Ranking Multi-Factor Criteria in A Make or Buy Decision Using Non-Additive Fuzzy Integrals

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ABSTRACT

In the past firms mostly focused on the cost aspect of make or buy, giving less emphasis on the other determinants of make or buy decisions. Using non-additive fuzzy integrals, we model and rank a collection of multi-factor criteria for make or buy decision. Four component factors classified as resource base, transaction cost, firm size and external factors were analyzed and ranked. We observed that among these variables tested firm's resource base emerged as the highest decision criterion for in make or buy decision over transaction costs. This implies that a firm's resources (FR), proxied by resource availability, innovative competence, share risk/expertise and market penetration were more dominant that cost elements such as supplier competition, buyer experience, volume uncertainty, production cost advantage and technology uncertainty.

Keywords : Make, Buy, Decision Multi, Factor, Fuzzy

I. INTRODUCTION

The complex dynamism of the business environment over the recent years has hindered the survival of most firms especially after the financial crisis in 2008. This has therefore presented firms with the challenge to make critical decision so as to survive in this fierce environment. The decision-making is a critical process that needs to be approached with all seriousness since firm's survival or failure depends on it. Furthermore, due to the scarcity of resources in both the internal and external environment of a firm it is prudent to be able to make efficient use of the available resources so as to cut down waste in relation to time and cost. When a positive decision is made it has a significant influence on the performance of a firm and vice versa (Grant, 1991).

According to Welch and Nayak (1992), many firms have made sourcing decisions commonly known as make or buy decision based disproportionately on unit cost, with insufficient regard for strategic or technological issues. These may have been inspired by the copious works of Williamson on the role of transaction cost in decision making. Williamson developed the efficient boundaries framework in which he advanced the view that a firms decision (as in make or buy) is largely influenced by the transaction cost elements namely the supplier market competition, experience of the buyer, volume of uncertainty, production cost advantage and technology uncertainty.

Thus a substantial number of previous works have mostly focused on the cost factor associated with the make or buy decision-making process of a firm and dictates competitive strategy for many firms and even entire industries to the neglect of other factors. Yet Alegre & Chiva (2008) points out that all is not perfect with any theory, and transaction cost theory is no exception. Three major criticisms to the theory have been identified including focusing on cost minimization, understating the cost of organizing and neglecting the role of social relationship in economic transaction. Resource based theories, which emphasize that organizations would have to make and exploit transaction specific investment under conditions of uncertainty to gain long term competitive advantage (Alegre & Chiva. 2008).

Minimization of transaction cost would have little advantage if transaction specific assets aren't valued in the market. Hence, it is important to move beyond the perspective that "economy is the best strategy" for an organization (Zhuang et al 2006). In essence the success and sustainability of every firm depends on its resources available. The firm's ability to utilize resources available to it, grants it a high market volume leading to competitive advantage. Firms gain competitive advantage from resources available to them, when the resources are of great importance, scarce and fitting to the market they find themselves in and customers are satisfied with the products or services rendered to them (Barney, 1991; Grant, 1991; Wade and Hulland, 2004). Firms have their own opinion relating to the sharing of resources available to them. The effective distribution of this resources lead to increment in resources with similar functions, whiles resources that are dissimilar can lead to harmonize resources (Das and Teng, 2000).

Resources of a firm can be of full importance when a clear understanding of the internal environment is known by the firm. The internal environment provides firm with it strength and weakness. Based on this firms will easily identify which resource need to be shared for high performance. (Easterby-Smith, Lyles and Peteraf 2009; Lockett, Thompson and Morgenstern 2009; Wang and Ahmed, 2007). Thus it is suggested that availability of firm's resources is positively related to make decision. Further Ambrosini et al., (2009) explains that upon identifying the resources and capabilities of the firm, managers have to develop a unique level that the resources and capabilities will be of great importance to the firm. Firm focuses on the constant increase of the resources available, other firm focuses on introducing new resources to adapt to the changes in the business environment and how the firm produces with the new resource adapted for high productivity and customer satisfaction (Ambrosini et al., 2009).

The capabilities that grants firm higher performance are seen in different angles based on the resources available, with different level of efficiency that provides firm with the greater benefits to their customers for a specific cost (Peteraf and Barney, 2003, p. 311). Capabilities portray the firm's capacity, skills and ability to purposefully utilize resources to create the firm's resource base. Firms' ability to control and manage their resources

changes the way things need to be done positively and essential to high performance. Firms are encouraged and motivated to engage in resource divestment, and then decide which resources should be made internally and to be bought externally (Moliterno and Wiersem, 2007).

