



# CCC 2018

Proceedings of the Creative Construction Conference (2018)  
Edited by: Miroslaw J. Skibniewski & Miklos Hajdu  
DOI 10.3311/CCC2018-065

Creative Construction Conference 2018, CCC 2018, 30 June - 3 July 2018, Ljubljana, Slovenia

## Firm's Characteristics as a Determinant of Firm's Growth

Arthur-Aidoo, B. M<sup>a\*</sup>, Aigbavboa, C<sup>b</sup>, Thwala, W. D<sup>c</sup>

<sup>a b c</sup> Sustainable Human Settlement and Construction Research Centre  
Faculty of Engineering and the Built Environment  
University of Johannesburg, South Africa

---

### Abstract

There is increasing evidence of the role firm characteristics plays in recognition of a firm within its niche environment. However, much has not been explored into firm's characteristics to ascertain the full benefits associated with that feature. This study, therefore, explored into firm's characteristics as a determinant of firm's growth. Primary data through the used of the questionnaire assisted in gathering relevant information from 20 sampled small and medium-sized construction firms randomly selected within the Greater region of Accra in Ghana and its sub-metropolis. Data were analysed with the aid of statistical package for social sciences (SPSS) version 24 using exploratory factor analysis technique. Findings from the study revealed significant factors that influence firm's characteristics and further contribute to the entire growth of a firm. This study also established that small and medium-size construction firm's growth is impacted by vigorous characteristic features which encourage and bring about integrated results the firms and the entire industry.

*Keywords: characteristics, determinant, firm, growth ;*

---

### 1. Introduction

The performance and the role of small and medium-sized construction (SMEs) in any economy are not limited to the relevant provision of employment, facilitation of socio-economic infrastructural needs and poverty reduction but also the entire growth of the firm. Growth among these SMEs varies from nations and among industries and may be measured in several levels including sales employees growth over a particular period [1]. The growth of the firm is also defined in the various context in literature signifying that growth has no precise definition. According to [2], firm's growth is driven by the current microeconomic issues such as its organisational outcome resulting from the amalgamations of firm-specific resources and capabilities. [3] similarly stressed that growth determinants of firms are categorised into three integrated themes namely: organisational, environmental and individual determinants. These identifiable items influence firms to grow. [4] however argued that one of the essential drivers of sustainable growth in developing countries is firm's growth. As a result, comprehending firm's growth has now become a great concern for researchers and policymakers. Therefore identifying the channel that promotes small and medium-sized firm's growth that will provide the basis to influence strategic direction to create the environment and the required initiatives to help other informal sectors is essential. Despite the established numerous of determinants of firm's growth among SMEs, there is still a dearth of firm's characteristics as a determinant of firm's growth among construction SMEs which influence growth. This study explores the organisational determinant which is also referred to as firm characteristics as a determinant of firm's growth. Further, this study adds to the existing stockpile of knowledge by identifying the firm's characteristics of a company that results in growth so that both government and individual business owners will directly apply those characteristics which lead to a productive outcome. According to [5], Firm's

characteristics include the growth strategies for management personnel and the entire firm. Firm's characteristics determinants have the greatest influence on the growth of a firm. These strategies regarding the features of the firm such as ownership type, size, age, human capital possibly affect the growth pattern of the firm. The correlation of age, size and growth is major recognised issues in the literature under the Law of proportionate effect also known as the Gibrat's Law, [6] which was formulated by Robert Gibrat in as early as 1931 [7]. Likewise, other explored influential factors via literature on firm's characteristics such as the high desire of the firm to grow, high-level of human capital, a clear mission and clear vision of business also impacts on firm's growth. Additionally, good management structures, good team, good human relations, high-level of knowledge of the team, positive culture and good location of the firm also contribute the growth of the firm.

## 2. The purpose of the study

This study aims to fill the gap in the characteristics of a firm as a contribution to firm's growth. Further, the study explored the determinants of firm's characteristics in enhancing an integrated growth in a firm.

