

Impact of Organizational Culture on Knowledge Management Process in Construction

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Abstract

One of the key global pressures of knowledge management practice is knowledge acquisition, creation, sharing, storing and dissemination. The global business is reflecting a throng of culture, leadership and cultural upbringings which warrant bringing into line consistent alterations in management of knowledge because of diversity of workforce in construction organization. Theoretically, the study predicts the empirical role of culture (managerial learning and trust) with reference to knowledge management process. This paper presents a knowledge management (KM) model that comprises a set of KM hypothesis model and measurement models for understanding and applying these KM models to boost the application of KM in the construction organization. 76 private construction organization was investigated with 323 questionnaire surveys. A hypothesized model of KM process and culture was tested using structural equation modelling approach and a proposed model was therefore developed. Likewise, all fit indices for KM process and factor loadings shows the significant impact of culture on KM process, leading to a thrifty model achievement. The study shows that culture demonstrated 0.73 significant influence on the knowledge management process. The analysis revealed that managerial learning and trust were key factors that impact positively on KM process within the construction organization under investigation.

Keywords: knowledge management process, culture, learning and trust

1. Introduction

Knowledge has become a crucial innovativeness influences of production and an imperative means of modest benefit. Knowledge can be defined as truths, experience, skill and empathetic that one has added, specifically through learning. Al-Gahtani and Ghani (2010) argue that knowledge is a runny combination of organized experience, morals, information and professional insight that provide a framework for integrating latest experience and ideas. Thus, effective knowledge management and incorporation can improve business competitiveness. The importance of the knowledge management process has been linked to various researchers as basic resources for the organizational economic growth. Knowledge management process is regarded as creating, acquiring, transferring, editing and reuse. Alhaji et al. (2013) argued that knowledge management process is a conventional techniques, infrastructure, technical as well as management apparatuses, design headed for creating, transferring, understanding ideas in addition to skill around the construction organizations. Knowledge management process in the construction organization is a logical and integrative method of unifying organizational diverse actions of procuring, generating, sharing, stowing and disseminating individual skill and group of experiences managers to achieve organizational goals (Alekseev, 2010; Sajeve & Jucevicius, 2010). De Angelis (2012) agrees that KM system in construction is seen as a means of establishing and influencing conjoin distinct knowledge resources, peculiar skills, ideas learned and best practices. Forcada et al. (2013) on the other hand, argue that the knowledge associated with passed project's accomplishment and failure, conveniences, clients and products are assets that can yield a long-term and justifiable competitive advantage for construction organization. Companies can improve organizational wisdom through knowledge, procurement, forming, packing and mingle together by transferring knowledge workers and organizational knowledge (Griffith, 2012; Hislop, 2013) which will be enhanced in addition to more improvement and tactical inventions (Huber, 2001). KM process is an operative way to improving reasonable improvement, which comprehend the organizational

performance of project skill and duties at a more affordable time, cost together with the client's satisfaction other than the contestants. Knowledge management is looking as a multi-dimensional constructs with different indicators (Hutchings & Michailova, 2004; Lang, 2001). Thus, the study identifies the latent constructs as acquisition, creating, sharing, storing and reuse with culture as one of the environmental factors of knowledge management.

1.1 Research Background

Globally, one of the pressures in knowledge management process is knowledge documentation, creation, sharing, modernization and inventing of talent (Graham et al., 2007). The economic competition has swapped from current years due to incentive of globalization, the explosion of knowhow skill, obtainability of evidence in addition to organizational change (Dalkir, 2013). Generally, the organizational economy is christened as a knowledge economy, where organizations acquires, create, modernizes and engrossed on investigation and other systems of the knowledge management process for effectiveness and efficiency (Hartnell et al., 2011). Nonaka (1994) the other hand argues that, in the source of economy where the only certainty is not guaranteed, the lasting complete advantages are adoption of knowledge management process. Knowledge management is a strategy, appraisal and application of both communal and technology progressions to enhance the solicitation of skill, in the combined curiosity of the palisade holders (Islam et al., 2011). Kaur (2014) argues that management of knowledge is information –management, linking groups to groups and group to ideas which then generate complete benefit. Knowledge management is a social assets management workout than an expertise based profession, how individuals can be encouraged, finest utilized their natural talent, ideas and enhances imagination by using the technological state of mind. Various academician has focused on specific processes and activities within knowledge management. Graham, et al. (2007) discusses four critical stages of management as conception and attainment, knowledge transmission, knowledge clarification and application to oblige organizational goal. On the other hand, Forcada, et al. (2013) has drew knowledge formation, knowledge attainment, knowledge distribution and openness to knowledge as the main component of managing knowledge practices. Gold et al. (2001) prove that effectiveness of knowledge management process is as a consequence of knowledge substructures, i.e. know-how structure, beliefs and information process architectures. Knowledge formation be influenced by separate accomplishment and events over which implied, and obvious knowledge is jointed and pooled for modification of happenings and growth of knowledge.

