The Mediating Roles of Organizational Commitment on the Relationship between innovation characteristics and the technology adoption in Nigerian SMEs: Setting a New Research Agenda

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ABSTRACT

This paper aims at examining the strategic position of organizational commitment as a mediating variable on the relationship between innovation characteristics and innovation adoption. It is obvious from the literature that organizational variables have significant roles to play in shaping the kind of, or the magnitude of relationship existing between innovation determinants and innovation adoption. Despite this development, very limited researches were undertaken in this direction, especially as it relates to Nigerian context. This conceptual paper specifically dwelled on Roger's Diffusion of Innovation (DOI) and Allen and Meyer’s organizational commitment theories to establish a point of departure. Two claims slated for verification in this research are (1) organizational commitment mediates the relationship between compatibility and innovation adoption. (2) Organizational commitment mediates the relationship between complexity and innovation adoption. It is expected that the paper would contribute to the exiting literature by way of depicting the mediating roles on a framework proposed herein.

Keywords: Innovation Adoption, SMEs, ICT, Organizational Commitment, Mediators

1.0 Introduction

Despite the obvious challenges faced by Small and Medium Enterprises (SMEs), the importance of (SMEs) to national economic development has been widely acknowledged. There is no gainsaying the fact that the environment in which SMEs in Nigeria operate is characterized by several challenges that have a negative bearing on the costs and productivity (Oyefuga et al, 2008), and hence, the competitiveness that is mostly fueled by series of ICT adoption. The Nigerian SMEs have come under a lot of competitive pressure unleashed especially by firms that are situated within more favorable economic contexts. Recognizing this situation, Nigerian government embarked on a number of funding schemes to change the unfavorable trend. However, funding offered severally by government are beneficial in their own way (Egbetokun, et al, 2009), but they are definitely not sufficient to stimulate or sustain the competitiveness of small businesses. A major way through which a firm acquires and improves competitiveness is by adopting technologies (Bala-Subrahmanya, 2005a; Egbetokun, 2009). It is imperative, therefore, for SMEs to have a good understanding of the types of technologies they should undertake, and the level of organizational committed towards implementation and adoption (Egbetokun, 2009).

There is a worldwide interest in reinvigorating entrepreneurship and fostering the growth of small and medium enterprise businesses through several mechanisms; chief among which is the innovation of business products and operations (Oyefuga et al, 2008). Extant literature has explored the subject of innovation in SMEs but existing gaps requires some studies that would expound the earlier understanding and extend the frontier of knowledge with a view to bridging these gaps. In particular, studies that focus on the mediating roles of organizational commitment on the relationship between innovation characteristics and adoption are really scanty in Nigeria. SMEs managers mostly
utilize research outcomes emanating from studies conducted in the developed countries context (Oke et al, 2004). The Main findings of this research revolve around the facts that significant relationship exists between innovation characteristics and innovation adoption. This relationship is being mediated by organizational commitment as one of the organizational variables that determine adoption of innovation in SMEs. The more people within a company are equipped with relevant knowledge of innovation or committed to learn; the more the possibility for the adoption (Hong & Giang, 2004). However, there is need for an empirical research that provides empirical evidence to substantiate this proposition in the context of Nigerian SMEs

2.0 Literature Review
2.1 Conceptualization of innovation

The frequent use of the concept “Innovation” has made virtually everyone have an intuitive idea of what it is, but would always have a hard time formalizing a definition. Innovation as one of the most studied subject matters of the contemporary researchers is flooded with diverse ideologies regarding what the concept is obviously all about. According to Dennis (2012), innovation is an inexplicable talent, an outlook of some people’s creativity, a process that can be controlled by confident and committed managers, or a flash of brilliance. In technology, an improvement to product or process already existing is considered innovation. Distinguishing an element of novelty in an invention remains a concern of patent law; innovation is always associated with novelty.

Another school of thought was meticulous about the fact that “innovation” rooted from a word (novation) as a term used to depict renewing obligation by changing a contract for a new debtor Godin (2008). The basic premise of all these debates was centred on innovation as a change. The term was not often used in arts and sciences before the twentieth century. In fact, as with imitation and invention, innovation was derogatory in the past, until the perception of people was changed through a number of avenues, a “novator” was still a questionable person, somebody that was hardly trusted (Godin, 2009b), probably due to his ability to combine order people’s ideas and come up with his own. Despite the agitation on novelty, as early as 1960s, Levitt (1966: 65) from Harvard Business School opined that no single company can afford even to attempt to be first in everything in its industry; emphasizing that a company is, as a matter of necessity compelled to imitate others as part of its growth strategies.

