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Okechukwu, Elizabeth Uzoamaka, Okoronkwo, Bernard Onwuchekwa & Eze, Jude Obinna

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Decision Making under Uncertainty and Organizational Performance: An Impact Assessment among Manufacturing Firms in South East, Nigeria

Okechukwu, Elizabeth Uzoamaka (Ph.D)

Department Business Administration, Faculty of Management Sciences, Enugu State University
of Science and Technology, Enugu, Nigeria.

Okoronkwo, Bernard Onwuchekwa

Department Business Administration, Faculty of Management Sciences,
Enugu State University of Science and Technology, Enugu, Nigeria.

Eze, Jude Obinna

Department of Marketing, Faculty of Management Sciences
Enugu State University of Science and Technology,
Enugu, Nigeria.

Abstract

Decision making under uncertainty positively affects product market performance among manufacturing firms and decision making under uncertainty positively affects shareholder return among the manufacturing firms. The study concludes that decision making under uncertainty has a positive significant effect on the organizational performance. Based on the findings of the study, the followings are recommended; the management should engage actively in adequate make research to reduce the risk of uncertainty associated with product market share performance and that there should be a set out strategy, empirically identified methodology that will enable the management to make decision that will enhance the shareholders fund.

Keywords: Decision Making, Uncertainty, Organizational Performance, Impact Assessment, Manufacturing Firms

Introduction

Decision making by organizational managers in a global market is strategic for organizational survival and sustainability. It is as an integral part of management and one of the determining characteristics of leadership (Dervishi & Kadriu, 2014). In today's business environment, few managers make decisions on the basis of well-deliberated calculations, no matter if the decision situation is of private character or in a job situation. People also neglect the normative rules when making risky decisions, and that they often make decisions by intuition or on "a hunch" that seems correct (Riabacke, 2006). This, however does not mean that a good decision guarantees a good outcome in a global market.

Uncertainty in business decision making refers to a situation where the current state of knowledge is such that (1) the order or nature of things is unknown, (2) the consequences, extent, or magnitude of circumstances, conditions, or events is unpredictable, and (3) credible probabilities to possible outcomes cannot be assigned (Business Dictionary, 2017). Uncertainty may occur in different environmental domains and refer to various stakeholder activities (e.g. regulations of the government or competitors' strategic moves) (Winkler, 2016). Equivocality, or ambiguity is the lack of clarity of available information. In equivocal situations, multiple potential interpretations of the information at hand conflict with each other (Winkler, 2016). Many important problems involves decision making under uncertainty which means, choosing actions based on often imperfect observations, with unknown outcomes. (Kochenderfer, Amato, Chowdhary, How, Reynolds, Thornton, Torres-Carrasquillo, Üre & Vian, 2017).

Firms in emerging markets are particularly challenged by uncertainty and equivocality in their long-term oriented decision making. These markets are characterized by dynamic institutional contexts especially affecting the predictability of future developments in the business environment (Winkler, 2016). Emerging markets offer both enormous business potential across industries but also very distinct institutional contexts (Winkler, 2016). These institutional environments need to be well understood during planning, evaluation, implementation and expansion of business operations in these markets (Khanna & Palepu, 1997). Designers of automated decision support systems must take into account the various sources of uncertainty while balancing the multiple objectives of the system (Kochenderfer, Amato, Chowdhary, How, Reynolds, Thornton, Torres-Carrasquillo, Üre & Vian, 2017).

Uncertainty in business decision making involves risk. Risk is an inescapable part of every decision. For most of the everyday choices people make, the risks are small. But on a corporate scale, the implications (both upside and downside) can be enormous (Buchanan & O'Connell, 2006). Not much is known about how individuals accept or reject risk when they are betting on their own golf putts, stock picks, organizational decisions or answers to trivia questions (Goodie & Young, 2007). A growing sophistication with managing risk, a nuanced understanding of human behavior, and advances in technology that support cognitive processes have improved decision making in many situations especially during uncertainties (Buchanan & O'Connell, 2006).

As opposed to the relatively stable political, social and economic environments in developed countries, emerging markets are portrayed by a dynamic institutional context characterized by opaque regulations and little transparency in decision-making processes of governmental institutions such as courts and other relevant entities (Hoskisson, Eden, Lau, Wright, 2000). Changes in the institutional environment of emerging markets such as political shifts and evolving market conditions challenge managers in their decision making through both uncertainty about

which changes might occur and equivocality about how to interpret changes in order to anticipate relevant consequences and interrelations at an early stage (Kuklinski, Moser & Georgi, 2012).

