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Knowledge Self-Efficacy, Knowledge Sharing Behaviour and Organizational Climate among Medical Faculty Members in India

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ABSTRACT

This paper aims to examine the knowledge sharing behaviour of medical faculties in India, how it is influenced by knowledge self-efficacy and how it influences organisational climate. The methodology used was a survey of 300 medical faculties working in medical colleges and hospitals to examine the role of knowledge self-efficacy on, inter-departmental knowledge donation and knowledge collection behaviour, and organizational climate. Structural equation modelling was used to analyse the relationships. The authors found that the knowledge self-efficacy of medical faculties has positive significant influence on inter-departmental knowledge donation whereas inter-departmental knowledge collection is not influenced by knowledge self-efficacy. The organizational climate is positively influenced by knowledge self-efficacy. Further it is found that knowledge donation behaviour of medical faculties has strong influence over knowledge collection behaviour. Organizations trying to inculcate knowledge sharing behaviour can first make employees feel or conduct training programs aiming at improving their self-efficacy pertaining to their knowledge i.e. knowledge self-efficacy.

Introduction

The knowledge resources are believed to be more important than other resources like capital, labour and material, because they are considered as intangible assets. This belief has been encouraging the organizations to invest much on maintenance and creation of the knowledge in order to respond to the changing environment quickly and effectively (Reychav and Weisberg, 2010). Davenport and Prusak (1998) defined knowledge as “a fluid mix of framed experience, values,

contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information”.

The sharing of ideas and expertise with one another is termed as knowledge sharing (Bartol and Srivastava, 2002). The knowledge sharing between individuals is the process by which individual’s knowledge is converted into a form that can be understood, absorbed and used by other individuals (IPE, 2003). Knowledge sharing behaviour (KSB) is defined as the degree to which an individual actually shares knowledge with other individuals (Bock and Kim, 2002; Ajzen, 1991). KSB provides a link between the individual or employees and the organization by moving knowledge, and will then be converted into competitive value for the organization (IPE, 2003). According to Van den Hooff and De Ridder (2004), there are two central behaviours in KSB, viz., knowledge donating behaviour, communicating one’s personal intellectual capital to

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others; and knowledge collecting behaviour, consulting others to get them to share their intellectual capital.

The present study is focussed on knowledge sharing behaviour of medical professionals, as their practical knowledge related to medical field is considered as intellectual capital. As these professionals deal with lives, they cannot have an approach called trial and error method to treat the patients and learn from their mistakes; instead they have to be sure in every aspects right from diagnosis of the disease to cure. Day by day different new diseases arise; new technologies come in, which require them to be vibrant enough to spread the knowledge through sharing across departments and institutions. Physicians are knowledge intensive, their knowledge is very much important for patient care and their knowledge sharing is also important for the elevation of quality and efficiency of medical treatments in hospitals (Ryu *et al.*, 2003). In one qualitative study, Kim (2013) insists that systematizing and sharing the clinical knowledge of medical professionals is important for doctors providing medical services to the patients directly or indirectly round the clock and getting information regarding reaction and requirements of the patients. All these made the researchers to take up this study.

These cases critically demand the need for knowledge sharing among medical professionals. This seems more apt as the treatment involved for each case of same trouble can attain general attire to some extent both physically and psychologically. Knowledge sharing copes to bring this understanding among the medical professionals to ascertain a better treatment rather than trial and error which is not compatible when it is a health risk. In this backdrop, current research is undertaken with the objective of testing the relationship between the knowledge self-efficacy, knowledge sharing behaviour and organizational climate among the medical faculties. Further, the study is aimed to test the inter-relationship among these factors.

Theoretical Background and Research Framework

Classification of Knowledge

Knowledge is divided into tacit and explicit knowledge. Tacit knowledge is bound with personal experience and explicit knowledge is available in the form of documents, books, databases, etc. In this study the researchers take explicit and implicit knowledge both into account, because both are considered to be complementary to each other (Kamasak and Bulutlar, 2010). The creation of the tacit knowledge can be developed through the process of exchanging and combining the unconnected ideas and knowledge of employees (Cabrera *et al.*, 2006).

Knowledge Self-efficacy

A student strong in mathematics may have high self-efficacy in solving a complex math problem, but he may feel low self-efficacy in a literature class. So self-efficacy is task specific and not general. Knowledge self-efficacy is about how they believe in their knowledge capabilities, whether their

knowledge is of worthy enough to share with others. Perceived self-efficacy is important as self-efficacy beliefs determine how people feel, think, motivate themselves and behave (Bandura, 1994).

