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Determinants of Micro and Small Manufacturing Enterprises Growth: A Case Study in Selected Towns of Central Administrative Zone, Tigray Regional State

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Abstract

This study was conducted with the objective of identifying and analyzing the factors that influence growth of MSEs operating in the manufacturing sector. Primary data were collected from 226 randomly selected owner/operator of manufacturing MSEs and coordinators of MSEs by using close ended questionnaire and interview, respectively. A binary logit regression model was used to analyze the owner related/internal factors, and external factors that influence growth of manufacturing MSEs. A total of ten explanatory variables were included in the regression. Out of these, seven variables were found to significantly affect growth of manufacturing MSEs. The binary logistic regression result showed that among the variables hypothesized to affect MSEs growth, age of owner/operator, gender, work premises, technical and business training, access to infrastructure, market linkage and location have statistically significant effect on growth of manufacturing MSEs. Therefore, to improve the growth of manufacturing MSEs, MSEs development office in collaboration with the municipality should strive for the MSEs to have own working premise or construct shades and avail them at fair rent, devote more in working with technical and vocational education training colleges to solve skill gaps of entrepreneurs and the regional government should pay attention to the improvement of infrastructures.

Key Words: *Determinant Factors; Growth; Manufacturing Sector; MSEs*

1. INTRODUCTION

Micro and small enterprises play vital roles in poverty reduction, income and employment generation as well as economic development in developing countries like Ethiopia. The sector is now increasingly recognized unlike the previous pessimist notion that these sectors are not linked to the modern and formal sectors and would disappear once industrial development is achieved (McPherson, 1996). Therefore, in many countries they have been the major engine of growth in employment and output (Effective Policies for Small Business, 2004). According to Fisseha (2006); as cited in Admasu (2012), MSEs employ around 22 percent of the adult population in developing countries. Thus, MSEs are considered as quick remedy of unemployment problem (MoTI, 1997).

A number of African countries adopted poverty reduction strategies that mainly emphasized on development and promotion of micro and small enterprises (MSEs) as a major way to reduce poverty particularly among urban dwellers (Liedholm, 1993). Similarly, Ethiopia has prioritized on MSE development for economic growth, employment generation and building an industrial economy. To this end, in 1997 the government has designed a National MSEs development and promotion strategy which was reviewed in 2011 in view of the countryôs dynamic economic progress, program feedback and experience of other countries (MoTI, 2011), which facilitates and paves the ground for the growth and development of the sector with the primary objective of creating a favorable environment for MSEs so that MSEs could facilitate economic growth, create long-term jobs, strengthen cooperation between MSEs, provide the basis for medium and large scale enterprises and promote export. In this strategy framework, the government prioritized those enterprises with features like manufacturing and processing various commodities, self-employment particularly by disabled and unemployed youth, start-ups and expanding firms owned by women etc (Berihu, Abebaw, & Biruk, 2014).

Special attention has been given at all levels to untie the constraints of MSEs for they are important vehicles to address the challenges of unemployment, economic growth and equity in the country. The government of Ethiopia has been implementing and incorporating the program as a strategic agenda in three consecutive five years national developmental plans of the country i.e. the 1st five years plan called Poverty Reduction and Sustainable Development Program (PRSDP), in the 2nd five years plan called Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) and in the 3rd five years plan which is called Growth and Transformation Plan (GTP) covering the years from 2010/11 to 2014/15 (MoFED, 2011), and currently the 2nd part of five years plan Growth and Transformation Plan (GTP). In view of this, the government is implementing different support service programs in different parts of the country for helping MSEs attain their intended objectives.

Ensuring that Micro and Small Enterprises (MSEs) fully participate is a key to the large-scale uptake of sustainable practice. Sustainable development is highly demanding in particular on manufacturing firms, including MSEs, as their economic importance is higher. In Ethiopia, for example, as discovered by the CSA survey of 2003, MSEs account for the bulk of non-agricultural economic activities and nearly 95.6% of total industrial employment. Despite the large number, the MSE sector in Ethiopia is exposed to a number of constraints related to policy,

and structural and institutional problems that hinder sustained growth, development and long-term planning (Amha & Ageba, 2006).

2.STATEMENT OF THE PROBLEM

In Ethiopia, the private sector is substantially dominated by the micro and small enterprises (MSEs). As per the 2011 FeDRE definition of MSEs includes all enterprises that operates with human power of not greater than 30 and with paid up capital of total asset not exceeding Birr 1.5 million. The MSEs sector is the second largest employment generating sector following agriculture. The sectors contribute 3.4% of GDP, 33% of the industrial sectorôs contribution and 52% of the manufacturing sectorôs contribution to the GDP of the year 2001(CSA 2005, cited by Selamawit, Aregawi, & Negus, 2014). They are also the base for the growth of medium and large enterprises in particular as well as for the countryôs industrial development in general (Mulu, 2007).