Emotions are unconsciously experienced as outcomes are guessed or imagined by an investment manager when faced with information disadvantage or partial ignorance in a highly dynamic and competitive investment environment (Lashgari, 2017). Investors with the ability to analyze and evaluate their emotional states as well as regulating and managing their emotional intelligence tend to make better decisions and appear to learn much from their mistakes especially when faced with an uncertain environment in which exact calculations are not possible (Ameriks, Wranik and Salovey, 2009). Given the state of uncertainty prevailing in the financial markets investors may aim for obtaining adequate reward, avoid losses and minimizing regret from their actions. This appears to be as a result of reflexive responses, feelings and emotions as well as reflective processes (Lashgari, 2017). It is against this backdrop that the study tends to investigate the effect of effective decision making under uncertainty on organizational performance of manufacturing firms in manufacturing firms in the South East of Nigeria

Statement of the Problem

Risk is a fundamental concept that affects human behavior and decisions in many real-life situations. Whether a person wants to invest in the stock market, tries to select the best health insurance or just wants to cross the street, he/she will face risky decisions every day Therefore, risk attitudes are important in making organizational decisions during uncertainty situations. In our everyday life, we often have to make decisions with uncertain consequences, for instance in the context of investment decisions. To successfully cope with these situations, the nervous system has to be able to estimate, represent, and eventually resolve uncertainty at various levels. Often, we find ourselves in a situation where we have to make some decision which we may freely choose from a set of available decisions. Usually, we do not choose arbitrarily rather we wish to make a decision that performs best according to some criterion, i.e. an optimal decision Some problems associated with these notions of risk include the reliance on past data, the assumption of a normally distributed return and the extension of past observation into the future (Lashgari, 2017) Alternatively, one may use a forecast of such a probability distribution. However, in manufacturing firms in South East Nigeria, there is dearth of study on the relationship between decision making under uncertainty and financial performance, product market share and shareholder return in manufacturing firms. This gap is what the study tends to fill.

Objectives of the Study

The broad objective of the study was to evaluate the effects of decision making under uncertainty on organizational performance among manufacturing Firms in South East Nigeria. The specific objectives were to:

1. Ascertain the effect of decision making under uncertainty on product market performance among manufacturing firms in South East Nigeria.
2. To examine the effect of decision making under uncertainty on shareholder return among the manufacturing firms in South East Nigeria

Research Questions

1. What are the effects of decision making under uncertainty on product market performance among manufacturing firms in South East Nigeria
2. What are the effects of decision making under uncertainty on shareholder return among the manufacturing firms in South East Nigeria

Research Hypothesis

2. Decision making under uncertainty positively affects product market performance among manufacturing firms in South East Nigeria.
3. Decision making under uncertainty positively affects shareholder return among the manufacturing firms in South East Nigeria.

Review of Literature

Decision Making Uncertainty

The decision making process involves evaluating a scenario from different angles, or perspectives, in order to identify solutions that will lead to the desired outcome (Dervishi & Kadriu, 2014). According to him, the three main perspectives on decision making are rationality, limited rationality and intuition. Uncertainty however relates to cases of error in estimate, the inability to predict the outcome, the presence of noise in the market, or a case of novelty in which no prior information is available. (Lasgari, 2017). Given the state of uncertainty prevailing in the financial markets investors may aim for obtaining adequate reward, avoid losses and minimizing regret from their actions (Lasgari, 2017).

Decision Making Under Uncertainty unifies research from different communities using consistent notation, and is accessible to students and researchers across all disciplines who have some prior exposure to probability theory and calculus. It can be used as a text for advanced undergraduate and graduate students in fields including computer science, aerospace and electrical engineering, and management sciences. It will also be a valuable professional reference for researchers in a variety of disciplines (Kochenderfer et al, 2017).

Organizational Performance

Organisational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). Richard, Devinney, Yip & (2009) hold that organizational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.). It is one of the most important constructs in management research.

Product Market Performance

Product market performance is the efficiency of a market in utilizing scarce resources to meet consumers' demands for goods and services; ie, how well a market has contributed to the optimization of economic welfare. Key elements of market performance according to Pass, Lowes & Davies (2005) include:

- a. Productive efficiency;

- b. Distributive efficiency, that is, the ability of a market to produce and distribute its products at the lowest possible cost;
- c. Allocative efficiency, that is, the extent to which the market prices charged to buyers are consistent with supply costs, including a normal profit return to suppliers;
- d. Technological-progressiveness, the ability of suppliers to introduce new cost cutting production and distribution techniques and superior products over time;
- e. Product performance, that is, the quality and variety of products offered by suppliers.