In summary, the definition of this concept should be seen to encapsulate all the basic key words discussed above while limiting excessive use of terms. In an attempt to do that, innovation could be defined as a process that aims to realize a possible future by getting ideas (i.e. possibilities for the future) adopted in a manner that increases success and reduces fruitless efforts.

2.2 Diffusion of Innovation (DOI) Theories

DOI theory sees innovations as being communicated through certain channels over time and within a particular social system. Individuals are seen to exhibit different degrees of readiness to adopt innovations and thus, it is generally observed that the portion of the population adopting an innovation is approximately normally distributed over time (Rogers, 2003). Rogers (1995) in his landmark study, suggested the classic theory of Diffusion Of Innovation (DOI) in which he attributes organizational usage of an innovation to its characteristics. The following major characteristics are proposed by Rogers (1995):

1. Relative advantage, the degree to which an innovation can bring benefits to an organization;
2. Compatibility, the degree to which an innovation is consistent with existing business processes, practices and value systems;
3. Complexity, the degree to which an innovation is difficult to use;
4. Observability, the degree to which the results of an innovation are visible to others; and
5. Trialability, the degree to which an innovation may be experimented with.

The literature proves that the DOI theory has a solid theoretical foundation and consistent empirical support (Zhu et al., 2006a, b). Both researchers and practitioners are unanimous that the theory is among the groundbreaking theories of our contemporary time. Prior empirical studies have suggested some significant correlation between the characteristics and technology adoption and a number of models have emanated to support the work, either, by extending it or just using different models to denote relationships.

2.3 Organizational commitment Theories

For more than two decades, the leading approach to studying organizational commitment has been the three-dimensional-affective, normative, continuance-scales (Meyer and Allen, 2004). This approach was rooted in earlier approaches to organizational commitment. Meyer and Allen's (1984) approach started with a paper which argued that the side-bet approach was inappropriately operationalized. The better way to measure side-bets is to use measures that more directly assess individuals' perceptions regarding the number and magnitude of the side-bets they have made. In order to test this contention, they compared the interrelationships among several common scales of commitment and two scales they had developed, one representing Affective commitment and the other, Continuance commitment. The affective commitment scale was advanced as a significant improvement over the OCQ.

3.0 The Mediating Effect of Organizational Commitment in the Proposed Model

A mediator affects the direction and/or strength of the relationship between an independent and a dependent variable (Baron and Kenny, 1986). We hypothesize the mediating roles of organizational commitment on the relationship between innovation characteristics (compatibility and complexity) and innovation adoption. To be able to figure out the nature of relationship existing among the dependent and independent variables, we lent credence to the mediation typology proposed by Sharma, Durand and Gur-Arie (1981, 292); (1) whether or not the mediator variable is related to the dependent variable and (2) whether or not the mediator variable interacts with the predictor variable. Consequent upon these relationships, three types of mediators emerge from this typology:

I. “Pure mediator,” where the mediator is not related to the dependent variable and interacts with the independent variable;

II. “Homogenizer,” where the moderator is not related to the dependent variable and does not interact with the independent variable; and

III. “Quasi mediator,” where the mediator is related to the dependent variable and interacts with the predictor variable.

Based on this typology, the hypothesized moderating relationships involving the four innovation characteristics, (as independent variable) and innovation adoption (as dependent variable) are of the quasi-mediator type.

Understanding organizational commitment and its relationship with other variables entails defining it as the employee's psychological attachment to the organization in a general sense, it reflects one's load and expectation contingent upon organizational priorities and goals (Holliman, 2009; Johnson et al., 2010). Prior studies have indicated that organizational commitment is a positive antecedent of varieties of organizational behavior and process: the higher the organizational commitment is, the better the job performance and the lower the turnover rate are (Meyer, et al., 2002). In today's innovative society, modern organizations emphasize in particular, the influence of innovation on the long-term development of organizations. The positive influence of organizational commitment on employee-level creativity was also found by Cekmecelioglu and Gunduz (2006).
3.1 Mediating Effect of Commitment on “complexity”

According to Weiner (1982), instrumental beliefs concerning organization-related behaviors lead to organizational commitment and instrumental motivation, respectively; instrumental motivation and commitment in turn leads to organizational-related intentions and behaviors. Employees with “task-involved” goals are preoccupied with the questions like, how can I do this task? And what will I learn? Such employees are more likely to choose challenging tasks. As Lock & Lathan (1990) observed, mastery of goals are supported with the strongest empirical evidence and have been linked to self-competence, self-concept, effort attributions, increased persistence at difficult tasks, and use of cognitive strategies related to monitoring, problem-solving, deep processing of information, and self-regulation. With high commitment as motivating factor, this category of workers may easily facilitate the adoption of a complex innovation (Lai, 2011).