Various studies have been conducted on MSEs in Ethiopia. The major focuses of these study subject are on (1) nature and characteristics of MSEs and their operators (Assefa, Zerfu and Tekle, 2014; Gebreyeesus, 2009; Saravanan, Mohideen and Seid, 2014); (2) access to finance for MSEs (Selamawit, Aregawi and Negus, 2014); (3) the social and economic role of MSEs (Berhanu, 2014; Kidane, Hepelwa, Mdadila and Leel, 2015; Tasisa, 2014; Bereket, 2010 and Worku, 2004); (4) the performance of MSEs (Hailu, 2010; FeDRE, 2013; Sherefa, 2012; Abera, 2012 and Netsaalem, 2011); (5) the efficiency of micro finance institutions and other relevant bodies (Deribie, Negussie and Mitiku, 2013 and World Bank Group, 2013); (6) external factors and success factors on developments and growth of MSESs and women and youth owned MSEs (Haftom, 2013; Hailay, 2014; Habtamu, 2012; Arega, Muhammed, and Daniel, 2016; Lilian, 2013; Berhanu, 2014; Zemenu, Mohammed, 2014 and Berihu, Abebaw and Biruk, 2014) and (7) challenges and opportunities of MSEs (Desalegn, 2013; Bizusew, 2015; Ruth, 2013 and Mukund, 2013). Moreover, almost all of the previous studies were conducted not in a sector wise, because some problems are specific to a given sector. Their focuses were in general all sector altogether but not in sector by sector (as manufacturing, construction, service, trade and industry, etc). Therefore, it is difficult to generalize that the identified determinants of MSEs growth of all individually owned enterprises across the sector are equally affect the growth of MSEs.

3. OBJECTIVES OF THE STUDY

3.1. General Objective

The objective of this study is to identify and examine factors that influence growth of micro and small manufacturing enterprises taking the case of selected towns of central administrative zone of Tigray regional state.

3.2. Specific Objectives

The specific objectives are:

- ✓ To identify owner related factors that affects the growth of manufacturing MSEs.
- ✓ To describe major external factors that determines growth of manufacturing MSEs.
- ✓ To examine the marginal effect of the determinant factors on the growth of manufacturing MSEs.

4. BRIEF REVIEW OF RELATED LITERATURE

4.1. Theoretical Review

The Ethiopian government has also recognized and given prior attention to the promotion and growth of MSEs as they are important instruments to solve the employment problem, economic growth and economic equity in the country. As a result, the country shows its dedication to promote the MSEs growth by the issuance of national MSEs Strategy in 1997 and the establishment of the federal MSEs development agency. In addition, Ethiopiaôs industrial development strategy issued in 2003 also selected the promotion of MSEs development as one of the important instruments to create productive and dynamic private sector (Mulu, 2007).

The Government of the Federal Democratic Republic of Ethiopia: MSEs Development strategy (2011) modified the definition of MSEs in Ethiopia based on the experience of other foreign countries and the prevalence of other macroeconomic factors. Accordingly, micro enterprises are enterprises with less than or equal 5 number of employees, whereas small enterprises are those business enterprises that include more than 6 but less than 30 numbers of employees. However, the definition of MSEs based on total assets size is different in accordance to the type of sectors. For instance, in the industry sector firms are considered micro if they have total assets of less than birr 100,000, while in the service sector firms are referred to as micro if they have less than birr 50,000 (GFDRE MSEs development strategy (2011). Thus, the revised definition of MSEs is summarized below:

Table 4.1 Revised Definitions of MSEs in Ethiopia

Type of enterprise	Sector	Number of employees including family member	Total assets
Micro	Industry	≤ 5	≤ 100,000
	Service	≤ 5	≤ 50,000
Small	Industry	6-30	≤ 1.5 million
	Service	6-30	≤ 500,000

Source: GFDRE MSEs development strategy, (2011)

4.2. Review Of Empirical Study

Many empirical studies have been conducted to investigate the determinant factors affecting MSEs growth. Generally, these, studies were specifically focused on owners/operators characteristics and external factors. The summary of some of these studies are reviewed in the below sub-sections. Lilian (2013) undertook investigation on the factors that influenced the growth of youth owned micro and small enterprises in Tigania West Division of Meru County-Kenya. The study employed descriptive design and targeted 163 youth entrepreneurs aged between 18-35 years from Tigania West Division of Meru County. The findings revealed that there were significant relationship between age, gender and education level, and growth of youth owned micro and small enterprises.