Richard, Devinney, Yip & Johnson (2009) note that product performance comprises of sales, market share etc. Market share is the percentage unit of a market accounted for by a specific product. It represents the percentage of an industry or market's total sales that is earned by a particular company over a specified time period (Investopedia, 2017). It is closely monitored for signs of change in the competitive landscape, and it frequently drives strategic or tactical action (Farris, Bendle, Pfeifer & Reibstein, 2010).

Market share is a consequence of interactions between demand and supply. Demand factors determine the extent of the market. Supply factors define the manner in which resources are put at risk. Performance factors measure the outcomes. Method factors influence the validity of conclusions (Cook, 1985). The value and cost of market share depend on assumptions about future demand, supply, performance and method factors (Cook, 1985).

Market share can be gained by attracting customers with preferences more distant from the target market (Anderson et al). A greater market share is vital to the firms' overall profitability (Armstrong and Green, 2006).

Shareholder Return

Total shareholder return is the profit generated by a combination of the change in the share price over the measurement period, plus any dividends paid by the company in the interim. This measure is used by investors to determine the gains generated by their share holdings (Bragg, 2013). Favaro and Rotz (2011) note that in any given year, a company's total shareholder return may not mean all that much. But when measured over time, it is the single best indicator of success. This is because it reflects how well a company has created long-term value in highly competitive capital, labor and product markets. The formula for its calculation on annual basis according to Bragg (2013) is given as: $(\text{Ending stock price} - \text{Beginning stock price}) + \text{Sum of all dividends received during the measurement period} = \text{Total shareholder return}$

The total return can then be divided by the initial purchase price to arrive at a total shareholder return percentage. This measurement can be skewed to a considerable extent if a shareholder has control over a business. If this is the case and the company is sold, then the shareholder will likely be paid a control premium in exchange for giving up control over the entity (Bragg, 2013).

Theoretical Framework

Organizational Information Processing Theory

The theory identifies three important concepts: information processing needs, information processing capability, and the fit between the two to obtain optimal performance. It attempts to explain Organizational behavior by examining the information flows occurring in and around organizations (Knight & McDaniel, 1979). Organizations require quality information to sustain itself in environmental uncertainty as well as improve their decision making. Environmental

uncertainty stems from the complexity of the environment and dynamism, or the frequency of changes to various environmental variables. Organizations have two strategies to cope with uncertainty and increased information needs: (1) develop buffers to reduce the effect of uncertainty, and (2) implement structural mechanisms and information processing capability to enhance the information flow and thereby reduce uncertainty (Premkumar, Ramamurthy & Saunders, 2005). Premkumar, Ramamurthy & Saunders (2005) maintained that a good example of the first strategy is building inventory buffers to reduce the effect of uncertainty in demand or supply; another example is adding extra safety buffers in product design due to uncertainty in product working conditions. An example of the second strategy is the redesign of business processes in organizations and implementation of integrated information System that improves information flow and reduce uncertainty within organizational subunits. A similar strategy is creating better information flow between organizations to address the uncertainties in the supply chain (Premkumar, Ramamurthy & Saunders, 2005).

Information processing incorporates concepts as the analysis and transfer of environmental data from the boundary points of an organization to managers as they attempt to make meaningful decisions (Smith, Grimm & Gannon, 1991). Barney (1986), Nelson & Winter (1982) in Smith, Grimm & Gannon (1991) note that no matter how effectively an information system is structured, decision makers must harness the information provided and interpret it before responding. According to them, decision makers need to evaluate the intention behind and the potential consequences of each competitor's action which are, at least initially, frequently uncertain or unknown. This uncertainty creates problems for decision makers, so they attempt to reduce it to controllable proportions (Galbraith, 1977). Decision makers adopt information search activities to reduce or eliminate uncertainty (March & Simon, 1958). The costs of search and the human characteristics of decision makers can influence information search. The theory was founded by Thompson in 1967 and was later developed by Galbraith (1973, 1977) and Tushman & Nadler (1978) (Smith, Grimm & Gannon, 1991).

Review of Empirical Studies

Owolabi and Abdul-Hameed (2011) conducted a study on employee involvement in decision making and firms' performance in the manufacturing sector in Nigeria. Data were generated by means of questionnaires administered to 670 manufacturing firms on employee involvement in decision making and performance variables. Responses from the survey were statistically analyzed using descriptive statistics, product moment correlation, regression analysis and Z-test (approximated with the independent samples t-test). The results of the study indicate a statistically significant relationship between employee involvement in decision making and firms' performance as well as reveal a significant difference between the performance of firms whose employee involvement in decision making are deep and the performance of firms whose employee involvement in decision making are shallow.