Capabilities enables firm to make effective use and sharing of it scares resources available to them which lead to successful execution of task for sustainable competitive advantage. Capabilities lies within it infrastructure, human resource etc which bridge the gap between the resources and the staffs available to work (Grant, 1991; Bharadwaj, 2000; Santhanam and Hartono, 2003; Bharadwaj, 2000; Zhuang and Lederer, 2006). The fast changing and complicated business environment has called on firms to be more flexible in their capabilities to adapt to dynamic changes that occur. This implies firm should not only rely on their internal capabilities but also external source that can lead to large resource base for competitive advantage (Teece et al., 1997; Dyer and Singh, 1998; Newbert, 2008). This implies that firm's ability to exploit and explore innovation activities within the firm is positively related to make decision.

Although effective utilization of resources grants firm with positive results, there has been some situation such as access to employee human capital and access to financial capital and unexpected negative effect also appear to affect result expected by firms. For firms to overcome this situation strategic procedure need to be implemented for sharing and managing the scares resources available for capacity development. Whiles the business environment changes, it has an impact on the capabilities of firm and how activities need to be carried out with the resource available (McKelvie and Davidson, 2009).

Capabilities recognizes the process of the firm and link it with the requisite resources and processes such as product development, strategic decision making, and alliance. These futures are neither indistinguishable nor tautological. Although dynamic capabilities are distinctive in their details and path dependent in their emergence, they have considerable commonalities across. In small dynamic markets, dynamic capabilities are in line with old concept of routines. They are detailed, analytic, stable processes with predictable

outcome. In contrast, in high-pace market, they are simple, highly experiential and fragile process with unpredictable outcomes (Eisenhardt and Martin, 2000). Firms consider some laid down decision in acquiring the resources needed for production of goods and services. These conditions are (1) the firm's ex ante market position; (2) its ex ante resource base, which allows for complementarities; (3) its position in inter-organizational networks, which gives it access to privileged information; and (4) the prior knowledge and experience of it managers that provide direction for value-creating potential of the resource. The stated factors outline why firms have different resources for it activities. Managerial decision assists in shaping firms' direction toward superior competitive positions. Based on the condition, managers are able to identify market position on demand for value creation (Schmidt and Keil, 2013). To that extent, it is argued that a firm's ability to share risk associated to new product development is positively related to buy decision. Similarly, a firm's ability to access new market with alternative firm is positively related to buy decision.

The high inception of new business and advancement of technology has increased competition in business environment. The products and services rendered by firms have minimum lifetime whiles the demand from customers keep increasing. Innovation has surfaced to be the ultimate solution for these issues for high growth. Firms still strive hard to coil their own ideas to engage in the current market environment, due to the fact that internal capabilities are insufficient to do so. Firms seek external knowledge and skills to improve upon their routine. The search of knowledge from outside source has enabled firms to increase their internal competencies and various department process of technological knowledge within the market they exist (2003, Howells et al., 2003; Hagedoorn, 2002; Gallego, 2013). Firms enter into mutual activities and knowledge sharing to be innovative for customer satisfaction and growth in future and to enhance their own knowledge base (Chesbrough, 2006; Siemens 2010)

As market trend changes, firms try to divert to the new trend of business. Firms therefore specialized some aspect of their production through the adoption of external knowledge to adapt to the current business environment, this enables them to gain competitive advantage when the right knowledge is acquired and implemented correctly (Lane et al., 2006). Firms gain this advantage as a result of adapting new capability to innovate ideas from external sources, which can be in the form of technology, knowledge transfer and combination (Pavlou and El Sawy, 2006; Rothaermel and Deeds, 2006; Duysters and Lokshin, 2011).

