

Determinants of Private Investment Growth in Manufacturing Sectors: The Case of Akaki Kaliti Sub City, Addis Ababa

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Abstract

Private manufacturing investment contributes to the economic growth and the ability of a country to reduce or alleviate poverty and improve the lives of its citizens. This study was conducted to identify the determinants of Private Investment Growth in manufacturing sectors in case of Akaki Kaliti Sub-city, Addis Ababa. The study employed an explanatory research design with quantitative and qualitative research approaches. Furthermore, the data was collected with a cross-sectional period. The required data were collected from 168 selected private manufacturing investments by adopting a systematic sampling technique. The data collected through a questionnaire were analyzed by using Stata software version 13. The collected data was analyzed using both descriptive and inferential statistics. The findings of the quantitative data were presented in tables and figures, while the qualitative data was presented in narration. The findings of the study showed that work experience and availability of premises affect the private manufacturing sectors investment growth positively. Likewise, the availability of infrastructure facilities was important determining factors in delaying private investment growth. Shortages of materials and services such as transformers, internet facilities, and water supplies have been cited as the major obstacles which delay the investment growth in the study area. In conclusion, the main determinant of Private Investment Growth in manufacturing sectors were working experience, premises, infrastructure, location of enterprise, planning, good governance, market access, and investment incentives. Therefore, the study recommends that Addis Ababa city administration in collaboration with other stakeholders should give training to private manufacturing sectors and facilitate knowledge share program among each other. Likewise, Addis Ababa city administration in collaboration with trade and industry office needs to involve effectively in supporting private manufacturing sectors by offering convenient display room, selling premises, and creating market linkage with unions, cooperatives, government organizations, and non-government organizations.

Keywords: Private Investment, Manufacturing sectors, Growth

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1. Background of the Study

Investment, in general, is recognized as an integral component of economic development and a crucial element in the effort to lift countries out of poverty (Wolfenson, 2007). Private investment, in particular, is one aspect of investment and as such it contributes significantly to economic growth and the ability of a country to reduce or alleviate poverty and improve the lives of its citizens (Bayai & Nyangara, 2013).

Globally, investment is widely considered as one of the main drivers of economic growth because it is a flow that increases the existence of capital in the economy, and high investment rates are widely considered to be an essential condition for attaining a high and sustainable growth rate (UNCTAD, 2008). Private investment plays an important role in the expansion of the economy's production capacity and long term economic growth. Private investment is a crucial pre requisite for economic growth because it allows entrepreneurs to set economic activity in motion by bringing resources together to produce goods and services (Frimpong & Marbuah, 2010).

Private investment has been the major economic driver that is still a key to solving economic problems such as poverty and unemployment, especially in developing countries such as Fiji, Ghana and Pakistan (Bayai & Nyangara, 2013). Manufacturing is one of the private investment sectors whose operations are affected by various factors. Even if the performance of Africa's manufacturing sector has generally been quite poor, many people still believe that manufacturing can act as an engine of growth on the continent. This growth is fueled by the creation of skilled jobs which ensures positive spillover effects and also the modernizing of the economy (Bigsten & Soderbom, 2006).

Ethiopia sought industrialization as early as 1940s with a ten year plan to lay foundations on manufacturing capabilities. Features of entrepreneurial tendencies towards the manufacturing sector however emerged during the first five year development plan of the imperial government of Ethiopia which was launched in 1957. But, the evaluation of the plan revealed that the private sector could not invest in the manufacturing industry as much as expected (UNDP, 2016).

Since private sector is the engine of industrial growth, the current government of Ethiopia has been promoting and supporting the private sector in order to enhance their contribution for the economic growth and industrialization endeavor. Particularly, the private sector has been encouraged to invest in activities that link manufacturing and agricultural sectors (MFED, 2014). The ratio of private investment to GDP between 2001 and

2012 in Ethiopia has been averaging between 5.8% and 10% (Access capital, 2012). This study, therefore, tried to identify the determinants of Private Investment Growth in manufacturing sectors.

The private investment sector plays a vital role in the growth process of developing countries and it determines the rate at which physical capital is accumulated (Jongwanich & Kohpaiboon, 2006). On the contrary, the growth of private investment is low, the productive capacity of the economy fails to increase and it results in lower rates of growth and job creation, and fewer opportunities for the poor to improve their livelihood (Frimpong & Marbuah, 2010).

Even though private investments in manufacturing sectors have an important contribution to make economic development and poverty reduction in Ethiopia, they face significant challenges to grow from one stage to the next stage (Haile & Assefa, 2005). Many of the manufacturing sectors were remained small for 5-10 years and face significant challenges from growing to medium. As a result, the level of manufacturing growth is below the required level to support the economic growth needed for employment creation and poverty reduction (Capstone Report, 2014). Likewise, productive job creation remains to be a key challenge (Berihu, Mulu & Firew, 2017).

Identifying the major factors that affect private investment is crucial to solve and help them prosper and achieve their objectives in creating employment and alleviating poverty. It will also help to the government and policy makers to formulate policies and strategies that will help to raise the private investment to stimulate and sustain economic growth (Arne & Mulu, 2009). However, literature in this area is scanty and few researches (Legese, Serbeh-Yiadom, and Melesse, 2014) were carried out to assess the role of manufacturing industries rather than determinants of growth. Other researchers such as Capstone Report (2014) and Berihu et al. (2017) were looked at the determinants of investment growth at macro level determinant using secondary time series data. They did not use primary data from a survey. They also rely on quantitative types of research method; a mixed type of research method was not employed. Therefore, the researcher motivated to conduct a research on the determinants of private investment in manufacturing sectors of in the study area to fill these research gaps. For instance, the general objective of this study is to identify the determinants of Private Investment Growth in manufacturing sectors: The case of Akaki Kaliti Sub-city, Addis Ababa. More specifically assess the status of enterprises growth and identify the factors that determine the growth of the enterprises in *Akaki-Kaliti* sub-city.