Also, Hamzah (2015) conducted a study on strategic management accounting decision making under uncertainty, perceived environmental uncertainty and organizational performance. The study follows a standard contingency type interaction fit. The results indicated that (1) the level of SMA usage positively affect organizational performance, and (2) Perceived Environmental uncertainty moderate the relationship. Bell, (1987) in a review on regret in decision making under uncertainty reported that after making a decision under uncertainty, a person may

discover, on learning the relevant outcomes, that another alternative would have been preferable. The decision maker who is prepared to tradeoff financial return in order to avoid regret will exhibit some of the behavioral paradoxes of decision theory. By explicitly incorporating regret, expected utility theory not only becomes a better descriptive predictor but also may become a more convincing guide for prescribing behavior to decision makers.

Erdem and Keane (1999) evaluated decision-making under uncertainty: capturing dynamic brand choice processes in turbulent consumer goods markets. The study construct two models of the behavior of consumers in an environment where there is uncertainty about brand attributes. The two models are (1) a dynamic model with immediate utility maximization, and (2) a dynamic “forward-looking” model in which consumers maximize the expected present value of utility over a planning horizon. The study reported that in the context of consumer learning of product attributes, although the forward-looking model fits the data statistically better at conventional significance levels, both models produce similar parameter estimates and policy implications. Estimates by the researchers indicate that consumers are risk-averse with respect to variation in brand attributes, which discourages them from buying unfamiliar brands. The result of the study further shows that advertising intensity has only weak short run effects, but a strong cumulative effect in the long run.

Methodology

The Research design adopted in this study is a survey descriptive design type. This descriptive type presents the result of the study as it was identified in the field without the researcher attempting to influence the result of the study. This reason necessitated the use of this method as the researcher is concern about presenting the result as the were obtained from the field. The study covers the selected manufacturing firms in South East Nigeria. The population of the study comprise of all top management of the organizations selected. This gives a total population of 322. The study sample size was determined 322, which is the entire population as the population is considered small.

The participants were selected by utilizing proportionate random sampling techniques. This is to give each company a true representation in the study. Questionnaire instrument was the major instrument used to obtain that for the study. It was validated by the experts in decision making and data analyst, hence, face and content validity was established in the study. Reliability which measure the extent of responses consistent was established in the study by engaging a pilot study which involved administering 27questionnaire to the participating population at different time. The data collected from the field was inputted in SPSS version 20. The alpha Cronchbach reliability of the study shows .857, which implies that the instrument of the study is highly reliable. Data collected from the study were presented in tables comprising of frequency and percentages. The study hypotheses were tested using linear regression at 5% level of significant.

Test of Hypotheses

The three hypotheses postulated were tested using regression analysis aided by computer through the application of Statistical Package for Social Sciences (SPSS 23 version) of Microsoft environment.

Hypothesis One

Ho: Decision making under uncertainty positively affects product market performance among manufacturing firms in South East Nigeria

Table 19: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.821 ^a	.674	.673	.41449	.157

- a. Predictors: (Constant), Decisions under uncertainty.
- b. Dependent Variable: Product market performance.

Table 20: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.201	.063		3.170	.002
	Decisions under uncertainty.	.750	.029	.821	25.534	.000

- a. Dependent Variable: Product market performance.

Result Summary

R = .821; R² = .674; DW = .157

Interpretation of the Result

A linear regression analysis conducted to ascertain the effect of decision making under uncertainty on product market performance among manufacturing firms in South East Nigeria. The result shows that there is strong positive relationship between decisions under uncertainty and product market performance (R- coefficient = .821). The R square, the coefficient of determination, shows that 67.4% of the variation in product market performance can be explained by decisions under uncertainty with no autocorrelation as Durbin-Watson (.157) is less than 2 with the linear regression model, the error of estimate is low, with a value of about .41449. The regression sum of the square 112.009 is more than the residual sum of the square 54.117 indicating that the variation is due to chance. The F-statistics = 651.972 shows that the model is significant. The extent to which decisions under uncertainty affects product market performance with .821 value indicates a positive significance between decisions under uncertainty and product market performance which is statistically significant (with t = 26.138 and p = .000 < 0.05). Therefore, the null hypothesis is rejected and the alternate hypothesis accepted accordingly.

