

Examining Creativity and Innovation of the Frugal Innovative Capabilities: A Study of Small and Medium Enterprises (SMES)

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Abstract

Innovation and Creativity are considered as the backbone of enterprise development, a reality that is beginning to be absorbed by the African business community. This study became necessary as a result of the frequent closure of Small and Medium Enterprises SMEs in Ghana and Sub-Sahara Africa due to lack of creativity and innovativeness among the entrepreneurs. As resources are becoming limited and leaving the gap of underserves some markets, there is the need to adopt Frugal (Jugaad) Innovative practices to enable consumers to acquire their demands at quality and affordable price. This study analyzed creativity and innovation with frugal innovative capabilities on Small and Medium Enterprises (SMEs) in Ghana. Both research questionnaires and interview guides were used to solicit data from the coverage area which is the Kumasi metropolis of Ghana. A total of 268 respondents were the selected size of the sample for the study. The SMEs in the Kumasi metropolis admitted to almost all the measuring items as being positively impacted or enhanced by creativity and innovation which invariably improve the performance of Small and Medium Enterprises (SMEs). Also, The SMEs in this study support creativity and innovative strategies with the motive of meeting customer demands, promoting growth, reducing operational cost and enhancing quality and productivity. An assessment of the effects of frugal innovative capabilities on SMEs has shown that adversity as a source of innovation is vital for organisational survival and growth and also, lack of talented and skilful labour has been recorded as the severe factor that hinders the smooth adoption of frugal innovation impedes the smooth practice of frugal innovative adoption by SMEs. They believed that well Frugal Innovative practices will lead to waste reduction in business operations therefore resulting in high productivity at low cost at customers expected quality.

Keywords: Creativity, Innovation, Frugal Innovative Capabilities, Small & Medium Enterprises

1.0 INTRODUCTION

According to Pitt and Clarke, (1999) empirical studies have demonstrated that to manage the innovation process successfully, enterprises must develop particular practices. An organisational practice differentiates one organization from another and also determines the success or failure of that organization in the long run. They call creativity and innovation management as a process of searching for effective practices. Innovation and creativity management practices of SMEs are considered as the activities that SMEs undertake to provide in new solutions for their products, production, marketing and administration to cope with the dynamics of the markets. Prahalad (2010) suggested that companies should radically rethink their entire business models to create innovations in emerging markets. According to him, the technology choices, distribution, pricing, scale, workflow and organisational structures must be built again. Additionally, some companies have become globally successful with new, altered business models (Prahalad & Mashelkar, 2010).

In a broader perspective, it assumed that a combination of innovation and creativity offers solutions to critical social-political challenges such as security, energy, public health, food and water supply, climate stability and poverty. Companies from emerging markets such as HTC and Haier are already giving Western consumer goods companies a run for their money by offering low-cost, high-value cellphones, fridges, and wine coolers to financially stretched Western consumers. Similarly, Western carmakers need to worry about the upcoming launch in the U.S. and European markets of Tata Motors' US\$2,000 Nano, as the car is poised to capture the hearts (and wallets) of cost-conscious Western consumers clamoring for affordable, fuel-efficient transportation. Creating a successful SME has never been easy, but it is more difficult in developing countries such as Ghana. Developing countries often have high rates of start-up businesses, but the chances of the creation of sustainable business are different when compared to developed countries. By exploiting local markets and using locally available resources, they introduce new products which are more accessible and appropriate to the underprivileged and utilize new technologies which make use of civil society.

These small firms are often involved in incremental innovations, with a weak science base. SMEs often face major market failures in the commercialization of their innovations (Chataway et al., 2013). Based on evidence from economical solutions in and outside Asia, it is clear that frugal innovation is a cutting-edge initiative that has challenged conventional ways of innovation management. It is destined to address the needs of both the lower and middle-income groups all over the world.

2.0 METHODOLOGY

This section dealt with the research methods and methodology used for the collection of data. It covers the research design, ethical considerations, research methods, sample, population and instruments used for the collection of data for the study. This study analysed creativity and innovation with frugal innovative capabilities in Small and Medium Enterprises (SMEs) in Ghana. This study used a survey approach in the form of questionnaire administration. The survey approach was used to sample Small and Medium Enterprises in the newly created Asokwa Municipal in the Kumasi metropolis. Also, both structured questionnaire and interview schedules were used as tools to collect data from the SME Operators and staffs. The process for the carrying out the survey is one of the essential steps in the research procedures, and it comes after the investigation designed and the participants selected. The researcher adopted four main stages of collecting the data: pilot study, sample study selection, interview questions (qualitative approach) and questionnaires (quantitative approach). Among some of the ethical practices adhered to during data collection by the researcher were as follows: Submission of introductory letters to respondents to indicate the study as academic work, respondents were guaranteed of their secrecy, the researcher did not fake or invent data but honestly and fully reported how the study was conducted. The researcher avoided the falsification of or distorting data or the methods of data collection or plagiarising the work of others. Appointments were books to prevent intruding respondents privacy and personal interaction was made to ease the tension of been seen as illiterate during respondents responses

The population of this study included all the SMEs in Kumasi metropolis in Ghana. All the categories of Small and Medium Enterprises were involved in the research and included the Food processing industry, Bakery industry, Timber/Wood/Furniture works industry, Metal works industry, Machinery works industry, Financial Services Rubber and plastic and others. The firms were categorised into a small size, medium size and large size (this is based on asset-based and the number of employees in each firm). All the industries within the Kumasi metropolis were given equal opportunity to represent their industry through their firms. This study adopted cluster sampling (also known as one-stage cluster sampling) is a technique in which clusters of participants that represent the population are identified and included in the sample. Cluster sampling involves identification of a bunch of participants representing the population and their inclusion in the sample group. All the categories of SMEs which include Garment, Leather and Textiles, Wood Processing, Metals and Building and Construction, Food and Beverages, Toiletries and Cosmetics and Rubber and Plastic were clustered separately.