## 3. Literature and Hypotheses

### 3.1. Firm's relationship with age and growth

The growth of firms depends primarily on the momentous characteristics of the firm which may be categorised as tangible or intangible. Tangible growth includes an increase in size of employees, stock, turnover and no sub-firms while intangible growth comprises a brand name, firm's prestige such as goodwill [8]. Literature, particularly on the Law of proportionate effect which was formulated by Gibrat in as early as 1931 stressed on the influence of firm's age and size on growth intangible. Although the Gibrat's Law was established, in theory gives clear guidance on how firm's age control firm's growth [9]. A study by [10] discovered that young firms within a sector are likely to face the liability of newness, while the older firms may have a better understanding of the firm's niche environment and be expected to have smooth growth with few rocky paths [11]. [12] supported that firm's age is a significant influence on the firm growth of, with younger companies growing faster than old firms. This implies that the relationship between firm's age and growth within a sector is particularly vigorous. Conversely, studies in both developed and developing economies shown, that young SMEs have more prospects to have high rates of growth compared with SMEs that have been in existence longer [13]. [14] on the other hand stressed that the average growth rate of firms decreases with age. This, therefore implies that the older a firm, the lesser growth ensue within the firm. According to [15] firm owners stressed that their efficiency increases with time and the age of their operations. [9] similarly argued that firms initially expand and then taper-off its growth as the firm approaches its optimal size. In practicality, firms may benefit from its age regarding learning by doing which brings about increase in explicit expertise and entire growth. On the other hand, firm's suffer productivity losses as they age [16]. It can, therefore, be concluded that firm's age has a relationship with its growth.

### 3.2. The high desire of the firm to grow

The high desire of the firm to grow is an impetus to firm characteristics which results in growth. The firm's zeal to growth is vital to enable a collaborative desire among management team that is the bedrock of policy formulation. [17] pointed that studies have established that growth desires are positively related to actual growth. This implies that, higher growth desires of a firm encourage realisation of actual growth. According to the resource-based view of the firm, resources are the primary source of firm's performance and shows the direction for firm's strategy as its characteristics. Further, [18] remarked attitudes to growth depend on the expected consequence of growth. [18] also supported that, growth desires of a firm is hinged on the owner type, the entrepreneurial abilities of the management team and the organisational driven policies.

### 3.3 High-level of human capital

Every firm is characterised by its level of human capital or resource. The higher the level of human resource of a firm, the likelihood of achieving higher productivity and precision. [19] asserted that people are the key source of firm's

competitive advantage. Therefore, the level of human capital within a firm impacts on the growth of the firm. Furthermore, it is the quality of the human resource that determines organisational performance and level of productivity. A firm characterised by a high human capital would possibly attain higher products under reliable supervision

### *3.4 Clear mission and clear vision*

A firm with a clear mission and vision is expected to achieve its goals extensively. [20] hypothesised that a firm could not have values beliefs and purposes outside the people who make up that business. Therefore, it is important that the firm establishes a clear mission and vision comprehensible to all its employees to drive the firm towards its growth. [20] further stressed that mission statements serve to inform not only employees but also the outside world such as stakeholders, neighbours among others about the important functionalities of the firm. Further, it also serves as anchors and guidepost for both strategic and operational decisions making to facilitate growth. This suggests that clear mission and vision as a characteristic of a firm drives growth to be achieved. [21] on the other hand supported that for firms to grow, the entrepreneur needs to formulate an accurate, clear vision for the firm.

### *3.5 Good management structures*

Establishing proper management structure ensures an organisation's continued growth, content employees and profitable returns for shareholders of the company [22]. Consequently, a wrong management structure creates tension between workers and managers, allows inefficient work practices to flourish and reduces company's profitability thereby affecting growth with a further consequent of firm's closure. A good management structure in a group has the following key components underpinning the structure. These include effective communication style, proper task definition, formalisation of procedures, good relations and customers [22]. [23] supported that, good management structure in a firm is essential in defining individual responsibilities within the minimum resistance resulting in significant corporate productivity and growth.

### *3.6 Good team, good human relations*

According to [24], several studies have suggested that firms founded and managed by good teams are more successful than firms established and led by a single person. Further, firms with diverse teams of a range of management skills and competencies have greater opportunities of surviving thereby resulting in the growth of the business. Also, a firm is characterised by the good team operating within with the aim of accomplishing targets that individuals cannot achieve working alone. The human relation is the skill or the ability to work efficiently through and with others [25]. Therefore, when a good human relationship describes a firm, it drives goals and growth to be achieved. A good human relationship in a firm however, includes a desire to understand others, their needs, weakness talents and abilities. Moreover, good human relationship within a firm foster conducive working atmosphere that further yields more productivity and bring about firm's growth. Undoubtedly, uniqueness in the knowledge of a good team within the firm results in distinct output and performance which impacts on the company's growth [26] affirmed that effective team and knowledge is appreciated as one of the few broad-spectrum of success factors firm's growth.

