An Analysis of the Determinants of business growth in Ghana: A study of Wa Municipal in the Upper West Region

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Abstract

Sources of firm growth and development have received much attention in the field of research. These studies vary in content and perspective. Changes in the size of firms are therefore extremely important events in a firm's demography. The growth of firms has consequences for employment and consequently economic growth. The objectives of this study are to explore the factors that affect business growth and the determinants of the size of business. The techniques used for data collection included questionnaires and interviews. Purposive sampling was employed to identify the sample. For robustness, both parametric and nonparametric methods were combined for the analysis. Further, simple regression analysis was used to ascertain the factors that affect the size of businesses. Correlation analysis was employed to examine the nature of the relationship between firm size and other variables. Furthermore, Pearson's chi-square test of independence was also used in the study. The correlation analysis showed that business age had a positive and statistically significant association with business size. The regression analysis revealed that business age and record keeping had significant impacts on business size. For policy, business start-ups should be encouraged supported to survive over time.

Keywords: Business size, Business age, Ghana
JEL Classification: C21, D22, L25, M21

1.   Introduction

Several studies have investigated the causes or sources of firm growth and development. These investigations vary in perspective. Growth of an entrepreneurial firm is an indication of success. According to Kruger (2004), business growth has both quantitative and qualitative definitions. Growth may be measured in terms of revenue generation, value addition, and volume of the business. It can also be defined in terms of qualitative features like market position, quality of product, and goodwill of the customers.

Firms have different stages in their life cycle. They are born, appear in the market, survive, grow and eventually die. Firm size therefore reflects how the firm evolves and adapts to its environment. As noted by van Wissen (2002), changes in the size of firms are therefore extremely important events in a firm's demography. The growth of firms has consequences for employment and consequently economic growth. With a positive rate of growth there would be a net creation of new jobs, while a negative rate implies the net destruction of jobs. Notably, the evolution of employment therefore has obvious impacts on government budgets.

The importance of firm growth and its effect on economic growth cannot be ignored. The evolution of active firms would result in backward and forward linkages. These linkages would be higher or lower depending on the evolution of active firms. Considering the general effect of firm growth on an economy, an increase in firm growth may increase its demand towards other sectors, thus producing an increase in the economic activity of a region. This dynamism in the economy can lead to major growth. The reverse holds where a decrease in the number of employees in a firm may lead to a crisis.

Many existing studies draw inferences about firm growth from aggregate data, rather than from observation of the internal dynamics of the unit of analysis. This study is an attempt to fill this gap and extend the literature.

The objectives of this study are to explore the factors that affect business growth and the determinants of the size of business.

The rest of the study is organized as follows. Following is a review of relevant literature. This is followed by the methodology adopted for the study. The results and discussion from the study is next and lastly is the conclusion of the study

2.   Literature Review

Penrose's (1959) theory of firm growth was concerned with the firm as an administrative organisation in the real world. She alluded that the firm's existing human resources provided both an inducement to expand and a limit to the rate of expansion of the firm. She explained further that there was a cumulative process of interaction between the market opportunities of the firm and the productive services available from its own resources. Further, firm growth was considered as an evolutionary process which involves the accumulation of knowledge unique to the firm. She further observed that learning takes place through shared knowledge and action and that the competence so achieved can extend the firm's productive opportunities.

Several studies have investigated the determinants of business growth and development. A study by Radiha et al.,

(2009) on the determinants of small business success opined that internal and external factors are vital for the success of small business. They identified eight factors of business success. They were external environment, market accessibility, entrepreneurial quality, human resource and market support. The rest are government pricing, delivery and service. Rogoff et al. (2004) revealed that both external and internal factors affect the size and growth of businesses. The internal factors include characteristics of the business owner, business size and years in business, the ability to attract outside capital investment, management, financing, planning, experience, and skill to implement any identified projects. The external factors are sales tax rates and infrastructure expenditure.

