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Innovative Performance of Small and Medium Scale Enterprises

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Abstract: A driving force for competition in the present business environment is innovation. In a rapidly changing world, the need for innovation has increased. In many ways, innovation has become an important tool in the management of organisations, ensuring they have real opportunities to advance. Whiles only few innovative performance studies of Small and Medium Scale Enterprises (SMEs) in Ghana have been conducted, they evince low levels of innovation among surveyed SMEs. Thus, a study that focuses on innovative characteristics of SMEs in the Ghanaian context is key. The aim of the study is to examine factors constraining innovative performance of small and medium enterprises in Adentan Municipality of Ghana. The survey method of data collection was used to sample 400 respondents selected to obtain primary data for the study. Descriptive statistics were applied to the quantitative data. The study revealed that uncertainty, and financial and technological related constraints are the major factors constraining the innovative performance of SMEs in the Adentan Municipality. The study also pointed to financial and technical support as possible ways to curb the constraining factors of innovative performance among SMEs. At the same time, SMEs need to promote workers' access to technology to improve innovation processes and support growth by increasing investment in Information Communication Technology (ICT). Deliberate mechanisms to facilitate access to technical and financial support for SMEs by government is recommended.

Keywords: Innovative Performance, Small and Medium Scale Enterprises, Adentan Municipality

1. Background of the Study

Small and Medium Enterprises (SMEs) have remained an important driving force of economic development and industrialisation in smaller economies [1-3]. Increasingly, SMEs have been at the forefront of job creation, economic growth and eradication of poverty in Africa. According to the 2005 World Development Report, the creating of "sustainable" jobs and opportunities for smaller entrepreneurs are the key strategies to take people out of poverty.

A driving force for competition in the present business environment is innovation. Effective innovation is required to keep pace with the rapid change in the business environment. Adapting to these uncertain environments with rapid changes means adopting irregular approaches to conducting business at different levels of organisations, including technology development and management. The concept of innovation has been posited to be the 'implementation of a new or significantly improved product or process, a new marketing or organisational method in business practices" [4]. Innovation is thus essential for all – large and small firms in both developed and developing countries – in dealing with the changing business environment, fluctuating market trends and technologies. This is widely regarded as integrally the most important competitive tool that enables a company to succeed in today's dynamic business environment.

With increasing global competition and fast growth of new knowledge, the future of businesses will depend on their ability to innovate in various aspects of the business. Innovation is considered as every day issue for members of

organisations in defining their problems, responding to unforeseen events, creation of solutions and development of new ways and procedures. This helps to organise work, through the use of experience, skills, motivation and knowledge. These are converted into production of an innovative product or service [5-8].

In this regard, it is argued that most modern economies pursue progressive strategies and policies to develop a responsive and dynamic small and medium enterprises sector [9, 10]. Organisations use innovation to confirm critical decision in responding to market challenges [11]. Currently, the Ghanaian government is exploring the SME sector as one of the strategic sectors geared towards national development and creating employment [12, 13]. This is to be achieved through creating an enabling environment for SMEs. Thus, stimulating innovation in SMEs is very important for economic growth, since it can lead to the discovery of crucial factors that contribute to overall business success [14].

Evidence from environmental scanning and empirical work show that, low innovativeness of SMEs is due to many factors which is affecting them adversely [15-19]. Accordingly, the values created by innovations hold potential capacity to lead new ways of doing things, producing new products that are customer focused and processes that add benefits to economic and social fortunes of businesses.

Accordingly, globalisation of markets and increasing international competition force SMEs to search for new, innovative, flexible and imaginative ways to survive. This is an indication that, innovation and SME survival are related [20]. Innovation has been viewed as vital in ensuring competitive advantage of organisations and promoting long term loyalty. In order to survive, SMEs should adopt an innovative way of doing business.

Again, in today's competitive environment, SMEs face unrelenting pressure from customers and competitors to lower their prices leading to a shrinking of their profit margins [21]. In response to this pressure, SMEs need to adopt differentiated strategies by creating innovative products. In that sense, innovation may even be more important for SMEs than it is for large firms [22, 23].

It is argued that, despite the fact that the characteristics of SMEs and the business environment in developed countries are not exactly the same as those in developing countries, the findings and policies from developed countries cannot be generalised and applied to developing countries [22, 23]. This may lead to biased policy and ineffective strategy. Therefore, a country specific study that focuses on innovative characteristics of SMEs in the Ghanaian context is key, using Adentan Municipality as one of the SMEs concentrated municipalities.

