

Evaluation of Entrepreneurial Management in Ghanaian SMEs Using Cognitive Ambidexterity Analytical Model

Eric Edwin Owusu¹, Charles Akomea Bonsu², Beverly Akomea Bonsu³

^{1,2}*Department of Entrepreneurship and Finance, Kumasi Technical University*

³*Department of Estate Management, Kumasi Technical University*

Abstract: The connection between headship and improvement has gained increasing consideration in recent researchers. Some researchers suggested that headship is one of the most influential indicators of innovation. Formulating consistent innovative and improvement policies is a difficult task, but successfully implementing them is even more challenging but enhance growth.

In this survey, the connection between cognitive style and individual's capacity to take part in innovation as well as improvement among Small and Medium Scale Enterprises (SMEs) managers was assessed. Again, how managers concurrently oversee innovation and improvement requests that needed for great performance was also inspected.

Both primary data which is made up of interviews and questionnaires and secondary source of data including textbooks, business articles and journals and the internet were employed in this research. In all twenty SMEs in Kumasi Metropolis were chosen for the study involving a total number of one hundred (100) respondents who returned their questionnaires.

Concerning impact of cognitive style of a manager on innovative deeds, this research reveals that the higher investigative cognitive style of a manager more active he participates in innovative deeds. The information shows a positive significant linear relationship ($p < 0.001$) between a manager's investigative cognitive style and the degree the person would take part in both innovative and improvement activities.

It shows that analytical managers have an inclination for innovative deeds, and so are bound to conduct effectively. Again the study revealed that a manager with more logical cognitive style, the higher he/she engages in innovative events. Again, it was showed that a positive connection between a manager's analytic intellectual style and his singular ambidexterity. Moreover, outcome of study shows that managers with a prevailing intellectual style (either instinct or logical) are bound to involve in innovative exercises.

Keywords: Entrepreneurial Management, Entrepreneurship, Innovation, Cognitive, Small Business Enterprise

I. BACKGROUND OF STUDY

Different definitions assigned to SMEs by various countries are based on, industry to industry, sector to sector. Hibbert (2000,) in his opinion pointed out that whether developed or developing, SMEs are clearly distinguishable in

any country. The factors that set them apart are mostly qualitative and comparative". According to Ayyagari et al. (2005), a country may define SME to be 'an enterprise with less than 500 employees while another may set the cut-off to be 250 employees. For instance, in India, small firms are classified according to their annual turnover and number of employees.

Ghana's economy is characterized by a moderately small, large firm fragment, vast quantity of micro ventures, small as well as medium enterprises (SMEs). The exceptional characteristic of most SMEs is that they are easily set up since their necessity regarding how to raise funds, technology; administration and even utilities are not however requesting as it is very well might be the situation of large enterprises. Subsequently, the small business sector is one of the principal businesses (next just to peasant farming) in Ghana and recognized as the important area in reducing unemployment, income generation, destitution mitigation and a base for industrial expansion. It is estimated that over two million enterprises in the business engaging between 5 to 6 million individuals.

Researchers including Eisenhardt and Martin, (2000); Mark Easterby-Smith et al., (2002) described Intellectual Ambidexterity as vibrant ability. Dynamic abilities are significant level procedures that offer viable reasonable benefit to organisations as the time goes on by manoeuvring organisational skills (Winter, 2003). Cognitive Ambidexterity is an influential ability at the tactical level that enables choices on the correct equilibrium of modernisation and enhancement. Rehearses, for example, an accentuation on a constant arranging approach, the usage of multiple-level planning groups, data scrutiny, and client and market center offer intellectual ambidexterity. Intellectual Ambidexterity recognises two diverse ways to deal with thought and activity: expectation reasoning and creation reasoning. To be an active entrepreneurial leader, one should be skillful in both expectation and creation reasoning and able to cycle between them. Poss had the option to make monetary mind and ecological worth by transforming trash into an opportunity using forecast and creation rationales (Danna Greenberg et al., 2011).

Entrepreneurial leadership needs cognitive ambidexterity - a perspective and acting that described by other flexible terms among forecast and creation methodologies. The expectation method, which based on investigation applying existing information, works best under states of certainty and low levels of alleged ambiguity. Creation, however, includes making a move to produce information that did not exist already or that are unavailable. It is greatest valuable in conditions characterised by extreme vagueness.