Mambula (2004) showed that firms getting credit and other forms of assistance do not perform well as compared to those less restricted firms in that regard. To add, Masuo et al. (2001) in their study found that definitions of business success are generally hinged on economic or financial communication. These take the form of return on assets, sales, profits and employee's survival rates. A study by Paige and Littrell (2002) concluded that intrinsic criteria affected business success. They included sovereignty, controlling a person's own prospect and being one's own person in charge. Extrinsic factors identified included increased financial returns, personal income, and wealth. The role of government in the success of the business is significant following a number of studies. A study conducted by Sarder, et al. (1997) conducted on small enterprises in Bangladesh found that firms getting support services experienced a significant increase in sales, employment and productivity.

Contrariwise, other studies have found that government assistance was not relevant to the successes of small businesses. Business characteristics that affect the performance of businesses are age, size, and location of business (Kraut and Grambsch, 1987; Kallerberg and Leicht, 1991). Research has shown that several factors affect the growth of small-businesses, especially a lack of capital or financial resources. Some studies have found that additional capital is often not required and can be overcome through creativity and initiative (Dia, 1996; Godsell, 1991; Hart, 1972). In a related study, Kallon (1990) noted that the amount of capital needed to start a business and the rate of growth for the business was significantly and negatively related. Additionally, access to commercial credit did not contribute to entrepreneurial success.

Also, some researchers have argued that small businesses are under-capitalized. In Africa, most businesses depend on their own or family savings. Most of them cannot meet the requirements for commercial loans, and those who do find such loans expensive (Gray, Cooley, and Lutabingwa, 1997; Trulsson, 1997; Van Dijk, 1995). In a recent study in Ghana, Mumuni et al. (2013) revealed that the major barriers facing women entrepreneurs are access to credit, managerial skills and cultural barriers. They noted further that the main source of financing businesses was own savings. Additionally, Keyser et al. (2000) found that, lack of starting capital was a common problem facing entrepreneurs in Zambia. Okpara and Wynn (2007) in their study observed that the principal constraints to success included poor management, lack of capital, corruption, weak infrastructure, and poor recordkeeping.

Inexperience in the field of business, lack of technical knowledge, inadequate managerial skills, lack of planning and lack of market research have also been identified as negatively affecting the growth of firms (Lussier, 1996 and Mahadea, 1996). Corruption, poor infrastructure, poor location, failure to conduct market research, and the economy are some of the negative factors that affect the growth of firms and business (Mambula, 2002). In a similar study by Krasniqi et al. (2008), they examined the impact of the Firm, the Entrepreneur and the Business Environment on the growth of new versus much established firms. They found that the age of the entrepreneur at the startup and entrepreneurial teams exert a positive effect on firm growth.

Mateev and Anastasov (2010) have opined that firm size, financial structure and productivity affect the growth of enterprises. Furthermore, they noted that the total assets has a direct impact on the sales revenue. However, the number of employees, investment in R & D, and other intangible assets do not have much influence on the growth of firms. In a recent study, Lorunka et al. (2011) have found that the gender of the founder, the amount of capital required at the time of starting the business, and growth strategy of the enterprise are important factors that affect growth of a small enterprise. They have also identified commitment of the person starting a new enterprise to be a good predictor of business success.

Similar growth indicators have been found and used in the empirical literature. They are the financial or stock market value, the number of employees, the sales and revenue and the productive capacity. The remaining are the value of production and the added value of production (Delmar, 1997). Comparing three indicators of firm size, Kirchhoff and Norton (1992) considered employment, assets and sales. These were tested over a seven year period and they produced the same results. They therefore concluded that they can be used interchangeably. Earlier studies have revealed that the number of employees is the most widely used measure of size. Kimberley (1976) opined that the organization of the internal process is revealed by the number of employees. Penrose (1959) agreed that employment is a direct indicator of organizational complexity. She thus considered it as a suitable indicator for analysing the managerial implications of growth.

3.   Methods and Materials

The population comprised small medium enterprises within the Wa Municipality. A sample of hundered (100) business owners was used for the study. The techniques used for data collection included questionnaires and interviews. Purposive sampling was employed to identify the sample. This is appropriate since the cross-sectional data will allow an examination of the association between exposure and outcome instead of cause and effect. For robustness, both parametric and nonparametric methods were combined for the analysis. Further, simple regression analysis was used to ascertain the factors that affect the size of businesses. Correlation analysis was employed to examine the nature of the relationship between firm size and the factors that affect it. Furthermore, Pearson's chi-square test of independence was used to test the hypothesis formulated in the study. The size of the business defined as BSIZE is the number of employees in the business. Gender is represented by SEX which indicates male or female. Records keeping is defined by REC and the age of the business owner is also defined as AGE. The remaining are the level of education represented as EDUC and age of the business as BAGE.