2. RESEARCH METHODOLOGY

The study was conducted in Addis Ababa City Administration. Addis Ababa is the capital city of Ethiopia, diplomatic capital for African and home of regional headquarters like UNDP, FAO, UNHCR, ILO, and others (World Bank, 2014). Addis Ababa is located at the geographical center of the country. Astronomically, it lies between 827055' and 905' North latitude, and 38005' East longitudes. For administrative purpose currently the entire city is divided in to 10 sub city. In those 10 sub cities a total of 99 *Kebeles* are currently found. The 10 sub cities are Akaki Kaliti, Nefas Silik Lafto, Kolfe Keraniyo, Gullele, Lideta, Kirkos, Arada, Addis Ketma, Yeka, and Bole. Among them, Akaki-Kaliti is one of the ten sub-cities of Addis Ababa and is the industrial zone of Addis Ababa as well as the country. It is located in the southern parts of the city (CSA, 2010).

Socio Economic Aspect

The day to day life activities of the city's population is predominantly based on different sorts of occupation. These include 119,197 in trade and commerce; 113,977 in manufacturing and industry; 80,391 home makers of different variety; 71,186 in civil administration; 50,538 in transport and communication; 42,514 in education, health and social services; 32,685 in hotel and catering services; and 16,602 in agriculture. Akaki-Kaliti sub city is an industrial zone where 60% of metal, paints, garment and food processing industries were concentrated. Currently, there are more than 300 industries with estimated labor force of 80,000(CSA, 2010).

2.1. Research Design

The study employed explanatory research design. Since explanatory research design is the best if the research question is to identify factors associated or to understand the best predictors of the dependent variable (Oleary, 2004). Likewise, cross-sectional research design was used to address the objective of the study. Since it enables the researcher to collect the data at once, there is no loss to follow-up the respondents (Sedgwick, 2014). Furthermore, the researcher used mixed research approach. Mixed research approach was used since the qualitative approach involves subjective assessment of attitudes, opinions and behavior whereas the quantitative approach is concerned with the generation of data in numeral form. Mixed approach is a method that combines both (qualitative and quantitative) approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research (Creswell, 2009).

2.2. Data Sources and Type

Both primary and secondary data were collected from relevant sources in order to achieve the study objectives. The primary sources of information were collected from firm managers, and trade and investment development bureau officers. On the other hand, the secondary sources of data were collected from Addis Ababa city

administration trade and investment development bureau. Both qualitative and quantitative types of data were collected. The quantitative data was collected from firm managers through questionnaire and Addis Ababa city administration trade and investment development bureau through document analysis whereas, qualitative data was obtained from trade and investment development bureau officials through key informant interview.

2.3. Sample Size Determination and Sampling Techniques

2.3.1. Sample size determination

According to data obtained from the Trade and Industry Development bureau of Addis Ababa city administration, the total numbers of private manufacturing investments registered in city administration in the year up to 2015 is 1122; out of this total private manufacturing, 289, private investment projects (firms) is fully in operation in Akaki Kaliti sub city. Therefore, this data was used as a benchmark to calculate the sample size. Accordingly, the representative sample size was determined by using the formula developed by Yamane (1967) as follows:

$$n = \frac{N}{1 + N(e)^2} \quad \text{Where: } n = \text{Sample size}$$
$$n = \frac{289}{1 + 289(0.05)^2} \quad \text{N = Total Population}$$
$$n = \frac{289}{1 + 289(0.0025)} \quad \text{e = Sampling Error}$$
$$n \approx 168$$

2.3.2. Sampling Technique

Systematic random sampling technique was adopted to get the representative number of respondents in the study area. In systematic random sampling, the respondents was selected from the list of investments by k^{th} interval ($k=N/n_i$). Accordingly, if the first individual (i) would be selected randomly from between 1 and k, and the next member would be $(i+k)^{\text{th}}$, then $(i+2k)^{\text{th}}$, and follows in the same fashion until 158 respondents was achieved.

2.4. Methods of Data Collection

2.4.1. Questionnaire

To collect relevant and reliable data from the selected sample private investment, both closed and open ended question was prepared and revised based on the objectives of the study. The questionnaire was distributed to firm managers of the selected enterprises. The questionnaire was prepared to collect information that comprise on main topics like the initial employment size, current employment size, age of the enterprise, internal factors and external factors that determine the growth of investment.

2.4.2. Document analysis

The other type of data collection method that was used in this study is document analysis. The secondary data was collected from Addis Ababa city administration trade and investment development bureau.

2.4.3. Interview Schedule

One of the methods used for collecting information was key informant interview (KIIs). As explained by Creswell (2009), interviews are important to gather information that may not be secured through questionnaire and document analysis, because they can give an opportunity to listen respondents in person. Therefore, a semi-structured interview question was prepared and interviews were held with purposively selected key informants in their offices as they were available at the working hours.

2.5. Variable descriptions

2.5.1. Dependent variables

The dependent variable for this study is investment growth. Even though, there is no uniform measurement for growth, the majority of researchers come with some measuring parameters. For example, according to Bridges et al. (2003), growth of enterprises is measured by employment level. Similarly, Nichter and Goldmark (2009) used number of employment to measure growth of firms. Furthermore, Goedhuys and Sleuwaegen (2009) argued that in Africa the use of employment as the measure of growth is very appropriate and socially relevant since there are no clear sales and financial data. Moreover, Liedholm (2001) also indicated that using number of employees as unit of measurement for firm's growth is simple because the owners of the enterprises can easily recall the number of employees they had in each period. Therefore, change in employment size was used as a proxy to measure the dependent variable for this study. As a result, the dependent variable was classified in to two categories that are if the enterprises greater number of employees than the initial employment size was considered as growing and takes the value of "1" and if the enterprises employed less or equal number of employees than initial employment size

was considered as survival and takes the value of “0”.

2.5.2. Independent Variables

The investment growth is influenced by both internal and external factors. In this study, 13 explanatory variables that are assumed to affect the dependent variables were considered and defined.