The perceived self-efficacy is defined as “people’s judgements of their capabilities to organize and execute courses of action required attaining designated types of performances”. The self-efficacy is concerned not with the skills one possesses but judgement about what one can do with whatever skills one possesses. Perceived knowledge self-efficacy can be defined as people’s judgement about their knowledge capabilities to bring in desired outcome (Bandura, 1986). People will not share their knowledge unless they think their knowledge is valuable and important (Ryu *et al.*, 2003). The knowledge self-efficacy is a determinant of knowledge sharing behaviour of skilled people (Bock and Kim, 2002; Lin, 2007; Hsu, et al., 2007; Chen and Hung, 2010).

Knowledge Sharing Behaviour

The knowledge sharing is the process where individuals mutually exchange their (tacit and explicit) knowledge and jointly create new knowledge (de Vries *et al.*, 2006). This implies that individuals make their knowledge collective through sharing, which means that the relationship between individual and collective (community, group, team or organization) is a central aspect of knowledge sharing behaviour. For the collective to be able to benefit from its potential “intellectual capital”, individual members of the collective must make this knowledge available, i.e., share their knowledge with co-workers (Van den Hooff and Huysman, 2009).

Knowledge sharing occurs at the individual and organizational levels. For individual employees, knowledge sharing is talking to colleagues to help them get something done better, more quickly, or more efficiently. For an organization, knowledge sharing is capturing, organizing, reusing, and transferring experience-based knowledge that resides within the organization and making that knowledge available to others in the business (Lin, 2007).

The Relationship between Knowledge Self-Efficacy and Knowledge Sharing Behaviour

Bandura (1977), based on microanalysis of congruence between self-efficacy and performance, suggests that self-efficacy can be an accurate predictor of performance. In literature many researchers have given the influence of general self-efficacy on knowledge sharing behaviour but very few have taken knowledge self-efficacy to check the influence on knowledge sharing behaviour (Hsu *et al.*, 2007).

Knowledge self-efficacy typically manifests in people believing that their knowledge can help to solve job-related problems and improve work efficacy (Luthans, 2003). Lin (2007) proposed that employees believing in contribution to organizational performance by sharing knowledge develop greater positive willingness to both contribute and receive

knowledge. Hsu *et al.*, (2007) argue that people with high self-efficacy are more likely to perform related behaviour than those with low self-efficacy. Hence following hypotheses are proposed (see Figure 1):

H1 Knowledge self-efficacy has positive direct influence on knowledge donation behaviour.

H2 Knowledge self-efficacy has positive direct influence on knowledge collection behaviour.

H3 Knowledge donation behaviour has positive influence on knowledge collection behaviour.

Organizational Climate

Organizational climate is how the employees feel about the organization with regard to support, encouragement in their professional activities. Schneider *et al.*, (2013) defined organizational climate as “the shared perceptions of and the meaning attached to the policies, practices, and procedures employees experience and the behaviours they observe getting rewarded and that are supported and expected”.

The Relationship between Knowledge Self-Efficacy and Organizational Climate

Chaudhary *et al.*, (2012) investigated the relationship between occupational self-efficacy and HRD climate and found that there is a significant positive relationship between them. There is dearth of studies which examine the link between knowledge self-efficacy and organizational climate in the literature. Hence it is proposed that the perception among the employees about their knowledge self- efficacy will improve their organizational climate. Thus, following hypothesis is proposed:

H4 The perceived knowledge self-efficacy will significantly influence the organizational climate.

Ghorbani *et al.* (2012) reported positive significant correlation between knowledge sharing behaviour and organizational climate. Therefore, following hypotheses are framed:

H5 The knowledge donation behaviour has direct positive influence on organization climate.

H6 The knowledge collection behaviour has direct positive influence on organization climate.

Research Methodology

Research Instrument

A structured questionnaire consisting of two sections was used for data collection. The first section contained questions related to demographic details and the second section contained the items for the constructs under study. The questionnaire has four constructs. The four constructs are: knowledge self-efficacy (KSE), knowledge donating behaviour (KDB), knowledge collecting behaviour (KCB), and organizational climate (OC).