Data collected for this study was from secondary and primary sources. The secondary data included raw data and published summaries. It also include both secondary data, such as diaries, newspapers, journals, books, novels, policy statements, planning documents, reports, historical and official documents and quantitative data such as; national/local government statistics, reports, preparing documents, trade association reports, professional bodies research, academic and research institution statistics etc. Data from primary sources included questionnaires and interviews on the analysis of creativity and innovation with frugal innovative capabilities in Small and Medium Enterprises (SMEs) in Ghana.

A total of 248 selected SMEs respondents were surveyed through questionnaire to analyze the role of creativity and innovation with frugal innovative capabilities in small and medium enterprises (SMEs). Also, 20 respondents were interviewed as a supplementary on SME Operators to unveil the SME Operators and senior staff's views on the role of creativity and innovation with frugal innovative capabilities in small and medium enterprises (SMEs). In all 168 sample size was used in this study to analyze the role of creativity and innovation with frugal innovative capabilities in small and medium enterprises (SMEs) in the Kumasi metropolis of Ghana.

4.0 ANALYSIS OF QUESTIONNAIRE

4.1 Data Analysis of Questionnaire/Interview

Table 4.1 Reliability Statistics

Variables	Number of Variables	Valid Cases	Crombach's Alpha
Role of Creativity and Innovation	248	7	.890
The motivation for Creativity and Innovation	248	6	.951
Six principles of Frugal Innovation	248	6	.970
Benefits of practicing frugal Innovation	248	5	.951
Challenges in adopting frugal Innovation	248	7	.944

Source: Field Data, 2018

Chronbach's Alpha coefficient of between 0.6 and 1.0 is good enough to suggest the reliability of research instruments, but the higher the value, the better. Therefore, the Chronbach's Alpha correlation coefficient 0.890, 0.951, 0.970 and 0.944 were appropriate for this study. With the high level of reliability of research questionnaire used in this research work, the results herein obtained could be generalized from the sample to the population.

Objective 1: The Role of Creativity and Innovation towards the performance of SMEs: Drawing from the knowledge and experiences of respondents in SME Businesses, the study sought to find the role of creativity and innovation towards SMEs performance concerning: high levels of productivity, higher profitability, competitive edge, credible customer perceptions, customer satisfaction and loyalty as well as increase market share. Descriptive statistics in mean values were generated from participants' respondents on a 4-point Likert scale ranging from highly positive to highly negative and presented in Table 4.2

Table 4.2 Descriptive Statistics on the Role of Creativity and Innovations towards SMEs performance

Roles	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
High productivity level	248	2	4	3.12
Greater profit	248	1	4	1.73
Competitive edge	248	1	4	3.32
Business growth	248	1	4	3.33
Building credible perception	248	1	4	2.25
Customer satisfaction loyalty	248	1	4	3.30
Increase market share	248	1	4	3.36
Valid N (listwise)	248			
Average Performance	248			2.92

Source: Survey Data, 2018

Respondents admitted almost all the measuring items as being positively impacted on or enhanced by creativity and innovation which invariably improve the performance of Small and Medium Enterprises (SMEs). In this wise, respondents in the current study concord with Romano's (1999) position that effective, innovative strategies are capable of enhancing organizational competitiveness and business growth. Similarly, the affirmative response supports the role of creativity and innovation in creating a competitive edge (3.32) and customer satisfaction (3.30). However, respondents in the current study have divergent views for creativity and innovation bringing greater profitability and building credible perception as they pertain in their organizations. Given respective mean values of 1.73 and 2.25, some respondents in the current study decline the assertion that creativity and innovation bring greater profits neither does it build credible perceptions about the organizations.

It is also noted among the study factors that are increasing market share has also pointed out as the factor creativity and innovation mostly impact on, given the highest mean value of 3.36, signifying nearly four-fifths (80%) affirmative response. Notwithstanding, a rather low mean value for creativity and innovation on SMEs profitability, the average response of 2.92 indicates that creativity and innovation more often than not play a positive role on the performance of SMEs in the areas of productivity, competitiveness, growth, customer satisfaction and as well increasing market share.

Objective 2: Motivations for Creativity and Innovations: Touching on what motivates SMEs into embarking on creativity and innovative strategies, respondents were interrogated on meeting customer demands, increasing revenue, promoting business growth, cost reduction, enhancing the quality of offerings and improving marketing/selling of business offerings. Mean responses from the study participants on a 5-point scale ranging from strongly agree (5) to strongly disagree (1) have been presented in Table 4.3.