Age of the enterprises: Age of the enterprise is the number of years completed by the enterprise. It is a continuous variable and measured in years. It is hypothesized that as the age of the enterprise increase, it would acquire experience and a firm that has operated for long is likely to get finance as a result of its reputation (Geberehewot & Woldey, 2006). Therefore, it is expected that positively affects the growth of enterprise.

Education level: It refers to the highest grade level of a manager completed. Considering the educational system of the country, Educational level of respondents was categorized in to six ordered groups: (1) did not attend formal education, (2) Grade 1-4, (3) Grade 5-8,

(4) Grade 9-10, (5) Grade 11-12, (6) College/University. It is hypothesized that entrepreneurs with higher education level and experiences have greater chances of succeeding than the people without education and experiences (Kenzu, 2012). Therefore, it is expected that this variable positively affects the growth of enterprise.

Previous work experience of managers: refers to duration of stay in the enterprise. It is a continuous variable and measured in years. It is hypothesized that previous entrepreneurial experience provides tacit knowledge of organizational routines and skills by which they know how to find required resources and how these resources can be appropriately utilized for current business (Delmar & Shane, 2006). They also added that lack of experience among small business managers who happen to be the owners leading to poor performance and consequently to business failure. Hence, it is expected that previous work experience and the growth of the enterprise has positive relationship.

Vocational training: Availability of vocational training can help to improve efficiency and the quality of goods and service provision as a means of raising enterprise growth. It is a dummy variable and categorized as (1) vocational training receiver (0) Otherwise. It is hypothesized that entrepreneurship training is designed to develop skills; knowledge and attitude which enable entrepreneurs to start a new business or expand an existing one. Short-term training programs can enhance enterprise growth in the same way as human capital does; training expands the scope of profitable business opportunities and provides skills that are necessary to harness business opportunities (Omer, 2015). Hence, it is expected that vocational training and enterprise growth are positively related.

Market access: refers to the enterprises opportunity to get customers. It is a dummy variable and categorized as (1) have market access (0) Otherwise. It is hypothesized that enterprises that make good use of structured marketing information presented a higher probability of growth. The good use of marketing information by the organization can lead to a higher probability of growth and enhance the competitiveness as well as a better decision making process (Mwangulu, 2014). Therefore, this variable expected to have positive relationship with the growth of enterprise.

Premises: It shows availability of own working/production and purchasing place. It is a dummy variable and categorized as (1) have premise (0) Otherwise. It is hypothesized that absence of keeping premises is major problems that affect the growth of enterprises. Absence of production and sales place contribute negative impacts on their development (Seruvatu & Jayaraman, 2001). Therefore, this variable expected to have positive relationship with the growth of enterprise.

Access to initial finance: refers to access to financial service during business start-up. It is a dummy variable and categorized as 1) have access to initial finance 0) Otherwise. It is hypothesized that lack of access to startup capital/lack of funds could lead to excessive borrowing and consequently business becomes insolvent because their liabilities are higher than their assets (Dwivedi, 2005). Hence, this variable expected to have positive relationship with the growth of enterprise.

Access to infrastructure: refers to services like road, electricity, phone, transport and so on. Access to infrastructure is a dummy variable and categorized as (1) if there is infrastructure access, (0) Otherwise. It is hypothesized that infrastructures like electric power supply, water supply, road, telephone, utilities and transports have positive impact on the growth of enterprises and enterprises which have good and enough infrastructures grow fast (Betelhem, 2013). Therefore, access to infrastructure expected to have positive relationship with the growth of enterprise.

Location of the enterprises: is a dummy variable and categorized as (1) if the location is attractive, (0) Otherwise. It is hypothesized that location is also another important factor, since the operational performance of enterprises in different locations may be affected due to transport costs, access to markets, infrastructure, spillover effects and natural resources (Aggrey *et al.*, 2012). Therefore, it is expected to have positive relationship with the growth of enterprise.

Professional advice and consultation: Professional advices include those from lawyers, banks, consultants and so on and so forth. The advices commonly sought are those in the areas of financial management advice, market research, business strategy, public relations and advertising and personnel and recruitment matters. Professional

advice and consultation is a dummy variable and categorized as (1) if there is professional advice and consultation, (0) Otherwise. It is hypothesized that t more rapidly growing firms are more likely to have sought and used information and professional advice/canceling services from external sources than other types of small firms (Antonakis, 2008). Therefore, it is expected to have positive relationship with the growth of enterprise.

Planning: It is a dummy variable and categorized as (1) if there is work plan, (0) Otherwise. It is hypothesized that many small businesses do not realize the importance of planning to their firms' success. Often managers of small businesses neglect the process of planning because they think that it is something that benefits only large companies. Failure to plan a firm's future will have a devastating effect on the firm existence (Dawit, 2010). Therefore, it is expected to have positive relationship with the growth of enterprise.

Good governance: is a dummy variable and categorized as (1) if there is good governance, (0) Otherwise. It is hypothesized that an organization which does not use sound governance processes will ultimately face problems. The major benefit of good governance are business remains viable, thrive, they may grow in size and capacity, or they may deliver superior products or services, through sound management, direction and leadership (Bradford Nyland Group, 2004). Therefore, this variable expected to have positive relationship with the growth of enterprise.

Investment incentives: It refers to any measurable advantage given to specific enterprises or categories of enterprises by (or at the direction of) government (Barbour, 2005). Incentives can be fiscal or non-fiscal, direct or indirect. Fiscal incentives include direct 'cash' grants or tax breaks; non-fiscal incentives include fast-track approval processes or exemptions from certain regulations. Incentives given to private investors in the form of duty-free import of machinery and equipment, income tax holidays, access to the bank loans and low lease price of land, and market incentives were measured. Thus, in this study, this variable was measures as a dummy variable and categorized as 1 if yes and 0 if no. Therefore, this variable expected to have positive relationship with the growth of enterprise.