To be able to have and sustain a competitive advantage, SMEs need harmonising both modernisation and development. Collins and Porras (2002) were of the same view by emphasising on the significance of going past the "Oppression of OR" (modernisation or enhancement) to hold the "Virtuoso of the AND" (modernisation and enhancement) to sustain an upper hand. Nevertheless, a fast preview of the occupational press gives various instances of organisations, such as Polaroid, Samsung and Motorola that have fought to modernise and upgrade (Devan et al., 2005). Though, test of harmonising development and enhancement happens in assorted settings, the effect of it is critical in high innovation establishments where organisations face regular vicissitudes in client inclinations, enhanced product and procedure lifecycles and expanded challenge (Timothy J. Tardiff, 2015).

Problem Statement

Entrepreneurship is seen as an ingredient in wealth creation and social justice and has contributed significantly to the economic prosperity of individuals, and nations' economic growth and development all over the world. Given this, emphasis on entrepreneurship development in most countries especially the developing ones including Ghana has gone up.

SMEs, as an engine of growth, play a significant role in poverty reduction. Van Praag and Versloot (2007) understood that small firms contribute profoundly to job creation – both directly and through local spill-over as well. They identified some economic benefits of entrepreneurship to include innovation, productivity and growth and the potential for the enterprise to increase the "utility" of individuals by increasing, for example, their satisfaction or income.

Despite the above, SMEs have not been performing as expected. Fast technological vicissitudes, more limited product and procedure life cycles, competition resulting from globalisation have contributed significantly to the non-performance of most SMEs.

In Ghana, production in the small and medium enterprises subsector's growth have declined for some time now. (Ghana Statistics Service, 2014). As a result, the small and medium-sized businesses have not achieved the expected growth target of 10%. Incidentally, the trend is continuing. Hence, the small and medium enterprises have not adequately supported Ghana's socio- economic development agenda.

Most SMEs are struggling to innovate and improve but to have and sustain competitive advantage; they need to balance

both innovations and improvement. Thus, the small and medium enterprises are seemingly facing challenges of entrepreneurial management especially innovations and improvements which enhance performance. There is, therefore, the need for sharper focus on entrepreneur management. Entrepreneurs should continually seek exploitative modernisations and small improvements in their current products and operations for effective performance. However, this is not the case concerning most SMEs. Hence the issue of lack of entrepreneurial innovation and improvement of SMEs tend out to be the problem of fostering the growth of SMEs.

Objectives Of Study

The specific aims of the study relate to the following:

- To find out if there are innovation and improvement policies in Ghanaian SMEs.
- To assess whether there is connection between personal characteristics and individual ambidexterity
- To assess if there is an effect of entrepreneurial innovation and improvement on the performance of the corporate entities.
- To determine how SMEs in Ghana develop and improve entrepreneurial modernisations and motivate business inside their administrative setup.

Research Questions

- In what way do managers settle on the correct equilibrium between modernisation and enhancement opportunities that necessary for great performance?
- Are there organizational systems that empower coordination and flexibility of choices across the key and task levels even change?
- What are the organizational systems to ensure the coexistence of modernisation and enhancement projects?
- Are there some effects of entrepreneurial innovation and improvement on the performance of the SMEs?

II. LITERATURE REVIEW

Entrepreneurial Management

Contemporary meanings of entrepreneurial management will more often than not base on the quest of an opportunity (e.g., Baum et al, 2014; Shane and Venkataraman, 2000); their usual features are that they describe entrepreneurial management as a "method of management" that is proactive, opportunity-driven, and activity-oriented. As a result of this, entrepreneurial management style is proved by the firm's strategic choices and operating management ideas. The entrepreneurial management attempts to set up and balance the innovation capabilities of the organisation with the effective and successful utilization of resources. It can both initiate changes and respond to changes rapidly and amenably.

Entrepreneurial Management tries to reveal the cycles of entrepreneurial action from the cross-segment of "individual" and "process" studies. It aims to comprehend the manners by which entrepreneurial managers both retort to and shape the setting wherein they work. Finally, it seeks to offer a response to the question of what proficient managers can assume from entrepreneurial conduct.

During the entrepreneurial procedure, the entrepreneurial manager makes new worth through recognising new chances, attracting the resources required to seek those chances, and building an organisation to deal those resources (William D. Bygrave and Zacharakis, 2010; Wickham, 2006). An innovative manager capitalises any reassuring business opportunity regardless of the level and nature of assets at present controlled (Szabó Zsolt et al., 2011; Stevenson, 2006). Thus, an entrepreneurial manager is somebody who acts with desire beyond that sustainable by the resources presently under their influence, in persevering quest for an opportunity (Timmons, 1994).