The measure for knowledge donation and knowledge collection behaviour are adopted from the study of de Vries *et al.*, (2006). In this study, each dimension is explained by four items. These dimensions are measured at inter-departmental level in the present study. The items are modified accordingly such as “when I learn something new, I tell my colleagues in other departments” and “When I need certain knowledge, I ask my colleagues in other departments about it”. All the items of the knowledge sharing behaviour construct are measured with a five-point scale with anchors 5 – “very often”, 4 – “often”, 3 – “sometimes”, 2 – “rarely”, and 1 – “not at all”.

The items for knowledge self-efficacy are adopted from Bock *et al.*, (2005) and comprised of 5 items measured using 5 point Likert scale (Strongly Disagree-1 to Strongly Agree-5). The item “my knowledge sharing would create new business opportunities for the organization” was modified as “my knowledge sharing would create new service opportunities” to make it relevant to the context of this study. The measure for organizational climate was taken from Saleh and Wang (1993), and Bock *et al.*, (2005) and it has 5 items. It is measured using 5 point Likert scale.

Sampling Procedure and Data Collection

The permission for data collection is first obtained from the administration of different medical colleges and hospitals from Puducherry, India and then from departmental heads of various departments. The researchers approached the respondents department-wise and explained them about the study objectives and sought for their interest to participate. Once they wished to participate, the questionnaire is distributed. They are given ample time as per their convenience for filling up the questionnaire. The sampling technique used was random sampling technique.

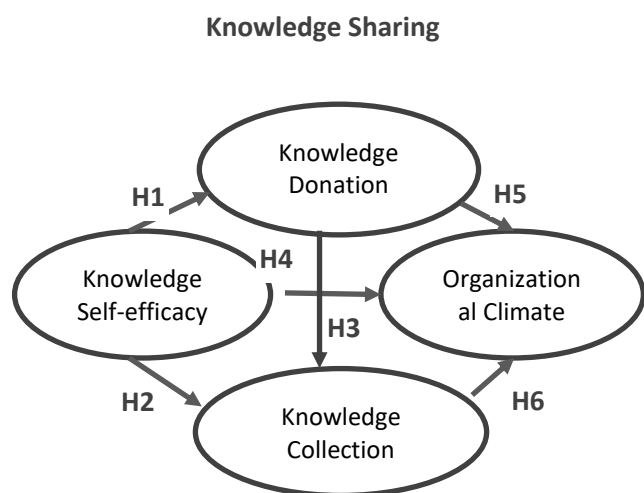


Figure 1: The proposed relationship between knowledge sharing behaviour and organizational climate

Along with the questionnaire a covering letter was attached to explain the objective of this study and to inform the respondents that the data collected would be kept confidential. Totally 420 structured questionnaires are administered to faculty members of government and private medical colleges and hospitals in Puducherry region. The number of medical colleges and hospitals participated in this study is 6. Out of 420 administered questionnaires, 115 respondents did not return and 305 questionnaires were returned and 5 questionnaires were unusable due to incompleteness of the responses to some statements. Finally 300 questionnaires were complete and usable in all respects resulting in 72.61 percentage of response rate. The demographic details of this sample are shown in Table 1.

Data Analysis and Results

The primary data collected from the respondents were analysed using structural equation modelling (SEM) to test the measurement and structural model of the proposed research model using AMOS 20.0. Structural equation modelling has become a standard tool to investigate the plausibility of the theoretical model (Hu and Bentler, 1999). Two stage model building approach was done for applying SEM (Anderson and Gerbing, 1998; Hair *et al.*, 2014). First the measurement model

validation was done and then the overall structural model was validated.

Measurement Model

The psychometric properties of the constructs and items of each construct are tested using convergent validity and discriminant validity. For checking convergent validity, composite reliability and average variance extracted (AVE) are used as measures. The composite reliability of constructs exceed 0.7 as per Nunally and Bernstein (2010) recommendation. The composite reliability of the constructs is shown in Table 3.

Discriminant validity is expressed when average variance extracted for each construct is greater than the squared correlation between the two constructs. Table 4 shows the values for discriminant analysis. From the table it is evident that all the constructs have high discriminant validity. Further the researchers have done confirmatory factor analysis to check the properties of latent variables (constructs). CFA fit indices are shown in Table 2. These values are above the recommended values of different researchers. So this shows the good fit of the measurement model.