According to the CSA (2003) report, the major obstacles experienced by small-scale industries are irregular and erratic supply of raw materials and a shortage of suitable working premises. The lack of working premises is also found to present difficulties for the informal sector operators

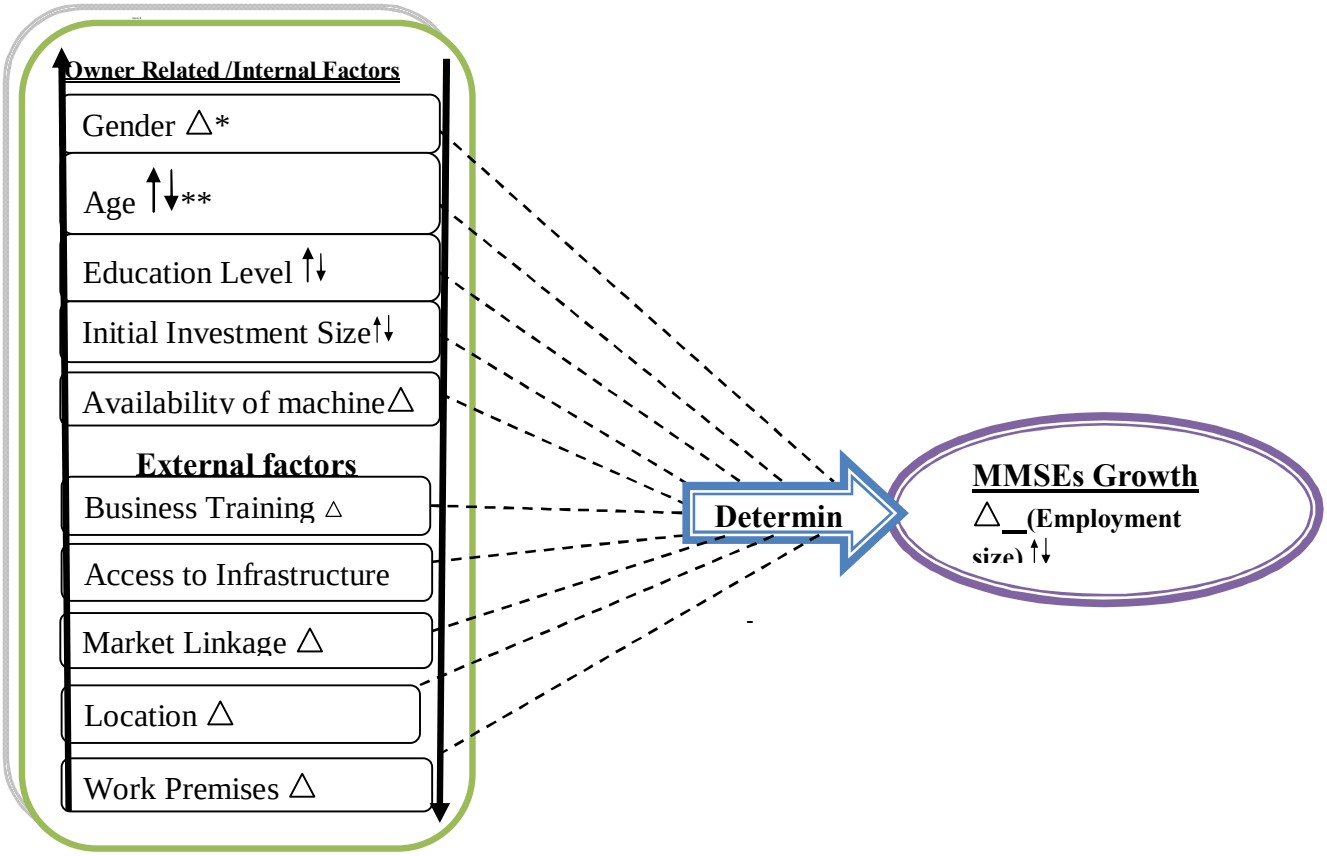
who faced with insufficient capital were often impeded from the start. Mainly relying on a sample survey of 178 randomly selected MSEs from seven sub-city administration of Mekelle city, Habtamu (2012) made a study with the aim of assessing the determinants of MSEs growth. To achieve the objective, Semi-structured questionnaire and interview were used to collect data and binary logistic regression model was used to identify the factors that can significantly affect the growth of MSEs. Accordingly, the finding of the study indicated that initial investment size, location, sector and gender of head were the major factor affecting the growth of MSEs. Haftom (2013) conducted a study on similar topic in Shire Indaselassie town with the aim of investigating factors affecting the growth of MSEs. Data were collected from 160 randomly selected MSEs found in five Kebeles of Shire Indaselassie Town using semi-structured questionnaire and interview with the chief of MSEs development office of the town and some selected owners of MSEs. Binary logistic model was employed to identify the factors affecting the growth of MSE and to test the hypotheses. Finally, the report identifies gender, education level, formality; initial investment size, sector, access to credit from formal financial sources, access to infrastructure, and access to working premise are significant factors for MSEs growth.