The scope and depth of entrepreneurial management have improved by productive authors like Burgelman (2002), Stevenson and Gumpert (1985), and Timmons (1994). One's knowledge about entrepreneurial practices cannot broaden without a legitimate and reliable measurement, examination, and understanding of the key variables. Tragically, a couple explicatory factors have been approved up to this point (Brown et al., 2001:953), although some amazing studies have already published.

By and large, Miller (1983) attained a scale to measure analytically firms' level of entrepreneurship by their entrepreneurial orientation (EO) score. A high EO count alludes to management that is considered by a inclination to face challenges, transform, and act proactively. This measurement tool was therefore additionally evolved by Covin et al (2006, Covin&Miller2014) and improved with two new scopes: growth orientation and competitive dynamism.

- *Entrepreneurship and Business Innovation Scope and Theory*

A concise history of the growth of entrepreneurship serves to confirm its viable origins and offer a few insights to its instructive thought by academics. A comprehension of the historical background of entrepreneurship presented underneath:

Cantillon's perception that an individual taking risks not quite the same as the one providing capital (1725) (Hisrich 1986); Baptiste Say's idea that the profits of the businessperson are discrete from the benefits of capital (Hisrich 1986); Schumpeter's precept that an entrepreneur is a pioneer who grows new technology (1934 (Hisrich 1986).

Joao Ferreira defined entrepreneurship as 'the dynamic course of making incremental wealth by people who accept the significant dangers with respect to equity, time and obligation or proving worth for some product or service. He went further

to say that it might possibly be new or novel. However, the entrepreneur should some way or another infuse value by getting and designating the essential skills and resources (Joao Ferreira, 2002).

Hisrich defined entrepreneurship as 'the process of making something different with value by dedicating the essential time and exertion, assuming the associated financial, mental, and social dangers, and getting the resulting returns of monetary and individual satisfaction' (Hisrich 1986).

Nadim Ahmad and Richard G. Seymour changed the meaning of entrepreneurship as the interaction by which people pursue opportunities regardless of alienable assets, they presently control (Nadim Ahmad, Richard G. Seymour, 2008).

Drucker (1985) contends that innovation is the obvious instrument of entrepreneurship. He explains innovation as the act that consecrates resources with another ability to make wealth. Trewin (2004) also describes business modernisation as the introduction of new or essentially enhanced products, services or improved functional, organisational or administrative processes. Zairi (1999) also ponders innovation as a course of taking groundbreaking thoughts through to fulfilled customers, a change of new information into new opportunities. An agreement further exists among numerous scholastic and authors that entrepreneurship cannot continue without business innovation and as thusly, innovation forms a fundamental part of any entrepreneurial syllabus (Rüdiger et al., 2013; Streeter et al. 2002; Kuratko 2003).

In view of Schumpeter's idea of entrepreneurship, innovativeness denotes the formation of new products, services, procedures, technologies, and business models (Morris &Kuratko, 2002). Monetarily, innovation is a mixture of resources in a new and unique manner. Entrepreneurially, it is the finding of a new and better means of getting things done. Knight (1997) and Kreiser et al. (2002) extended the definition that by seeing innovativeness as the ability and preparedness of an enterprise to help creativity and experimentation to solve frequent client issues. Innovation is not just about producing inventive thoughts, rather includes the commercialisation, implementation and the alteration of existing products, services and better approaches to satisfy market need through new resource blends.

Antoncic and Hisrich (2001) allied the innovativeness aspect with technological authority, assisted by research and development (R&D), in creating new products, services and procedures. The objective of innovation is the formation of a viable commercial advantage rather than an unadulterated technological discovery. An invention (a better approach for doing something) turns into innovation if it meets with an opportunity (request for a better approach for doing something). Thus, specialised innovative, organisational, monetary, and viable activities are similarly present, and they – in collaboration with one another, in a coordinated way – determine the means of appearing an idea. Innovation as such

requires broad data handling capacity across projects and organisational boundaries (Brown & Eisenhardt, 1997) and administrative disciplines (Donaldson and Mohr 2001). Innovation does not just happen rather it is a process. Appropriately, innovation lays at the heart of the entrepreneurial process and is a way for prospect exploitation. Innovation is certainly not an attribute of the individual entrepreneurs, yet of their activities (Gartner, 1988).

