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Research Framework on KMS Use: An Approach Anchored on the Interplays between Engineered and Emergent Organizational Factors

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Abstract— The rapid changes in business operations and the frequency at which new products and services are introduced to market by competing organizations continue to emphasize the importance of effective management of knowledge that resides in every organization. Knowledge Management Systems (KMS) which are tools enabling the management of organizational knowledge is gaining importance because of the speed at which knowledge needs to be leveraged to aid organizations in sustaining competitiveness in the mist of stiff competition. Despite this importance and the acknowledgement of social processes as enablers of Knowledge Management (KM) processes, little attention has been given to how organizational factors interplay to promote the development of knowledge efficacy and effectiveness of KMS utilization in organization. This paper is an attempt to provide conceptual understanding on how motivating job design (engineered factor), as well as collaborative and innovative norms (emergent factors) interplay to promote knowledge efficacy and effectiveness in organizational use of KMS. Based on the proposed conceptualized framework, several propositions are postulated for future empirical study.

Keywords- Job Design, Collaborative norm, Innovative norm, Knowledge Efficacy, Knowledge Management Systems

I. INTRODUCTION

According to [1], organizational investment in information systems continues to rise over the years when compared to other investments. Among the factors responsible for this is the need to continuously create value added products and services. Organizational knowledge is of vital importance in value creation and KM tools otherwise known as knowledge management systems (KMS) is a branch of Information Systems (IS) that enables organizations to be able to manage their knowledge effectively irrespective of time and location differences. Despite the acknowledgement that IS in organizations cannot be successfully utilized without a blend of social and technical perspectives, studies on the latter had gained more prominence in literature when compared to the former. Although, some studies had

attempted to bridge the socio-technical gap; for example [2], more studies exploring how the social variables that can be engineered and those that are emergent [3] interplay in their contribution to KMS usage effectiveness are still needed. Therefore, in this paper, the intention of the research is to explore how job design as an engineered factor contributes to emergent factors such as collaborative and innovative norms as well as knowledge workers efficacy and how these emergent factors influence KMS use.

II. LITERATURE REVIEW: RESEARCH BACKGROUND

A major challenge to most business environments in their attempts to engage Knowledge Management Systems (KMS) for KM practices is effective utilization [4; 5]. KMS may provide the platform enabling organizations to eliminate barriers to knowledge exchange and nurture cross-pollination of ideas only when utilized under the right conditions. KMS has been described as a class of IS developed to facilitate and enhance the process of knowledge creation, storage/retrieval, transfer/sharing and application [6]. Despite the importance of the roles played by KMS, the success of engaging the systems still pose problems to organizations [7], as knowledge is seen as personal asset and a means of asserting authority. Information Systems Success Model [8; 9] has been the most popular lens through which researchers have studied KMS. For example, studies like [10; 11; 12; 13] Studies such as [2] which focus mainly on social factors influence on KMS did find that social factors are equally important. Thus a good approach would be a socio-technical approach, but to provide a solid ground on how the identified social factors interplay, this paper is proposing a framework of how factors that can be engineered (designed) and those made to emerge out of socio dynamics in organizations interplay to influence KMS use. Therefore, this study builds on earlier studies such as [14]; [15] which emphasis on motivating job design that entrenches work relationships among employees; as well as the work of [16] which emphasis on cultural values that build the norms of collaboration and innovation. As discussed in literature, job design when properly engineered portends the capability to

lay the organic foundation for the emergence of norms or practices that can enable the effective use of KMS. Figure 1 below depicts the relationships among the constructs of interest in this study. Motivating job designed has to be engineered (deliberately designed) to nurture collaboration and innovativeness as emergent factors that ultimately lead to the development of knowledge efficacy and effective KMS use.

III. CONCEPTUAL FRAMEWORK

A. Motivating Job Design

Motivating job design describes the mode of designing organizational work activities in ways that promotes the development of work relationships, autonomy, and the freedom to put individual and collective competence into practice [14]. Job design is important in facilitating the establishment cross-functional linkages [17] among work units, increasing the frequency of interactions and information flow. [18] asserts that with the existence of high interrelationship among jobs, knowledge sharing is expected to be improved. By facilitating strong and cohesive relationships in organization, job design is an important instrument in the development of structural and cognitive capital in organizations. Based on the aforementioned, the following hypotheses are proposed:

H1*: Motivating job design will positively influence the development of collaborative norm in organizations.*

H2*: Motivating job design will positively influence the development of innovative norm in organizations*

B. Maintaining the Integrity of the Specifications

Collaboration according to [19] may be defined as the extent to which a group or groups in a work environment actively work together or assist one another on their job. The importance of collaborative culture in the exchange of knowledge across organization has been widely mentioned [20; 21]. It has been observed and tested to be a prelude to organizations attempt towards building human and social capitals. Collaboration as a cultural value or norm is essential for knowledge sharing or cross fertilization of ideas and therefore serves as a prelude for the practices of innovation in organizations. When collaboration is seen as a norm, the knowledge confidence of individuals engaging in collaborative activities is expected to improve, and the utilization of technologies (KMS) is expected to improve because of the need to overcome time and location barriers. Thus, the following hypotheses are postulated:

H3: *Existence of collaborative norm will positively influence the development of innovative norms in organizations*

H4: *Existence of collaborative norm will positively influence the development of knowledge efficacy among knowledge workers in organizations*

H5: *Existence of collaborative norm will positively influence the degree or extent of KMS utilization*

C. Innovative Norm

Innovative norm depicts the practice in organizations that foster the belief or perception among employees that "change and creativity are actively encouraged and rewarded, emphasising learning, open information flows and reasoned risk-taking" [22]. According to [22], building positive knowledge sharing behaviour among individuals is considered the most difficult task in KM. The norm of innovativeness has been found to be among the socio-psychological motivational driver that has the potential to influence behavioural disposition towards knowledge sharing [22]. Innovative norm's existence in organizations can contribute to the desire to attain competence or knowledge efficacy among individuals. It is a value whose existence allows individuals to explore and use personal judgement (autonomy) [23] to address organizational issues. In a study in Spain, [21] confirmed in several organizations that adhocracy culture which emphasizes on innovativeness and creativity has positive influence on the utilization of technology for knowledge management. Based on these discussions, the following hypotheses are formulated:

H6: *The existence of innovative norm in organizations will be positively related with the development knowledge self-worth among knowledge workers in an organization*

H7: *The existence of innovative norm in organizations will be positively related with the degree or extent of KMS utilization.*

D. Knowledge Self-Efficacy

Self–efficacy has become one of the common construct that has been found to be of significant impact on system or technology utilization. This construct represents an individual's belief of personal capability to perform a task [24]. Self-efficacy has also been mentioned as one of individual attributes that may motivate employees to share knowledge with others [25]. In a study that investigated knowledge sharing and firm innovative capability, [24] found knowledge self-efficacy as one of the individual factors that is strongly associated with employee volition to

share knowledge. In another study focusing on understanding KMS usage antecedents by [26], KMS self-efficacy was found influencing significantly KMS usage as well as performance-related outcome and personal outcome expectations of KMS. Knowledge self-efficacy can promote employee's motivation to share knowledge and engage in innovative practices with colleagues [24; 25]. Thus, the following hypothesis is proposed:

H8: *The degree of employees' knowledge self-efficacy will be significantly related the extent of KMS use for knowledge processes.*
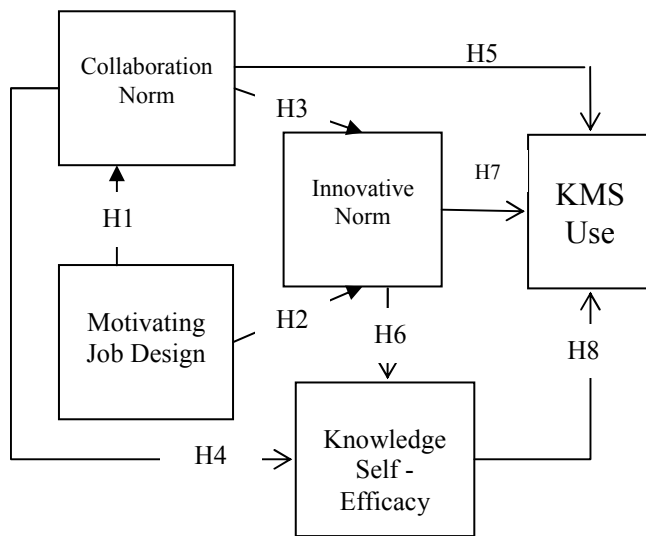

Figure 1. Proposed Research Framework

IV. METHODOLOGY

A quantitative research approach involving data collection from surveyed respondents will be used to test the proposed model. The items of the variables involved in the proposed model have earlier been tested to be reliable, thus the same items will be adopted. In testing the model empirically, participants will be limited to those with experience using KMS in medium or large knowledge intensive organizations.

V. CONCLUSION

The conceptual framework presented in this paper provides the opportunity for further exploration on the development of knowledge efficacy among knowledge workers as well as the effectiveness of KMS use in organizations through

variety of research designs and settings. Studies emphasizing on the interplays of designed and evolving factors are rare; this paper extends the scope and how social (non-technical) factors influence knowledge development and effectiveness in the use KM tools by establishing motivating job design as an approach that can be engineered to facilitate the emergent of collaborative and innovative norms that nurture knowledge processes. Based its propositions, the paper presents a unique framework and approach aimed at extending academic research on how organizational knowledge and knowledge process tools can be better positioned to meet the challenges of competitiveness and its sustainability. The proposed model should be of interest to both the academic community and KMS practitioners. For the practitioners, it hoped that the model will enhance their understanding of the factors contributing to knowledge development and effectiveness in the use of KMS. As for the academic community, the proposed framework provides research opportunities to validate or refute the research propositions. Findings of such research could be incorporated into KM curriculum and could help in guiding KM tools implementations.

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