Lastly, Ghana is making efforts to stimulate innovation across various sectors of its economy. For example, efforts have been aimed at providing training and business development services for SMEs, enhancing access to affordable credit and making available appropriate but cost-effective technology to improve firm level productivity as enshrined in the Ghana Shared Growth and Development Agenda, yet innovation levels in SMEs operations are still low [24]. To be a competitor in present economies, SMEs should support strategic innovative decisions. As the absence of innovation and low innovation performance generally are damaging for firms and consequently for the entire economy, it is important to explore factors that constrain innovation activities. Identifying and understanding what limits potential to innovate, or even make it impossible to innovate, can help to identify the root cause of low innovative performance. This study seeks to investigate the factors constraining innovative performance of SMEs in Ghana using Adentan Municipality as the case study. The next section contains literature review. Section three encompasses the methodology while section four covers the findings and discussion. The last section contains the conclusions and policy implications.

2. Literature Review

2.1. Theoretical Literature Review

Entrepreneurial Orientation Theory

Scholars in the field of entrepreneurial studies have long studied the methods, practices and decision-making styles of Entrepreneurial Orientation theory **(**EO) in terms of how firms achieve innovative performance. EO is perceived as a strategic process that helps firms to obtain competitive advantages and is widely accepted as the driving force of innovative performance [25-27]. EO characteristics are also considered an important resource for building competitive advantage [28]. Furthermore, EO has been recognised as a vehicle for success in globalised and highly competitive markets [29]. Several studies have found that under such conditions, firms that employ an active EO strategy perform better than those that do not [26, 28]. As business circumstances change, EO helps firms adjust in order to maintain their growth and viability. Specific characteristics of EO such as proactiveness, innovativeness, competitive aggressiveness, autonomy and risk taking can help firms seek possible business opportunities, such as new niches and markets, and elude threats, by seeking more resources and opportunities ahead of their competitors [25].

Diffusion of Innovation Theory

The distribution of any innovation, whether it is a physical product, process or ideology has been equated to the diffusion of one liquid through another, gradually exposing the entire volume to the new element. In this regard, all individuals must make a decision about whether to accept or reject the innovation. For some people, the decision is instantaneous, but for others, the process is long, requiring deeper investigation of the innovation and its predicted outcomes [30]. The innovation-decision process is defined as the process through which an individual (or other decision-making unit) passes from first knowledge of an innovation to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation and use of the new idea, and to confirmation of this decision [31].

Moreover, Rogers (2003) also published a set of five attributes identified to help predict when and where adoption occurs under given social circumstances: relative advantage, compatibility, complexity, trialability and observability. Relative advantage examines the degree to which an innovation is perceived as better than the thing it is replacing. The implied subcategories of relative advantage includes the potential for increased profit, improved social status, a decrease of personal discomfort and other workplace incentives.

Compatibility measures the degree to which an innovation "fits" in the current climate by considering the new system's interoperability with computer systems and workflow. Drastic switchovers to novel and incompatible software systems are frequently disruptive. When adopters have the option of using the innovation on a trial basis without large overhead investments of time or financial resources, there is an increase in the trialability of the innovation. Many potential users also want to see the innovation in use by their peers and to understand its benefits before they choose to adopt. This quality is their ability to observe. The last of Roger's five attributes is complexity, defined as the extent to which a new innovation is recognised as difficult to understand and use.

Disruptive Innovation Theory

The disruptive innovation theory explains the phenomenon by which an innovation transforms an existing market or sector by introducing simplicity, convenience, accessibility and affordability into a situation where complication and high cost are the status quo [32]. In this context, initially, a disruptive innovation will create a niche market where existing incumbent stakeholders may consider it as unattractive or inconsequential, but eventually this new idea, process or product will turn to redefine the industry's dynamics.

2.2. Empirical Literature Review

Many studies have been conducted on the factors influencing the innovative performances of SMEs. For instance, an empirical study conducted by Ebru, Fulya, and Sinan (2014) on determining innovation factors for SMEs among 33 SME owners and managers in Istanbul, Turkey using a modified version of analytic hierarchy models show that, the most important criteria for the decision makers are management skills, technological capability and financial factors [33]. Management skills is often considered as the most influential factor related to the performance of an SME. Also, management skills play critical role in innovation process by promoting the entrepreneurial activity in the firm, provide resources, being open minded and by supporting collaboration.