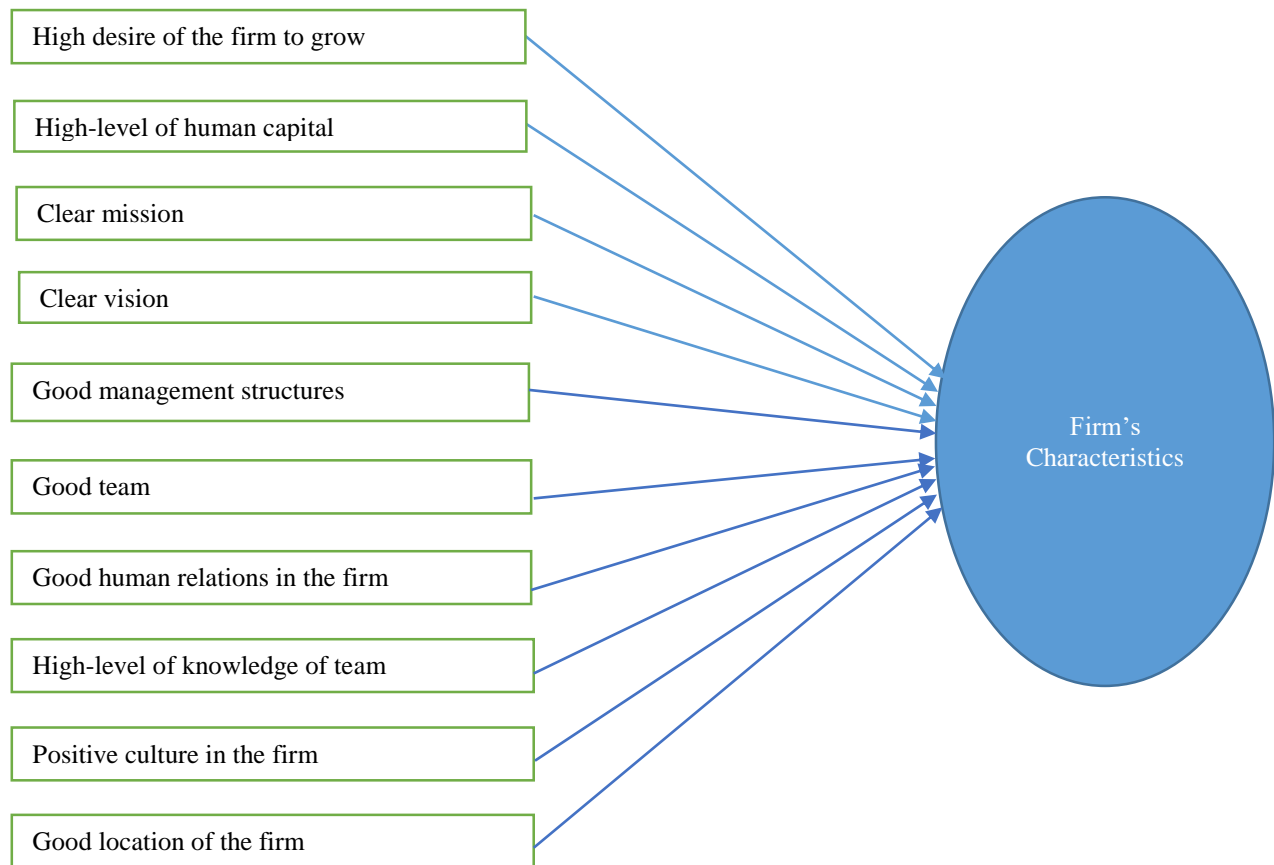
### *3.7 Positive culture*

Every firm has its culture. According to [27], the culture of a company can be by default or by design. If the firm's culture is by default then, it means a chance of the company growing healthy is not enhance since most team members are not engaged. However, a firm with design culture constitutes the one with leadership instituting and developing engagement of employees [27]. Therefore, when a firm is characterised by design culture, it is associated with extensive outputs which result in growth.

### *3.8 Good location of the firm*

Location of a firm as its characteristics impacts on the firm's growth and performance through positive and negative externalities [28]. Further, there is a likelihood of a positive effect of a company in a small geographical area regarding their levels of efficiency. For instance, research conducted by [29] maintained that company's location and its operation

is primarily influenced by the desired growth of the firm which comes about because of the economic, demographic, environmental and social factors surrounding the firm.