1.2 Culture

Organizational culture is the collection differences in cultural background of each country necessitate alignment corresponding difference in the type of management practices. Workforce multiplicity in generalized professional imitates a crowd of cultural and racial context (De Angelis, 2012). Accomplishment or disappointment in management of knowledge within organization hinges on culture, an unindustrialized importance of active knowledge management (Yusof & Bakar, 2012). Organizational cultures are referred to as a set of mutual morals that assist organization members comprehend organization operative and managing organization change and review (Imran, 2014). Knowledge management process is entrenched in a societal setting which deeply impact these method by culture (Alekseev, 2010). Various researchers in addition to scholars have confidence in organizational culture and if reinforced and adopted can facilitate the fruitful application of knowledge management technology in addition to processes (Berryman, 2005; Chinowsky & Carrillo, 2007). The study focus on culture with learning and trust as a cultural factor predicting knowledge management.

1.3 Trust

One of the furthestmost unambiguously identified worth for knowledge management is trust. In an environment of trust and safety to embolden modernization, investigation in addition to risk enchanting, so as to invents novel information and use prevailing skills and experiences (Fullan, 2014). Trust is also an expectation that arises within a community of regular, honest and obliging conduct, based on normally shared norms with the other members of the environment or group of society (Griffith, 2012). Wang et al. (2011) argue that trust is considered among people with professional relationship rather than personal relationships. Thus, trust is well-thought-out as an imperative prognosticator of knowledge management.

1.4 Managerial Learning

Learning in the construction domain is the refinement of culture that support and encourage an acquaintance management process and for learning to exist there is a support of technical advancement (Lin et al., 2006). Learning is a degree of prospect, assortment, gratification and inspiration for development in the organization (Leidner & Kayworth, 2006). Organizational learning is indistinguishable volume to transfigure and

communicate the aptitude to smear knowledge in the construction organization, a learning procedure concerning the use of theoretical information to enhance the operational knowledge request competence (Malhotra, 2000). Learning culture opens up prescribed and casual channel of communication within the organization and serves as a conjecture of information management (Dong et al., 2010). Reliable learning culture of an organization is linked toward acquisition, formation, sharing, storing and dissemination (Egbu, 2004).

2. Method of Data Collection

The method of data collection used in the study was achieved with the means of personal contact survey questionnaire. A stratified random sampling procedure was engaged to obtain the required sample size of the population of project managers (PM) under private organizations in the construction industry. 76 construction organization was considered with a total of 500 questionnaires administered to different project managers to inquire how culture impact knowledge management process in their respective organization. 323 questionnaires were returned representing 63.4%, which is above the recommended by (Krejcie and Morgan, 1970) for data collection concerning the organization. From a descriptive data of the respondents PM, 21.5% are professional members of Nigerian Institute of Architectures (NIA), 30.5% are professional members council of registered engineers (COREC), 22% were professional members of Quantity surveyors (NIQS), 12.6%, 10.5% and 2.8% are in a National institution of estate surveyors and Valuers (NIEVS), National institute of building (NIOB) and other professional bodies respectively.

2.1 Hypothesis Development

There is no precise definition of knowledge (Bosch-Sijtsema & Henriksson, 2014). Knowledge is embedded in the cognitive view and reasoning which becomes an essential resource, gaining much attention in research based on unidentified dimensions (Dalkir, 2013; De Angelis, 2012). It has been suggested that knowledge can either be tacit or explicit (Malhotra, 2000). Organizations do not function in a society emptiness, but on the other hand, are influencing through social, cultural framework Maier and Hädrich (2011) thus, the organizational culture is also being painstaking as a form of organizational capital. Organizational culture consists trust, managerial learning that individual within the organization are predictable to distribute and follow. Culture in the organization as a perception is deliberate to be a crucial component in managing administrative modification and reintroduce the category of adhesive which predicament the societal arrangement of the construction organization unruffled. The culture reflects individual willingness to perform an action or behavior (software of the mind). However, for productivity to be achieved in construction, business organization has to amend their culture in order subsist or will be unproductive (Rašula et al., 2012). The author also argues that managerial learning and trust are constructs that impact good effective knowledge management process in the construction organization.

