurement errors and lack of correlation with inflation. The model includes independent variables related to owner/operator characteristics like gender, age, marital status, education level, business experience, family background, and MSE-specific attributes like starting size, ownership structure, age, power outage, competition, credit access, and market accessibility.

The multiple linear regression model specification for analyzing the factors influencing MSE growth is outlined below.

$$msegrw=\beta_0+\beta_1\ gendo+\beta_2\ ageo+\beta_3\ ageosqu+\beta_4\ married+\beta_5\ educi+\beta_6\ educ8+\beta_7\ educ9+\beta_8\ fjob+[(\beta_9\ exper+\beta_{10}\ stsiz+\beta_{11}\ owner+\beta)]_{12}\ agemse+\beta_{13}\ acr+\beta_{14}\ amkt+\beta_{15}\ elect+\beta_{16}\ comp+\varepsilon_i \quad (4)$$

Findings and Analysis

Descriptive Statistics and Analysis

Among the 309 respondents surveyed, as depicted in Table 3, 55% were male and 45% were female, indicating a balanced gender representation in the sample. The distribution of male and female participants across sub-sectors was also relatively equal. The age distribution of the respondents, detailed in Table 3, reveals that a sizable portion falls within the age groups of 26 to 35 and 36 to 45, highlighting the prevalence of young adults in the sample population. The survey results further indicate that 80.92% of respondents had completed formal education, while 19.09% had no formal education, with only 6.8% holding a first degree. In terms of marital status, the majority (52.43%) of respondents were married, followed by singles (43.37%).

As for the ownership structure of MSEs as presented in Table 4, it is noted that 48.54% of enterprises are sole proprietorships, while 50.49% are partnerships, and only 0.97% are cooperative enterprises. The survey results reveal that 51.13% of respondents' families are engaged in business, 24.60% in agriculture, 16.18% in civil service, and 7.44% in other occupations. It was seen that the family occupation in business positively influences the current business activities of MSE owners/operators. Additionally, a majority (62.87%) of sampled

Table 3: Respondents' Profile

Category	Manufacturing		Service		Trade		Construction		Urban agriculture		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Gender												
Male	21	12.35	47	27.65	72	42.35	23	13.53	7	4.12	170	55.02
Female	7	5.04	43	30.94	82	58.99	6	4.32	1	0.72	139	44.98
Age												
Below 26	4	50.00	1	12.50	0	0.00	3	37.50	0	0.00	8	2.39
26 to 35	7	6.93	22	21.78	43	42.57	24	23.76	5	4.95	101	32.69
36 to 45	17	12.50	35	25.74	79	58.09	2	1.47	3	2.21	136	44.01
46 or over	0	0.00	32	50.00	32	50.00	0	0.00	0	0.00	64	20.71
Level of education												
No formal education	0	0.00	25	42.37	34	57.63	0	0.00	0	0.00	59	19.09
Primary school	20	19.80	31	30.69	42	41.58	6	5.94	2	1.98	101	32.69
Secondary school	7	7.07	24	24.24	54	54.55	9	9.09	5	5.05	99	32.04
Diploma	1	3.45	8	27.59	17	58.62	2	6.90	1	3.45	29	9.39
First degree	0	1.00	2	9.52	7	33.33	12	57.14	0	0.00	21	6.80
Marital status												
Married	22	13.58	51	31.48	79	48.77	4	2.47	6	3.70	162	52.43
Single	6	4.48	34	25.37	67	50.00	25	18.66	2	1.49	134	43.37
Divorced	0	0.00	3	33.33	6	66.67	0	0.00	0	0.00	9	2.91
Widowed	0	0.00	2	50.00	2	50.00	0	0.00	0	0.00	4	1.29

Source: Compute from own survey, 2023; f = frequency, % = Percentage

Table 4: Characteristics of MSEs Owners/Operators

Category	Manufacturing		Service		Trade		Construction		Urban agriculture		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Form of MSEs ownership												
Sole proprietorship	0	0.00	0	0.00	150	97.40	0	0.00	0	0.00	150	48.54
Partnership	28	17.95	90	57.69	1	0.64	29	18.59	8	5.13	156	50.49
Cooperative	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00	3	0.97
Family business background												
Business	21	13.29	38	24.05	82	51.90	12	7.59	5	3.16	158	51.13
Civil servant	0	0.00	11	22.00	25	50.00	11	22.00	3	6.00	50	16.18
Agrarian	4	5.26	29	38.16	38	50.00	5	6.58	0	0.00	76	24.60
Others	3	13.04	10	43.48	9	39.13	1	4.35	0	0.00	23	7.44
Business experience												
Yes	18	9.33	57	29.53	88	45.60	24	12.44	6	3.11	193	62.87
No	10	8.77	33	28.95	64	56.14	5	4.39	2	1.75	114	37.13