- *Entrepreneurship, Creativity, and Innovation*

Joseph Schumpeter's work in 1934 firmly offers a conceptual connection among entrepreneurship and innovation (Zhao, 2005). Schumpeter regarded entrepreneurship as an imaginative act and innovation. He upheld that innovation adds to the development of the economy since entrepreneurs produce changes in the presentation of a new or enhanced good or service. The work Schumpeter has gone a long way to ensure the acceptance of entrepreneurship activities with innovation became weighty.

The emphasis of entrepreneurship action as a process animating innovation has received the consideration of numerous authors (Kelley, Neck, O'Conner & Paulson, 2002; and Wales et al. 2011). These perspectives agree with Schumpeter's (1934) perception, which upholds entrepreneurship as the prime impetus for innovation.

Zhao (2005) recommend that entrepreneurship plan as an imaginative act and advancement. Wickham (2004) was of the view that innovation lies at the core of the entrepreneurial method and is a way to the abuse of opportunity. Innovation is additionally viewed as the device or instrument for entrepreneurship (Jun & Deschoolmeester, 2003; and Maurer, Shulman, Ruwe & Becherer, 1995). To this end, it can be assumed that innovation is the precise task of entrepreneurship and can be extensively defined as the normal theme underlying all types of entrepreneurships.

Carrier, Cossette and Verstraete (2000) show that for enterprises to sustain and prosper in a competitive and progressively demanding world, some high degree of imagination and innovation is the essential. Shepard and DeTienne (2005) support this perspective adding that a persistent identification of new opportunities past existing skills is required.

With innovation, this survey places emphasis on ideas or activities that characterise a departure from which is presently accessible as defined by Mintzberg (2007) as "the resources to break away from proven patterns of new products. For purposes of this research, the encapsulation of quest of innovation within the organisation borders is pursued.

The Ambidexterity Argument

According to Tushman and O'Reilly, (1996), the capability to cope with the appropriate equilibrium among innovation as well as improvement has been marked as 'ambidexterity'. Ambidexterity is static rather than dynamic, yet individual

workers split their time among alignment-focused and versatility centred events. Along these lines, organizations plan business unit settings that empower workers to track the two forms of events. For workers to succeed, they should be ambidextrous. Ambidextrous individuals are always good at both innovation and improvement actions.

Raisch et al. (2009) provide a distinction between organisational factors influencing individual's capability in joining innovation and improvement as well as individual features directly associated with a singular's ambidexterity. Gibson and Birkinshaw (2004), for example, was of the view that firms ought to emphasis on few levers (like proficient improvement, data transfer and a more participative tactical planning procedure) and consistently create an atmosphere to ensure individual ambidexterity.

The capacity to manage a proper harmony among innovation and improvement is termed 'ambidexterity' (Tushman and O'Reilly, 1996). They express that the behaviour of top management team directly influences the way and manner members deal with the inconsistent information procedures supporting the achievement of innovative and improvement direction. Such a greater combination enhances the prospect of together seeking after both.

The ambidextrous organisational plan proposes one methodology for organisations concurrently to implement modernization and enhancement strategies (Jansen et al., 2006; Tushman and O'Reilly, 2004). Nokia Corporation is an example of an ambidextrous business. It produces vast range of novel mobile technologies as well as maintaining its supremacy in the handset franchise market (Birkinshaw and Gibson, 2004). Structural ambidexterity, temporal ambidexterity, and contextual ambidexterity are other theories of ambidexterity.

Structural ambidexterity comprises formation of diverse but inexactly coupled organisational designs in a firm as physical spaces, motivating forces, business models, metrics, or societies (O'Reilly and Tushman, 2004; Tushman and Anderson, 1986). At one time, a structure often meant for physical division of innovation and improvement projects. For example, modernization happens at the exploration and innovative work units, whereas improvement happen at the manufacturing units. However, there is difficulty in structural separation in businesses with high technology because innovation and improvement simultaneously exist (Cole and Matsumiya, 2007). Supposedly, this contextual analysis is the primary endeavor to research the specific structural attributes that permit organizations effectively to pursue innovation and improvement at the same time (O'Reilly and Tushman, 2013).