An empirical study was conducted by Arega, Muhammed and Daniel, (2016) on the growth of Micro and Small Enterprises in Addis Ababa City Administration on Selected Micro and Small Enterprise in Bole Sub City, Ethiopia. Data were collected from 165 randomly selected MSEs using structured questionnaire. A total of 4 explanatory variables were considered in the econometric model. All variables were found to significantly influence the growth of MSEs. These were attending training, starting business with high initial investment, engaging on the service sector, and established in non-cooperative form of business.

4.3. Conceptual Framework Of The Study

This study has constructed the following conceptual framework based on the empirical findings. Ten internal/owner related factors and external factors were identified from the empirical studies. Hence, any business enterprise owner needs to understand these and other factors while she/he thinks to grow. The conceptual framework figure, which shows the relationship between the growth of manufacturing MSEs and its determinant factors, is presented below.

Figure 4.1: Conceptual Framework of manufacturing MSEs growth in relation to the factors



Source: Adopted from Hailay (2014), Habtamu (2012), Dagmawit and Yishak (2016); and Arega, Muhammed, and Daniel (2016), Belay, Asmera and Tekalign (2015), Hove and Tarisai, (2013); and Kokobe, (2013).

Note: ↑↓** Denote increase and decrease in continuous/quantitative variables

△* Denotes changes in categorical/qualitative variables

5. RESEARCH METHODOLOGY

The type of research that was employed in this study is explanatory research. The study applied explanatory research in which the relationship between dependent and independent variables has been identified with an aim of predicting the influence of the factors on the growth of manufacturing MSEs. Moreover, the study employed mixed research approach (qualitative and quantitative research approach) to identify and examine factors that determine growth of MSEs operating in manufacturing sector in the selected areas.

5.1 Target Population

The target population of the study includes the owners/operators of micro and small enterprises engaged in manufacturing sectors located in selected study area that have been in business for a minimum of two years.

5.2 Data Type, Sources and Collection Instruments

This study had used primary sources of data. It employed cross-sectional data sourced from primary source of data. This is mainly due to the difficulties encountered in surveying large samples of the same respondents over time because of high firms entering and exiting the market. Besides, both qualitative and quantitative types of data have been used for this study. In this study the required data have been collected through questionnaire and interview instruments. Both close ended and open-ended questionnaires have been prepared and personally distributed by data collectors for the owners/operators of the MSEs to collect relevant data for the study.

5.3 Sampling Design and Size

A sample design is a definite technique that is adopted in selecting a sample from a given population. Among the major towns found in central zone, Aksum, Wukro Maray, Adwa and Abiy Addi towns were selected purposively as a study area for this study. This is because, first central zone is the mandate zone of the university and these towns found in this zone are believed to represent the remaining towns in the zone, and it is very difficult to address all small towns found in the zone to conduct quality research. To get a sample size from each town, the total MSEs registered before two years (before 2015) are identified. Then out of these total populations of the study the sample size are selected by applying a simplified scientific formula provided by Yemane (1997).

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

Where; n is the sample size, N is the total Manufacturing MSEs in the selected towns. The unit of analysis of the study was the individual owner of enterprise. The investigators decided the confidence level of the study to be at 95% consequently the level of precision (e) is 5%.

According to the above-mentioned equation the MSEs owners that have been questioned were 226. Drawn using proportionate sampling technique 65 MSEs owners, 62 MSEs owners, 24 MSEs owners and 75 MSEs owners (total 226) from Aksum town, Adwa town, Wukro Maray town and Abiy Addi town, respectively, has been questioned.

5.4 Method of Data Analysis and Presentation

The econometric analysis which is logistic regression model (binary) was used to test the relationships among variables. All necessary specification tests have been checked and the overall fitness of the model (overall level of significance of the model) were also verified by using the value of Pearson Chi-square test.