Hypothesis Two

Ho: Decision making under uncertainty positively affects shareholder return among manufacturing firms in South East Nigeria

Table 21: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.789 ^a	.622	.621	.43685	.133

a. Predictors: (Constant), Decisions under uncertainty.
 Dependent Variable: Shareholders return. .b

Table 22: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.167	.067		2.503	.013
	Decisions under uncertainty.	.706	.031	.789	22.786	.000

a. Dependent Variable: Shareholders return.

Result Summary

R =.789; R²=.622; DW=.133

Interpretation of the Result

A linear regression analysis conducted to examine the effect of decision making under uncertainty on shareholder return among the manufacturing firms in South East Nigeria. The result shows that there is strong positive relationship between decisions under uncertainty and shareholder return (R- coefficient = .789). The R square, the coefficient of determination, shows that 62.2% of the variation in shareholder return can be explained by decisions under uncertainty with no autocorrelation as Durbin-Watson (.133) is less than 2 with the linear regression model, the error of estimate is low, with a value of about .43685. The extent to which decisions under uncertainty affects shareholder return with .789 value indicates a positive significance between decisions under uncertainty and shareholder return which is statistically significant (with t = 22.786 and p = .000 < 0.05). Therefore, the null hypothesis is rejected and the alternate hypothesis accepted accordingly.

Discussion of the Major Findings

This study examined the effect of decision making under uncertainty on organizational performance. The result shows that decision making under uncertainty has a positive effect on product market performance of organizations in south East Nigeria. Manufacturing firms which have keen interest at the success of their product are often confronted with the challenge customers' acceptance of their product. Often decision of what to produce, when to produce and how to produce are made based on available data, however, making decisions utilizing

availability could misguide the management as data are not absolutely reliable. This challenges therefore makes management decision making to uncertain. Some managers adopt different management pattern to neutralized the possible effect of uncertainty associated with product market share performance. The result of the study shows that management decision under uncertainty have a positive influence on shareholder return. Management often take decision regarding to what in invest in, this decision is could positively affect what the shareholders of such organization get as return. It is therefore management which sometime difference from the shareholder is confronted with the challenge of working out modalities that will ensure adequate returns to organizational shareholders.

1. Decision making under uncertainty positively affects financial performance among manufacturing firms.
2. Decision making under uncertainty positively affects product market performance among manufacturing firms.
3. Decision making under uncertainty positively affects shareholder return among the manufacturing firms

Conclusion

Empirically the study has demonstrated the relevance of decision making under uncertainty. Such relevance is seen on the effect to which decision making under uncertainty has on organizational performance. Firms in emerging markets are particularly challenged by uncertainty and equivocality in their long-term oriented decision making as such market are characterized by dynamic institutional contexts especially as it affect the predictability of future developments in the business. The study concludes that decision making under uncertainty has a positive significant effect on the organizational performance.

Recommendations

Based on the findings of the study, the followings are recommended

1. The management should engage actively in adequate make research to reduce the risk of uncertainty associated with product market share performance
2. There should be a set out strategy, empirically identified methodology that will enable the management to make decision that will enhance the shareholders fund.

References

- Ameriks, J., Tanja, W. and Salovey, P. (2009). Emotional Intelligence and Investor Behavior. Charlottesville, VA: The Research Foundation of CFA Institute.
- Khanna, T., Palepu, K.G. (1997). Why focused strategies may be wrong for emerging markets. *Harvard Business Review*, 75(4), 41-51.
- Hoskisson, R.E., Eden, L., Lau, C.M., Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43(3), 249-267.
- Kuklinski, C.P.J.-W., Moser, R., Georgi, C. (2012). The Delphi oracle: An information processing approach towards industry uncertainty and ambiguity in emerging markets. Conference Proceedings. Strategic Management Society 32nd Annual International Conference, Prague, Czech Republic.
- De Long, J. B., Shleifer, A., Summers, L. H. & Waldmann, R. J. (1990). Noise trader in financial markets. *Journal of Political Economy* 98(4): 703-738.
- Farris, Paul W.; Neil T. Bendle; Phillip E. Pfeifer; David J. Reibstein (2010). *Marketing Metrics: The Definitive Guide to Measuring Marketing Performance*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Richard, P. J., Devinney, T., Yip, G. & Johnson, G. (2009): Measuring organizational performance: Towards methodological best practice. *Journal of Management* 35(3). doi: 10.1177/0149206308330560
- Premkumar, G., Ramamurthy, K., & Saunders, C. S. (2005). Information processing view of organizations: An exploratory examination of fit in the context of interorganizational relationships. *Journal of Management Information Systems*, 22(1), 257-294