

Effect of Institutional Infrastructure on Knowledge Management Process: Mediating Role of Reciprocal Benefits

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ABSTRACT

Purpose: The purpose of the study is to analyze knowledge management among college professors. In this study, an infrastructure for knowledge management practices was examined. The Knowledge economy expects more knowledge of high quality from the education institutions.

Methodology: The independent variable of this study is institutional infrastructure, the likewise dependent variable is the knowledge management process, and the reciprocal benefits were considered as mediating variables. In this study, 412 is a sample size through the convenience sampling technique.

Findings: The findings reveal that the knowledge management process is correlated with institutional infrastructure which is moderated by reciprocal benefits of the faculty members.

Conclusion: This research highlighted that proper infrastructure leads to better knowledge management practices among the faculties. It must be implemented in every higher educational institution and it will help to share the better knowledge with a mass audience in the knowledge society.

Keywords: Institutional Infrastructure, Knowledge Management, Reciprocal Benefits, Higher Education Institutions

1. INTRODUCTION

In the higher education system, the production of knowledge is an important factor. An individual may differ mentally, physically, and socially because they had been learned through their experiences (Yeshinegus Adamseged & Janne Hong, 2018). It is becoming an essential process to improve new knowledge and maintain it. Knowledge sharing process may be horizontal or vertical, individual or organizational knowledge and sharing inside or outside of the institutions (Chachal&Savitha, 2014). Knowledge Sharing is further divided into tacit and explicit knowledge. This process is done through the SECI model (i.e., Socialization, Externalization, Combining, and

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Internalization). It is efficiently followed through the network with experts, proper communication, capturing knowledge, documentation, etc (Santhosh Areekkuzhiyil, 2016). This process is effectively possible through institutions' support like enabling a proper environment, the proper culture of knowledge sharing, and adaptation of information and technologies, rewards and recognition, motivating individual skills, etc (Santosh & Panda, 2016). Knowledge sharing is the parameter to recognize the value of the institutions and the quality of the education (Xiaohui Yang, 2013). Also, it helps to take appropriate decisions to solve the problems, generate new ideas, implementation of procedures or policies.

A planned theory of behaviour was used to form the two models like perceived behavioural control and subjective norms to attitude. The faculty members' transfers of their knowledge are reinforced due to societal pressure. Also, the author highlighted the significant level of subjective norms to attitude (Punniyamoorthy & Asumptha, 2019). Institutions contributing digital infrastructure to academicians and research people. Academicians and scholars must hold knowledge sharing with innovation, competitiveness, rewards and recognition. Effective knowledge management is possible only with innovation, strategy and organizational culture. As a result, such factors help knowledge-sharing actions like interaction with peer groups, learning circles, mutual learning, etc (Dorothy Njiraine, 2019). Knowledge creation and dissemination play a direction to attain its vision and mission. It assessed the role of organizational climate and leadership regarding knowledge sharing in higher education institutions. There is a necessity to consider the elements and their interactions in knowledge-sharing behaviour in Higher Education Institutions (Al-Kurdi et al., 2020).

Objective of the Study

1. to determine the implementation of the knowledge management process among the faculty members.
2. to analyze the role of institutional infrastructure in the knowledge management process in higher education institutions.
3. to identify mediating effect on reciprocal benefits of the knowledge management process.

2. LITERARY REVIEW

2.1 Institutional Infrastructure

The Institutional infrastructure contains the organizational resources that are possessed and the pre-determined conditions when executing knowledge management practices (Ichijo & Nonaka, 2007). Knowledge management can be encouraged through the organization's retaining these resources. According to Zaid *et al.*, 2012, institutional infrastructure is perceived as the tool followed by the institutions to enrich their knowledge and motivate them to create, share and protect the knowledge within their institution. It also denotes those factors which motivate the activities of knowledge management in institutions and support generating competitive advantages. Also specifies that to enhance the awareness of knowledge management, faculty members of institutions must have well-defined infrastructure facilities and should confirm efficient promotion of knowledge management practices among their faculty members (Matin & Sabagh, 2015).

2.2 Knowledge Management Processes

2.2.1 Knowledge Creation:

The individuals in higher education make mental associates and engage in accomplishments that improve knowledge creation. It is attained at the individual level which blends and integrates the existing knowledge to cultivate new knowledge and insights (Nonaka, 1994). There are several types of knowledge creation such as socialization, externalization, combination, and internalization. It describes the process of transforming tacit into explicit knowledge and communicating it to the participants through collaborations. In institutions, there are individuals, agents, and groups that can use the knowledge that is created and retrieved from other people or captured to create new knowledge (Vorbeck & Finke, 2001).

2.2.2 Knowledge Storage:

Knowledge management involves knowledge storage. It may be deposited in different forms, such as written documents, files, electronic databases, documentation procedures, and so on (Abubakar et al., 2019). The knowledge representatives involve themselves in the process of catching or storing the knowledge while new knowledge is generated and is supposed to be of value to the stakeholders (Vorbeck & Finke, 2001). Individuals, as well as institutions, must store their knowledge which is expected to be used directly or in the future (Gray and Fu, 2004).

