Collaboration Dichotomies In Knowledge Management Success

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ABSTRACT:

Knowledge management is a not just computer or IT focused concept rather it has a whole gamut of other parameters as well. Information technology does not in itself create knowledge or guarantee knowledge creation but depends on cultural cognition and intra-community interaction. The purpose of this study was to expand the base of knowledge in the area; and empirically test the relationship between intra-community social interaction within an organization and the success of knowledge management system. Methodology used to measure directionality and relationship was correlation. The results of the study indicate that there is a significant positive relationship between collaboration and knowledge management systems and their success.

Keywords: *Knowledge management, Organizational culture, Departmental collaboration, Knowledge acquisition, Knowledge sharing*

1.   Introduction

Knowledge Management has been defined as the setting up of a management system of cognitive flows, which allow all the components of an organization to use and enrich its corporate knowledge. Therefore, Knowledge Management allows knowledge in the firm to be located, formalized, shared, enriched and developed specifically knowledge with critical and strategic characteristics (Ermine et al, 2006). Empirical evidence on the growing skill intensity of much work also supports Bell's thesis. Zuboff (1998) suggested that advances in computer technology had the potential to make work more knowledge-and skill-intensive, through the potential for problem solving, and abstraction these technologies provide workers. This perspective is supported by research conducted by Gallie et al (1998) in the UK, where almost 65 percent of workers surveyed reported experiencing an increase in the skill levels of their jobs.

"Despite the availability of the best technology or access to the richest warehouses of the relevant information, knowledge workers' motivation and commitment often determine the success or failure of knowledge management systems" (Malhotra & Galletta, 2003; 1).

Ritchie (2000) refers to findings from many researchers supporting and suggesting that organizational cultures affect such outcomes as productivity, performance, commitment, self-confidence, and ethical behavior. His results suggest that

organizational culture does have a positive effect on employee attitudes; the central focus of his study identified organizational culture as a powerful and positive force within an organization. He suggested that management should understand the relationship between a strong culture and positive organizational outcomes.

2.   Literature Review

What makes knowledge management systems unique branches from the necessity to draw from the intellectual capital of a firm to build the basis for their value (Smith, 1998). Companies that consider themselves successful in knowledge management systems implementation appear to agree that the biggest challenge is to properly address the cultural-change issues associated with the creation of effective communicating teams and where the sharing of knowledge is viewed as a benefit rather than a risk.

Two main approaches have been identified: codification versus personalization. The "codification approach" is intended to collect, codify, and disseminate information, which relies heavily on IT to manage explicit knowledge. Whereas, the personalization approach focuses on developing networks to link people so that tacit knowledge can be shared.

Knapp (1998) contended that it is a strategic and systematic approach thus; KM capitalizes on what an organization knows. As the concept under which information is turned into actionable knowledge and made available to the individuals who need it and can apply it to solving problems (Angus et al, 1998).

Senge (1998) reports that sharing knowledge occurs when people are genuinely interested in helping one another develop new capacities for action; it is about creating learning processes. Popper and Lipshitz (1998) present a two-faceted (structural and cultural) approach to organizational learning. The structural facet focuses on organizational learning mechanisms, which are institutionalized structural and procedural arrangements allowing organizations to systematically, collect, analyze, store, disseminate, and use information that is relevant to the performance of the organization. The cultural facet focuses on the shared values, without which these mechanisms are likely to be enacted as rituals rather than as means to detect and correct errors.

Bhirud et al (2005) also point out that while many organizations have come to rely on electronic communications as a major form of internal communication, this is not necessarily the optimal mechanism for sharing knowledge. While electronic communications may tend to improve the efficiency of communications, the knowledge transfer required for knowledge management success requires both efficient and effective communications.

The literature maintains to denote that the real sharing of knowledge requires intra-organizational association and organizational learning as a nucleus (McDermott, 1999). Organizational learning will not take place without an environment of trust and respect (Delmonte, 2004).

For successful KM implementation, one must look at the human side as well as the data side of the equation. If KM is to be implemented, it can only be done so successfully if an encouraging environment is in place and that it is collaborative towards it (Song, 2008).

3.   Research Design

The data came from NADRA with a history of an organization dedicated to "benchmarking" and sharing "best knowledge" practices leading to superior organizational services. The research questions and hypotheses examine the relationship of knowledge management systems success to departmental Collaboration.

The population in this study included employees who were users of their organization's knowledge and who were familiar with the organization knowledge management program. A total of 41 responses were received from 45 employees approached. This reflects a total survey response rate of 91%. Of the 41 responses received, all were useable.

The study consists of exploratory research designed to determine if organizational culture moderates a relationship between knowledge management programs and departmental collaboration indicating organizations strategic advantage/benefits. The conceptual model for this study links two models. For purposes of the subject study, an aggregate measure was developed combining the knowledge management specific components of the Davenport and Prusak (1998) study with the information systems aspects of the Seddon et al (1999) and DeLone and McLean (1993) models.

The Pearson correlation was used to reflect the degree of linear relationship between two variables and determines the strength of the linear relationship between the variables; whilst, One-Way ANOVA was employed to determine the significance of the relationship.