Table 4.3 Statistics on Motivations for Creativity and Innovation by SMEs

Motivations for Creativity and Innovations	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Meeting customer demand on time	248	1	5	4.10
Increasing revenue	248	1	5	2.11
Promoting business growth	248	3	5	4.42
Reducing operational cost	248	2	5	4.09
Enhanced quality and productivity	248	1	5	3.94
Aid marketing and selling goods and services	248	1	5	1.98
Valid N (listwise)	248			
AVERAGE	248			3.44

Source: Survey Data, 2018

Results in Table 4.3 suggest that SMEs in the current study support creativity and innovative strategies with the motive of meeting customer demands, promoting growth, reducing operational cost and enhancing quality and productivity. These were supported by high mean values of 4.10, 4.42, 4.09 and 3.94 respectively. The Small and Medium Enterprise (SMEs) here are mostly involved in creativity and innovation with the motive of promoting business growth, as this motivation has the highest support from a majority of the study respondents, given the highest mean value of 4.42.

It is again clear from Table 4.2 that these SMEs under study do not think primarily for increasing revenues or necessarily to aid the marketing of their offerings through creativity and innovation. These two study items have minimal mean values of 2.11 and 1.98 respectively. However, most of these SMEs adopt creativity and innovations with the motive of increasing revenue. Perhaps, SMEs in the current study support assertion that, once a firm improves innovativeness and creativity to meet customer demands and improves quality of offerings revenue will increase through customer patronage resulting in high sales levels.

Objective 3: Effects of Frugal Innovative Capabilities on SMEs: Mean responses were also gathered to assess the impacts of frugal innovative capabilities on SMEs and presented the results in Table 4.4.

Table 4.4 Descriptive Statistics on the Effects of frugal Innovative Capabilities

Effects of frugal Innovative Capabilities	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Ability to reframe adversity for organizational survival	248	3	5	4.31
Using scarce resources for quality offerings	248	3	5	1.98
Flexibility and quick thinking	248	2	5	3.27
Develop good enough solutions to job done	248	1	5	3.48
Conjuring radically affordable solutions	248	1	5	2.14
Using customer knowledge to meet demand	248	3	5	2.35
Valid N (listwise)	248			
AVERAGE	248			2.92

Source: Survey Data, 2018

An assessment of the effects of frugal innovative capabilities on SMEs has shown that adversity as a source of innovation is vital for organisational survival and growth gave a mean value of 4.31 as shown in Table 4.3. Impliedly, these SMEs can thrive in challenging and unpleasant business situations by the adoption of frugal innovation. Also obvious here is an observation that most of the SMEs in the study area prove to be flexible and quick thinkers to respond to unexpected changes in their business environment (3.27). SMEs are expected to develop a "good enough" solution to get things done, and this has been adequately adopted by the SMEs under study. It is supported with a minimum mean value of 3.48, perhaps suggesting that SME innovators do not seek sophistication by over-engineering business offering. It is, therefore, innovative practice in the real sense of frugal innovativeness.

On the reverse side, however, the mean value of 1.98 on a 5-point Likert scale questionnaire indicates that SMEs adopt frugal innovativeness do not have adequate capabilities to use scarce resources to produce quality offerings to satisfy customers. SMEs are therefore expected to be creative and innovative to harness limited resources and still serving customer interest, and thus suggest massive support for frugal innovativeness. Also showing some level of incapability is SMEs ability to conjuring radically affordable solutions, confirmed with a minimum mean value of 2.14. It is again suggested in Table 4.4 that, SME innovators do not use customer knowledge to meet demand. A minimal mean value of 2.35 confirms it.

It is also evident in Table 4.3, given a minimum mean value of 2.14, suggesting that SME innovators lack the innovative capabilities to conjure radically affordable solutions to meet the needs of underserved markets. On average, however, SMEs in the current study prove to be in support of frugal innovative practices as data in Table 4.3 gives an average mean value of approximately 2.92. It depicts SMEs agreement of frugal innovative capabilities as regards the six principles of frugal innovativeness advocated in contemporary enterprises research for enhanced business performance. For further scientific analysis, the following regression model is used to complete the effects of frugal innovative practices/capacities in Small and Medium Enterprises (SMEs) performance:

Y= SMEs performance;

$Y=B_0+B_1 X_1+B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 +B_6 X_6 + E$ where:

X₁ = A unit change in performance as a result of a unit increase in the ability to reframe adversity for organizational survival;

X₂ = A unit change in performance as a result of a unit decrease in the use of scarce resources for the quality offering;

X₃ = A unit change in performance as a result of a unit increase in flexibility and quick thinking capabilities;

X₄ = A unit change in performance as a result of a unit increase in developing good enough solutions to the job done;

X₅ = A unit change in performance as a result of a unit decrease in conjuring radically affordable solutions;

X₆ = A unit change in performance as a result of a unit decrease in the use of customer knowledge to meet demand;

E = Error terms (the difference between the calculated dependents variable and the actual value);

B₀ = Constant, B₁, B₂, B₃, B₄, B₅, and B₆ are regression co-efficients. Statistics on the regression analysis run are presented in Table 4.7, 4.8 and 4.9.

Objective 4: Benefits of Practicing Frugal Innovations: As part of the research objectives, the study sought to investigate how SMEs benefit from practising frugal innovations. This variable was investigated by meeting customer needs better, enhancing sales performance, attracting and maintaining customer loyalty and building a competitive edge as well as improving quality and satisfaction for consumers. Data gathered in these respects have been presented in Table 4.5 for frank discussions and analysis.