**Figure 1:** Conceptual framework  
**Source:** Adapted from Arthur-Aidoo (2017)

#### 4. Dependent variable

The dependent variable is firm's characteristics. As depicted on figure 1. This variable (firm's characteristics) can be measured can however be measured by some attributes such as the high desire of the firm to grow, high-level of human capital, a clear mission and clear vision of business also impacts on firm's growth. Additionally, good management structures, good team, good human relations, high-level of knowledge of the team, positive culture and good location of the firm [30]. Accordingly, sound firm's characteristics also contribute to the growth of the firm.

#### 5. Independent variables

The independent variables include high desire of the firm to grow, high-level of human capital, a clear mission, clear vision of business, good management structures, good team, good human relations, high-level of knowledge of the team, positive culture and good location of the firm [30].

#### 6. Methodology

This research is partly exploratory supported by questionnaire survey. To ascertain the reliability of the collated data,

both review of literature augmented by questionnaire survey was adopted. Extensive review of literature using current peer reviewed journal and conference publications were used. Further, primary data through the used of the questionnaire assisted in gathering relevant information from 20 sampled small and medium-sized construction firms randomly selected through the list of SMEs operating within the Greater region of Accra in Ghana and its sub-metropolis. Data were analysed with the aid of statistical package for social sciences (SPSS) version 24 using exploratory factor analysis technique. The study used independent variables which measured and brings about sound firm’s characteristics thereby encouraging entire growth. This provided an opportunity to evaluate the importance of the independent variables as causal determinants of firm’ characteristics for growth.

**7. Discussion**

In this study, exploration was done to establish the determinants of firm’s characteristics which further brings growth in a firm. Discussion of the study was based upon review of the literature, summary of the factors classified as independent variables and the collated data from the questionnaire survey which measured firm characteristics. These 10 factors (FCS1, FCS2, FCS3, FCS4, FCS5, FCS6, FCS7, FCS8, FCS9, and FCS10) which influenced firm characteristic (FCS) were subjected to factor analytical test (EFA), only 3 questions were found suitable and were extracted. The Kaizer Meyer-Olkin (KMO) test generated 0.800 which indicate higher adequacy of the sample. According to [31], the Kaizer Meyer-Olkin (KMO) measure of sampling adequacy of 0.5 is considered adequate and supports the adequacy of the sample size for the factor analysis in this current study. A KMO value of 0.5 ideally is recommended in literature for sample size adequacy and to justify the used of factor analysis in the present study supported by the appropriateness of the factor for the model [31]. Moreover, the exploratory factor analysis shown the result of Bartlett’s test of Sphericity of 746.111 with an associated significance level of 0.00 presented in Table 1. The implication of this result is that potential correlation exists between the variables and hence revealing of a realistic group forming factors from the variables [32]. Likewise, the Cronbach’s alpha of 0.798 was established indicating a satisfactory level of internal consistency and reliability in the measures and scale [31]. [32] pointed that a Cronbach alpha value of 0.7 is considered reasonably good measuring scale for internal consistency and reliability of a research instrument. Communalities extracted on individual variable were assessed before the analysis shown in Table 2. These communalities were significant in determining the variables that have been extracted [32]. This also means that the communalities epitomize the total amount of variables captured under firm characteristics in the factor analysis. Also, an acceptable rule for communality values in factor analysis suggests that a potentially significant variable must produce an eigenvalue (extraction value) in the iteration. From Table 2, the average communality after extraction was 0.60; this was in conformity of [32] which stressed that the average communality must be above 0.60 after extraction to support the reliability of analysis. [31] emphasised that eigenvalues of less than one are considered insignificant, these were excluded accordingly in the current study from Table 3. From the results shown in Table 3, seven variables had their eigenvalues less the cut-off point of 1. This indicates that the variables do not describe much variance and were, as a result, dropped from the analysis as suggested by [32]. Similarly, the pattern matrix in Table 2 shows the three factors that dominated and belonged to the unique factor component. Furthermore, it could be emphasised that these three factors that emerged in the iteration could be perceived as the dominant factors accentuating firm characteristics for integrated growth of construction SMEs.