According to Grant, 1996; Subramaniam and Venkatraman, 2001, external knowledge plays a key role in the development of a firm. It has become the basis for firm to innovate by tapping idea from already existing firms to improve upon it and come up with their own strategy (Sofka and Grimpe, 2010). Making judicious use of external knowledge and blending those ideas with internal knowledge pave a great way for firms to succeed in this fiercely competitive business environment and this increase firm's innovation performance (Cassiman and Veugelers, 2006). Firms willing to acquire external knowledge to innovate have to possess skills, abilities, time and finance to do so. Firms link up with customers through workshop, seminars, forum etc, bridging the gap with suppliers, institution and the general public can increase and provide firms with new knowledge about how the business is moving (Piller and Walcher, 2006; Laursen and Salter, 2006; Lakhani et al., 2007), all the mentioned sources have a common goal for improving firms innovation abilities and firm performance. Searching for external knowledge differs from firm to firm due to the nature of work carried by the various firms (Bahemia and Squire, 2010). Firms seeking for knowledge externally focus on continuous improvement to face today's competitive business environment. Firms have to build upon their competencies to make full use of the people, stakeholders and society on the speed and effectiveness in product development. For this to be effective, firms need to gain high managerial skills that can make them competitive and entreat firms respect to the utilization of external information (Santhanam and Hartono, 2003; Wade and Hulland, 2004; Newbert, 2007).

Firms rely on the set goals to develop measures to understand the growth in the market. They track technological maturity and markets trend and base on that they decide which strategy is suitable to innovate. It has come to the light that for firms to perform high, human resource need to be highly equipped. A highly

skilled group is needed for perceived performance of the firm (Gartner, 2012). Management realized that knowledge for high performance does not rely in a single firm, this has increase the willingness to sought for external knowledge (Bogers and West, 2012; Mina 2013). Firms with deep knowledge base mostly gain high performance through innovation. The acquisition of knowledge from your firm will enable you to understand how others are operating. This has called on firms to enter into knowledge integration to implement innovational change (Zhou & Li, 2012). Knowledge acquisition comes in the form of buying or corporation, firms decide on which process is in line with the firms activities and select (Vega-Jurado, 2009; Frenz and Ietto-Gillies, 2009; Garriga 2013). This will means that a firms' ability to utilize external expertise is positively related to buy decision.

In essence managers need better tools for evaluating sourcing decisions that can accommodate the long-term strategic issues. Make or buy decisions are both short and long-term perspective and are treated separately. In the short term, cost or profit comparisons can be used to determine what to "make" and what to "buy." More important is the long-term question of who should make the specific investments required for production, transportation, and inventory processes. Therefore this study examines the hierarchy of both resource based and transaction cost factors or determinants such as the utilization of external knowledge and skills of make or buy decision. Although there are extant literature on make or buy decision strategies. Most of them seems to focus on developed economies with very few studies on emerging economies. Surprisingly, most of the literature on emerging economies fails to capture the critical determinants that influences make or buy decision in recent times. The findings from these studies seem inconclusive. This study therefore seek to fill the gap in the literature by investigating the hierarchy of determinants associated with make or buy decision strategy from the perspective of an emerging economy, Ghana. This study therefore extends the frontiers of recent studies by further examining these factors and their priorities that influence the make or buy decision-making process. This will therefore set as a guide for formulation of policies, reforms and recommendation, and guidelines for improving the make or buy decision-making process.

II. METHODS AND MATERIAL

Source Data

Field survey was conducted using questionnaires to collect data from 185 key informants in five manufacturing firms in Ghana. This helped to get first hand information from management and key players involved in make or buy decision making in respective firms. Initial contact with key informants was done through telephone conversations and then later through electronic mail to explain the objective and purpose of this research so their co-operation can be gained. The demographic information about firm and respondents are highlighted in tables 1 and 2.

Table 1: Profile of Firms

FIRMS' DESCRIPTION	AGE (YEARS)	SIZE(EMPLOYEES)	MAIN PRODUCT
FIRM 1	17	1933	Beverage processing
FIRM 2	8	947	Manufacturing and distribution beverage product
FIRM 3	10	515	Pharmaceutical products
FIRM 4	21	903	Pharmaceutical product
FIRM 5	28	561	Cable manufacturing

Table 2 : Personal Information of Respondents

RESPONDANT DESCRIPTION	NUMBER
Male	109
Female	76
TOTAL	**185**
EDUCATION BACKGROUND	
Junior high school	11
Senior high school	38
Tertiary education	136
TOTAL	**185**
JOB POSITION	
Top managers	15
Middle managers	92
Supervisor	49
Casual workers	29
TOTAL	**185**

Interviews were also conducted among departmental heads, supervisors and other top managers to have an in depth understanding of their perception of the factors that influence make or buy decision. The evaluators define their individual range for the linguistic variables employed in this study based on their judgments within the range from 0-100. The fuzzy judgment values of different evaluators regarding the same evaluation criteria are averaged. In general, fuzzy addition and multiplication were used to retrieve the average fuzzy numbers for the priority values under each criterion indicated by the evaluators for mutual funds strategy.