Table 4.5 Benefits of Frugal Innovativeness

Benefits	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Meeting customer needs better	248	1	5	1.43
Enhances sales performance	248	1	5	1.35
Attracting and maintaining a loyal customer	248	3	5	4.08
Brings competitive edge	248	3	5	4.51
Brings quality and satisfaction	248	3	5	4.22
Valid N (listwise)	248			

Source: Survey Data, 2018

Observed from the data in Table 4.5, the most significant benefits SMEs get from frugal innovations is a competitive edge. The mean value of 4.51 suggests a good yield from SMEs motivation for promoting business growth through innovation and creativity, established earlier in this analysis. Again, it confirms that frugal innovation is vital for organisational survival. Other benefits confirmed by most respondents are the enhanced quality of offerings with a mean value of 4.22 and maintenance of customer loyalty also with a mean value of 4.08. The results here might be as a result of SMEs' ability to use scarce resources to their advantage. Earlier in this analysis, SMEs have been noted as adopting innovation and creativity with the motive of enhancing quality and productivity. Therefore, confirmed benefits as regards quality of offering from frugal innovative practices are an achievement of a set motivation.

However, most SMEs fail to benefit significantly from meeting customer needs better than before the adoption of frugal innovation. The mean value 1.43 is minimal on a 5-point Likert scale and seems to confirm SMEs inability to have “good enough” solutions to the job done as established earlier in this analysis. Nonetheless, advocates of frugal innovative practices suggest the use of customer to aid SMEs to meet customer demands. Also, not adequately supported by most respondents is the benefit of enhanced sales performance. It is also clear from Table 4.5 that a few of the SMEs benefit improved sales performance from their frugal innovative practices, given a mean value of 1.35. It might be the right reflection because a few of these SMEs adopt innovation and creativity with the motive of aiding marketing and sale of goods and services, as established earlier in this analysis. The result here is somewhat contradictory to respondents’ position that innovation and creativity plays a significant role in increasing market share with high sales volume.

Objective 5: Challenges Mitigating the adoption of Frugal Innovation: Respondents opinion were gathered to asses certain factors perceived to be mitigating against the smooth passage of frugal innovation, for which data gathered was presented in Table 4.6.

Table 4.6 Mitigating Factors against Frugal Innovation

Mitigating Factors	N	Minimum	Maximum	Mean
	Statistic	Statistic	Statistic	Statistic
Lack of talents and skilled labour	248	3	5	4.47
Low cost with quality in price sensitive Environment	248	1	5	1.23
Difficulty collaborating with external partners	248	1	5	4.07
Outmoded tech and low capacity weaken Capability	248	1	5	2.32
Cannot do more with less resources	248	1	5	4.12
Rely on the customer to determine business operations are difficult	248	2	5	1.92
Valid N (listwise)	248			

Source: Survey Data, 2018

Apparently, a lack of talented and skilful labour has been recorded as the severe factor that hinders the smooth adoption of frugal innovation. It was affirmed with a high mean value of 4.47 suggesting that majority of the respondents regard it as a challenge. The findings in research have shown that many SMEs lack talented employees to initiate and implement frugal innovative practices. Also seen as a challenge, the SMEs under the study have the difficulty collaborating with other external partners. It was established given a high affirmative response reflecting a mean value of 4.07, indicating a majority of respondents agreeing to the existence of the challenge. The cause might perhaps be that the talented personnel are not readily available in the business environment or SMEs themselves do not have the will to partnering with external staff. Data on Table 4.5 has confirmed SMEs challenge to do more with less as expected with the practices of frugal innovations.

The high mean value of 4.12 suggests that most SMEs respondents agree with such a challenge. However, serving quality offerings at a low cost of production was not seen as a severe challenge for SMEs. To buttress this, only a few respondents agree to this factor as a challenge, reflecting in a low mean response of 1.23. A lot of SMEs complain of high operational cost to adopt innovations and creativity. Also not supported by many respondents was reliance on customers to determine business operations. A few of the SMEs respondents, reflecting a minimum mean value of 1.92 instead hold the opinion that relying on customers to assess business operations is a challenge for frugal innovativeness and thus affects organisational performance. In brief, SMEs inability to do more with less resources, lack of external collaborations and lack of expertise are key factors militating against the practices of frugal innovations. As a confirmation, most respondents reported on the use of sophisticated types of equipment and technologies in their operations. That notwithstanding, respondents confirmed the benefits of creativity and innovations capable of increasing productivity, improving the quality of offerings but increasing the cost of production.

Table 4.7 Model Summary of Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937 ^a	.878	.875	.167

Source: Survey Data, 2018

a. Predictors: (Constant), Using customer knowledge to meet demand, Develop good enough solutions to the job done, Using scarce resources for quality offering, Flexibility and quick thinking, Conjuring radically affordable solutions, Ability to reframe adversity for organizational survival.

Evident from Table 4.7, the R-value suggests how the observed and predicted values of dependent variable (SMEs performance) are influenced or affected by the independent variables (frugal innovative practices-use of customer knowledge, developing right enough solutions to job done, using scarce resources for quality offerings, flexibility and quick thinking, conjuring radically affordable solutions, and reframing adversity for organisational growth). In Table 4.7, the R-value of 0.93 implies a 93.7% relationship between dependent and independent variables, and explains that frugal innovative capabilities affect 93.7% of SMEs performance. However, it does not reflect the extent to which any particular variable correlates with or influences SMEs performance. Assessing the significance of the established relationship ANOVA statistics were run as shown in Table 4.8.