3.1 Hypotheses

Hypothesis 1

 Ho: There is no relationship between business size and age of business.

 Ha: There is a relationship between business size and age of business.

Hypothesis 2

Ho: There is no relationship between business size and gender.

Ha: There is a relationship between business size and gender.

Hypothesis 3

Ho: There is no relationship between business size and educational level.

Ha: There is a relationship between business size and educational level

Hypothesis 3

Ho: There is no relationship between business size and records keeping.

Ha: There is a relationship between business size and records keeping.

3.2 Model

From the theoretical and empirical review of literature, the conceptual model to be investigated takes the form:

$$BSIZE = f(SEX, REC, AGE, EDUC, BAGE) \tag{1}$$

The econometric specification would involve concentrating on the cross section aspect of the Time Series Cross Section (TSCS) Model. The Generic TSCS model is of the form

$$y_{i,t} = x_{i,t}\beta + \varepsilon_{i,t} \tag{2}$$

where $i = 1, \ldots, N$; $t = 1, \ldots, T$, and x_{it} is a K vector of exogenous variables and observations are indexed by unit i and time t. In this specification, time would be fixed since it does not vary. The equation may thus be modified as

$$y_{i,} = x_i\beta + \varepsilon_i \tag{3}$$

The estimable model for the study would thus become

$$BSIZE_i = \beta_0 + \beta_1 SEX_i + \beta_2 REC_i + \beta_3 AGE_i + \beta_4 EDUC_i + \beta_5 BAGE_i + u_i \tag{4}$$

4.   Results and Discussion

The relationship or association that exists between business size and the determinants is established. This is established using correlation analysis. It is observed that among the variables, gender and education have the same correlation coefficients. These coefficients are very low and negative. The correlation coefficients are 0.034 and not statistically significant. In addition, age of the business owner has a positive and low correlation coefficient that is not statistically significant. The low but relatively higher correlation coefficients are with the business age and records keeping. The correlation coefficient for record keeping is 0.33. This coefficient is negative and statistically significant at the alpha 0.01 level. It suggests an inverse relationship between record keeping and size of business. To add, business age also had a low but positive association of 0.26 with business size. This coefficient is positive and also statistically significant at the 0.01 alpha level. These are shown in table 1.

Table 1 Correlations between Business Size and other variables

Variables	Correlation Coefficient
SEX	-0.034
REC	-0.33*
AGE	0.068
EDUC	-0.034
BAGE	0.26*

* denotes significance at the 1% level.

Source: Authors' Construct

The chi-squared test results indicate that the null hypothesis cannot be rejected in all cases except for records keeping. There is therefore no significant relationship between age of business, gender and educational level. However the null hypothesis is rejected for records keeping. This means that there exists a significant relationship between records keeping and business size. These are presented in table 2.

Table 2 Chi-Square Test Results

Varibles	Chi-squared Value	Asymptotic Significance
SEX	10.876	0.367
REC	17.587	0.004
AGE	6.508	0.97
EDUC	25.2	0.451
BAGE	28.035	0.569

* denotes significance at the 1% level.

Source: Authors' Construct

The outcome of the regression reveals interesting facts on the determinants of business size. Among the determinants, only two variables; records keeping and age of business were significant. The marginal effect of record keeping on the size of business is a negative 0.69. The interpretation is that if record keeping changes by 1%, size of business changes by 69% but in the opposite direction. This indicates that as record keeping increases (decreases), the size of the business decreases (increases). This coefficient is significant at the 1% level. Furthermore, the marginal effect of age of business is positive and significant at the 5% level. It indicates that a 1% change in the age of the business would result in a 13% change in the size of the business. This relationship is however positive. This finding supports existing studies (Kallerberg and Leicht, 1991; Kraut and Grambsch, 1987; Rogoff et al. (2004). Meanwhile, gender, level of education and age have very low numerical coefficients and do not have any impact on the size of business. They are not also ststistically significant. This finding is emphasized by the correlation coefficients. However, the finding on entrepreneurial quality or education contradicts a study by Radiah et al. (2009). Finally, the ANOVA table suggests a non rejection of the null hypothesis. The *p*-value compared with alpha = 0.01 is statistically significant at the 1% level. There the model is a good one since the model coefficients are not zero. These are shown in table 3.