Probably, this logical investigation is the essential undertaking to explore the particular primary ascribes that license associations successfully to pursue both advancement and improvement at the same time (O'Reilly and Tushman, 2013).

As a general rule, temporal ambidexterity accepts a temporal separation among modernization and development actions

(Utterback and Abernathy, 1975). Nevertheless, the shortfall of time delay amid these actions in high innovation conditions renders fleeting (temporal) ambidexterity an imperfect way for managing balance modernization and improvement (Tushman et al, 2013; Jayanthi and Sinha, 1998).

III. RESEARCH DESIGN

Study Area:

The study area for this research is Kumasi Metropolis in the Ashanti region of Ghana. The area was chosen because of its cosmopolitan nature as most SMEs are in the city and its closeness to the researcher.

Study Population

Collis and Hussey (2003:56) explain population as "any definitively characterized set of individuals or assortment of items which are under consideration". Polit and Hungler (1999), referred to the population of a study as "a total or entirety of the relative multitude of articles, subjects or individuals, to adapt to a bunch of specifications".

To achieve the desired objectives of the research, the anticipated population of the research was the SMEs made up of Pure Water production businesses, Hospitality/Hotels, Food Processing Firms, Manufacturing Companies, Cocoa buying companies, Traders and servicing firms in Kumasi metropolis in the Ashanti region. In all, one hundred and twenty (120) SMEs workers constituted the sample size.

In all twenty (20) companies were selected randomly for the study. Permission was sought from the appropriate authorities of the various selected companies after which discussions were held with the management of the companies. They were briefed about the study being undertaken notably the aims of the research and were guaranteed of the secrecy of their responses.

Sampling

In order to ensure easy achievement of the objectives of the research, the survey was centered on the SMEs which have been operating continuously for the past four years with workforce between ten (10) and thirty (30). The survey sample was both randomly and conveniently selected.

After the sampling, participants were informed that they were being asked to participate in a research study. The respondents were briefed on the purposes of the research and the expected duration of their participation.

In all twenty (20) companies were selected randomly as a sample size. Six respondents were selected from each SME made up of the Managing Director/General Manager, Production Manager, Quality Manager, Accountant/Accounts Officer, Marketing Manager and Sales Manager. Thus, in all 120 officers were involved in the study.

Sampling Techniques Used

The survey employed probability sampling method. In probability sampling, the choice with regards to whether a specific component was remembered for the example was represented by chance alone. The procedure allowed each company to be picked arbitrarily by chance.

Techniques/Derivatives for analysing the data in the study

Some of the techniques/derivatives used in analysing the data in the study include Factor Analysis, Chi Square and Linear Regression analysis.

Factor analysis is defined as a Statistical technique used to define changeability among observed, connected variable with respect to a possibly lower number of unseen variables called factors. Factor analysis looks for such joint variations consequently to unnoticed latent variables. The detected variables are planned as Linear combinations of the probable factors, plus "error" terms.

Chi-square is a statistical test normally used to compare detected data and information one would anticipate gaining as per a precise hypothesis. The chi-square test is applied in testing the null hypothesis. The null hypothesis states that there is no critical distinction between the probable and observed outcome. The Chi-square test aimed at indicating the chance an observed distribution is due. Another name for Chi-square test is "goodness of fit" statistic as it takes into consideration how well the noticed distribution of information fits into the dissemination that is anticipated if the variables are independent.

The degrees of freedom (generally shortened as df or d) let you know how many numbers in a grid are independent.

The Chi-square Formula is given as:

$$X^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$$

The variables in the formula are explained as follows:

O = Observed frequency.

E = Expected frequency.

\sum = the sum of each 'i' for which you work out this relationship. (Compute this for every cell in the table, and afterward add it all together).

IV. DATA ANALYSIS ANALYSIS OF THE STATISTIC DERIVATIVES

Considering He and Wong (2004) and Mom et al. (2009) research, investigation and exploitation (Innovation and Improvement) exercises are regarded as two separate components of activities, rather than as two closures of a bipolar scale. As ambidextrous activities are being tried at the singular level, the scale settled by Mom et al. (2009) is the most relevant device in this study. The scale depends on the

elements by which March (1991) described the constructs of investigation and exploitation (Innovation and Improvement) that demonstrate managers' ambidextrous behaviour regarding innovation and improvement related exercises.