Table 4.8 Analysis of Regression (ANOVA^b)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	48.508	6	8.085	290.192	.000 ^a
Residual	6.714	241	.028		
Total	55.222	247			

Source: Survey Data, 2018

a. Predictors: (Constant), Using customer knowledge to meet demand, Develop good enough solutions to job done, Using scarce resources for quality offering, Flexibility and quick thinking, Conjuring radically affordable solutions, Ability to reframe adversity for organizational survival.

b. Dependent Variable: SME Performance

The ANOVA statistics of Table 4.8 was then used to present the significance of the regression analysis. An F-significant value of p=0.000 has been established to show that there is a probability of 0.0% of the regression model presenting false information. Thus, the model is very significant. The statistics on the regression Table 4.9 also shows the individual regression co-efficient of the independent variable (Frugal Innovative Capabilities) to determine which of them has more effect on SMEs performance.

Table 4.9 Regression Co-efficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.612	.092		39.119	.000
	Ability to reframe adversity for organizational survival	-.110	.064	-.155	-1.701	.090
	Using scarce resources for quality offering	-.515	.027	-.906	-18.834	.000
	Flexibility and quick thinking	.176	.049	.270	3.566	.000
	Develop good enough solutions to job done	.370	.032	.526	11.542	.000
	Conjuring radically affordable solutions	-.244	.050	-.349	-4.874	.000
	Using customer knowledge to meet demand	-.184	.047	-.227	-3.877	.000

Table 4.8 Analysis of Regression (ANOVA^b)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	48.508	6	8.085	290.192	.000 ^a
Residual	6.714	241	.028		
Total	55.222	247			

Source: Survey Data, 2018

a. Predictors: (Constant), Using customer knowledge to meet demand, Develop good enough solutions to job done, Using scarce resources for quality offering, Flexibility and quick thinking, Conjuring radically affordable solutions, Ability to reframe adversity for organizational survival.

Source: Survey Data, 2018

a.

Dependent Variable: SMEs Performance

It can then be obtained from Table 4.9 the regression model: $Y = 3.612 - 0.110X_1 - 0.515 X_2 + 0.176X_3 + 0.370X_4 - 0.244X_5 - 0.184X_6$; with $P=0.000$ and $B_1=-0.110$, $B_2=-0.515$, $B_3=0.176$, $B_4=0.370$, $B_5=-0.244$, and $B_6 = -0.184$. The constant B value of 3.612 suggests that if the independent variables remain constant at zero, SMEs performance would be minimal at approximately 4%. It has established that SMEs performance would rise by 17.6% with a unit increase in SMEs frugal innovative capability of flexible and quick thinking and 37.0% unit increase in developing good enough solutions to the job done, all at 95% confident level ($P=0.00$).

However, SMEs ability to reframe adversity for organisational growth leads to a decrease in SMEs performance by a margin of 11%. Using scarce resources for quality offering also decrease SMEs performance by 51.5%. Conjuring radically affordable solutions decrease the performance of SMEs by 24.4% and using customer knowledge also decrease SMEs performance by 18.4%, given all other independent variables constant at 95% confident interval significant at $P=0.00$. The indication here is that SMEs practice of developing good enough solutions to the job done is a significant factor that positively influences organisational performance (0.370) followed by flexibility and quick thinking as a frugal innovative capability with 0.176, holding other factors constant.

4.2 Conclusions from Questionnaires Analysis

The following conclusions were drawn from the questionnaire administration and analysis of the Small and Medium Enterprises respondents at the Kumasi metropolis in the Ashanti Region of Ghana. On the part of the role of Creativity and Innovation towards the performance of SMEs, it is concluded that all the study items which includes high levels of productivity, higher profitability, competitive edge, credible customer perceptions, customer satisfaction and loyalty as well as increase market share though SMEs declined the assertion that creativity and innovation bring greater profits neither does it build credible perceptions about the organizations. Also, this study concluded that firms improves innovativeness and creativity to meet customer demands and improves quality of SMEs offerings and increase revenue through customer patronage resulting in high sales levels. SME businesses in the Kumasi metropolis are in support of Frugal Innovative practices and depicted agreement of frugal innovative capabilities as regards the six principles of frugal innovativeness advocated in contemporary enterprises research for enhanced business performance. Again, this study concludes that some benefits enjoyed by SMEs for practicing frugal innovations though some mitigating factors are associated with Frugal innovative practices

4.3 Analysis of Interview

It was common knowledge that among respondents describing creativity and innovations as procedures and processes of improving productivity and service delivery. Most respondents were quoted as stating that: “Creativity and innovations improve efficiency and customer satisfaction. Creativity and innovation also borders on new ways of solving an existing problem in organizations by way of enhancing the quality of offerings, value creation, improving sales and distribution and as well creating the uniqueness of firm's offerings”. SMEs that affirmed the relevance of creativity and innovations and actual adoption of their organizational operations admitted positive impact they have gained. Some respondents were quoted as stating that:

“Creativity and innovation save time, reduces the cost of operations, and customer satisfaction and pride. Again, creativity allows for change of operations to reflect changes in the business environment”. Commenting on the cost-effectiveness of innovations adopted among the firms, management of most of the SMEs cited reduction in operational cost leading to low cost of offerings. It was further disclosed that creativity and innovative policies are often applied

to the production, marketing/sales and information technology sections of the SMEs. However, respondents reported that: *“Innovative gadgets are expensive. It is therefore suggested that firms make efficient use of resources to minimise waste, using simple tools and equipment’s and sourcing relevant expertise”*. It then reflects respondents support for frugal innovations and creative principles of developing “good enough” solutions to problems and using scarce resources for quality offerings.