Table 3 Summary of Regression Results

Dependent Variable: BSIZE	Coefficient	t-statistic	Significance
CONSTANT	2.723*(0.605)	4.505	0.000
SEX	0.044(0.107)	0.415	0.679
REC	-0.686*(0.224)	-3.059	0.003
AGE	-0.045(0.106)	-0.426	0.671
EDUC	-0.064(0.065)	-0.99	3.25
BAGE	0.129**(0.075)	1.722	0.088

Adj. R^2 = 0.11, ANOVA [Fstat = 3.425*, Sig. = 0.007], Figure in ( ) indicates standard error.

* denotes significance at the 1% level.

Source: Authors' Construct

5. Conclusion

This study examined the determinants of firm size in Ghana. It sought to explore the factors that affected business growth and the determinants of the size of business. To achieve these objectives, questionnaires and interviews were conducted to collect data. Purposive sampling was employed to identify the sample. For robustness, both parametric and nonparametric methods were combined for the analysis. Regression analysis was used to ascertain the factors that determine business size. Correlation analysis was employed to examine the nature of the relationship between firm size and other variables. Furthermore, Pearson's chi-square test of independence was also used in the study. This made it possible for the test of hypothesis. The correlation analysis showed that business age had a positive and statistically significant association with business size. The

regression analysis revealed that business age and record keeping had significant impacts on business size. It is therefore recommended that business start-ups should be encouraged and supported to survive over time since age of business played a significant role in the determination of firm size.

References

Correa, A., Acosta, M., González, A. L. & Medina, U. (2003). Size, Age and Activity Sector on the Growth of Small and Medium Firm Size, *Small Business Economics*, 21, 289-307.

Delmar, F. (1997). Measuring growth: methodological considerations and empirical results, In: Donckels, R., A. Miettinen, (Eds.), *Entrepreneurship and SME Research: On its Way to the Next Millennium*, Aldershot, UK:Ashgate, pp. 199–216,

Delmar, F., P. Davidsson (1998). A Taxonomy of High-Growth Firms. *Frontiers of Entrepreneurship Research.* [Online] Available: http://www.babson.edu/entrep/fer/papers98/XIV/XIV_A (October, 11 , 2013)

Dia, M. (1996). African management in the 1990s and beyond: Reconciling indigenous and transplant institutions. Washington, D. C.: The World Bank.

Godsell, G. (1991). Entrepreneurs embattled: Barriers to entrepreneurship in South Africa. In B. Berger (Ed.), *The culture of entrepreneurship*. San Francisco: ICS Press.

Gray, K. R., Cooley, W., & Lutabingwa, J. (1997). Small-scale manufacturing in Kenya. *Journal of Small Business Management*, 1, 66-72.

Hart, G. P. (1972). Some socio-economic aspects of African entrepreneurship. *Occasional Paper* No. 16, Grahamstown: Rhodes University.

Kallerberg, A. L, & Leicht, K. T. (1991). Gender and organizational performance: Determinants of small business survival and success. *Academy of Management Journal*, 34 (1), 136-161.

Kallon, K. M. (1990). The economics of Sierra Leonean entrepreneurship. Lanhan, MD: *University Press of America.*

Keyser, M., de Kruif, M., & Frese, M. (2000). The Psychological strategy process and socio-demographic variables as predictors of success for micro-and small-scale business owners in Zambia. In M. Frese (Ed.), Success and failure of micro business owners in Africa: *A psychological approach* (pp. 31-54). Westport, CT: Quorum Books.

Kimberley J. R. (1976). Organisational size and the structuralist perspective: A Review, Critique and Proposal, *Administrative Science Quarterly*, 21, 571-597.