Source: Compute from own survey, 2023; f = frequency, % = Percentage

Challenges hindering MSE growth are consistent across sectors, with familiar challenges being a shortage of working capital, limited market access, inadequate working premises, lack of managerial and technical skills, and insufficient basic infrastructure/services. Key informants highlighted internal challenges such as lack of marketing, record-keeping, and entrepreneurial skills, as well as external factors like limited market linkages and infrastructural issues as major challenges faced by MSEs in Debre Brihan City, Ethiopia. Moreover, inadequate credit facilities, unequal access to credit due to collateral and policy-related requirements, and financial institutions' procedures were identified as barriers to MSE development.

The Role of Micro and Small Enterprises

MSEs play a significant role in the Ethiopian economy by creating employment opportunities, focusing on customer satisfaction, wealth creation, poverty reduction, and promoting local entrepreneurship. Key informants also acknowledged that manufacturing enterprises have been successful in generating employment quickly by transitioning from micro to small enterprise levels.

Econometric Findings and Analysis

Evaluation of Assumptions

Prior to examining the OLS regression results, it is essential to assess and address the assumptions underlying the model being examined. The F-statistics test decides the significance of the multiple coefficients in the model. The F-test P-value of 0.0000 shows statistical significance at a level below 1%, allowing us to reject the null hypothesis and conclude that some variables have significant effects on MSE growth, as detailed in Table 5. Additionally, the coefficient of determination (R^2) measures the goodness of fit of the model, with an R^2 value of 62.83% suggesting that 63% of the variance in MSE growth, as showed by employment, is explained by the independent variables utilized. Overall, the model proves a good fit based on this measure.

Another important regression assumption to be tested is homoskedasticity, where heteroskedasticity refers to the violation of this assumption. Through the Cook-Weisburg (1983) test, a chi-squared value of 122.22 with a Prob > chi2 of 0.0000 reveals significant heteroskedasticity in the residuals versus predicted values regression. To address this issue, robust standard error methods were applied using robust choice. The study also examined multicollinearity using standard error levels, variance inflation factors (VIF), and correlation matrices. The results show that multicollinearity issues are not severe, as standard errors are within acceptable ranges and VIF values are below 10, except for the logically expected high correlation between age and age square. The correlation matrix also shows values below 0.8, affirming that multicollinearity is not a concern in this dataset.

Model Results

As depicted in Table 5 below, the gender of the operator, primary education level, family business background, start-up size, sole ownership, market accessibility, and competition from the informal sector exert significant influences on the growth of MSEs.

The gender of the operator proves a positive and statistically significant effect on the employment growth of MSEs, with a significant level of 1%. The observed positive coefficient implies that enterprises owned by males tend to outperform those owned by females, due to the greater commitment of male operators to full-time business activities compared to their female counterparts. This finding is consistent with earlier research conducted by Berihun (2017). Furthermore, the coefficient associated with primary education shows that completing primary school has a positive and statistically significant effect on MSE growth. The level of education reached is likely to influence the skill levels that individuals bring to their business endeavors, as noted in studies by Solomon (2004), Abraham (2013), and Tassew et al. (2015) cited in Berihu (2017). Consequently, the regression analysis results suggest that MSEs managed by individuals with primary education (grades 1–8) show higher growth performance compared to those lacking formal education. Moreover, the presence of a family business background is positively and significantly linked to MSE growth. This association highlights the effect of family business experience on the employment expansion of MSEs, showing that owners/operators with a family history of entrepreneurship are more likely to enhance the growth of MSEs.

The effect of start-up size on MSE growth is negative, showing that smaller businesses in terms of employment tend to grow faster than larger ones. This relationship is statistically significant at a 5% level, highlighting that smaller firms show faster growth rates compared to their larger counterparts. This finding aligns with the learning model of firms, suggesting a negative correlation between firm size and employment growth for MSEs. Ownership structure is another crucial factor influencing MSE growth positively and significantly, with a 1% level of statistical significance. MSEs owned by a single proprietor show superior employment growth compared to other ownership structures, in line with Wolday's (2015) findings.