2.2.3 Knowledge Sharing:

Knowledge sharing denotes a two-dimensional practice whereby faculty members share and interchange their knowledge. Effective collaboration provides new knowledge through the method of exchange, donation, and collections of knowledge (Hooff & Weenen, 2004). The contribution of knowledge means the interchange process and collaboration with other intellectual capital (Almuqrini & Mutambik, 2019). It states the capability of individuals to share what they learn. The collection of knowledge denotes an individual's willingness to enquire, admit, and embrace new intellectual capital (Annansingh et al., 2018). It is a key element of institutional success because the high proficiency in collecting knowledge is more unique.

2.2.4 Knowledge Accessibility:

Knowledge can be expanded through the process to what they already been produced and stored. To construct knowledge-based institutions, it is essential to verify that knowledge is manageable to the projected stakeholders (Tiwana, 2000)

2.2.5 Knowledge application.

The most important aspect of knowledge management is the effective application of their knowledge. It is the extent to which individuals are involved in the process by relating the knowledge they retain to complete an assigned task. If the individuals are lacking in the ability to spread knowledge, the very persistence of creation, storing, sharing and accessibility of the knowledge will be overcome.

2.3 Reciprocal Benefits

Reciprocal benefits in the concept of knowledge sharing are explained as the degree to which an individual believes they should obtain common benefits through knowledge sharing. Davenport and Prusak (1998), individuals' energy, time, and knowledge are inadequate. Reciprocity is a method of conditional advantage; i.e. people anticipate future benefits from their current actions. Thus, people who suppose reciprocity will share further ideas, that thoughts will be more valuable and creative, and the satisfaction will be increased.

3. METHODOLOGY

3.1 Sample

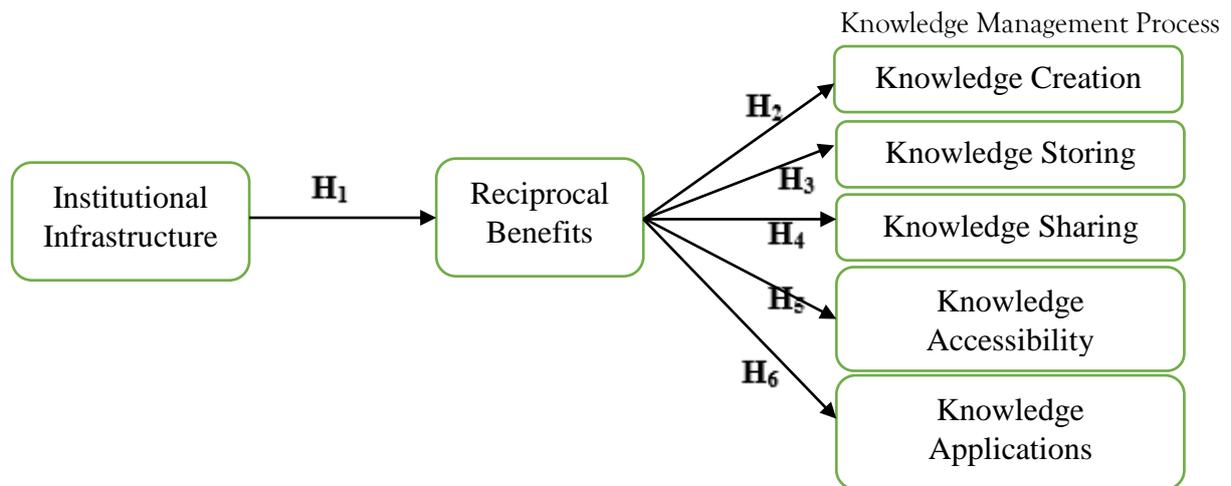
The study focuses on faculty members in arts and science colleges in Tamil Nadu. The researcher used a stratified random sampling method to fix the sample of the study. The survey was conducted online mode by using google forms. The survey instrument was circulated to 500 faculty members. Out of that, 412 was received from the respondents and confirmed for the analysis.

3.2 Measures

The measurement scale contains four parts. The first part section deals with the demographic of the respondents. The second part contains the knowledge management process has 20-items adopted from Muhammed, S. (2006), institutional infrastructure has 5-items adopted from Tan & Noor (2013), and reciprocal benefits have 4-items derived from Tan & Noor(2013). An institutional infrastructure was considered as an independent variable, knowledge management process is treated as the dependent variable, and reciprocal benefits were treated as mediating variables of the study. The Cronbach's alpha value for the infrastructure facility was 0.826, the knowledge management process has 0.910, and reciprocal benefits has 0.926 which represents more reliable.

3.3 Conceptual Model and Hypotheses Development

The conceptual model is constructed with the support of previous literature. This model displays the relationship of institutional infrastructure facility toward knowledge management process with the mediating effect of reciprocal benefits. (Figure 1)



3.4 Hypotheses Development

H₁: Institutional Infrastructure is positively related to Reciprocal Benefits

H₂: Reciprocal benefits is positively related to Knowledge creation

H₃: Reciprocal benefits is positively related to Knowledge storing

H₄: Reciprocal benefits is positively related to Knowledge sharing

H₅: Reciprocal benefits is positively related to Knowledge accessibility

H₆: Reciprocal benefits is positively related to Knowledge applications

H₇: Reciprocal benefits mediates the relationship between institutional infrastructure and knowledge management processes.