2.5.3. Conceptual Framework of the Study

The conceptual framework of the study focused on the determinants of investment growth. The following diagram also designated to represent the relationship between variables in the study. As it depicted in the figure 2.1 below the both internal and external factors has effect on the change of investments employment size then change in employment size affects investment growth.

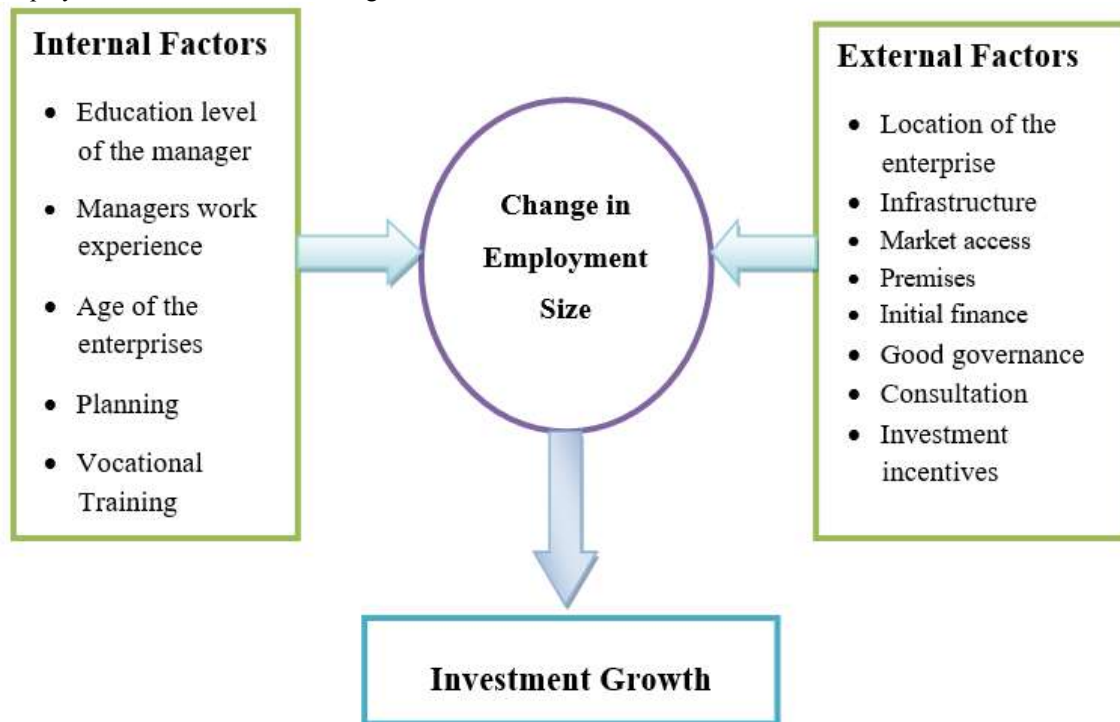


Figure 2.1: Conceptual framework of the study
 Source: Own construction from literature Review, 2018

2.6. Method of Data Processing and Analysis

Data that was collected through questionnaire was edited, coded and entered into statistical software called Stata version 13. The data was analyzed using descriptive statistics such as frequencies, percentages, mean and standard deviation, *Chi*-square, and independent sample t-test. Furthermore, inferential statistics such as binary logistic

regression was used. The findings of the quantitative data were presented in tables and figures, while the qualitative data was presented in narration.

2.6.1. Model specification

The appropriate statistical test is determined by the characteristics of variables that the researcher proposed to investigate. Under this study, the dependent variable “investment growth” has two possible outcomes “surviving” and “growing”. Such variables are characterized as dichotomous and these two outcomes are coded 0 and 1, respectively. Therefore, a binary logistic regression was used. Binary logistic regression makes no assumption about the distribution of the independent variables. The relationship between the predictor and response variables is not a linear function in logistic regression; instead, the logistic regression function is used, which is the log it transformation of p :

$$\log \left[\frac{p(x)}{1-p(x)} \right] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k \dots \dots \dots (1)$$

Here α is called the "intercept" and $\beta_1, \beta_2, \beta_3$, and so on, are called the "regression coefficients" of x_1, x_2, x_3 and so on respectively.

2.6.2. Odds ratio

The odds of some event happening is defined as the ratio of the probability that the event occurred to the probability that the event was not occurred. That is, the odd of an event is given by:

$$odd(E) = \frac{p(E)}{P(notE)} = \frac{P(E)}{p(1-E)} \dots \dots \dots (2)$$

The odds ratio, which is $Exp(\beta)$, is the factor by which odds (event) changes for a 1 unit change in X . The odds ratio is a measure of effect size, describing the strength of association or non-independence between two binary data values. It is used as a descriptive statistic, and plays an important role in logistic regression. Unlike other measures of association for paired binary data such as the relative risk, the odds ratio treats the two variables being compared symmetrically, and can be estimated using some types of non-random samples.

The estimated odds are simply the ratio of the estimated proportions for the two possible outcomes. If \hat{P} is the proportion for one outcome, then $1-\hat{P}$ is the proportion for the second outcome:

$$ODDS = \frac{\hat{P}}{1-\hat{P}} \dots \dots \dots (3)$$

This is the ratio of the probability of occurrence of an event to the probability of non-occurrence of the event. There are two main uses of logistic regression. The first is the prediction of group membership. Since logistic regression calculates the probability of success over the probability of failure, the results of the analysis are in the form of odds ratio.

Before proceeding to estimate the data using logit model, checking the existence of multicollinearity between explanatory variables tests will be undertaken. The Variance Inflation Factor (VIF) technique will be employed to detect the problem of multicollinearity for the continuous variables VIF can be defined as;

$$VIF (X_i) = \frac{1}{1 - R_i^2} \dots \dots \dots (4)$$

Where R_i is the squared multiple correlation coefficient between and other explanatory X_i variables. The larger the value of VIF, the more troublesome it is. As a rule of thumb if a VIF of a variable exceeds 10, the variable is said to be highly collinear. Similarly, for categorical variables contingency coefficients test were employed using the following formula:

$$CC = \sqrt{\frac{X^2}{n + X^2}} \dots \dots \dots (5)$$

Where CC is contingency coefficient, X^2 is Chi-square value and n = total sample size. For categorical variables if the value of contingency coefficients is greater than 0.75, the variable is said to be collinear (White, 1980).