Analytical Procedure

The fuzzy measure is a measure for representing the membership degree of an object in candidate sets. In 1974, Sugeno introduced the concept of fuzzy measure and fuzzy integral, generalizing the usual definition of a measure by replacing the usual additive property with a weak requirement, i.e. the monotonic property with respect to set inclusion. Sugeno and Terano have developed the λ-additive axiom (Sugeno and Terano, 1997) in order to reduce the difficulty of collecting information.

Let (X, β, g) be a fuzzy measure space:
$\lambda \in (-1, \infty)$. if $A \in \beta$, $B \in \beta$; and $A \cap B = \phi$, and
$g(A \cup B) = g(A) + g(B) + \lambda g(A)g(B)$.

Let set $X = \{x_1, x_2, .., x_n\}$ and the density of fuzzy measure $g_i = g_\lambda(\{x_i\})$, which can be formulated as follows:

$$g_\lambda(\{x_1, x_2, ..., x_n\}) = \sum_{i=1}^{n} g_i + \lambda \sum_{i_1=1}^{n-1} \sum_{i_2=i_1+1}^{n} g_{i_1} g_{i_2} + \cdots + \lambda^{n-1} g_1 g_2 \cdots g_n$$

For an evaluation case with two criteria, *A* and *B*, there are three cases based on the above properties.

- Case 1: if $\lambda > 0$, i.e. $g_\lambda(A \cup B) > g_\lambda(A) + g_\lambda(B)$, implying that *A* and *B* have a multiplicative effect.
- Case 2: if $\lambda = 0$, i.e. $g_\lambda(A \cup B) = g_\lambda(A) + g_\lambda(B)$, implying that *A* and *B* have an additive effect.
- Case 3: if $\lambda < 0$, i.e. $g_\lambda(A \cup B) < g_\lambda(A) + g_\lambda(B)$, implying that *A* and *B* have a substitutive effect.

In a fuzzy measure space (X, β, g), let *h* be a measurable set function defined in the fuzzy measurable space. Then the definition of the fuzzy integral of *h* over *A* with respect to *g* is $\int_A h(x)dg = \sup_{\alpha \in [0,1]} [\alpha \wedge g(A \cap H_\alpha)$ where $H_\alpha = \{x|h(\mathrm{x}) \geq \alpha \}$.

A is the domain of the fuzzy integral. When *A=X,* then *A* can be taken out. Next, the fuzzy integral calculation is described in the following. For the sake of simplification, consider a fuzzy measure *g* of $(X, \aleph)$ where *X* is a finite set. Let $h : x \rightarrow [0,1]$ and assume without loss of generality that the function $h(x_j)$ is monotonically decreasing with respect to j, i.e.,

$h(x_1) \geq h(x_2) \geq \cdots \geq h(x_n)$.

To achieve this, the elements in *X* can be renumbered. With this, we then have $\int h(x)dg = \bigvee_{i=1}^{n} [f(x_i) \wedge g(x_i)]$ where $X_i = \{x_1, x_2, \cdots, x_i\}$, i= 1, 2, $\cdots$, n.

In practice, *h* is the evaluated performance on a particular criterion for the alternatives, and *g* represents the weight of each criterion. The fuzzy integral of *h* with respect to *g* gives the overall evaluation of the alternative. In addition, we can use the same fuzzy measure using Choquet's integral, defined as follows:

$$\int h dg = h(x_n)g(X_n) + [h(x_{n-1}) - h(x_n)]g(X_{n-1}) + \cdots + [h(x_1) - h(x_2)]g(X_1).$$

The fuzzy integral model can be used in a nonlinear situation since it does not need to assume the independence of each criterion. Specifically in this study, the fuzzy integral is used to combine assessments primarily because this model does not need to assume independence among the criteria. The fuzzy integral

proposed by Sugeno (1974) and Sugeno and Kwon (1995) is then applied to combine the efficiency value of those related criteria to produce a new combined performance value. A brief overview of the fuzzy integral is presented here:

Assume under general conditions,

$h(x_1^k) \geq \cdots \geq h(x_i^k) \geq \cdots \geq h(x_n^k)$,

where $h(x_i^k)$ is the performance value of the k-th alternative for the i th criterion, the fuzzy integral of the fuzzy measure $g(\sqcup)$ with respect to $h(\sqcup)$ on $\aleph$ (g: $\aleph \to$ [0,1]) can be defined as follows. (Cheng and Tzeng, 2001; Chiou and Tzeng, 2002; Keeney and Faiffa, 1976)

$\int^k h dg = h(x_n^k)g_\lambda(X_n^k) + [h(x_{n-1}^k) - h(x_n^k)]g_\lambda(X_{n-1}^k) + \cdots + [h(x_1^k) - h(x_2^k)]g_\lambda(X_1^k)$

where, $g_\lambda(X_1^k) = g_\lambda(\{x_1^k\})$, $g_\lambda(X_2^k) = g_\lambda(\{x_1^k, x_2^k\})$, ...,

$g_\lambda(X_n^k) = g_\lambda(\{x_1^k, x_2^k, \cdots, x_n^k\})$

The fuzzy measure of each individual criterion group $g_\lambda(X_n^k)$ can be expressed

$\sum_{i=1}^{n} g_\lambda(x_i^k) + \lambda \sum \sum g_\lambda(\{x_i\})g_\lambda(\{x_j\}) + \cdots \lambda^{n-1} g_\lambda(\{x_1\}) \cdots g_\lambda(\{x_n\})$

as follows:

$g_\lambda(X_n^k) = g_\lambda(\{x_1^k, x_2^k \cdots x_n^k\})$

$=$

$\sum_{i=1}^{n} g_\lambda(x_i^k) + \lambda \sum \sum g_\lambda(\{x_i\})g_\lambda(\{x_j\}) + \cdots \lambda^{n-1} g_\lambda(\{x_1\}) \cdots g_\lambda(\{x_n\})$

$= \frac{1}{\lambda}\left[\prod_{i=1}^{n}(1 + \lambda g_\lambda(x_i^k)) - 1\right]$ for $-1 < \lambda < +\infty$

λ is the parameter that indicates the relationship among related criteria (if $\lambda = 0$, equation (7) is an additive form, if $\lambda \neq 0$, equation (7) is a non-additive form). The fuzzy integral defined by equation $(c)\int f dg$ is called the Choquet integral.

III. ANALYSIS OF FINDINGS

Table 3. The weights of issues for evaluating the mutual funds

DECISION CRITERIA	LOCAL WEIGHT	BNP OF OVERALL WEIGHT
RESOURCE BASE	(0.236 0.427 0.719)	**0.461**
Resource Availability	(0.114 0.197 0.359)	0.223
Innovative Competence	(0.263 0.437 0.729)	0.476
Share Risk/Expertise	(0.130 0.242 0.432)	0.268
Market Penetration	(0.066 0.124 0.226)	0.139
TRANSACTION COST	(0.218 0.353 0.592)	**0.388**
Supplier Competition	(0.119 0.211 0.368)	0.232
Buyer Experience	(0.081 0.143 0.257)	0.160
Volume Uncertainty	(0.039 0.062 0.110)	0.070
Production Cost Advantage	(0.097 0.172 0.323)	0.197
Technology Uncertainty	(0.235 0.412 0.694)	0.571
FIRM SIZE	(0.090 0.143 0.244)	**0.159**
Firms share of market	(0.207 0.323 0.522)	0.351
Number of Employees	(0.087 0.129 0.218)	0.145
EXTERNAL FACTORS	(0.049 0.076 0.133)	**0.086**
Political/Legal Factors	(0.130 0.269 0.452)	0.284
Socio-Cultural Factors	(0.081 0.138 0.270)	0.163
Economic Factors	(0.049 0.076 0.133)	0.086

The empirical evidence in table 3 indicates that the weight of criteria such as resource base (0.461), stock transaction cost (0.388), firm size (0.159) and external factors (0.086) .An econometric methodology is developed to simultaneously estimate the magnitudes of these decision priority evaluation measures. These results imply that on average these managers consider

resource base as more important in general than transaction cost elements. Similarly there are other factors that are equally perceived as necessary in make or buy decisions that are not cost related and must be considered in the decision to make or buy.