5.5 Model Specification

The growth of MSEs is subject to different set of interrelated factors (Baldwin, 1995). Thus, the choice of model that can be applied in the study depends on the nature of the dependent variable rather than an independent variable (Gujarati, 2004). If the dependent variable is categorical variable with only two categories (growing & non-growing/ survival valued as 1 and 0 respectively), binary logistic (logit) regression is appropriate. Thus, to investigate the factors that determine the growth status of manufacturing MSEs, the binary logistic regression model was used to examine the relation of each factor with growth of MSEs (number of employees).

$$Y = \begin{cases} 1 & if \quad Y^* > 0 \\ 0 & if \quad Y^* \leq 0 \end{cases}$$ é é é é é é é é é é é é é é é é é é .. (1)

This is specified as;

In a qualitative response model, the probability that Y=1 is given by the sign of the latent variable that is the probability that the latent variable becomes positive.

$$\Pr\left(Y^* > 0\right) = \Pr ob\left(\beta' X + \varepsilon > 0\right) = \Pr ob\left(\varepsilon > -\beta' X\right) = \Pr ob\left(\varepsilon < \beta' X\right) = F\left(\beta' X\right)$$

Thus, the model is specified as follows:

$$Y_{i,t} = \alpha + \beta_{xi,t} + \varepsilon_{i,t} \quad \text{.....(2)}$$

The subscript i representing the cross-sectional dimension and t denote the time-series dimension. The left-hand variable Yi,t represents the dependent variable in the model (which is the manufacturing MSEôs growth in this case). $X_{i,t}$ Contains the set of independent variables in the estimation model, and the last variable of the model is the error term. It is also called disturbance term ***εi*** which is defined as a proxy of all those variables that are omitted from the model but that collectively affect Y (Gujirat, 2004). Accordingly, the derived model for this study which is the function of dependent variable to various explanatory variables is given below:

$$Pr\ (Y=1) = \beta_0 + \beta_1(Age) + \beta_2(Gndr) + \beta_3(Ednlvl) + \beta_4(InitInv) + \beta_5(Machnry) + \beta_6(Acswp) + \beta_7(Mrkta) + \beta_8(Infr) + \beta_9(Trnng) + \beta_{10}(Loctn) + \varepsilon_i \quad \text{.....(3)}$$

Where;

β_0 = Constant (intercept)

$\beta_1, \beta_2 \ldots \beta_{10}$ = slope coefficients of independent variables (the unknown parameters that reflecting the impact of change in independent variables).

ε_i = Error term that has a logistic distribution with mean 0 and variance 1

Age= Age of owner operator
Gndr= Gender of MSEs owner/operator
Ednlvl = Education level of owner operator
InitInv = Size of the initial investment by the owners
Machnry= Availability of machineries
Acswp = Access to Working Premise
Mrkta= Market access.
Infr= Infrastructure facilities (electricity, water, Road Facility)
Trnng= owner attended business and technical training or not
Loctn=Location MSEs located at main road side versus located out of main road

The dependent variable represents the growth of manufacturing MSEs that is measured in terms of change in employment size. Taking the calculated growth in employment, MSEs are classified in to two categories i.e., growing (if gr> 0) and survival (if gr Ò 0) following Cheng (2006)

growth classification and represented in the model by 1 for the growing and 0 for survival manufacturing MSEs.

6. RESULT, ANALYSIS AND DISCUSSION

The binary logistic regression was used to identify the determinant factors and to estimate their potential effect of each explanatory variable on the growth rate of manufacturing MSEs. The explanatory variables include owner related/internal and external factors. Primary data was collected from 218 MSEs functioning in manufacturing sector. Before applying the binary logistic regression model, the *Hosmer-Lemeshow* test of goodness of fit was used to see the overall fitness of the model. Similarly, before estimating the model, various detection and diagnostics tests were done to check for the related econometric problems such as multicollinearity, heteroskedasticity, model specification bias, and normality of the data as discussed in chapter three. The results of these tests indicated that the model is fitted, no severe multicollinearity, and the normality of data set. Using the manufacturing MSEs growth status as a dependent variable where by a value of 1 is given to grown manufacturing MSE and 0 to non grown/survival manufacturing MSE taking the employment growth rate in to account. The following Table 6.1 shows types, codes and values attached to each variable in the model.

Table 6.1 below presents the binary logistic regression results, i.e., shows the odd ratios (probability of growing/probability of non-growing), the p-value, and the marginal effect of explanatory variables included in the model.