3. RESULTS AND DISCUSSION

This section is mainly concerned with the descriptive analysis results of the survey data and interpretations of the analytical findings. Descriptive statistics were employed to compare the households who are growing and surviving with respect to the factors to identify the determinants of investment growth in private manufacturing sectors. It also tests the relationship between the dependent variable and the independent variables using Chi-

square and t-test.

Table 3.1: Status of Enterprise growth

Enterprise growth	Frequency	Percent
Surviving	104	61.90
Growing	64	38.10
Total	168	100.00

Source: Computed from own survey, 2019

To conduct this study, the researcher has initially aimed at collecting data from 170 privet enterprises. However, the non-response and non-filling rate together accounted for 1.17 percent; and hence the actual data gathered for the present study is from a total of 168 sample privet enterprises. To determine the Status of enterprises growth, the qualitative and quantitative data was collected from the respondents. The survey result shows that from 168 sample respondents, 104(61.9 percent) privet enterprises are Surviving and 64(8.1 percent) were found to be Growing. This indicated that the majority of sampled respondents in the study area were survival.

3.1. Descriptive statistics results for categorical variables

This sub-section deals with the descriptive summary of categorical variables. The variables that were presented and interpreted under this sub-section were educational level of the manager, availability of work plan, vocational training, location of the enterprise, availability of infrastructure, market access, availability premise, access to initial finance, good governance, availability of professional advice/consultation, and investment incentives. The results are presented in Tables 3.2- 3.12 as follows:

Table 3.2 Comparison of Surviving and Growing Private Manufacturing Sectors by Education Level of Managers

Education level	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
Grade 5-8	7	6.7	5	7.8	12	7.1	10.43	.034
Grade 9-12	10	9.6	3	4.7	13	7.7		
Certificate	59	56.7	24	37.5	83	49.4		
Diploma	8	7.7	11	17.2	19	11.3		
Degree	20	19.2	21	32.8	41	24.4		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

As indicates in Table 3.2, among sampled growing private manufacturing sector managers about half (50%) of them attended diploma or degree whereas, only 26.9% of sampled surviving private manufacturing sector managers attended diploma or degree. This difference is also significant at 5% significant level ($\chi^2 = 10.43$, $p = .034$). The analysis revealed that growing private manufacturing sector managers had better educational level than surviving private manufacturing sector managers.

Table 3.3: Comparison of Surviving and Growing Private Manufacturing Sectors by Vocational training

Vocational training	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	34	32.7	10	15.6	44	26.2	5.97	.015
Yes	70	67.3	54	84.4	124	73.8		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

As Table 3.3 shows, among sampled growing private manufacturing sector managers, about 84.4% of them attended vocational training, while among sampled surviving private manufacturing sector managers, about 67.3% of them attended vocational training. Furthermore, the results of the *Chi*-square analysis ($\chi^2 = 5.97$, $p = .015$) shows that vocational training and investment growth has statistically significant relationship. This revealed that growing private manufacturing sector managers had greater likelihood in attending vocational training than surviving private manufacturing sector managers.

Table 3.4: Comparison of Surviving and Growing Private Manufacturing Sectors by Premise

Premise	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	98	94.2	44	68.8	142	84.5	19.67	.000
Yes	6	5.8	20	31.3	26	15.5		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

The results of Table 3.4 showed that private manufacturing sectors which had their own premise were more likely to be growing (31.3%) than private manufacturing sectors which did not have their own premise (5.8%). A *Chi-square* test of independence also showed a significant interaction between investment growth and premise ($\chi^2 = 19.67, p < .001$). This implied that availability of premise could help private manufacturing sectors for their growth.

Table 3.5: Comparison of Surviving and Growing Private Manufacturing Sectors by Access to initial finance

Access to initial finance	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	97	93.3	50	78.1	147	87.5	8.31	.004
Yes	7	6.7	14	21.9	21	12.5		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

Concerning access to initial finance, the result of Table 3.5 showed that among sampled private manufacturing sectors which did not have access to initial finance, greater number (93.3%) of them was surviving whereas, among sampled private manufacturing sectors which had access to initial finance, greater number (21.9%) of them was growing. Furthermore, the results of the *Chi-square* analysis ($\chi^2 = 8.31, p = 0.04$) shows that access to initial finance and investment growth has statistically significant relationship. This revealed that growing private manufacturing sectors had access to initial finance than surviving private manufacturing sector managers.

Table 3.6: Comparison of Surviving and Growing Private Manufacturing Sectors by Infrastructures

Infrastructures	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	21	20.2	5	7.8	26	15.5	4.64	.031
Yes	83	79.8	59	92.2	142	84.5		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

The results of Table 3.6 showed that private manufacturing sectors which had access to infrastructure were more likely to be growing (92.2%) than private manufacturing sectors which did not have access to infrastructure (79.8%). A *Chi-square* test of independence also showed a significant interaction between access to infrastructure and investment growth ($\chi^2 = 19.67, p = .031$). This implied that availability of infrastructure could help private manufacturing sectors for their growth.

Table 3.7: Comparison of Surviving and Growing Private Manufacturing Sectors by Location of enterprise

Location of enterprise	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
Not attractive	102	98.1	57	89.1	159	94.6	6.35	.012
Attractive	2	1.9	7	10.9	9	5.4		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

Regarding the location of enterprise, the result of Table 3.7 showed that among sampled private manufacturing sectors which did not have attractive location, greater number (98.1%) of them was surviving whereas, among sampled private manufacturing sectors which had attractive location, greater number (10.9%) of them was growing. Furthermore, the results of the *Chi-square* analysis ($\chi^2 = 6.35, p = .012$) showed that location of the enterprise and investment growth has statistically significant relationship. This revealed that location of the enterprise had contribution for private manufacturing sectors investment growth.