Kirchhoff B. & Norton E. (1992). Schumpeterian Creative Destruction Versus Gibrats Law: an Examination of the relationship between firm size and growth, paper presented at the 1992 ICBS 36th Annual World Conference, Toronto, Canada.

Krasniqi, B. A., Shiroka-Pula, J and Kutllovci, E. (2008). The determinants of entrepreneurship and small business growth in Kosova: evidence from new and established firms. *International Journal of Entrepreneurship and Innovation Management*, 8(3), 320-342.

Kraut, R.W. & Grambsch, P. (1987). Home-based white collar employment: Lessons from the 1980 census. *Social Forces*, 66, 410-426.

Krueger, A. O. (1974). The Political Economy of the Rent-Seeking Society. *American EconomicReview*, 64, 291–303.

Lorunka, C., Kessler, A., Frank, H. & Lueger, M. (2011). Conditions for growth in one-person startups: a longitudinal study spanning eight years. *Psicothema*, *23*(3), 446–452.

Lussier, R. N. (1996). Reasons why small businesses fail: and how to avoid failure. *The Entrepreneur Executive*, 1(2), 10-17.

Mahadea, D. (1996). Financial constraints on small business entrepreneurs: A Transkei Case study. *Acta Academia*, 29(1), 70-89.

Mambula, C. (2002). Perceptions of SME growth constraints in Nigeria. *Journal of Small Business Management,* 40(1), 58-65.

Mambula, C. J. (2004). Relating external support, business growth & creating strategies for survival: A comparative case study analyses of manufacturing firms and entrepreneurs. *Small Business Economics*, 22, 83-109.

Masuo, D., Fong, G., Yanagida, J., & Cabal C. (2001). Factors associated with business and family success: A comparison of single manager and dual manager family business households. *Journal of Family and Economic Issues*, 22 (1), 55-73.

Mateev, M. & Anastasov, Y. (2010). Determinants of small and medium sized fast growing enterprises in central and Eastern Europe: a panel data analysis. *Financial Theory and Practice*, *34*(3), 269–295.

Mumuni I. A., Insah B. & Bowan A. P. (2013). Women in Entrepreneurship as a Means to Sustainable Livelihood in Ghana: A Study of the Upper West Region, *African Journal of Social Sciences*, 3(3), 160-

171.

Okpara, J. O., & Wynn, P. (2007). Determinants of Small Business Growth Constraints in a Sub-Saharan African Economy, *SAM Advanced Management Journal,* 72 (2), 24-35.

Paige, R.C. & Littrell, M. A. (2002). Craft retailers' criteria for success and associated business strategies. *Journal of Small Business Management*, 40 (4), 314-331.

Penrose E.T. (1959). *The Theory of the Growth of the Firm*. Oxford University Press: New York.

Radiah , A.K., Mohd, R.B.M. & Ab. Azid, H.C.I. (2009). Success Factors for Small Rural Entrepreneurs under the One-District-One-Industry Programme. *Malaysia journal of Contemporary Management Research*, 5 (2), 147-162.

Rogoff, E. G., Lee, M. S., & Suh, D. C. (2004). Who done it? Attributions by entrepreneurs and experts of the factors that cause and impede small business success. *Journal of Small Business Management*, 42 (4), 364-376.

Sarder, J. H., Ghosh, D., & Rosa, P. (1997). The importance of support services to small enterprises in Bangladesh. *Journal of Small Business Management*, 35 (2), 26-36.

Trulsson, P. (1997). Strategies of entrepreneurship: Understanding industrial entrepreneurship and structural change in Northern Tanzania. Linkoping, Sweden

Van Dijk, M. P. (1995). Regulatory restrictions and competition in formal and informal urban manufacturing in Burkina Faso. In P. English & C. Henault (Eds.), *Agents of change* (pp. 106-125). London: Intermediate Technologyy.

Van Wissen, L.J.G. (2002),The demography of entrepreneurs and enterprises.[online] Available: http://www-sre.wu-wien.ac.at/ersa/ersaconfs/ersa02/cd-rom/papers/419.pdf, (November 27, 2013).