IV. DISCUSSION AND CONCLUSION

The costs of carrying out business activities have been a sole determinant in relation to make or buy decision of a firm. Despite the growing number of studies and research in the field of make or buy strategy and decision making process few studies have being conducted in relation with the other determinants that influence this process. Therefore the purpose of this study was to identify why a firm has to either make or buy in manufacturing firms in Accra-Ghana by ranking different factors that influences make or buy decision apart from the cost implications. In order to examine the phenomenon under study the research was conducted in a developing country in sub-Saharan African. This is motivated by the fact that there are limited studies examining make or buy decision-making process. Five manufacturing firms were sampled from Accra Ghana to serve as a source of data collection that is used to analysis the hypothesis formulated for this study.

Among these variables tested firm's resource base emerged as the highest decision criterion for in make or buy decision over transaction costs. This implies that a firm's resources (FR), proxied by resource availability, innovative competence, share risk/expertise and market penetration were more dominant that cost elements such as supplier competition, buyer experience, volume uncertainty, production cost advantage and technology uncertainty. This is consistent with emerging literature. Before firm make a decision to make or buy any project or service firms turn to scan it internal and external environment to be able to identify if the skills and knowledge available at the specific time is relevant to effective execution of specific projects.

Also, open innovation that advocated the adaptation of external resources to improve a firm's innovation capabilities is also an essential factor for firms to consider the use and utilization of skills, expertise and knowledge outside the firm. And this was found out during an interview session with a top management member of one of the firms sampled for this study stated that 'the adaptation and integration of external knowledge in an individual firm innovation process is essential if firms are to survive in this dynamic business environment since one firm cannot employ all the needed skills and manpower needed'. This shows that firms do not really consider the amount of capital investment it makes as a result of make or buy in relation to specific projects but also consider the skills and expertise needed to execute the project with high quality and standard. That is the final output is the most significant issue undertake consideration so as to stay competitive. And this in the long run will contribute to firm's profitability and sustainability.

Again, the researcher found out that firm keeps equipping it human resource department to meet the current business standard and they recruit and train staffs on the activities of the firm, Heathilife limited for instance had a program for discussing their daily activities with workers and providing them with the necessary direction before they begin their operation. The firms realized that for this to be effective, they decentralized the human resource activities to the various department and weekly report were sent to the human resource department for scrutiny to pave way for the necessary action to be taken.

Moreover, the risk factor associated with decision-making process presents firm with the opportunity to critically analysis the strength and weakness in both its internal and external environment so as avoid any unforeseen uncertainties. Therefore most firms decide to outsource projects to external contractors and skills so as share the risk associated. This enable firms to deal with unanticipated situations whiles not loosing significant amount of their initial capital or cost. This risk mitigation strategy turn out to be efficient when it comes to project execution and management. During the make or buy decision, firms consider the risk they will share, new market they can tap into and new technologies they can lay hands on before entering into that. Firms engage in contractual relation with firms they deem fit to produce the needed product and are willing to cooperate with. Both firms are willing to share both risk and benefits that might accrue in the process of their collaboration, it's mostly based on mutual consensus. Through this relation firms stand the chance of

developing and upgrading their product to meet market standards. Firms in good relation with high level of trust share their technology with other firms and this turn to improve the innovation capabilities of a firm. According to the risk manager of Ernest chemist, he said "it will be in the best interest of the firm to hide it pride and share its ideas with trusted firms for new ideas, it might be risky though but you can get access to new market which will be of great benefit".

Furthermore in order to address some of the findings uncovered in the study there is the need to provide appropriate platform to encourage the dissemination of decision-making process among various departments. Firms have the sole responsibility of developing its internal employee in matter relating to firm's decision-making process. Individuals should be trained to have the capabilities of being decisive when it comes to outsourcing and executing projects so as to improve innovation and firm's performance. This is a prudent step to be able to cut cost associated with waste and cost in relation to a project. Therefore to make an effective decision not only should cost be the essential factor but also other factors such as the external skills and knowledge available and other factors should be considered critically. Despite the contribution of this study there still exist a number of limitations that hinder this study. The data acquired for the purpose of this study turns to hinder the generalization of the statistical findings since it was collected from few respondents therefore further studies is needed and should include larger sample selected at an unbiased terms. This would correct the selective biased nature of the random selection process adopted for this study.

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