Table 3.8: Comparison of Surviving and Growing Private Manufacturing Sectors by Professional advice

Professional advice	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	94	90.4	47	73.4	141	83.9	8.44	.004
Yes	10	9.6	17	26.6	27	16.1		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

As Table 3.8 shows, among sampled growing private manufacturing sector managers, about 26.6% of them had got professional advice, while among sampled surviving private manufacturing sector managers, about 9.6% of them had got professional advice. Furthermore, the results of the *Chi*-square analysis ($\chi^2 = 8.44$, $p = .004$) shows that professional advice and investment growth has statistically significant relationship. This revealed that growing private manufacturing sector managers had greater likelihood in getting professional advice than surviving private manufacturing sector managers.

Table 3.9: Comparison of Surviving and Growing Private Manufacturing Sectors by Planning

Planning	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	60	57.7	15	23.4	75	44.6	18.81	.000
Yes	44	42.3	49	76.6	93	55.4		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

The result of Table 3.9 showed that among sampled private manufacturing sectors which had plan, greater number (76.2%) of them was growing whereas, among sampled private manufacturing sectors which did not have plan, greater number (57.7%) of them were surviving. Furthermore, the results of the *Chi*-square analysis ($\chi^2 = 6.35$, $p < .001$) showed that location of the enterprise and investment growth has statistically significant relationship. This revealed that location of the planning had contribution for private manufacturing sectors investment growth. The key informants informed that failure to preparing work plan have a devastating effect on the firm existence.

Table 3.10: Comparison of Surviving and Growing Private Manufacturing Sectors by Good governance

Good governance	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	53	51.0	5	7.8	58	34.5	32.63	.000
Yes	51	49.0	59	92.2	110	65.5		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

According to the results of Table 3.10., greater percentages (92.2%) of growing private manufacturing sectors were comfortable by good governance. But, the majorities (51%) of surviving private manufacturing sectors were not comfortable by good governance. In addition, the cross-tabulated result ($\chi^2(1) = 32.63$, $p < .001$) showed that there was statistically significant relationship between investment growth and good governance of the respondents. The analysis revealed that growing private manufacturing sectors have better satisfaction for good governance than surviving private manufacturing sectors.

Table 3.11: Comparison of Surviving and Growing Private Manufacturing Sectors by Market access

Market access	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	32	30.8	9	14.1	41	24.4	5.99	.014
Yes	72	69.2	55	85.9	127	75.6		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

Regarding market access, the result of Table 3.11 showed that among sampled private manufacturing sectors which had access to market, greater number (85.9%) of them were growing whereas, among sampled private manufacturing sectors which did not have access to market, greater number (30.8%) of them was surviving. Furthermore, the results of the *Chi*-square analysis ($\chi^2 = 5.99$, $p = .014$) showed that market access and

investment growth has statistically significant relationship. This revealed that market access had effect for private manufacturing sectors investment growth.

Table 3.12: Comparison of Surviving and Growing Private Manufacturing Sectors by Investment incentives

Investment incentives	Investment growth				Total		χ^2	p-value
	Surviving		Growing		n	%		
	n	%	n	%				
No	96	92.3	51	79.7	147	87.5	5.77	.016
Yes	8	7.7	13	20.3	21	12.5		
Total	104	100	64	100	168	100		

Source: Computed from own survey, 2019

Regarding investment incentives, among the sample private manufacturing sectors in the study area, the percentage of manufacturing sectors which had got investment incentives were greater for growing (20.3%) than surviving (7.7%). On the other hand, the percentage of manufacturing sectors which did not get incentives were greater for surviving (92.3%) than growing (79.7%). The results of Chi-square analysis ($\chi^2 = 5.77, p = .016$) also indicated that there is statistically significant relationship between investment incentives and investment growth in the study area. This implied that those private investment firms which had got any measurable advantage given by the government become growing.

3.2. Descriptive statistics results for continuous variables

This sub-section deals with the descriptive summary of continuous variables of the study. The variables presented and interpreted under this sub-section were age of the enterprise in years and managers work experience in years. The results are presented in Table 3.13 as follows:

Table 3.13: Mean Comparison of Continuous Variables

Variables	Investment growth				t-test	p-value
	Surviving		Growing			
	Mean	SD	Mean	SD		
Age of the enterprise	7.50	0.09	7.83	0.11	-2.33	.021
Managers experience	7.16	3.78	9.14	5.96	-2.63	.009

Source: Computed from own survey, 2019

As Table 3.13 presents, the average age of sample surviving investment growth was (M=7.50, SD=0.09) years, whereas the average age of growing investment was (M=7.83, SD=0.11) years. This implies that the average age of surviving investment was lower than the average age of growing investment, which means growing investment was older than surviving investment. Furthermore, the test result (t-test=-2.33, p = .021) indicated that there is statistically significant difference between age of the enterprise and investment growth. This indicates that the greater aged enterprises are more likely to grow than lower aged enterprises.

Concerning managers experience, the average management experience of surviving investment (M= 7.16, SD=3.78) was lower than the average management experience of growing investment (M= 9.14, SD=5.96). Furthermore, the t-test result (t-test=-2.63, p=.009) indicated that there is a statistically significant difference between managers experience and investment growth. This implies that private manufacturing sectors with experienced managers are more likely to growth its investment.

3.3. Econometrics Result on Determinants of Private Investment Growth

In this topic, the determinants of Private Investment Growth in manufacturing sectors were identified. Since the dependent variable has dichotomous category, the researcher used binary logistic regression analysis. In logistic regression analysis, it is common to check the multicollinearity problem among the independent variables before running the regression model. Therefore, multicollinearity problem was checked using VIF and CC. It was found that there was no such problem among the variables (see Appendix A).