Again, another empirical study was conducted on innovative performance among business owners of SMEs operating in Malaysia. Structural equation modeling results revealed that, there is a positive relationship between organisational culture and innovative human capital [34]. Again, there is also a positive relationship between innovative human capital and innovative performance. Finally, innovative human capital mediates the relationship between organisational culture and innovative performance.

In 2013, another was study conducted on innovation in Small and Medium Enterprises in the manufacturing sector to identify factors which influence innovation. Innovation was found to be one of the major attributes which aids SMEs to remain competitive [35]. Findings of this study also point to a strong link between innovation and SME sustainability. Another empirical study conducted on the determinants of innovative performance of SMEs revealed a curvilinear (U-shaped) relationship between entrepreneurial orientation and innovative performance [36]. This result implies that more investment in entrepreneurial orientation will provide a firm with better performance.

Also, Ismail, Omar, Soehod, Senin and Akhtar (2014) revealed the awareness of Malaysian SMEs management of the role innovation plays in the growth of their firms [37]. However, being resource starved, these SMEs were not in a position to either enter Research and Development activities or acquire new and advanced technologies, although, they were engaged in developing the skills and capacities of their employees. The results also suggest that the manufacturing companies were more involved in research and development activities than their counterparts in the services industry.

3. Research Methodology

3.1. Study Approach, Design and Sampling

The research approach used for the study is the quantitative research approach. This is to help examine the factors constraining innovative performances of SMEs in the Adentan Municipality, using quantitative explanatory design. The population of the study was Small and Medium Enterprises in the Adentan Municipality. Out of the various SMEs in the Adentan Municipality, four hundred (400) SMEs were selected to participate in the study. The sample was derived using the formula developed by Rose, Spinks and Canhoto (2015) which is consistent with results of the 1967 formula of Yamene as

$$S = \frac{4pq}{d^2}$$

where S = required sample size, p = proportion of the population having the characteristic, q = 1-p and d = the degree of precision. Since, the population is unknown, p is set to 0.5 (therefore q = 1 - 0.5 = 0.5) which assumes maximum heterogeneity (i.e. a 50/50 split) [38]. The degree of precision (d) is the margin of error that is acceptable, which was set at 0.05. Therefore, the sample size, $S = \frac{4pq}{d^2} = \frac{4\times0.5\times0.5}{0.05^2} = \frac{1}{0.0025} = 400$.

3.2. Instrumentation and Data Collection

Questionnaires were used to obtain primary data for the study. Section A measured the bio-data of respondents' characteristics: gender, age group, educational level and

years in operation. Section B focused on the importance of innovation to SMEs. Section C included items which sought to investigate the function of SMEs internal innovative activities. Section D contained items which identify the factors constraining the innovative performance of SMEs and Section E focused on identifying the possible ways to curb the factors constraining the innovative performance of SMEs. The items were measured using a 5-point Likert scale, which ranged from strongly agree to strongly disagree.

The questionnaire was hand delivered to respondents at their various places of work, who were ready and willing to complete the questionnaires. Respondents were given ample days to complete the questionnaires. Those who could not complete them were assisted by the researchers. The quantitative data was analysed using descriptive statistical techniques. This helps to present results in a more convenient, usable and understandable format.

4. Results

4.1. Socio-Demographics of Respondents

Table 1 shows that 214 of the respondents were males which represents 53.5% and 186 were females which is 46.5% of the total respondents. Also, 265 of the respondents fell between ages 18-32 which represents 61%, 11.5% were in the age bracket of 33-37, and the rest were above 42 years. Generally, the age distribution shows that majority of the respondents are in their youth.

On the level of education, 43 respondents which denotes 10.8% have master's qualification, 34.0% are bachelor degree holders while another 35% are Higher National Diploma and tertiary diploma holders. Again, 20% of respondents have attained the basic and secondary school level certificates. Only 0.3% indicated they have no form of academic qualification.

Table 1. *Demographics of Respondents.*

	Frequency	Percentage (%)
Gender		
Male	214	53.5
Female	186	46.5
Age		
18-22	94	23.5
23-27	104	26.0
28-32	67	16.8
33-37	46	11.5
38-42	24	6.0
43-47	20	5.0
48-53	24	6.0
54-58	16	4.0
59+	5	1.3
Highest Level of Education		
Master's Degree	43	10.8
Bachelor's Degree	136	34.0
Higher National Diploma	56	14.0
Tertiary Diploma	84	21.0
Senior High School Certificate	67	16.8
Junior High School Certificate	8	2.0
Primary School	5	1.3
Others	1	0.3
Age of the Firm		
Less than 5 years	165	41.3
5-10 years	142	35.5
11-15 years	64	16.0
16-20 years	22	5.5
More than 20 years	7	1.8
Type of Ownership		
Sole Proprietorship	249	62.3
Partnership	151	37.8
Number of Employees		
Fewer than 5	172	43.0
5-10	109	27.3
11-15	52	13.0
16-20	33	8.3
21-25	13	3.3
31-35	1	0.3
36-40	8	2.0
41-45	6	1.5
46-50	6	1.5
Business Performance		
Very Low	13	3.3
Low	33	8.3
Average	179	44.8
High	145	36.3
Very High	30	7.5
Total	400	100.0

