

Exploration and Exploitation for Effective Decision Making in the Public Sector: A Relative Analysis

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Abstract There is indeed no denying the fact that Decision making is perhaps one of the most common activities in life if not the most valuable. Some administrators desire to explore all the possible alternatives before they decide, while others prefer to exploit the old pattern with or without modification. This paper presents a relative analysis between the exploration of new possibilities and the exploitation of old convictions in organizational decision making in the public sector. It was found out that, by refining exploitation more rapidly than exploration; organizations are likely to become effective in the short run but self-destructive in the long run. At the end of the paper a model of 6 Cs of decision i.e. Construct, Compile, Collect, Compare, Consider, Commit was offered to help attain cost effective decisions in organizations.

Keywords Decision Making, Exploration, Exploitation, 6Cs Model

1. Introduction

Decision making is a central activity that avail humans, with extraordinary skills and cognitive capacity they constantly utilize, and which helps both to interact with the surrounding environment and to interpret situations. As new technologies are developed and introduced, decision making becomes increasingly complex, and new challenges arise (Nilsson,[1]). Universities in the whole of Nigeria exist mainly for teaching and research. Decisions are made at different levels in the university but regardless of the level however, in all fortes of activity, information and adequate record remain incontestable pre requisites. Atulomah,[2] buttressed, decisions are being made about the allocation of budgetary resources, the prioritization of programmes, the granting of social benefits, the commissioning of new projects, the closure of unproductive ventures, the information to release to the public or the level of classification that certain information requires. Let's briefly highlight on the concepts of exploration and exploitation.

Exploration of alternatives is one of the earliest decision making strategy, is perhaps the prescriptive approach which preaches that tremendous outcome emerge if all the alternatives are explored before a decision is made. This is the premise of classical decision model which specifies that once the need to make a decision is recognized, a complete list of alternatives should be drawn and explored along with their corresponding consequences to be able to make the best

choice. In other words it is assumed that administrators/managers have access to the needed information to making finest decision.

The concept of exploitation was brought to bear because of the belief that time, resources and strength are always very limited to be able to explore all the alternatives, visualize all the consequences of each alternative and appropriately decide. As a result of that, managers strategically focus and prioritize issues to be able to arrive at a decision using the available options.

1.1. Issue

As argued by Jones and George,[3] managers are often trapped amidst dilemma of choosing either to explore alternatives or to exploit options before they undertake decisions, as a result of that, they confuse between the two. While exploration of alternatives is found in calculated decisions about alternative and competitive strategies, exploitation of options is masked in many features of organizational practices for example, in organizational decision making procedures. An attempt to balance between exploration and exploitation becomes complicated because their outcomes vary in terms of value, timing and impact both within the organization and beyond.

Further aggravating the confusion of managers on what approach to use when they decide is the criticism and counter criticisms of one approach over another. For example, Murtagh[4] postulated that poor decisions are those decisions that were hastily done without proper diagnosing the options the consequences, and excellent decisions and Krajil[5] added are products of a comprehensive exploration of alternatives. From the other angle, Jones and George[3] disagreed in total with the assumptions of Murtagh[4] and

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Krajli[5] in contrast, they pointed out that in the real world no administrator/managers can claim to have full access to all the information required and enough time, energy and strength to explore all the possible alternatives they need to make a decision. The constraint of mental psychological ability to absorb all the alternatives and provide a proper evaluation of all according to Kahneman[6] is one limitation too many. Again, Managers in public organizations are confronted with uncertainty and ambiguity in their everyday lives. Not only because of the rapidly changing situations but also the ever increasing pressure from the public coupled with very limited resources and with no enough time. This has given rise to confusion and chaos in the way organizations approach the future. This situation can be remedied and carefully mended by the use of a 6Cs model offered at the end of this paper to help managers and administrators to achieving cost effective decisions irrespective of the approach.