To measure both dimensions, seven things determining a managers' innovation activity and seven things evaluating a managers' improvement action. All items were appraised on a five-point Likert scale ranging from 'a very small extent to 'a very large extent' of engagement in innovation or improvement actions. The scale for convergent validity was checked by calculating the cronbach alpha: 0.76 for innovation and 0.81 for improvement. Again, the discriminant validity was checked by conducting confirmatory factor analysis, as displayed in table 1 below.

Table 1: Factor analysis for Manager's Ambidexterity

	Factors	
	1	2
A manager's innovation exercises (Cronbach alpha:0.76)		
Examining new opportunities regarding to products/services, procedures, or marketplaces	-0.30	0.63
Assessing assorted choices regarding products/services, procedures, or markets	-0.26	0.65
Focusing on solid rekindling of products/services or procedures	-0.23	0.63
Events which relate to incomes or expenses are currently uncertain	0.39	0.63
Actions you need some versatility	0.11	0.61
Actions you need to acquire new talents or information	-0.01	0.70
Exercises which are not in the existing organisation strategy	-0.14	0.59
A manager's improvement actions (Cronbach alpha: 0.81)		
Actions involving you in data collection	0.71	-0.04
Actions you do as though it were routine	0.73	-0.17
Actions serving existing clients with prevailing services/products	0.60	-0.15
Exercises obvious to you on how to be conducted	0.70	-0.12
Exercises aimed at attaining short-term objectives	0.44	-0.07
Actions in which you can employ your current knowledge	0.71	-0.04
Actions obviously applicable to prevailing firm strategy	0.60	0.02

By consolidating the two scales a measure of ambidexterity is made and a similar tactic as Mom et al (2009) used to work out singular ambidexterity by calculating the generative collaboration among the leaders' innovation actions and the leaders' improvement actions. In so doing, a solitary continuum scale on which a regression analysis conducted is formed.

By way of testing internal structure of the Cognitive Style Index (CSI), a factor analysis was applied by Allison and Hayes. In using same methodology, a factor analysis of groups or 'parcels' of 6 items to assess if the CSI has a uni-

factorial system. In presenting investigative factor analysis (principal components method), a single factor resolution is formed for confirmatory maximum likelihood factor analysis, as indicated in table 2.

Table 2: Factor analysis of cognitive style Index items parcels

Parcel	Loading
1	0.54
2	0.63
3	0.65
4	0.50
5	0.52
6	0.50
Eigenvalue	3.07
Variance explained	50.33
Chi-square (df=9)	4.51
Significance	0.85

Table 3 sums up descriptive statistics for the CSI formed from the research's data, it reveals sample mean scores which has theoretical mean approximately 38.0. Beside the stated statistics, indices of skew (-0.02) and kurtosis (-0.33) recommend that the inventory measures a unceasing variable, which is almost normal in distribution. To ascertain reliability, a chronbach and guttman split half coefficient were calculated and the results were 0.75 and (0.77) respectively.

Table 3: Descriptive statistics of cognitive style Index

N	100
Mean	37.78
Median	36
Mode	32
Standard deviation	10.34
Range	53
Chronbach	0.75
Skewness	-0.02
Kurtosis	-0.33

As investigation is related with hazard taking, the age of the respondent was included as a control variable.

According to Vroom and Pahl (1971), age is associated with the degree a manager involves in hazard taking happenings. To them, the more proven a manager is, the more outlandish the person shows dangerous conduct. More elevated level of schooling is connected with improved cognitive capabilities to process data. Consequently, it might positively be linked to a leaders' ambidexterity (Mom, 2009). The same approach in controlling for educational effect and the environmental dynamism were applied in the survey. For measuring these, the author applied the four- item scale propounded by Jansen et al. (2006).

As a result of this, the seven - item scale by Jansen et al. (2006) was constructed. Table 4 gives an outline of descriptive statistics and relationships with all the variables.