Not much was obtained from the management of SMEs regarding creativity and innovations in times of adversity. Some of the SMEs adopted cost reduction strategies that made use of locally available materials instead of being mechanistic. In a shoe manufacturing enterprise, management respondent stated: *“We used to take our shoes to a machine for grinding the soles, but during the periods of energy crisis we then resorted to the use of sandpaper until now to serve the same purpose at a cheaper cost than before”*. Once again, this strategy being discussed is synonymous with frugal innovative capabilities to reframe adversity for organizational survival and growth. In consonance with the frugal innovative principle of developing "good enough" solutions to get the job done, some respondents explained that: *“Our company resorted to the use of solar energy to augment the operational difficulties during the adversity of general hydro-electrical power crisis. This innovative strategy has since been very cost-effective to secure the competitive advantage of low pricing in the midst of quality offerings”*. In general, SMEs that have adopted some form of creativity and innovative policies in their business operations attested to some level of positive impact in work efficiency, in the area of cost-effectiveness, customer satisfaction and improvement in revenue generation.

4.4 Conclusions from Interview Analysis

The SMEs indicated that creativity and innovation saves time reduces the cost of operations, and customer satisfaction. Again, creativity allows for change of operations to reflect changes in the business environment. The study further revealed that innovative gadgets are expensive and therefore suggested that firms should make efficient use of resources to minimise waste using simple tools and equipment’s and source or leverage relevant expertise. Also, SME businesses in the Kumasi metropolis resorted to the use of solar energy to augment the operational difficulties during the adversity of general hydro-electrical power crisis. This innovative strategy has since been very cost-effective to secure the competitive advantage of low pricing in the midst of quality offerings.

4.5 Conclusions

In all, 268 sample SMEs were surveyed through questionnaires and interview guides to analyze the role of creativity and innovations with frugal innovative capabilities on Small and Medium Enterprises (SMEs) in Ghana. The study therefore, concludes that creativity and innovation creates customer satisfaction, loyalty and profitability. To achieve all these SMEs needs to be able to reframe adversity for organizational survival, use scarce resources for quality offerings, flexible and quick thinking, develop good enough solutions to job done, conjure radically affordable solutions and using customer knowledge to meet demand. Also, SMEs inability to do more with less resources, lack of external collaborations and lack of expertise are key factors mitigating against the practices of Frugal Innovations and needs to be improved by SMEs.

5.0 EVALUATION OF RESEARCH

5.1 Findings and Discoveries

This study analyzed creativity and innovation with frugal innovative capabilities on Small and Medium Enterprises (SMEs) in Ghana. This part of the survey aligned the findings with the objectives of the study. The Kumasi Metropolitan Assembly (KMA) is dominated by all kinds of Small and Medium Enterprises which includes Food processing industry, Bakery industry, Furniture works industry, Metal works industry, machinery works industry, Financial Services, Trading and many others.

Objective 1: To investigate the role of creativity and innovation towards the success of Small and Medium Enterprises in Ghana growth: This part of the study questions sought to find the position of creativity and innovation towards SMEs performance concerning high levels of productivity, higher profitability, competitive edge, credible customer perceptions, customer satisfaction and loyalty as well as increase market share and found the following; The SMEs in the Kumasi Metropolis admitted that almost all the measuring items as being positively impacted on or enhanced by creativity and innovation which invariably improve the performance of Small and Medium Enterprises (SMEs). The SMEs believed that effective, innovative strategies are capable of enhancing organisational competitiveness and business growth. Also, the SMEs in Kumasi Metropolis supports the role of creativity and innovation in creating a competitive edge with a mean value of (3.32) and customer satisfaction (3.30) respectively. Again, the SMEs have divergent views for creativity and innovation bringing greater profitability and building credible perception as they pertain in their organisations. Given respective mean values of 1.73 and 2.25,

some SMEs decline the assertion that creativity and innovation bring greater profits neither does it build credible perceptions about the organisations. Notwithstanding, a rather low mean value for creativity and innovation on SMEs profitability, the average response of 2.92 indicates that creativity and innovation more often than not play a positive role on the performance of SMEs in the areas of productivity, competitiveness, growth, customer satisfaction and as well increasing market share.