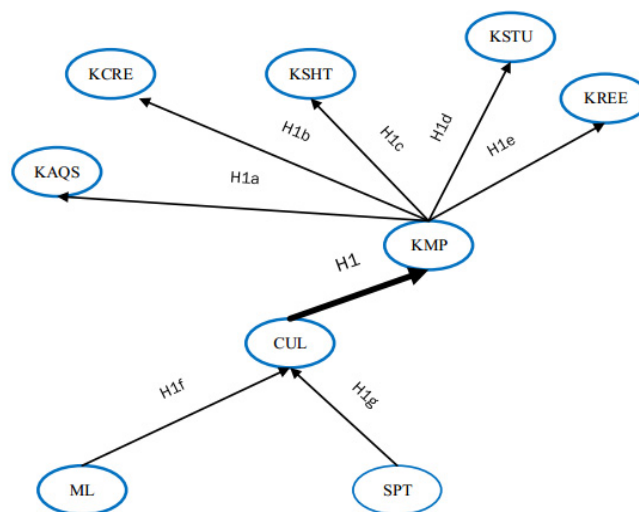


Figure 1. Proposed confirmatory analysis model of culture in knowledge management process
 Note. KAQS= Knowledge Acquisition, KCRE= Creation, KSHT= Sharing, KSTU= Storing, KREE= Reuse, ML= Managerial learning, SPT= trust, CUL= Culture.

H1; Culture exhibits significant impact on the knowledge management process.

H1a. KMP can positively impact KAC

H1b. KMP can positively impact KC

H1c. KMP can positively impact KSHT

H1d. KMP can positively impact KSTU

H1e. KMP can positively impact KRE

H1f. ML can positively impact CUL

H1g. SPT can positively impact CUL

3. Analysis and Result

Measuring model, construct were analyzed via confirmatory factor analysis (CFA) as proposed by (Jöreskog & Sörbom, 1993). The entire factor loading exceeded the recommended benchmark of 0.5 value at $p=0.001$. The measures of average variance and reliability were presented in Table 1. The observed normalized χ^2 for the measuring model was 2.771 (CMIN = 2.771, $df= 181$). This result signifies a very good value as recommended by (Byrne, 2013b). The goodness of fit recorded (GFI) recorded 0.869 and (AGFI) adjusted goodness of fit index value is 0.833 which align with the marginal recommended value of ≥ 0.8 (Guo et al., 2009; Hair et al., 2012). Thus, the (CFI) comparative fit index recorded 0.923 that was in line with recommendation of ≥ 0.9 value by (Ullman & Bentler, 2003; Zainudin, 2014). The (RMSEA) root of mean square error of approximation was 0.079 that indicate a reliable value (Byrne, 2013a). These authors postulate that root mean square error of approximately (RMSEA) of ≤ 0.08 indicates strong fit. (Figure 2).

Table 1. Measurement variance analysis and reliability

Variable/ Indicators	Estimate	T-value	Cronbach' Alphas	Average Variance Extracted
Acquisition			0.853	0.662
KAC1	0.82			
KAC2	0.78	14.914		
KAC3	0.84	15.996		
Creation			0.855	0.667
KC1	0.71			
KC2	0.65	10.310		
KC3	0.95	11.099		
Sharing			0.807	0.662
KSHT1	0.79			
KSHT2	0.83	14.097		
KSHT3	0.82	14.022		
Storing			0.807	0.786
KSTU1	0.90			
KSTU2	0.87	20.643		
KSTU3	0.89	21.610		
Reuse			0.799	0.719
KRE1	0.83			
KRE2	0.89	17.671		
KRE3	0.82	16.032		
Managerial Learning				
ML1	0.86			
ML2	0.98	16.747		
ML3	0.76	16.017	0.758	0.759
Trust				
SPT1	0.77			
SPT2	0.85	14.612		
SP3	0.84	14.267	0.871	0.674

Note. KAC= Knowledge Acquisition, KC= Creation, KSHT= Sharing, KSTU= Storing, KRE= Reuse, ML= Managerial learning, SPT= trust CUL= Culture.

Table 1 shows the analysis of the structural model via validity and reliability of the constructs. Convergent validity was achieved as all the calculated average variance extracted all above recommended ≥ 0.6 by (Hair et al., 2006; Zainudin, 2012). Internal reliability shows how reliable the measuring model in measuring the intendant construct as all the Cronbach' s Alpha value calculated are all abiove ≥ 0.7 recommended by (Hatcher & O'Rourke, 2014; Ullman & Bentler, 2003). Also, all the factor loading were above recommended ≥ 0.6 (Raedeke et al., 2013).