2. Related Literature

Harris[7] pointed out that decision making entails an act of identifying and ably selecting among an array of alternatives based on the inclination. A leader becomes an effective leader only if he/she is capable of making effective decisions (Nura & Osman,[8]). It is all about conscious choice of an alternative course of action (Chhabra,[9]; Jones & George,[3]). Decision making depicts a process of adequately reducing uncertainty and doubt about alternatives to allow a reasonable choice to be made from within and among them. As Talley,[10] argue, decision making is not a well-defined field; it includes variety of processes that are all intermediate steps between thought and action which are the precursors to behavior.

Nura and Osman[8] argue that effective decision making are best explained as the process by which managers respond to the opportunities and threats that confronts them. In response to opportunities, managers search for ways to improve individual employee performance and overall organizational performance. Regarding response to threats, managers search for ways to tackle issues that are adversely affecting the employees or organization in general and try as much as possible to turn threats to opportunities strategically.

2.1. Exploitation and Exploration

In previous studies on organizational decision making, efforts were made by scholars to provide a comprehensive guide on what approach of decision making is suitable and why but, the arguments further widen the scope. For example, March,[11] stresses that while it remains clear that exploration of new alternatives reduces the speed with which skills at existing ones are improved, it is also very open that exploiting and improving the existing options procedures makes decisions less attractive.

Chhabra,[9] believe that human decision making

capabilities are circumscribed by various limitations in their ability to infer, to process and to take action as such, exploring all the alternatives becomes mere impossibility. Weddle[12] and Maichibi[13] also buttressed that information is always incomplete because the full range of decision alternatives cannot be fully known; Managers have very little information to be able to arrive at the finest decision.

Form another dimension, Rokach et al.[14] believes exploration of alternatives becomes more difficult because of risk and uncertainty, and the moment there is uncertainty one cannot guarantee outcome (Mankins & Steel[15]; Nunes & Bennett[16]; Tanck,[17]).

From the perspective of exploiting options, Bill and Melinda[18] and Mankins & Steel[15] attaching personal responsibility to a course of action bias the analysis of decision makers and give birth to escalating commitment. There are series of debates that managers at times tend to be stubborn to cling to a particular alternative option even if it has been proven to be un ethical, un economical and impractical (Chaffey,[19]; Jones & George,[3]). Finding an appropriate balance is made particularly difficult by the fact that the same issues occur at levels of a nested system-at the individual level, the organizational level, and the social system level. Effective and efficient choice among forms, routines, or practices is essential to survival, but so also is the generation of new alternative practices, particularly in a changing environment. Because of the links among environmental turbulence, organizational diversity, and competitive advantage, the evolutionary dominance of an organizational practice is sensitive to the relation between the rate of exploratory variation reflected by the practice and the rate of change in the environment. In this spirit, for example, as pointed out by Eken and Kale[20] the persistence of garbage-can decision processes in organizations is related to the diversity advantage they provide in a world of relatively unstable environments, when paired with the selective efficiency of conventional rationality.

In terms of results, compared to the outcomes of exploitation, those from exploration are systematically less certain, more remote in time and organizationally more distant from the locus of action and adaption. It appears always that what is good in the long run is not always good in the short run. However, as organizations learn from experiences how to split resources between exploitation and exploration, therefore, distribution of consequences across time and space sways the lessons learned. The certainty, speed, proximity, binds exploitation to its consequences more quickly and more precisely than is the case with exploration.

2.2. Patterns of Decision Making

According to Turner[21], pattern of decision making cuts across three dimensions:

i. consensus;

- ii. accommodation and
- iii. de facto.

These dimensions are briefly highlighted below:

Consensus: The consensus decision making is brought to fore when the initial differences between two parties are eliminated via round table conferences, discussions, negotiations and adequate brainstorming.

Accommodation: Accommodation pattern is reached when separate parties agreed unanimously for final decisions to be reached on issues even if one of the parties feels their opinion is not considered, they submit to what turned out to be the best.