We can easily make a deduction here that a loyal employee will always synchronize his intentions and behaviors with the intentions and behaviors of his employer. This may motivate him to strive hard to ensure the adoption of innovation no matter the complexity of the task (Karjaluoto, 2002). In addition, it was found that organizational commitment mediates the relationship between job satisfaction and performance; however, the presence of this mediating effect was contingent upon the type of leadership and organizational culture (Yin and Ahmad, 2008). This is an indication that, giving an appropriate leadership, organizational commitment may improve employees’ job satisfaction and preformance which have direct bearing on their receptiveness to any complex change. It could be easily inferred that organizational commitment can mediate the relationship between innovation characteristics and innovation adoption by way of improving job satisfaction and performance which can make a complex innovation seem simple.

Perceived organizational Innovation and spontaneous problem solving may additionally be associated with perceived support and perceived support correlates with organizational commitment. The employee's strong involvement in the organization has been noted to include performance that goes beyond the call of duty (Mowday et al., 1982, p. 15), including actions for which "the individual receives no immediate reward and which benefit the larger organization" (O'Reilly & Chatman, 1986, p. 495). Extra role activities carried out on behalf of the organization play a major influence in organizations' success and have been studied as a type of citizenship behavior (Organ, 1988) that supports complex changes (Zannd and Rouet, 2003).

According to the Swiss Management Centrer (SMC), organizational commitment is highly Important. Studies have shown that commitment has a great impact on the successful performance of an organisation. This is because a highly committed employee identifies with the goals and values of the organization, has a stronger desire to belong to the organization and is willing to display greater organizational citizenship behaviour i.e, a willingness to go over and beyond their required job duties. If human resources are said to be an organization's greatest assets, then committed human resources should be regarded as an organisation's competitive advantage (SMC, 2009).

At the same time, employees with strong psychological attachment to organizations could show better creative performance due to their congruence to the organization's goal. In Swails' (2000) study, the relationship between organizational commitment and employee creativity was explored through both qualitative and quantitative methods. During interviews with some supervisors in technology-based organizations, the interviewees all submitted that a committed person in their organizations is someone who obliges to innovate, create, and satisfy customer needs and is looking for ways of improving the business operations; these belong to the most important aspects of meeting an organization's goal, especially in knowledge-intensive companies where innovation is characterised with high sense of complexity.

According to Lock and Latham (1990), goals are the most important factors affecting the motivation and behavior of employees. Goal-setting theory stresses the importance of specific and challenging goals in executing motivated behavior. Specific goals often involve quantitative targets for improvement in a behavior of interest. Research shows that specific performance goals are much more effective than those in which a person is expected to do his best. This study supports the claim that goals that are both specific and challenging are more motivational than unclear goals or goals that are
relatively easy to achieve depending on the commitment of the employees in question. In essence, this shows an all round higher employee performance effectiveness. To this end, we can say, though reluctantly, that the claim bellow holds water.

**H1: Organizational commitment moderates the relationship between “complexity” and innovation adoption.**

### 3.2 Mediating Effect of Organizational Commitment on “compatibility”

A particular segment of employees remains with an organization not out of loyalty or innate beliefs but because it has no job alternatives or has so much invested in the organization that leaving is highly disadvantageous to them. According to Meyer and Allen (1991), the investments include tenure, retirement, status, and certain benefits. The form of organizational commitment this group exhibit was presented originally by Becker (1960), and as mentioned earlier, is referred to as continuance commitment. Considering the fact that this group stays due to absence of alternatives outside, we are afraid members of the group may not make any significant effort to integrate new technology that is not absolutely compatible with the existing norms in the organization. Integrating this new technology might require extra effort, creativity and true commitment that is lacking in this set of employees because they are tied to the organization by circumstance.

Among those factors that affect an individual's creativity, thinking and cognitive styles of an individual have been emphasized by researchers in many fields (Haller and Courvoisier, 2010; Peng, 2010). Thinking and cognitive styles reflect the characteristics of the way people think and process information, which obviously is closely related to creative thinking. Unfortunately, there are few studies dedicated to analyzing the relationship between holistic thinking style and individual creativity, compared with the amount of research on how specific cognitive processes, such as problem-solving and decision-making, affect creativity (Reiter-Palmon et al., 2009). As a matter of fact, thinking style, a mode of meta-cognition, reflects the cognitive framework in which information is processed and the world is perceived. Therefore, creativity depends not only on thinking style itself, but also on the individual's attitude towards the organizational environment (e.g. organizational commitment), which is largely determined by thinking style.