Table 3.12: Results of Binary Logistic Regression Model

Variables	B	S.E	Wald	p-Value	Exp(β)
Age	0.013	0.050	0.070	.791	1.013
Education	0.409	0.256	2.560	.110	1.505
Work experience	0.485	0.119	16.461	.000***	1.624
Vocational training	1.083	0.813	1.777	.183	2.955
Premise	2.320	0.758	9.376	.002**	10.174
Access to initial finance	1.905	1.102	2.991	.084	6.721
Infrastructures	2.333	1.052	4.918	.027*	10.306
Location of enterprise	4.953	1.898	6.812	.009**	141.572
Professional advice	1.075	0.734	2.149	.143	2.931
Planning	2.030	0.659	9.506	.002**	7.616
Good governance	4.390	1.047	17.581	.000***	80.678
Market access	4.303	1.570	7.514	.006**	73.937
Investment incentives	1.846	0.830	4.943	.026**	6.333
Constant	-19.68	4.724	-4.17	0.000	2.82e-09
Chi- Square (13)	132.66				
p-value	.000				
Pseudo R ²	.594				

Note: β = Binary logit coefficient (Estimate), SE=Standard Error

Source: Computed from own survey, 2019

According to binary logistic regression output, out of thirteen variables which were included in the model, eight predictors were found to be significant effect on the investment growth in private manufacturing sectors. Significant variables are work experience, availability of premise, availability of infrastructure, location of the enterprise, availability of work plan, good governance, market access, and investment incentives. Since it has no value to present insignificant variables, the following few paragraphs describe only these significant variables.

Work experience: - As indicated in Table 4.13, work experience has positive and significant effect on the investment growth. Work experience is found to be significant at 0.1% level of significance ($\beta = 0.485, p < .001$). The positive value of beta coefficient implies that the probability of investment growth in private manufacturing sectors increases as the manufacturing sector increases its work experience. The values of odds ratio also indicates that other independent variables being constant, the likelihood of investment growth in private manufacturing sectors increases by a factor of 1.624 as the manufacturing sector increases its work experience increased by one unit.

Premise: - Regarding the availability of premise for the investment growth in private manufacturing sectors, the result of beta coefficient and p-value ($\beta = 2.32, p = .002$) shows that availability of premise has positive and statistically significant effect on the investment growth. The odds ratio shows that as one unit increase in the availability of premise, the private sector's investment growth is expected to be changed by 10.174 units given other variables in the model are held constant.

Availability of infrastructure: - As Table 4.13 shows, the coefficient for availability of infrastructure was found to be positive and statistically significant at 5% level of significance ($\beta = 2.333, p = .027$). The positive value of beta coefficient implies that the investment growth increases as the manufacturing sector gets access to infrastructure. The odds ratio (10.306) indicates that other independent variables being constant, the likelihood of investment growth will be increased by a factor of 10.306 as the availability of infrastructure increased by one unit. This implies that the availability of infrastructure affects the private manufacturing sector investment growth.

Location of the enterprise:- It is observed from the model results that location of the enterprise has positive and significant effect on the investment growth. The binary logit coefficient and p-value ($\beta = 4.953, p = .009$) revealed that location of the enterprise has found to be statistically significant effect on the investment growth and the prediction shows that if the enterprise attractiveness increased by one unit, the investment growth will be expected to change by 141.572 units regardless of other independent variables in the model. This implies that location of the enterprise affects the private manufacturing sector investment growth.

Availability of work plan:- It was hypothesized that availability of work plan has positive effect on the investment growth. The result from the model output ($\beta = 2.03, p = .002$) also supported the hypothesis that there is a positive influence of work plan on the investment growth. The results of odds ratio interpreted as a unit increase in the availability of work plan creates a 7.616 unit increase in the investment growth in private manufacturing sectors. This implies that availability of work plan has effect on the investment growth of private manufacturing sectors.

Good governance: - Good governance was found to be the determinant factor for the investment growth in private

manufacturing sectors. The coefficient for this variable was found to be positive and statistically significant at 0.1% level of significance ($\beta = 4.39, p < 0.001$). The positive value of beta coefficient implies that the investment growth in private manufacturing sectors increases as the manufacturing sectors will have good governance. The odds ratio (80.678) indicates that other independent variables being constant, the likelihood of investment growth will be increased by a factor of 80.678 as the availability of good governance increased by one unit. This implies that good governance affects the investment growth in private manufacturing sectors.

Market access: - Market access in the study area was identified as a determinant factor that influences the investment growth in private manufacturing sectors positively and significantly at 1% significance level ($\beta = 4.303, p = .006$). From the results of odds ratio, it can be interpreted as keeping all other independent variables constant, the odds of 73.937 in favor of investment growth in private manufacturing sectors as access to market increased by one unit. This implies that private manufacturing sector that has access to market has more chance to grow than those private manufacturing sector that has no access to market.

Investment incentives: - As the result of Table 4.13 presents, the result of beta coefficient and p-value ($\beta = 1.846, p = .026$) shows that investment incentives has positive and statistically significant effect on the investment growth in private manufacturing sectors. The odds ratio shows that as one unit increase in investment incentives, the investment growth is expected to be changed by 6.333 units given other variables in the model are held constant.

4. CONCLUSION AND RECOMMENDATIONS

4.1. Conclusion

In the study area, the main determinant of investment growth in private manufacturing sectors were working experience, premise, infrastructure, location of enterprise, planning, good governance, market access, and investment incentives. Work experience found to be one of the determinant factors that affect the private manufacturing sectors investment growth. Similarly, availability of premise also affects the private manufacturing sectors investment growth positively. Likewise, availability of infrastructure facilities was an important determining factor in delaying all private investment growth. Inefficiencies and a shortage of materials and services like transformers, internet facilities, and water supplies have been cited as the major obstacles which delay the investment growth in the study area.