TABLE 1: FIRM CHARACTERISTICS (FCS)

KMO and Bartlett's Test <sup>a</sup>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.800
Bartlett's Test of Sphericity	Approx. Chi-Square	746.111
	Df	45
	Sig.	0.000

a. Based on correlations

b. Cronbach’s Alpha = 0.798

TABLE 2: PATTERN MATRIX<sup>A</sup>

Pattern Matrix <sup>a</sup>				
Firm Characteristics (Variables)	Code	Component		
		1	3	4
Clear vision	FCS4	0.914		
Clear mission	FCS3	0.835		
High desire of firm to grow	FCS1	0.736		
High level of human capital	FCS2	0.603		-0.238
Good location	FCS10		0.899	-0.231
Positive culture in firm	FCS9		0.690	-0.209
Good human relations in firm	FCS7			-0.749
Good team	FCS6			-0.749
High level of knowledge	FCS8		0.230	-0.712
Good management team	FCS5	0.327		-0.498

Extraction Method: Principal Component Analysis.  
 Rotation Method: Oblimin with Kaiser Normalization.

TABLE 3: TOTAL VARIANCE EXPLAINED

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.980	39.795	39.795	3.980	39.795	39.795	3.292
2	1.273	12.734	52.529	1.273	12.734	52.529	1.736
3	1.096	10.965	63.494	1.096	10.965	63.494	2.854
4	.864	8.644	72.138				
5	.742	7.418	79.556				
6	.568	5.680	85.236				
7	.463	4.629	89.865				
8	.402	4.022	93.887				
9	.318	3.177	97.064				
10	.294	2.936	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

### 8. Conclusions

The study aimed to fill the gaps in firm characteristics and their determinants which contributes to firm’s growth. Accordingly, the study explored these determinants and further depicted the conceptual ideal in a model form. The study concludes that the roles of SMEs in any economy are not limited to solely the provision of employment, facilitation of socio-economic infrastructural needs and poverty reduction but also the growth of the firm. Growth among SMEs varies from nations and among industries and may be measured in several levels including sales employees growth over a particular period. In view of that, comprehending firm’s growth has become an essential concern for researchers and policymakers. Therefore identifying the channel that promotes small and medium-sized firm’s growth that will provide the basis to influence strategic direction to create the environment and the required initiatives to help other informal sectors is crucial. Despite the established numerous of determinants of firm’s growth among SMEs, there is still a dearth of firm’s characteristics as a determinant of firm’s growth among construction SMEs which influence growth. The study concludes that the explored influential factors via literature on firm’s characteristics such as the high desire of the firm to grow, high-level of human capital, a clear mission and clear vision of business also impact on firm’s growth. Additionally, good management structures, good team, good human relations, high-level of knowledge of the team, positive culture and good location of the firm also contribute the growth of the firm. The study conceptualised the dependent variable as firm’s characteristics and was measured by independent attributes such as the high desire of the firm to grow, high-level of human capital, a clear mission and clear vision of business also impacts on firm’s growth. Additionally, good management structures, good team, good human relations, high-level of knowledge of the team, positive culture and good location of the firm also measured the dependent

variable. The study also generated a Kaizer Meyer-Olkin (KMO) test value of 0.800 which indicated a higher adequacy of the sample and also supports the sample size for the factor analysis in this current study. Similarly, the Cronbach's alpha of 0.798 from the study was established indicating a satisfactory level of internal consistency and reliability in the measures and scale.