Table 6.1: Logistic Regression Estimation Result

Variables	Odd Ratios	p>|z|	Marginal Effects (dy/dx)
Age	1.035849	0.059***	-0.008376
Gender	2.529359	0.030**	0.2272829
Education level	1.064892	0.606	0.0149519
Business or technical training	4.813276	0.005*	0.2970877
Initial investment size	0.871875	0.255	-0.0326061
Machinery	1.683343	0.268	0.1177549
Access to Working Premise	3.517001	0.076***	0.2451677
Market access or linkage	0.392582	0.045**	0.2285847
Infrastructure facilities	2.524033	0.007*	0.2235131
Location	0.3139537	0.001*	-0.2559387
Statistics:			
Number of observations = 218		Prob > chi^2 = 0.0000	
Wald $chi^2(9)$ = 39.07		Pseudo R^2 = 0.7851	

Source: Own Survey (2018)

*, **, *** indicate level of significance at 1 percent, 5 percent and 10 percent, respectively.

As Table 6.1 above, shows the most influential explanatory variables from internal factors in determining growth of manufacturing MSEs are gender and age found significant as they have an estimated odds ratio of 2.53 (P-value of 0.030) and 1.036 (P-value of 0.059), respectively; from external factors business or technical training, access to working premises, infrastructure facilities, market linkage and location in influencing dependant variable (growth of MSEs) with

an odds ratio of 4.81 (P-value of 0.005), 3.52 (P-value of 0.076), 2.52 (P-value of 0.007), 0.39(P-value of 0.045) and 0.31 (P-value of 0.001), respectively.

Table above shows that the first internal factor/variable found significant in this study is age of owner operator. The result indicates that the age of the owner/operator has a negative effect on the probability of manufacturing MSEs growth. Consistent to the expectation, the result shows that the odd ratio of 1.036. This indicates that the probability of manufacturing MSEs growth is 1.036 times lower for older owned/operated than younger owned/operated, holding other variables constant. Similarly, the marginal effect of this variable is -0.0084 indicating that the probability of manufacturing MSEs growth decreases by 0.84 percent for every unit (i.e., year in which age is measured) increase in age of owner. Considering this a number of justifications have been given as to why younger owned growth higher than older owned. This may be due to the reason that the younger owner/operator has the necessary motivation, energy and commitment to work and is more inclined to take risks; a younger individual may have a higher need for additional income. In addition, the burden of supporting a family and meeting mortgage payments generally declines with age. That means the older owner/operator is likely to have reached his/her initial aspiration. This is consistent with the study of Kokobe (2013) and Amran (2011) which shows that a negative relationship between ownerôs age and business performance suggesting that matured owners underperform, while the young owners are more aggressive in enhancing the firm value. It also supports the finding of Garoma (2012) and Dagmawit and Yishak (2016) who found that most successful entrepreneurs are found in the young age on average.

Gender of the owner is another internal specific variable which is found significant at 5 percent. In line with expectation, holding other factors constant, male headed manufacturing MSEs was found to have positive relation with growth status of manufacturing MSEs and statistically significant at 5 percent. The odds ratio of the variable gender of owner is 2.53 which indicate that the probability of growth of manufacturing MSEs that are headed by male operators is 2.53 times higher than the female headed by counterparts. Similarly, the marginal effect of this variable shows that the probability of growth for male headed manufacturing MSEs increase by 22.73% as compared to female headed MSEs. The result is consistent with the findings of Habtamu (2012), Mead and Liedholm (1998) and Mulu (2007) which stated that male headed or owned MSEs grow faster than women owned micro and small enterprises.

The logistic regression results indicated in the above Table 6.1 reveals that working premises has a positive relation with manufacturing MSEs growth status and is statistically significant at 10 percent level of significance. It refers to undertake their day to day activities; firms require sufficient and convenient work place. It was predicted that growth of manufacturing enterprises is positively correlated with access to convenient work premises because this is mostly related with customer attraction and satisfaction. The odd ratio shows that the probability of manufacturing MSEs growth is 3.52 times higher for the MSES which have access to working premises more to grow than manufacturing MSEs which do not access to their own working premises. The marginal effect of 0.2452 implies, holding other variables constant, the probability of manufacturing MSEs growth increases by 24.52 percent for those manufacturing MSEs access to working premises as compared to those manufacturing MSEs which do not own or access to working premises. The finding is similar with the findings of Haftom (2013) and Seyoum (2012),

which revealed that enterprises having enough own working premises grow more than those enterprises which have no working premises. This may be due to the fact that, those MSEs operating the business at own working premise do not face to costs of working place and they have the probability to grow faster than of the other.