Source: Field Survey, 2018

In Table 1, 76.8% of respondents indicated that their businesses have been in operation for periods of up to 10 years while 21.5% of respondents have also been in operation for 11 to 20 years. Only 7 respondents denoting 1.8% have operated for more than 20 years. For the types of ownership, 249 (62.3%) respondents are in sole proprietorship form of business and the remaining 151 respondents representing a total percentage of 37.8 are in the form of partnership or another. This means there are more sole proprietorship businesses than any other. For the number of employees in each businesses, majority of respondents (43%) indicated that, they have employees fewer than 5, 27.3% indicates their employees are between the bracket of 5-10. The rest have employees of various numbers beyond 10.

Finally, the above table depicts the various performance levels of the firms compared to their competitors. Only 11.6% indicated that they are at least very low when compared to their competitors. Majority of respondents (44.8%) indicated they are on average level with their competitors. Also, 43.8% of respondents indicated at least high. This means majority of the SMEs in the Adentan Municipality are not performing very well based on their own assessment.

4.2. The Factors Constraining the Innovative Performance of SMEs

The results from Table 2 show that small market size, poor business strategy currently applied and inability to find a suitable partner for cooperation are some of the factors that least constrain innovative performance of SMEs. The respondents strongly agree that lack of qualified employees, lack of willingness to initiate changes, lack of experience in

innovation activities, lack of funding programmes for innovative activities and lack of specific knowledge on technology are some of the factors constraining innovative performance of SMEs with a mean of 3.8 and above.

Table 2. *Factors Constraining Innovative Performance of SMEs.*

	Mean	Std. Deviation
FACTOR 1 (Organisational Constraints)		
Insufficient support from top management	3.5475	1.29497
Insufficient support from colleagues in the business	3.5775	1.21766
Poor business strategy currently applied	3.4900	1.15683
Insufficient support from other functions	3.5150	1.11933
Unsupportive and rigid organisational structure	3.6875	1.20144
Lack of communication within the business	3.7250	1.15660
Lack of willingness to cooperate with external players	3.5275	1.18438
Lack of capacity to establish collaboration with external players	3.5125	1.14592
Lack of willingness to initiate changes	3.8175	1.11008
Lack of qualified employees	3.7875	1.15572
Lack of experience in innovation activities	3.8325	1.12811
Business culture does not support creativity and complicated process	3.6325	1.17298
FACTOR 2 (Financial Constraints)		
Unavailability of bank loans	3.7650	1.15025
Lack of other non-bank sources of finance	3.7250	1.16308
Lack of internal firm funding	3.7100	1.08344
Lack of funding programmes for innovation activities	3.8075	1.09244
FACTOR 3 (Market Constraints)		
Small market size	3.4775	1.2054
Market dominated by few well established firms	3.5575	1.2146
Impossible to find a suitable partner for cooperation	3.3575	1.1304
Government and local government regulations too rigid	3.7225	1.2017
Low level of knowledge on customer needs	3.7650	1.1993
Low level of knowledge on competitors	3.7100	1.1265
FACTOR 4 (Technological Constraints)		
Lack of specific knowledge on technology	3.800	1.14817
FACTOR 5 (Uncertainty Constraints)		
Perceived risk	3.737	1.12328

Source: Field Survey, 2018

Table 3 below describes the various constraining factors that hinder the innovative performances of SMEs in Adentan Municipality. Using a five point Likert scale, the mean of technological constraints is the highest, with a value of 3.60. This means SMEs are strongly constrained by technological issues. The mean value of financial constraints is 3.75 while uncertainty related constraints have a mean value of 3.74. Again, organisational constraints have a value of 3.64 and finally market constraints have the least value of 3.59. This means that, the SMEs are strongly constrained by the factors discussed. The standard deviation values show that, there is high variability in the high constraining factors as seen in Table 3.