Objective 2: To find out the motivations for innovation and creativity practices by Small and Medium Enterprises: This part of the study objective looks at the SMEs motivations for practicing creativity and innovations in the Kumasi metropolitan. Touching on what motivates SMEs into embarking on creativity and innovative strategies, respondents were interrogated on meeting customer demands, increasing revenue, promoting business growth, cost reduction, enhancing the quality of offerings and improving marketing/selling of business offerings. Among some of the findings are; The SMEs in this study support creativity and innovative strategies with the motive of meeting customer demands, promoting growth, reducing operational cost and enhancing quality and productivity. These were supported by high mean values of 4.10, 4.42, 4.09 and 3.94 respectively. The Small and Medium Enterprise (SMEs) here are mostly involved in creativity and innovation with the motive of promoting business growth, as this motivation has the highest support from a majority of the study respondents, given the highest mean value of 4.42. SMEs under study do not think primarily for increasing revenues or necessarily to aid the marketing of their offerings through creativity and innovation. These two study items have minimal mean values of 2.11 and 1.98 respectively. Perhaps, SMEs in the current study support assertion that, once a firm improves innovativeness and creativity to meet customer demands and improves quality of offerings, revenue will increase through customer patronage resulting in high sales levels.

Objective 3: To find out the effects of frugal innovations capacities on Small and Medium Enterprises: This part of the study objectives combined both interview and questionnaire to answer the goals. Mean responses were also used to assess the impacts of frugal innovative capabilities on SMEs on the quantitative and supported by qualitative analysis below; An assessment of the effects of frugal innovative capabilities on SMEs has shown that adversity as a source of innovation is vital for organisational survival and growth gave a mean value of 4.3. Also, most of the SMEs in the study area prove to be flexible and quick thinkers to respond to unexpected changes in their business environment (3.27). SMEs are expected to develop a "good enough" solution to get things done, and the SMEs have adequately adopted this under study. It supported with a minimum mean value of 3.48, perhaps suggesting that SME innovators do not seek sophistication by over-engineering business offering The mean value of 1.98 on a 5-point Likert scale questionnaire indicates that SMEs adopt frugal innovativeness do not have adequate capabilities to use scarce resources to produce quality offerings to satisfy customers.

SMEs are therefore expected to be creative and innovative to harness limited resources and still serving customer interest, and thus suggest massive support for frugal innovativeness. Also showing some level of incapability is SMEs ability to conjuring radically affordable solutions with a minimum mean value of 2.14. It again suggests that SME innovators do not use customer knowledge to meet demand. A minimal mean value of 2.35 confirms this. Given a minimum mean value of 2.14, suggesting that SME innovators lack the innovative capabilities to conjure radically affordable solutions to meet the needs of underserved markets. On average, however, SMEs in the current study proves to be in support of frugal innovative practices given an average mean value of approximately 2.92. It depicts SMEs agreement of frugal innovative capabilities as regards the six principles of frugal innovativeness advocated in contemporary enterprises research for enhanced business performance. From regression analysis, the R-value of 0.93 implies a 93.7% relationship between dependent and independent variables, and explains that frugal innovative capabilities affect 93.7% of SMEs performance. The ANOVA statistics was used to present the significance of the regression analysis. An F-significant value of $p=0.000$ has been established to show that there is a probability of 0.0% of the regression model presenting false information. Thus, the model is very significant. From the regression model: $Y = 3.612 - 0.110X_1 - 0.515 X_2 + 0.176X_3 + 0.370X_4 - 0.244X_5 - 0.184X_6$; with $P= 0.000$ and $B_1=-0.110$, $B_2=-0.515$, $B_3=0.176$, $B_4=0.370$, $B_5=-0.244$, and $B_6 = - 0.184$. The constant B value of 3.612 suggests that if the independent variables remain constant at zero, SMEs performance would be minimal at approximately 4%.

Objective 4: To investigate the benefits of practicing frugal innovations by Small and Medium Enterprises

This part of the study objective sought to examine how SMEs benefit from practising frugal innovations. Meeting customer investigated this variable needs better, enhancing sales performance, attracting and maintaining customer loyalty and building a competitive edge as well as improving quality and satisfaction for consumers. The findings are as follows; the most significant benefits SMEs get from frugal innovations is a competitive edge. The mean value of 4.51 suggests a good yield from SMEs motivation for promoting business growth through innovation and creativity, established earlier in this analysis. Again, it confirms that frugal innovation is vital for organisational survival. Other benefits confirmed by most respondents are the enhanced quality of offerings with a mean value of 4.22 and

maintenance of customer loyalty also with a mean value of 4.08. The results here might be as a result of SMEs' ability to use scarce resources to their advantage. However, most SMEs fail to benefit significantly from meeting customer needs better than before the adoption of frugal innovation. The mean value 1.43 is minimal on a 5-point Likert scale and seems to confirm SMEs inability to have "good enough" solutions to the job done as established earlier in this analysis. Nonetheless, advocates of frugal innovative practices suggest the use of customer to aid SMEs to meet customer demands. Also, not adequately supported by most respondents is the benefit of enhanced sales performance. It is also clear that a few of the SMEs benefit improved sales performance from their frugal innovative practices, given a mean value of 1.35.

Objective 5: To explore the challenges that mitigates the adoption of frugal innovation practices by the Small and Medium Enterprises. This final part of the study objective analyzed the problems mitigating the smooth method of Frugal Innovations by SMEs in the Kumasi Metropolis. Below are some of the challenges suggested by SMEs; Lack of talented and skilful labour recorded as the severe factor that hinders the smooth adoption of frugal innovation. It affirmed with a high mean value of 4.47 suggesting that majority of the respondents regard it as a challenge. The findings in research have shown that many SMEs lack talented employees to initiate and implement frugal innovative practices. Also seen as a challenge, the SMEs under the study have the difficulty collaborating with other external partners. It established given a high affirmative response reflecting a mean value of 4.07, indicating a majority of respondents agreeing to the existence of the challenge. The study confirmed that SMEs are challenged to do more with less as expected with the practices of frugal innovations. The high mean value of 4.12 suggests that most SMEs agree with such a challenge. However, serving quality offerings at a low cost of production was not seen as a severe challenge for SMEs. To buttress this, only a few respondents agree to this factor as a challenge, reflecting in a low mean response of 1.23. A lot of SMEs complain of high operational cost to adopt innovations and creativity. Also not supported by many SMEs was reliance on customers to determine business operations. A few of the SMEs, reflecting a minimum mean value of 1.92 instead hold the opinion that relying on customers to assess business operations is a challenge for frugal innovativeness and thus affects organisational performance.