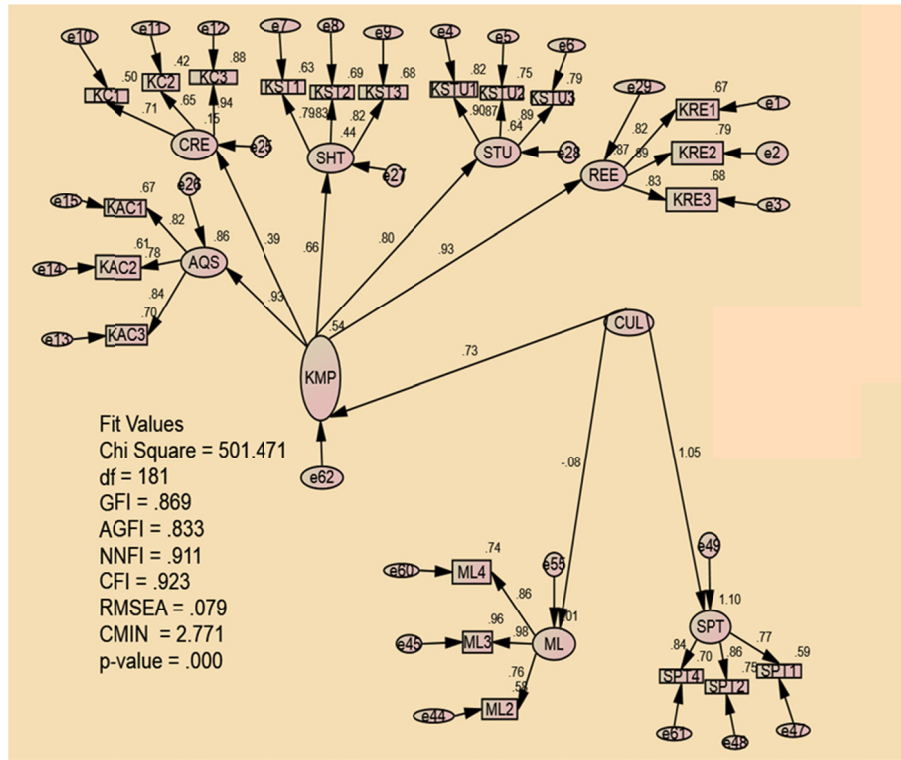


Figure 2. Confirmatory analysis of knowledge management process and culture

Note. KMP= Knowledge Management process, KAC= Knowledge Acquisition, KC= Knowledge Creation, KSHT= Knowledge Sharing, KSTU= Knowledge Storing, KRE= Knowledge Reuse, ML= Management learning SPT= trust, CUL= Culture.

4. Discussion

The impact of culture on knowledge management process was assed via the Hypothesis 1 (H1) with the sub-hypothesis range from H1a, H1b, H1c, H1d, H1e, H1f and H1g (figure 1). The path loading of approximately 0.2 and higher were considered as practically significant loading (Cohen, 2013; Cohen et al., 2011).The analysis of AMOS output of the confirmatory model exhibited strong and reliable path loading (Figure 2). All measuring construct of knowledge management process ranges from 0.93, 0.39, 0.66, 0.80, 0.93 for knowledge acquisition, knowledge creation, knowledge sharing, knowledge storing and knowledge reuse respectively on culture while measuring the construct of managerial learning exhibited a weak relationship of a path loading of -0.8 which was not supported. Trust under culture measure, 1.05 was supported by (Jöreskog, 1999). The main hypothesis (H1) alongside with sub-hypothesis was supported by this analysis. Thus, H1 exhibited a strong path loading of 0.73, it is therefore appropriate to postulate that culture positively impact of the knowledge management process (Figure 2 and Table 2). The impact relationship of culture is associated and demonstrated towards the managerial learning of the construction organization and the level of trust exhibited by their organizations.

Table 1. Summary of the results structural model

Hypothesis	Hypothesized path	Result	path coefficient
H1a	KMP can positively impact KAC	0.93	Supported
H1b	KMP can positively impact KC	0.39	Supported
H1c	KMP can positively impact KSHT	0.66	Supported
H1d	KMP can positively impact KSTU	0.80	Supported
H1e	KMP can positively impact KRE	0.93	Supported
H1f	ML can positively impact CUL	-0.80	Not Supported
H1g	SPT can positively impact CUL	1.05	Supported
H1	Culture can significantly impact the KM process	0.73	Supported

Note. KAC= Knowledge Acquisition, KC= Creation, KSHT= Sharing, KSTU= Storing, KRE= Reuse, ML= Managerial learning, SPT= trust CUL= Culture

5. Conclusions

The study gives understandings in to the impact of organization culture on the knowledge management process in the construction organization. It is imperative to adjudge the utilization of culture on knowledge management process in the construction organization. The finding of the research can help knowledge management canvassers as well as expertise to advance and enhanced thoughtfulness of the starring role of culture inside the knowledge management process. The current study can also be adopted by managers when conniving and evolving approaches, policies and teaching guides. The finding of this study will make available understanding for further research in this area especially in developing countries. Thus, the imminent research can center on the other imperative area of environmental factors as they also affect the knowledge management process.

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