4.   Analysis

The null hypothesis stated that higher levels of interdepartmental collaboration results in lower or unchanged levels of knowledge management systems success. Responses to the 7-item Knowledge Management System (KMS) Success variable and interdepartmental collaboration were subjected to a principal component analysis using ones as prior communality estimates were used to extract the factor components. Following the results two dimensions identified for KMS. In analyzing the content of the survey questions falling into each dimension, the first grouping appears to relate to increase of Usage of KMS in the organization, while the second relates to the Organizational Benefits. Hence, two summated scales were created for hypothesis testing using the mean of each grouping of variables. One dimension was called the "Usage" dimension and the other the "Benefits" dimension.

In analyzing the content for collaboration the survey questions fell into two dimensions, the first grouping appears to relate to ease of access to other individuals in the organization, while the second relates to the availability of informal

communications mechanisms. Hence, as for KMS two summated scales were created for hypothesis testing using the mean of each grouping of variables. One dimension was called the "Access" dimension and the other the "Formality" dimension.

The One-Way ANOVA results for the '*Access*' dimension for collaboration for knowledge management '*Benefits*' dimension (Table 1) showed an F statistic of 2.78 with 28 and 12 degrees of freedom. An analysis of Table 2 showed an F statistic of 3.22 with 28 and 12 degrees of freedom '*Access*' dimension for collaboration and knowledge management '*Usage*'. Both for '*Benefits*' and '*Usage*' the F statistic was well within the reject region using interpolated critical values of 2.51 and 2.47 at the .95 percentile respectively for Tables 1 and 2.

Table 1: ANOVA - Collaboration Access Dimension For Benefits Dimension

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	126.171	28	4.506	2.789	.032
Within Groups	19.390	12	1.616		
Total	145.561	40			

Table 2 : ANOVA - Collaboration Access Dimension For Usage Dimension

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	140.566	28	5.020	3.229	.018
Within Groups	18.658	12	1.555		
Total	159.225	40			

Based on these data, and the confirmation of directionality shown in Tables 3 and 4, sufficient evidence exists to reject the null hypothesis that higher levels of interdepartmental collaboration result in lower or unchanged levels of knowledge management systems success at a confidence level of 0.95.

Table 3: Correlation Analysis – Access To Usage

		Usage	Access
Usage	Pearson Correlation	1	.232
	Sig. (1-tailed)	.	.072
	N	41	41
Access	Pearson Correlation	.232	1
	Sig. (1-tailed)	.072	.
	N	41	41

Table 4: Correlation Analysis – Access To Benefits

		Access	BENIFITS
Access	Pearson Correlation	1	.121
	Sig. (1-tailed)	.	.225
	N	41	41
BENIFITS	Pearson Correlation	.121	1
		.225	.

Sig. (1-tailed)			
N		41	41

Table 3 also shows that with a correlation of .23, the access dimension is more closely correlated to access than to the benefits dimension with a coefficient of .12 (see: Table 4).

The results between the second dimension of collaboration – '*Formality* 'and the two dimensions of KMS Success are shown in Tables 5 and 6.

Table 5: ANOVA - Collaboration Formality Dimension For Usage Dimension

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	123.783	21	5.894	3.160	.007
Within Groups	35.442	19	1.865		
Total	159.225	40			

Table 6: ANOVA - Collaboration Formality Dimension For Benefits Dimension

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	103.660	21	4.936	2.238	.041
Within Groups	41.901	19	2.205		
Total	145.561	40			

Table 5 shows the One-Way ANOVA results for the '*Formality*' of collaboration for knowledge management 'U*sage*' dimensions. Table 6 shows the One-Way ANOVA results for the formality dimension of collaboration for knowledge management benefits dimension.

Analysis of Table 5 shows an F statistic of 3.16 with 21 and 19 degrees of freedom, which is well within the reject region using an interpolated critical value of 2.16 at the .95 percentile. Likewise, Table 6 shows an F statistic of 2.23 with 21 and 19 degrees of freedom, which also falls in the reject region using an interpolated critical value of 2.16 at the .95 percentile.

Table 7: Correlation Analysis – Formality To Usage

		Formality	Usage
Formality	Pearson Correlation	1	.121
	Sig. (1-tailed)	.	.226
	N	41	41
Usage	Pearson Correlation	.121	1
	Sig. (1-tailed)	.226	.

	N	41	41

Table 8: Correlation Analysis – Formality To Benefits

		Benefits	Formality
Benefits	Pearson Correlation	1	.140
	Sig. (1-tailed)	.	.192
	N	41	41
Formality	Pearson Correlation	.140	1
	Sig. (1-tailed)	.192	.
	N	41	41

Based on these data, and the confirmation of directionality shown in Tables 7 and 8, sufficient evidence exists to reject the null hypothesis that higher levels of interdepartmental collaboration result in lower or unchanged levels of knowledge management systems success at a confidence level of 95 percent.

Deducing from the results it can be postulated that there is a positive relationship between KMS and collaboration in the departments.

5.   Conclusion

The findings above demonstrate that knowledge management success is strongly and positively related to interdepartmental collaboration. But this is not as high as to make it a rule and secondly the data gather was had a tinge of respondents subjectivity involved as it was qualitative and not quantitative. Thus, ruling out complete empirical evidence. Effort is needed to obtain quantitative findings by developing a research model which can responds better to the subtle interactions of culture and KM systems.

6.   References

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