The other external specific variable found significant at 1 percent is technical and business training as shown in Table 6.1 above. The result indicates that technical and business training has a positive effect on the probability of manufacturing MSEs growth. The odd ratio shows that the probability of MSEs growth increases by 4.81 times higher for manufacturing MSEs that have enough technical and business training as compared to those enterprises that did not get enough required training, other thing kept constant. Similarly, the marginal effect of this variable is 0.2971 indicating that the probability of growth for manufacturing MSEs that perceived the acquired training is enough increase by 29.71 percent as compared to manufacturing MSEs which did not satisfied with the training they got. This result is inconsistent with the findings of Garoma (2012) which revealed that insignificant association between entrepreneurial training of the owner and success on micro enterprises. Therefore, it is possible to say that having attended technical and business management training proves to be positive and meaningfully contribute to improve the growth of manufacturing MSEs.

The logistic regression results indicated in the above Table 6.1 reveals that market linkage has a positive relation with manufacturing MSEs growth and is statistically significant at 5 percent level of significance. The odd ratio shows that holding other factors constant, the probability of manufacturing MSEs growth decreases by 0.39 times higher for MSEs that have market linkage. Similarly, the marginal effect of (0.2285) shows the probability of manufacturing MSEs growth increases by 22.85 percent for those manufacturing MSEs as compared to those MSEs which did not have market access or linkage, all other factors kept constant. The result is consistent with the empirical studies of Mbugua et al. (2013), Belay, Asmera and Tekalign, (2015), Kinda and Loening (2008), Admasu, (2012); Hove & Tarisai, (2013); Kefale and Chinnan, (2012); and Kokobe, (2013) which reported that there is positive and significant effect of marketing on the growth of MSEs, i.e., MSEs that have good market linkage exhibit higher growth compared to MSEs that have no good market linkage. Generally, from this result, it can be concluded that as manufacturing MSEs gets or access to market linkage, the probability of enterprises growth increases.

Access to infrastructure was also found positively significant at 1 percent level of significance in determining the manufacturing MSEs growth assuming other factors remains constant. The result shows that the basic infrastructure has a positive effect on the probability of being growing. Similarly, the odd ratio shows that the probability of being growing increase by 2.52 times as the access to basic infrastructure. The marginal effect (0.2235) of this variable implies that, ceteris paribus, the probability of being growth increases by 22.35 percent as access to infrastructure facilities. This result is consistent with the results of (Haile, 2014; Admasu, 2012; Haftom, 2013; Ishengoma & Kappel, 2008; Kinda & Loening, 2008; and Osotimehin et al., 2012) that found non-existent of basic infrastructure such as, inability to access communication, power, water, road etc have a large impact on the growth of MSEs.

The other external variable found significant at 1 percent is location (Table 6.1). The result indicates that the location of business has a negative effect on the probability of manufacturing MSEs growth. The logistic regression results predict that holding other factors constant, the probability of being growing for manufacturing MSEs that operates at out of town (distant area) is 0.3139 times ($p<0.01$) higher than those which operates at main road side (busy street). As the marginal effect shows the probability of being growth decrease by 25.59 percent for those manufacturing MSEs that are operated at main road side as compared to those MSEs that operates at out of town. Consequently, the alternative hypothesis may be accepted. This is due to the fact that manufacturing MSEs that are operated at out of town/main road have an easy access for raw material inputs. Therefore, manufacturing MSEs located at the out of town grow faster than those located at main road side and this result is inconsistent to the finding of McPherson (1996) and Parker (1995) which reported that MSEs operate at main road side (busy street) grow faster than those MSEs operate at out of town (distant area) and consistent to finding of Habtamu (2012) which stated that MSEs operate at out of town (out of busy street) grow faster than their counter part that operate at main road side (at busy street).

7. CONCLUSION AND RECOMMENDATION

Based on the analysis and major findings of the study the following conclusions are worth drawn. Hence, the pattern of relationship between the dependent and independent variable is properly tested using an extended econometric model that includes owner related/internal (gender, age, education level, initial investment size, and availability of modern machinery) and external (basic infrastructure, access to work premises, business training, location and market linkage) factors.