Table 3. *Average Values of Constraining Factors.*

		Mean	Std. Deviation
FACTOR 3	Market Constraints	3.5983	0.76566
FACTOR 1	Organisational Constraints	3.6377	0.79170
FACTOR 5	Uncertainty Related Constraints	3.7375	1.12328
FACTOR 2	Financial Constraints	3.7519	0.82972
FACTOR 4	Technological Constraints	3.8000	1.14817

Source: Field Survey, 2018

4.3. Possible Ways to Curb the Factors Constraining the Innovative Performance of SMEs

In identifying the possible ways to curb the factors constraining the innovative performances of SMEs, respondents gave series of suggestions from their perspective. The main suggestions include financial and technical support from the government. That is, government should design schemes which would help SMEs access finance as either loans or grants and should organise workshops which will equip SMEs owners and managers with technical know-how. Also there should be good communication and sufficient support from top management and colleagues. This means, top management should involve staff in decision making and also support ideas they bring on board. Another suggestion was investment in technologies which implies that SMEs should advance more funds to enhance their technological skills. They further suggested there should be easy access to credit. This also implies that financial institutions such as banks should provide funds for the start-ups or for the expansion of existing businesses. Employing qualified employees was also suggested by the respondents. Thus, SMEs should employ staff who have the skills and knowledge of technology and innovation. Finally, the organisational structure should be flexible to accept innovations, institution of programmes on innovation for SMEs, rewarding schemes for innovation and willingness to expand operations are key recommendations.

4.4. Discussion of Findings

The Factors Constraining the Innovative Performance of SMEs

The study revealed that, SMEs are strongly constrained by technological, financial and uncertainty related constraints. From the study, some of the specific constraints that affect the innovative performance of SMEs in Adentan Municipality are: lack of qualified employees, lack of willingness to initiate changes, lack of experience in innovation activities, lack of funding programmes for innovative activities, lack of specific knowledge on technology, unavailability of bank loans and low level of knowledge on customer needs. This is consistent with earlier authors who pointed out that, low innovativeness of SMEs is due to factors such as high cost of innovation, lack of finance, government policies and regulations, lack of skilled personnel and lack of cooperation [15 - 18].

Other constraints were organisational and market constraints. This outcome is consistent with an earlier study by Bozic and Rajh (2016) who concluded that, SMEs are constrained by organisational, financial, market and uncertainty related constraints [22]. However, the present study examined a new constraint, that is, technological constraints which highly affects innovative performance.

Possible Ways to Curb the Factors Constraining Innovative Performance of SMEs

The study revealed that, some of the ways to curb the factors constraining the innovative performances of SMEs are accepting newer technologies, hiring qualified employees, easier access to credit, effective communication, expanding production capacity, sufficient support from top management and staff, flexibility in the organisational structure and financial and technical support from the government.

All these ways can be used to curtail the factors that constrain the innovative performances of SMEs but some are more important than others. For instance, according to Ebru, Fulya and Sinan (2014), management skills play critical role in innovation process [33]. Again, organisational structure plays an important role in curbing constraining factors. This is consistent with the results that, there is a positive relationship between organisational culture and innovative human capital [34]. This means organisational structure is fundamental to innovative practices of SMEs.

5. Conclusion and Policy Recommendations

Innovation is very important to SMEs as it enables product improvement to increase market share and satisfy customers. Another importance of innovation is the ability to help businesses to gain competitive advantage and aid in national development. In the study, it has been found that SMEs are constrained by many factors in their innovational performances and these factors can be curbed mainly by technological advancement, easy accessibility of funds, management and staff support and flexibility in organisational structure.

The constraining factors can be controlled through organisational restructuring, ability to adapt to changes in terms of technology and control measures, management and staff support as well as hiring qualified employees, easier accessibility to credit, effective communication, expanding production capacity and financial and technical support from the government. Findings from our study suggest that management and staff should play vital roles in the innovation processes.

It is recommended that organisational structure should be made flexible enough to accept new inputs from employees and external stakeholders. There is always dynamism in the business environment which is made possible through competition and changes in technology. SMEs' organisational structure should be flexible to accept changes as and when it is required.

The SMEs owners should strive to achieve competitive advantage through innovation in delivering services to their customers. Any organisation without innovation eventually dies, therefore innovation based on customer needs should be the focal point in running SMEs. Government should provide technical and financial support for SMEs since innovation comes with extra cost and requires expertise. Government should facilitate regular trainings for SMEs owners on how to use innovation in modern businesses. Banks and other financial activities should have a structure that will make credit accessible to small and medium enterprises in Ghana.

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