According to Sternberg and Wagner's interpretations (1992), individuals with these thinking styles always process information and solve problems from the vantage point of the overall picture beyond existing rules and procedures. The relationship between organizational commitment and creativity is an indication that if commitment is high, creativity may also be high, hence, using their creativity, employees can make innovations more compatible with the existing norms (Hou et al., 2011).

Therefore, affective and normative commitment of employees may have positive effects on the organisation, though the magnitudes of the effects in some of the findings are low. However, it has been observed that in times of organisational change, employees with affective commitment may be a barrier to change. This is because they are committed to a single set of values and goals and won’t find it easy to cope with prevalent uncertainties and as a result may resist this change. Nevertheless, in general terms, commitment have been perceived to result in lower labour turnover, extra role behaviour, better product quality and ultimately, employee flexibility (SMC, 2009) which assists in making the “new” and the “old” systems compatible in order to advance organizational goals.

Some individuals commit to and remain with an organization because of feelings of obligation. These feelings may be derived from many sources. For example, the organization may have invested resources in training an employee, who then feels morally obligated to put forth effort on the job and stay with the organization to 'repay the debt.' It may also reflect an internalized norm, developed before the person joins the organization through family or other socialization processes, that one should be loyal to one's organization. The employee stays with the organization because he/she "ought to". (Sharma and Bajpai, 2010). This can facilitate willful integration between different components of the organization system because commitment is induced by positive attitude.

Several studies suggest that technology implementation is more likely to be successful when the technology, organization, and personnel have been designed to complement and integrate with
each other and that such integrative planning is rarely done successfully (King & Anderson, 1995). Employees’ resistance to change factor can lead to work failure, poor employee morale, high maintenance cost, and even sabotages (Davids & Martin, 1992). When new technologies are implemented “total productivity” at first drops because of natural response of employees’ resistance to accept new technology. With motivation from the management and commitment from the employees the challenges are overcomed. However, A number of factors may moderate the relationship between specific and challenging goals and high levels of motivation. The first of these factors is goal commitment, which simply means that the more dedicated the individual is to achieving the goal, the more they will be motivated to exert effort toward goal accomplishment. Some research suggests that having employees participate in goal setting will increase their level of goal commitment (Edwin and Latham, 1968).

Reinforcement theory posits that motivated behavior occurs as a result of reinforcers, which are outcomes resulting from the behavior that makes it more likely the behavior will occur again (Stephen and Coulter, 2004). This theory suggests that it is not necessary to study needs or cognitive processes to understand motivation, but that it is only necessary to examine the consequences of behavior. Behavior that is reinforced is likely to continue, but behavior that is not rewarded or behavior that is punished is not likely to be repeated.

Reinforcement theory suggests to managers that they can improve employees' performance by a process of behavior modification in which they reinforce acceptable behaviors and punish unacceptable behaviors. This is synonymous to making both employers and employees committed to their responsibilities. As committed employees become conversant with new technology, their acceptance rate improves and their attitudes towards new technology become more positive. As a matter of fact, their proficiency and skill rate also return to normal levels since the issue of perceived incompatibility is being eroded by the strong organizational commitment. This drives the employees to align the seemingly incompatible technology with the old norm and enhances the rate of adoption of the compatible innovation. Inview of these extrapolations, and based on the available facts, the following hypothesis could be accepted.

\[ H2: \text{Organizational commitment moderates the relationship between “compatibility” and innovation adoption.} \]

We have so far established a number of relationships between innovation characteristics and innovation adoption and at the same time supported the mediating roles of OC on these relationships based on literature. In view of that, an inference could be made that the proposed model presented below could be used by SMEs in Nigeria to enhance decision making in relation to innovation adoption.

![Figure 3.2] Research Model
4.0 Conclusion and Recommendations

The discussion in this conceptual paper was basically predicated on two main theories (diffusion of innovation and organizational commitment theories) and models that strongly suggest a significant correlation between technology characteristics and technology adoption. An attempt has been made to depict this relationship in the model above. Extant literature in innovation adoption is replete with the discussions of demographic and repeatedly few external factors, as predictors of adoption in the SME sub-sector. It is therefore, recommended that a shift in thinking towards the mediating effects of organizational commitment on this relationship is important. This is imperative especially in developing countries like Nigeria; where adoption of technology is influence by somany organizational variables. It is anticipated that SMEs would appreciate the significance of using the model proposed in this study to enhance performance.

REFERENCES