4.2. Recommendations

In order to improve the private investment growth in Akaki Kaliti sub-city of Addis Ababa, the researcher forwards the following recommendations based on the main findings of the study as follows:

- Experienced managers were benefited to sell more of their product. Therefore, the Addis Ababa city administration in collaboration with other stakeholders should give training to enable them to be more productive. In addition, they should facilitate the private manufacturing sector managers to have knowledge share program among each other.
- Availability of premises was found to be one of the determinant factors for the growth of private manufacturing sectors. Therefore, premises should be adequately prepared and considered before manufacturing sector graduation from one level to the other and if necessary deliver it immediately. This should be done with prior planning, commitment and coordination of the sub-city and district land development management.
- Infrastructure facilities are the critical and first ranked challenges which influence private sector manufacturing operation. Hence, the preparation and distribution of premises should be done with its appropriate waste and sewerage system, adequate water supply and better transportation facility. This should be done with strong commitment and accountability by the Addis Ababa city administration and their lower level political officials in collaboration with the city and sub-city water and sewerage, road transport and electric power offices
- The city administration should set policies which is integrated with the country's policy and create favorable environment that may initiate a number of young investors (early working age) and educated potential investors to join the business that results in the long run to experienced prime working age and matured investors. This may be achieved through organizing small and medium enterprises (SMEs) and encouraging those youngsters found in those enterprises, etc. Similarly, close follow up by the city administration and investment office on those projects that are owned by prime working age investors may help to boost those investors' confidence and results in a good performance of the operation.
- Good governance was found to be one of the determinant factors for the growth of private manufacturing sectors. Therefore, the government should work to keeping the good governance.
- Market access is a determinant factor that influences the investment growth in private manufacturing sectors. Therefore, the *Addis Ababa city* administration in collaboration with trade and industry office

- needs to involve effectively in supporting private manufacturing sectors by offering convenient display room and selling premises. To search market and to sell their product at a better price, trade and industry office should create market linkage with unions, cooperatives, government organizations and NGOs.
- Investment incentive is a statistically significant variable which influences private sector manufacturing operation. Therefore, the government in general and Addis Ababa city administration in specific should encourage manufacturing firms by different incentive systems.

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Conflicts of interests

This original research work has not published elsewhere and has no conflicts of interest.

Appendix A: Multicollinearity Test for Variables included in the Model

A1. Variance Inflation Factor (VIF) for continues variables

Variable	VIF	1/VIF
Work_exper~e	1.46	0.684351
Location_o~7	1.37	0.728784
Infrastruc~8	1.35	0.741072
Market_ace~6	1.26	0.791291
Good_gove~10	1.26	0.796147
Acess_to ~11	1.24	0.808172
Premise9	1.19	0.840189
Vocational~3	1.19	0.840433
Planning4	1.17	0.855758
Propfessio~5	1.16	0.859531
ageOfEnter~e	1.12	0.890711
Education1	1.09	0.921619
Investmen~12	1.07	0.933010
Mean VIF	1.23	

A2. Contingency Coefficient (CC) for categorical variables

Variables	Edu	Vtri	Pre	Afi	Inf	Len	Pad	Pla	Ggo	Mac	Iinc
Education (Edu)	1										
Vocational training (Vtri)	.009	1									
Premise (Pre)	.117	.105	1								
Access to finance (Afi)	.032	.102	.037	1							
Infrastructures (Inf)	.001	.232	.138	.062	1						
Location of enterprise (Len)	.060	.022	.029	.390	.102	1					
Professional advice (Pad)	.081	.040	.098	.031	.037	.040	1				
Planning (Pla)	.163	.228	.119	.059	.212	.107	.067	1			
Good governance (Ggo)	.065	.165	.276	.085	.209	.006	.079	.078	1		
Market access (Mac)	.029	.071	.128	.162	.025	.357	.022	.047	.258	1	
Investment incentives (Iinc)	.078	.021	.037	.075	.137	.010	.080	.059	.123	.089	1

Appendix B: Stata Result Outputs

Result 1: Regression Output

Iteration 0: log likelihood = -111.64078
 Iteration 1: log likelihood = -52.90528
 Iteration 2: log likelihood = -46.671544
 Iteration 3: log likelihood = -45.327725
 Iteration 4: log likelihood = -45.312818
 Iteration 5: log likelihood = -45.312795
 Iteration 6: log likelihood = -45.312795

Logistic regression Number of obs = 168
 LR chi2(13) = 132.66
 Prob > chi2 = 0.0000
 Log likelihood = -45.312795 Pseudo R2 = 0.5941

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-----+-----
Enterprise_growth |   Coef.   Std. Err.   z   P>|z|   [95% Conf. Interval]
-----+-----
    Age2 | .0132256   .049945   0.26   0.791   -.0846647   .111116
  Education1 | .408971   .2556143   1.60   0.110   -.0920239   .9099658
 Work_experience | .4846016   .1194401   4.06   0.000   .2505033   .7187
 Vocational_training3 | 1.083469   .8128149   1.33   0.183   -.5096192   2.676557
    Premise9 | 2.31986   .7576038   3.06   0.002   .8349842   3.804736
Access_to_initial_fi~11 | 1.905231   1.101677   1.73   0.084   -.2540164   4.064479
  Infrastructures8 | 2.332758   1.051876   2.22   0.027   .2711182   4.394397
Location_of_enterpri~7 | 4.952807   1.897661   2.61   0.009   1.233459   8.672155
Propfessional_advice5 | 1.075278   .7335483   1.47   0.143   -.3624505   2.513006
    Planning4 | 2.030284   .6585122   3.08   0.002   .739624   3.320944
   Good_governance10 | 4.390464   1.047115   4.19   0.000   2.338156   6.442773
  Market_access6 | 4.303208   1.569793   2.74   0.006   1.226471   7.379945
Investment_incentiv~12 | 1.845756   .8301718   2.22   0.026   .2186493   3.472863
    _cons | -19.68795   4.724055   -4.17   0.000   -28.94692   -10.42897
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