Accordingly, the logit regression model revealed that among the ten (10) explanatory variables which were hypothesized to influence growth of manufacturing MSEs, seven (7) variables were found to be statistically significant at 1 percent, 5 percent, and 10 percent levels of significance. These variables are: gender, age, access to work premise, infrastructure, business training, location and market linkage had significant effect on growth of manufacturing MSEs. The remaining three variables (i.e., education level, initial investment size and availability of modern machinery) were found to be statistically insignificant in affecting growth of manufacturing MSEs. From owner related/internal factors, the marginal effect of gender and age shows 0.2273and -0.0084, respectively, indicated that the probability of manufacturing MSEs growth increases by 22.73 percent and decreases by 0.84 percent for MSEs owned by male and for those MSEs owned by older aged owner as compared to their respective counterpart MSEs owned by others, respectively, keeping other thing constant. From external factors, the marginal effect of infrastructure, business training and market linkage shows 0.2235; 0.2971; and 0.2286, respectively, indicated that the probability of manufacturing MSEs growth increases by 22.35 percent; 29.71 percent; and 22.86 percent for MSEs owner perceived that infrastructure is sufficient; for those MSEs owners has got and perceived that the training is enough for their business operation; and for those MSEs having market linkage as compared to their respective counterpart MSEs, respectively, keeping other thing constant.

Moreover, the other external factors access to work premises is the variable found to have statistically significant and positive impact on growth of manufacturing MSEs with the marginal effect of 0.2452. This shows that, keeping other factors constant, the probability of manufacturing MSEs growth increases by 24.52 percent for MSEs that has got work place as compared to those who didnôt have it. Whereas location is found to have negative and statistically significant influence with the marginal effect of -0.2559 indicating that the probability of growth for MSEs that operate at the main road decreases by 25.59 percent as compared to MSEs operating at out of town or main road.

Therefore, on the basis of the finding and conclusion reached in this study, the following recommendations are forwarded.

Male owned manufacturing MSEs grow faster than female owned manufacturing MSEs. Hence, the financial institution, trade and industry, women affairs and MSEs development office have to raise awareness, affirmative action and business development service by using different mechanisms such as using print and air media. Besides, education and training are required to raise awareness about how to use the profit for the expansion of the business, engage in more profitable manufacturing firm and opportunities of taking loan. This will increase growth manufacturing MSEs owned by female.

Working premise is found to have significant positive impact on manufacturing MSEs growth. Therefore, the MSEs development office in collaboration with the municipality should strive for the manufacturing MSEs to have own working premise or construct shades and avail them at fair rent. This can be achieved by creating manufacturing MSEs working and marketing place in selected area as clusters rather than operating in a scattered manner. Working in one strategic area will allow them to grow as cottage industry or industry in the future when they are transformed to medium or large enterprises.

The other external factor that significantly determines growth of manufacturing MSEs is business training. Therefore, MSEs agency and MSEs center leaders have to devote more in working with technical and vocational education training (TVET) colleges to solve skill gaps of entrepreneurs operating in manufacturing MSEs sector.

The other thing needs consideration is infrastructure facility. Therefore, regional government and partly zonal administrative should pay attention to the improvement of infrastructures such as roads, electricity, water and access to information on business opportunities. Particularly, MSEs development agencies in collaboration with the towns water resources bureau, the Ethiopian Electric Power Corporation and regional road and transport to solve the problem of interruption and inadequacy of these facilities.

Most manufacturing MSEs are located at main road side in which there is high competition and practice of copycat strategy. Therefore, the organizations that are concerned with promotion and development of MSEs have to inform the manufacturing MSEs operators about the opportunities and challenges of being located at main road side (busy street) and out of town (distant areas) through workshops, seminars, education and training to enhance the growth of manufacturing

MSEs, and develop market around their business operation for those MSEs interested to locate their business in periphery or create market linkage.

To solve this problem, MSEs development agency of the selected towns needs to change the perception of the general public on local goods through extensive awareness creation mechanisms and motivation; and linking the manufacturing MSEs with suppliers working within or around the town. The agency also needs to promote the product of the MSEs in the town through organizing continuous exhibition/bazaar, medias such as radio, television and newspaper so that the demand of these products increase, thereby solve the market problem. Especial attention is needed for this sector because the sector can play decisive role in reducing unemployment level in the towns since the sector is labor intensive. In addition, enterprises themselves could form market linkage at trade exhibition and bazaar by presenting their goods and then exchanging their addresses with potential and actual customers there. Enterprises can have forward linkage with customers or other resellers and backward linkage with their raw material suppliers to get needed quality and quantity of the materials which in turn help to produce quality goods that could satisfy customerôs needs and wants. If customers are satisfied, they buy repetitively the enterpriseôs product and promote it. This also will results in an increase of manufacturing enterprise growth.

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