De facto: De facto pattern indicates lack of submission to one unilateral agreement, hence the alternative that is assumed to be the best is implemented and the success is left to fate and situation to determine.

In a similar fashion, scholars like Maichibi[13] pointed out that the pattern of decision making lies between democracy and dominance. Democratically, decisions are more or less participatory where the subordinates freely offer their initiatives even though not all the time those initiatives are taken into consideration; the subordinates have some sense of belonging. From the point of view of dominance, managers autocratically dish out instructions and subordinates role here, is more or less relegated to mere implementation.

As a matter of fact, this paper would want to argue that pattern of decision making is more or less defined by the orientation of the managers in an organization, the composition of their subordinates, the gravity of the issue at hand and resources at the disposal of the organization.

2.3. Social Context in Decision Making

Decision-making encompasses a large group of influences that are related to making choices about education, training, jobs and careers and retirement. Contextually, these influences are particularly focused on issues such as family, peers, the labour market, and unplanned events, they have infrequently been the focus of sustained investigation in relation to organizational decision-making (Patton & McMahon,[22]). Researchers investigating decision making have classically reduced the complexity of the decision task in order to isolate certain important variables for study. However, most of the decisions we make in everyday life do not take place in the vacuum of the laboratory. We make decisions in the context of our environmental surroundings, taking into consideration a multitude of factors. One of these factors is the social context of the person making the decision. As the decision maker receives social information, either implicit such as reading facial expressions or explicit such as direct instruction from another person, they need to perform basic perceptual and cognitive processes to integrate this social information into the decision making process. Importantly, decision making in social context is not only the result of perceptual and cognitive operations but of emotional processes as well; it's well established that

emotions impact rational decision making.

3. Methodology

This research paper is based on a qualitative research approach. The flexibility and multi method focus nature of qualitative research made the researcher realize that the approach is perhaps the most suitable for this study. It was felt that the approach is capable of evincing information that would be relevant for this study as well as providing analysis which is strongly related to the cultural context of decision making in the public sector organizations. More so, the research has the capability of representing the researcher's understanding and interpretation and the social process under analysis. Looking at this research "*exploration and exploitation for effective decision making in the public sector: a relative analysis*" from the point of view of Mark et al.[23] is an action research because it attempts to directly change people's behavior and gather and analyze data i.e. action and evaluation in a simultaneous relationship; it is a participatory research because the people studied make decisions about the research i.e. they function during the research rather than passive members; is a prevalence research because it tends to determine how many people have a particular experience as the outcome of the research relies on the survey; it is an evaluative research because it aims to assess the effectiveness of a particular action in meeting the needs or solving the problems and, finally what Rokach et al.[14] call the demystification frame work, because the researcher believes that the act of obtaining knowledge creates the necessary potential for change, hence the choice of a qualitative approach.

The research use conveniently the managers/ administrators of public sector organizations (Higher educational institutions in Sokoto state) as the population of the study; this is because part of what reduces the disadvantages of qualitative research is using the population rather than sample. The research also undertakes an in depth interview which was an open ended type of questions that are unstructured in nature to be able to deeply explore the subject's point of view, their feelings, and perspectives towards rules (Easterby et al.,[24]).

4. Discussions

Learning, analysis, imitation, regeneration, and technological change are major components of any effort to improve organizational decision ability, performance and strengthen competitive advantage. Each of these involves adaptation and a delicate trade-off between exploration and exploitation. The present argument has been that these trade-offs are affected by their contexts of distributed costs and benefits and of course ecological interaction. The essence of exploitation of alternatives for example is the refinement and extension of existing competences, and