Table 4: Means, Standard Deviations, Minimum and Maximum values, and Correlations

	Mean	St dev	Min	Max	1	2	3	4	5	6	7	8
1. Ambidexterity	10.23	2.42	2.27	18.27								
2. Innovation	3.26	0.63	1.13	5.00	-0.56**							
3. Improvement	3.25	0.60	1.00	5.00	-0.31**	-0.31**						
4. Cognitive Style	36.77	10.33	11.02	63.00	0.22**	-0.20**	0.01					
5. Age	46.61	9.43	22.00	62.00	-0.07	-0.04	-0.04	0.05				
6. Tenure in firm	15.22	8.70	1.00	38.00	-0.02	0.05	-0.07	0.10	0.04**			
7. Size	2.13	1.27	1.00	5.00	-0.01	0.01	-0.01	-0.05	0.03	0.12		
8. Environmental zing	3.20	0.73	1.00	4.00	0.13*	-0.20	0.35***	-0.08	-0.02	-0.05	0.05	
9. Education: 2 nd Degree or higher	0.75	0.32	0.00	1.00	0.03	-0.05	0.02	0.02	0.03	-0.14*	0.01	0.05

N = 100, *p < 0.05, **p < 0.01, ***p < 0.001

In testing the hypothesis, Hierarchical Regression analysis was used. Table 5 indicates the outcomes of the analyses on innovation (models 1a and 1b), improvement (models 2a and 2b) and ambidexterity (models 3a and 3b). The fundamental

simulations comprising the control variables are made up of Models 1a, 2a and 3a. Models 1b, 2b and 3b, show the entire models with respect to impact of the leader's cognitive style.

Table 5: Outcomes of Hierarchical Regression Analysis

	Innovation		Improvement		Ambidexterity	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
Cognitive Style Index		0.03		0.18**		0.22**
Cognitive Style Index square		0.12*		-0.03		0.05
Control variables						
Age	-0.02	-0.01	-0.08	-0.08	-0.11	-0.11
Education: 2 nd Degree	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04
Tenure in firm	-0.02	-0.03	0.11	0.07	0.04	0.03
Environmental zing	0.36***	0.35***	-0.20***	-0.18**	0.13*	0.13*
Manufacturing	0.01	0.01	-0.04	-0.03	-0.01	-0.04
Pure water production	0.03	0.03	-0.08	-0.07	-0.01	-0.03
Cocoa business	0.04	0.04	-0.07	-0.08	-0.01	-0.03
Financial Institution	-0.03	-0.04	0.10	0.08	0.05	0.03
Retail Trading	-0.05	-0.06	-0.12	-0.13	-0.15	-0.17*
Hospitality/Hotels	0.14*	0.13	-0.13	-0.14*	-0.01	-0.03
Food Processing	-0.02	-0.04	0.10	0.07	0.04	0.03
R – squared		0.02		0.10		0.10
Adjusted R – squared		0.15		0.05		0.05

N = 100, *p < 0.05, **p < 0.01, ***P < 0.001

V. CONCLUSION FROM THE STATISTIC DERIVATIVES

Based on previous studies conducted by researchers like Mom et al. (2009), He and Wong (2004) and March (1991), a hypothesis developed was that the higher a natural cognitive style of a manager, he would actively participate in innovative

actions. Model 1b in Table 5 shows that it is not essential when the linear relationship of the link between cognitive style and the manager's actively in innovative activities is tested. However, it was found out that there is a significant (p<0.01) U-shaped connection between a manager's

intellectual style and the degree the individual in question involves in innovative activities. In view of the above, hypothesis 1 is rejected.

The information shows a positive significant linear relationship ($p < 0.001$) between a manager's investigative cognitive style and the degree the person would take part in both innovative and improvement activities.

Furthermore, it was found out that the environmental zing connects by the degree a leader participates in innovation, improvement, and mixture of the two. Per Mom et al., (2009) convention, the findings are in agreement with previous research, as companies operating in more vibrant environment are likely to participate in innovation events and more averse to participate in improvement events. From the analysis, the information also shows that leaders working in the retail trading are less ambidextrous than leaders in the other businesses.

Concerning impact of cognitive style of a manager on innovative deeds, this research reveals that the higher investigative cognitive style of a manager more active he participates in innovative deeds. It shows that analytical managers have an inclination for innovative deeds, and so are bound to conduct effectively.

VI. FINDINGS AND DISCOVERIES

- *Existence of innovation and improvement policies*

At the end of the study, it was revealed that some of the SMEs (65%) have in place innovation and improvement policies. It was realized that firms with innovation and improvement policies perform better than those without such a policy and figures shows that those with innovation and improvement policies have higher average growth rates in the areas of market share, sales, profitability and Fixed Assets than those without.