## References

- [1] A. Moreno, and J. Casillas, High-growth SMEs versus non-high-growth SMEs: a discriminant analysis", *Entrepreneurship & Regional Development*, Vol. 19 (2007) No. 1, pp. 69-88.
- [2] R. C. Gopinath, Understanding the determinants of firm growth in Young Reits, Singapore. 2012.
- [3] H. Zhou, and G. de Wit, Scales, Scientific Analysis of Entrepreneurship and SME's, Netherlands Ministry of Economic Affairs.2009.
- [4] P. Westhead, & D. Storey, Management Training and Small Firm Performance: Why is the Link So Weak? - *International Small Business Journal*, Vol. 14, No. 4, (1996) 13-24.
- [5] J. Hutchinson, B. Quinn, and N. Alexander, (2006). The role of management characteristics in the internationalisation of SMEs: evidence from the UK retail sector, *Journal of Small Business and Enterprise Development*, Vol. 13 No. 4, (2006) 513-34. *International Business*.
- [6] R. Gibrat, Les in'egalite's e'conomiques: applications: aux in'egalite's des richesses, a` la concentration des entreprises, aux populations des villes, aux statistiques des familles, etc.: d'une loi nouvelle: la loi de l'effet proportionnel. Paris: Sirey.1931.
- [7] J. Kirkwood, To grow or not? Growing small service firms *Journal of Small Business and Enterprise Development* Vol. 16 No.3,2009, pp.485-503.
- [8] J. Miriam, Organic vs inorganic growth: A case study. A dissertation presentation for the Degree of MA in Finance and Investment. 2006, India.
- [9] A. Coad, Firm Age and Growth Persistence, *Innovation Froum VI-2014, Crisis, Innovation and Transition*, 2014
- [10] E, Sarwoko, and C Frisdiantara, Growth Determinants of Small Medium Enterprises (SMEs) *Universal Journal of Management* 4(1): 36-41, 2016.
- [11] Y. Chang, J. F. Gomes, and F. Schorfheide, Learning-by-doing as a propagation mechanism. *American Economic Review*, 92, 2002, pp1498-1520.
- [12] Haltiwanger J., Jarmin R. S., and Miranda, J. Who creates jobs? Small versus Large versus Young. *Review of Economics and Statistics*, 95(2), 2013, pp347-361.
- [13] J. R. Baum, E. A. Locke, and K. G. Smith, (2001). A multidimensional model of venture growth. *Academy of Management Journal*, 44(2), 2001 pp 292-303.
- [14] A. J. Blackman, Entrepreneurs: Interrelationships between their characteristics, values, expectations, management practices and SME performance. School of Business Department of Management Griffith University, Gold Coast Campus. Doctor of Philosophy) 2003.
- [15] B. Hansen, and R. T. Hamilton, Factors distingusihin Small firm growers and non growers. *Small Firm Business Journal*, Vol. 29 issue 3. 2011.
- [16] R. D. Hisrich, M. P Peter, and D. A. Shepherd, *Entrepreneurship*. Chriswan Sungkono and Diana Angelica, Kewirausahaan, Salemba Empat, 2008, Jakarta
- [17] J. Wiklund, and D. Shepherd, Aspiring for, and achieving growth: the moderating role of resources and opportunities", *Journal of Management Studies*, Vol. 40 No. 8, 2003, pp. 1919-41
- [18] J. Wiklund., P. Davidsson., and F. Delmar, What do they think and feel about growth? An expectancy-value approach to small business managers' attitudes toward growth", *Entrepreneurship Theory & Practice*, Vol. 26 No. 2, 2003, pp. 247-70.
- [19] R. A. Wilson, and G. Briscoe, The impact of human capital on economic growth: A review. Third report on vocational training research in Europe: Synthesis report. Luxembourg: Office for Official Publications of the European Communities, 2004.
- [20] D. Grusenmeyer. Mission, Vison, Values and Goals, Thesis, 2009, Michigan State University, Extension. 2009
- [21] B. Skrt, and B. Antoncic., Strategic Planning and Small Frim Growth: An Empirical Examination. *Managing Global Transition*, 2(2) 2004 pp 107 -122.
- [22] S. A. Bombaci, *Management Structures, Business Communication and Organization and Management*, 2010, San Francisco.
- [23] J. Connel, Influence of firm size on organizational culture and employee morale. *Journal of Management Research*, 1(4), pp 2001, 220 -230
- [24] S. Tihula., J. Huovinen, and M. Fink, Entrepreneurial teams vs management teams, *Management Research News*, Vol. 32 Iss 6. 2009 pp. 555 - 566.
- [25] M. Wen, Competition, Ownership Diversification, and Industrial Growth in China, 2002.
- [26] B. C. Ghosh, T. W.Liang, T. T. Meng and B. Chan, The key success factors, distinctive capabilities, and strategic thrusts of top SMEs in Singapore", *Journal of Business Research*, Vol. 51, No. 3,2001, pp. 209-221.
- [27] J. Krenson, How You Can Contribute to Growth in Your Firm's Culture – And Improve the Culture, *The Rainmaker Companies*, 2014.
- [28] M. T. Carrizosa, Determinants of firm growth, firm growth, persistence and multiplicity of equilibria: An analysis of Spanish manufacturing and service industries. *Universitat Rovirai Virgili*, 2007.
- [29] A. D. Reum, and Harris, R. T. Exploring Firm Location Beyond Simple Growth Models: A Double Hurdle Application, *Journal of Regional Analysis & Policy*, 2006.
- [30] B.M. Arthur-Aidoo, Integrated growth model for small and medium-sized firms in Ghana, Dotoral Thesis, University of Johannesburg, 2017, Republic of South Africa.
- [31] J. F Hair, W. C., Black, B. J. Babin, and R. E. Anderson, *Multivariate Data Analysis*, 7th edn, Prentice-Hall, 2010, Upper Saddle River.
- [32] A. Field, *Discovering Statistics Using SPSS for Windows*°, 3rd edition, London Sage Publications, 2009, London.