paradigms, the outcomes could be positive, proximate, and predictable. While the essence of exploration of new alternatives, is all about experimentation whose outcomes are uncertain distant, and could be negative. Thus, the distance in time and space required for decision making is generally greater in the case of exploration than in the case of exploitation. Such features of the context of adaptation lead to a tendency to substitute exploitation of known alternatives for the exploration of unknown ones, to increase the reliability of performance. Again, since organizational decision making informs a convergence between organizational and individual beliefs, the convergence is generally useful both for individuals and for an organization. However, a major threat to the effectiveness of such decision is the possibility that individual ego may intrude and supersede the organizational objective, that is to say, an emphasis on exploitation also compromises competitive position. The fact that, the main aim of the paper is to improve decision making process in selection of the type of strategy that is cost effective for organizational administration and management in the public sector in Nigeria, the 6C's model below is recommended for organizations.

5. 6Cs Decision Model

As outlined by Graham,[25] a decision becomes effective and efficient when it is wholistic and comprehensive. Again, the ability of decision maker to make a comparative analysis, careful selection and ability to take risk speaks volume in ensuring effectiveness of decisions. Thus, the 6Cs model comprise of:

- Construct* a clear picture of precisely what must be decided.
- Compile* a list of requirements that must be met.
- Collect* information on alternatives that meet the requirements.
- Compare* alternatives that meet the requirements.
- Consider* the —what might go wrong factor with each alternative.
- Commit* to a decision and follow through with it.

Let us have an insight of the 6Cs a little bit elaborately

Construct: This is infact the first step to be taken in decision making. It is an act of recognizing the need for a decision. Situations often become apparent due to changes within the organization due actions of managers and in the external organizational environment that give birth to alot of oppotunities and threats. Irrespective of wether managers are reactive or proactive in recognizing the need for making decision, their ability to construct appropriately what needs to be decided is very paramount.

Compile: having constructed the need to make decision, managers should be able to compile what needs to be done and prioritize the needs. In compiling the needs managers are

not supposed to confine themselves to only one perspective that reflects their mind set, it is expected that they widen the horizon to be able to have a comprehensively effective decision.

Collect: this stage explains the need to have the required information to be able to put the compiled needs on a scale and weigh them appropriately. To weigh the needs here refers to evaluate them based on legality; to be sure that the decision to be taken will not violate the law, based on ethics; to ensure that the decision will harm anybody or infringe the right of anyone, economically; to confirm if those decisions could be implemented using the available organizational resources and lastly, practicality; this is also very important because so many decisions may appear very good on paper but practically impossible.

Compare: based on the gathered information, managers should assess options on the basis of cost benefit analysis, i.e. those options that have less challenges and more advantages are compared, in doing this managers should make sure that the available information is brought to fore and try as much as possible not to ignore critical information because of bias.

Consider: this is informed by the result of the cost benefit analysis done; here the best option which is highly ranked among the chosen options will be considered. It is assumed that the selected option will provide the most excellent decision.

Commit: this stage in other words refers to implementing stage. Stages where managers commit organizational resources to undertake decisions based on the carefully and appropriately considered option and in fact take credit for being successful and full responsibility if they fail.

Diagrammatically the model is depicted below:

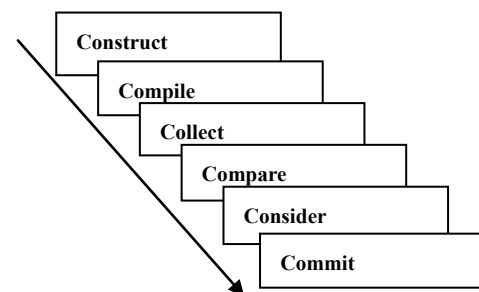


Figure 1. Adapted from Graham[25]

6. Conclusions

Conclusively, these observations do not capsize the new beginning neither are they preaching conservatism. More so, the model presented here suggest some of the considerations involved in thinking about choices between exploration and exploitation and in sustaining exploration in the face of adaptive processes that tend to inhibit it. But it may be useful to reconfirm some elements, as it is also important to add or delete some or even both.

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