5.2 Recommendations

The following under listed recommendations are offered to assist policymakers in promoting creativity and innovation with frugal innovative capabilities on Small and Medium Enterprises (SMEs) in Ghana. SMEs should create a permanent department in line with Research and Development (R&D) with the objective of achieving quality through creativity and innovations. This objective will strive and drive the entire organization to focus on creativity and innovativeness which will aid greater profitability and build credible perception as they pertain in their organisations.

SMEs should acknowledge high revenue generation as a motivating factor for their performance. Investment Returns depends on revenue and must be seen as a motivating factor by SMEs in the Kumasi Metropolis. Failure to generate high revenue is a recipe for firms failure to survive and improve due to other factors such as meeting customer demands, promoting growth, reducing operational cost and enhancing quality and productivity.

SMEs are therefore expected to be creative and innovative to harness limited resources and still serve customer interest. For SMEs to achieve frugal concepts, they should be able to use scarce resources available or left behind by larger firms to produce quality and affordable products to serve the underserved markets.

Customers are the focal point of businesses and should be satisfied through SMEs actions. In that case, any frugal applications for SMEs should aim at meeting the customer needs and wants at a profit. Customers patronize products that appeal good to them and may even pay a premium price for acquiring their expected needs and wants. Also, frugal innovative practices when well-practiced leads to low cost of production which in long run help firms to achieve economies of scale. The economies of scale then help firms to enjoy competitive pricing which help them to enhance SMEs sales performance.

SME Owners should employ or hire professionals to manage their businesses where the need arises. Acquiring the essential personnel will bring innovative and creativity into the operations of the company. Frequent training is also recommended to upgrade the skill of the employees' at all functional departments within the business. SMEs should again collaborate with external partners when the need arises for external support. It may be legal, social, technical and even political to grow the business. SMEs should embrace Frugal Innovative capabilities by acquiring the needed expertise to offer products with the ability to offering products from adversity, using scarce resources, flexible and quick thinking, develop right enough solutions to the job done, conjure a radical affordable solution and using customer knowledge to meet customer demand.

5.3 Limitations of the Study

This research analyzed creativity and innovation with frugal innovative capabilities on small and medium enterprises (SMEs) in Ghana. However, this study is not exhaustive on the role creativity and innovation plays in promoting SMEs performance and needs further studies even though it has added knowledge to the existing knowledge on the topic under consideration. Also, the SME operators and their staffs were not interested in the study because they do not see any benefits to be derived from the report because the government do not offer them any support. Those who agreed to respond took more extended periods to return the questionnaire and interviews due to the scarcity of time. They were mostly attending to their customers or doing something at their work premises and did not want to participate in the study. Also, most of SMEs operators and staffs were afraid to give comments more especially when they think it bothers on confidentiality. Some also declined to respond to the questions for fear of victimization leading to their dismissal from work. Others too have to seek permission from their bosses before returning which also took a lot of time. Though the study area is essential to the economic development of Ghana, the study delimited the scope to Ashanti Region alone and therefore, reduced the population to a sample which makes the research a partial work. Thus, the findings and interpretations may not be specifically applicable to other situations, as per the limitations of study coverage.

5.4 Further Study and Research

This study analyzed creativity and innovations with frugal innovative capabilities on small and medium enterprises (SMEs) in Ghana. It is recommended for readers to conduct a further study on “Exploring Small and Medium Enterprises (SMEs) capabilities needed to adopt Frugal Innovative techniques in Ghana”.

5.5 Conclusions

This study, therefore, concludes that SMEs in Ghana practices Frugal Innovation but do not have the needed capabilities to achieve their total objective of reframing adversity for organizational survival, use scarce resources for quality offering, flexible and quick thinking, develop good enough solutions to job done, conjure radically affordable solutions and use customer knowledge to meet demand. SMEs in the Kumasi Metropolis lack the needed talents and techniques to use scarce resources to serve its customers at the same quality though they were able to reframe adversity for organizational survival during the era of Power Shortage in Ghana (Dumsor).

SMEs agreed to the assertion that Frugal Innovative capabilities promote business growth and performance through operational efficiency which eliminates waste within the business operations. Also, the SMEs under the study have difficulty in collaborating with other external partners though they do not have the competent personnel within their set ups. The cause might perhaps be that the talented personnel are not readily available in the business environment or SMEs themselves do not have the will to partnering with external staff.

Finally, it is clear from the study that innovation and creativity are linked together to promote businesses from both internal and external levels. These include efficient usage of resources to produce at a low cost in order to compete well. Innovative and creative businesses are able to adopt Frugal Innovative capabilities in order to serve the underserved markets at profit.

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