Market accessibility also plays a vital role in driving the growth of MSEs, with a positive and statistically significant effect at a 1% significance level. Access to market information on customers, suppliers' prices, and trade regulations is essential for MSEs to survive and expand. This result is consistent with earlier studies by Abraham (2013) and Berihun (2017). On the other hand, competition from unregistered or informal firms negatively affects the growth of MSEs, with a significant effect at a 1% significance level. Unfair competition from the informal sector can hamper the productivity of formal MSEs, potentially hindering their growth prospects. The coexistence of formal and informal MSEs in similar businesses may erode the growth potential of formal MSEs, highlighting the challenges posed by informal competition.

Table 5: Multiple Linear Regression Result

Dependent Variable: Growth of MSEs				
Explanatory Variables	Coefficient	Robust Std. Error	t-value	P-value
Gender of MSEs operators	0.2959318	0.0678941	4.36	0.000***
Age of MSEs operators	-0.0318331	0.0332831	-0.96	0.340
Age square of MSEs operators	0.0002461	0.0004009	0.61	0.540
Marital status of the operator (married)	-0.0207227	0.0544962	-0.38	0.704
Primary education (educ8)	0.1341078	0.07909	1.70	0.091*
Secondary education (educ9)	0.0049218	0.0629074	0.08	0.938
Family business background	0.1414843	0.0506164	2.80	0.006***
Business experience of the operator	0.0841729	0.0605964	1.39	0.166
Startup size (first employment)	-0.0007629	0.0003651	-2.09	0.038**
Ownership	0.2458213	0.0828442	2.97	0.003***
Age of MSEs	-0.0087728	0.0310108	-0.28	0.777
Access to credit	0.013454	0.0541028	0.25	0.804
Access to the market	0.5195842	0.1288406	4.03	0.000***
Power outage	-0.0016556	0.0379396	-0.04	0.965
Competition for informal sector	-0.2469308	0.0894607	-2.76	0.006***
Cons	0.8353877	0.665918	1.25	0.211
Number of obs = 301	F (15, 285) = 10.02		Prob > F = 0.0000	
R-squared = 0.6283	Root MSE = .44463			

///*, ** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Source: Computed from own survey, 2023

Conclusion and Recommendation

Conclusion

This study aimed to assess the growth determinants, challenges, and the role of Micro and Small Enterprises (MSEs) based on a sample of 309 MSE owners/operators in Debre Brihan City, Ethiopia. Through a combination of descriptive analysis and econometric estimations, the study addressed key research questions. The findings highlight the following conclusions:

- Descriptive analysis found key challenges hindering the growth of MSEs in the study area, including a lack of working capital, limited market linkage, inadequate working premises, insufficient technical skills, and basic infrastructure/services.
- Despite these challenges, MSEs play a vital role in the local economy by generating employment, creating wealth, reducing poverty, satisfying customers, promoting local entrepreneurship, and contributing to industrialization and import substitution.
- Regression analysis results showed that factors such as the gender of the operator, primary education level, family business background, forms of ownership, start-up size, market access, and competition from the unregistered informal sector significantly influence the employment growth of MSEs in the study region. These factors were found to be the key factors that significantly decide the employment growth of MSEs in Debre Brihan City, Ethiopia.

Recommendations

Based on the study findings, the following recommendations are proposed to enhance employment growth within MSEs in Debre Brihan City, Ethiopia. Specific interventions should target the following areas:

- Action is needed to address the lack of working capital, limited market connections, inadequate working spaces, and insufficient technical skills and basic infrastructure/ services to support and foster the development of MSEs in the city.
- The local government and relevant stakeholders should focus on empowering and advancing the growth of women-owned MSEs through financial and technical support, knowledge sharing, and encouragement to enhance their performance.
- MSE operators can enhance their business skills and entrepreneurial capabilities to drive the growth of MSEs, especially when drawing on the experience and inspiration from a family with a business background.
- Larger-sized MSEs in terms of employment should prioritize creating strong customer relationships, enhancing skills, and promoting fair competition practices to improve their performance and growth.
- Single-owner MSEs have shown better employment growth compared to other ownership structures. Therefore, offering partnership skills training, motivation, mentorship, awareness-building, and entrepreneurship promotion can effectively enhance the growth of MSEs owned by more than one operator.
- Strengthening market linkages between MSEs and medium to large enterprises can secure market opportunities for MSEs. Stakeholders should provide prompt market information to MSE operators to align their production accordingly. Additionally, the government should actively encourage MSE participation in government procurement contracts to expand their market outreach.
- MSE operators need protection from unfair competition practices by the unregistered informal sector to deliver high-quality products and services at competitive prices, ensuring customer retention.
- By implementing these recommendations, local authorities and relevant stakeholders can foster a supportive business environment for MSEs in Debre Brihan City, leading to sustainable growth within the MSE sector.

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