4. ANALYSIS AND INTERPRETATION

Table 1: Demographic Profile of the Respondents

CATEGORY	PARTICULARS	RESPONDENTS	PERCENTAGE
SEX	Male	265	64.3
	Female	147	35.6
AGE	Less than 30	108	26.2
	31 - 40	97	23.5
	41 - 50	133	32.3
	Above 51	74	17.9
DISCIPLINE	Arts	223	54.1
	Science	189	45.8
DESIGNATION	Associate Professor	126	30.5
	Assistant Professor	286	69.4
INFRASTRUCTURE FACILITY	Yes	304	73.7
	No	108	26.2

Source: Field Data

Among 412 respondents, 265 respondents were males and 147 respondents were females. In the age category, 108 respondents belonged to less than 30 years old, 97 respondents belonged to 31 - 40 years old, 133 respondents belonged to 41 - 50 years old, and 74 respondents belonged to above 51 years old. Discipline-wise categorization of the respondents, 223 respondents belonged to the arts discipline and 189 respondents belonged to the science discipline. Under the designation category, 126 respondents were working as associate professors and 286 respondents were working as assistant professors. In infrastructure facilities, 304 respondents has proper infrastructure facility and 108 respondents has no proper infrastructure facility for knowledge management processes in their institutions.

Table 2: Validity and Reliability of the Items

Constructs	KMO	Bartlett's Test of Sphericity		Alpha
		Chi-Square	Sig	
Institutional Infrastructure	0.865	1204.186	0.00**	0.826
Reciprocal Benefits	0.879	1362.812	0.00**	0.910
Knowledge Management Processess	0.925	6883.857	0.00**	0.926

(Note: ** represents significant at 0.01 level)

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The Kaiser–Meyer–Olkin (KMO) test shows that proportion of variance among the variables that influenced by underlying elements. The results displayed that Bartlett’s test of Sphericity was significant at 0.01 level, and KMO was greater than the standard level of 0.8, which is good in nature.

Table 3: Correlation Coefficients ad association level

Variable	INS.INF	RB	KC	KST	KSH	KAC	KAP
Institutional Infrastructure	1						
Reciprocal Benefits	0.078	1					
Knowledge Creation	0.409**	0.413 **	1				
Knowledge Storing	0.093	0.415**	0.165 **	1			
Knowledge Sharing	0.158**	0.699 *	0.829 **	0.747 **	1		
Knowledge Accessibility	0.762*	0.413	0.158 *	0.305	0.042*	1	
Knowledge Application	0.482*	0.827**	0.414**	0.164	0.621**	0.158**	1

(Note: **p < 0.01 (2-tailed), *p < 0.05 (2-tailed))

From the above table-2, institutional infrastructure has no relationship with reciprocal benefits of the faculty members. So that, the H₁ is not supported. Reciprocal benefits has positive relation with knowledge creation, knowledge storing, and knowledge application which is significant at 0.01 level. Hence, H₂, H₃, H₆ were supported. Also having relationship with knowledge sharing at the significance level of 0.05 that represents H₆ were supported. But does not having the relationship between knowledge accessibility. So that, H₅ were not supported. Reciprocal Benefits moderates the relationship between institutional infrastructure and knowledge management processes.

Table 4: Results of Hypotheses Testing

Hypotheses	Results
Institutional Infrastructure is positively related to Reciprocal Benefits	Not Supported
Reciprocal benefits is positively related to Knowledge creation	Supported
Reciprocal benefits is positively related to Knowledge storing	Supported
Reciprocal benefits is positively related to Knowledge sharing	Supported
Reciprocal benefits are positively related to Knowledge accessibility	Not Supported
Reciprocal benefits is positively related to Knowledge applications	Supported
Reciprocal benefits mediate the relationship between institutional infrastructure and knowledge management processes	Supported

5. CONCLUSION

In this research, the knowledge management practices among arts and science college professors were examined. The study found that institutional infrastructure plays a major role in knowledge management practices. The faculty members utilise the available resource offered by the institution. The outcomes of this research are facilities and opportunities is a significant impact to share their effective knowledge. Along with these, management support and organizational culture are needed for effective implementation and to retain the quality of the institutions. Academic performances were based on the knowledge management processes of an individual faculty. An individual and management is the pillar of knowledge management practices. Both are responsible to reach their goal and destination which are already

framed. Knowledge management practices are a key to attaining the objectives of educational institutions. Also, individual role in knowledge sharing is essential to the knowledge economy. It enhances the academic performance of the institutions. Both the individual as well as the institution are liable to maintain the knowledge and sharing activities. The institution must provide the basic facilities such as an ICT platform, management support, and strategies to share the faculty knowledge at the same time faculty should utilize the available resource to equip their knowledge and share ineffective ways to the community.

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