- *Balancing of innovation and improvement opportunities*

It revealed that diagnostic managers are better ready to consolidate innovation as well as improvement. The research also pointed the following as some the ways SMEs managers balance modernisation and improvement prospects that are required for elite execution:

- ❖ Appointing of staff or experts with the necessary requisite skills at key positions to identify problems or opportunities about which the firm want to innovate
- ❖ Creation of opportunities for creative thinking skills of workers
- ❖ Sharing the innovations with a broader set of stakeholders
- ❖ Motivation to workers to accomplish something with their capability and imaginative reasoning skills and apply it to thinking of interesting thoughts.

- ❖ Experimenting and piloting those ideas to test how well they work in practice
- ❖ Minimise the chance to settle an inaccurate decision
- ❖ Assembling of a team of consultants to evaluate performance and make recommendations for improvement.
- ❖ Adoption of modern technologies in the production process.
- ❖ Insistence on the right application of Research and Development findings.
- ❖ Ensuring that supervisors concentrate on managing of performance rather that controlling performance and identifying development needs to assist subordinates to grow.

- *Cognitive Analytical style of managers*

The results of the survey further gave an indication that indeed, a manager with more logical cognitive style would be able to participate in innovative exercises. Again, it was revealed that there is an affirmative link among a manager's logical scholarly style and his remarkable ambidexterity. Besides, the outcomes from this study confirm that managers having a major cognitive style (either instinct or logical) stand the chance to participate in innovative exercises.

- *Factors enhancing cognitive ambidexterity*

The survey also came out with the following assertions:

The more prominent the firm's accentuation on uninterrupted planning, there is greater the cognitive ambidexterity of its managerial staff (i.e., the capacity to tackle key inconsistency among modernization and enhancement).

The more prominent a firm's accentuation on Information Analysis and Methods, the higher the mental ambidexterity of its high-ranking leaders (i.e., capacity to resolve strategic inconsistency among modernization and enhancement).

The more prominent the firm's accentuation on client and market center, the higher mental ambidexterity of its high-ranking managerial staff (i.e., capacity to the purpose vital inconsistency among innovation and improvement).

The discoveries of this survey have suggestions for managerial staff and owners of small and medium scale Enterprises as the outcomes propose that managers ought to have an analytical methodology towards business procedures to consolidate innovation as well as improvement.

VII. RECOMMENDATIONS

- *Strengthening of institutional structures*

Many entrepreneurs in the country are not aware of the importance and benefits of innovation and improvement policy. It is always a worry that most SMEs do not grow as expected from them. It is therefore recommended that the National Board for Small Scale Industry (NBSSI) and its Business Advisory Centres must be strengthened and well resourced. With this the SMEs will get the opportunity to

involve in practical training programmes to equip the managers with the requisite skills on general business management to enable SMEs to improve on its managers' analytical cognitive style to engage in innovative activities.

- *Seminars/Workshops*

NBSSI should organize seminars and workshops for the SMEs to engage in continuous planning as was emphasise by the Managing Director of the DBS Roofing Industry. With this, the SMEs can be the engine of growth.

- *Networking*

Furthermore, it is recommended that organisation of fairs, exhibitions, and forums and for managers/owners of SMEs should be frequent to enable them to connect with each other and share ideas and problems. It will go a long way to serve as a platform for networking with other entrepreneurs and join associations in the country to help them build their capabilities and self-confidence. It will also provide a platform for them to get more information in their innovative and improvement activities to move their organisations forward.

- *Appointment of qualified and knowledgeable personnel*

It is also recommending that to ensure good corporate performance, qualified and knowledgeable personnel with initiative and drive should be appointed to bring about innovation and improvement performance.

Further Study and Research

The study is only restricted to Kumasi Metropolis in the Ashanti Region of Ghana and senior managers of only Small and Medium Enterprises (SMEs) in the Kumasi Metropolis. Further research could be conducted to cover the entire country. Again, there should be some sort of cautious if someone wants to generalise the discoveries of this research to superior managers of big firms. Managers of these firms may require an alternative mental style to join innovation and improvement. Procedures of innovation and improvement may be significantly unique regarding the amount of information or level of data. It is therefore suggesting that further research could be done in respect of Large-scale Businesses.

VIII. CONCLUSIONS

The purpose of this research was to probe the connection of mental style with personality's capacity to take part in innovation and improvement among Small and Medium Scale Enterprises (SMEs) managers and how they all the while oversee innovation and improvement demands that needed for superior performance. The motivating factor is that firms that need to prevail in the long term must attention to innovation as well as improvement. However, managers face challenges consolidating innovative and development activities as they have clashing objectives and entail different capabilities.

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