Table 1: Profile of Respondents (N =300)

S. No.	Particulars	S. No	Demographic Feature	Frequency	Percentage
1	Age	1	21–30 years	103	34.3
		2	31–40 years	131	43.7
		3	41–50 years	33	11.0
		4	51–60 years	12	4.0
		5	61–70 years	21	7.0
2	Gender	1	Male	183	61.0
		2	Female	117	39.0
3	Experience in Years	1	5 years and below	164	54.7
		2	6-10 years	61	20.3
		3	11-15 years	30	10.0
		4	16-20 years	15	5.0
		5	21-25 years	2	0.7
		6	26-30 years	11	3.7
		7	Above 30 years	17	5.7
4	Designation	1	Professor	49	16.3
		2	Associate Professor	46	15.3
		3	Assistant Professor	140	46.7
		4	Senior Resident	17	5.7
		5	Junior Resident	20	6.7
		6	Tutor	28	9.3
5	Nature of work	1	Clinical	140	46.7
		2	Non-clinical	160	53.3

Structural Model

The fit indices for the structural model are within accepted thresholds. For a good fit of the model the χ^2/df should be less

than 3.0, goodness-of-fit index (GFI) should be greater than 0.90. The adjusted goodness -of- fit index (AGFI) should exceed 0.80 and normed fit index should exceed 0.90. The comparative fit index (CFI) should be greater than 0.95 and the

acceptance level of RMSE should be lower than 0.07. For the present structural model the values are above the criterion. The χ^2/df is 2.07, the GFI is 0.910, the AGFI is 0.880, the NFI is 0.909, the CFI is 0.950 which is equal to the recommended value and the RMSEA is 0.060. All these exhibit a good model fit.

The next step to consider is the path coefficient and its significance level. Figure 2 represents the direction of hypotheses and path coefficients along with significance level. Table 5 reports the along with path coefficients and their

significance. The hypotheses 1, 3 and 4 are supported while hypotheses 2, 5 and 6 are not supported. As presumed the knowledge self-efficacy has significant influence on knowledge donation ($\beta=0.23, p<0.001$) but not on knowledge collection. But the hypotheses 5 and 6 are completely against our presumption and they are rejected. The hypothesis that knowledge self-efficacy has significant influence on organization climate is supported ($\beta=0.28, p<0.001$). The hypothesis 4, that knowledge donation has significant influence on knowledge collection is supported ($\beta=0.75, p<0.001$).

Table-2: Model Fit Indices for Measurement and Structural Models

Model Fit Indices	Measurement Model	Structural Model	Recommended Value	Reference
Chi-square/degrees of freedom (χ^2/df)	232.23/127=1.829	265.65/128=2.07	<3.00	Kline (2005)
Goodness-of- fit index (GFI)	0.922	0.910	>0.90	Bagozzi and Yi (1988)
Adjusted goodness -of- fit index (AGFI)	0.894	0.880	>0.80	
Normed fit index (NFI)	0.921	0.909	>0.90	Bentler (1988)
Comparative fit index (CFI)	0.962	0.950	>0.95	Hu and Bentler (1999)
Root mean square error of approximation (RMSEA)	0.053	0.060	<0.07	Steiger (2007)

Table-3: Confirmatory Factor Analysis Results of Measurement Model

Construct and Indicators	Factor Loadings	Composite Reliability	Average Variance Extracted (AVE)
Knowledge Self-Efficacy (KSE)		0.892	0.69
KSE1	0.703		
KSE2	0.789		
KSE3	0.835		
KSE4	0.835		
KSE5	0.783		
Knowledge Donation (KD)		0.798	0.63
KDB1	0.629		
KDB2	0.732		
KDB3	0.689		
KDB4	0.764		
Knowledge Collection(KC)		0.830	0.65
KCB1	0.772		
KCB2	0.696		
KCB3	0.778		
KCB4	0.716		
Organizational Climate (OC)		0.853	0.65
OCL1	0.573		
OCL2	0.548		
OCL3	0.819		
OCL4	0.866		
OCL5	0.823		

Table-4: Discriminant Validity; Inter Correlation and AVE

Construct	Mean	St. Dev.	AVE	KDB	KCB	KSE	OCL
KDB	2.63	0.91	0.63	0.79			
KCB	3.02	1.00	0.65	0.65**	0.80		
KSE	4.08	0.62	0.69	0.20**	0.23**	0.83	
OCL	3.66	0.76	0.65	0.17**	0.21**	0.32**	0.80

Note: Diagonal values are the square root of the average variance extracted (AVE). Off-diagonal values are the correlations among the four constructs. For discriminant

validity diagonal values should be greater than off-diagonal values. **All of the correlations are significant at the $p < 0.01$ level.

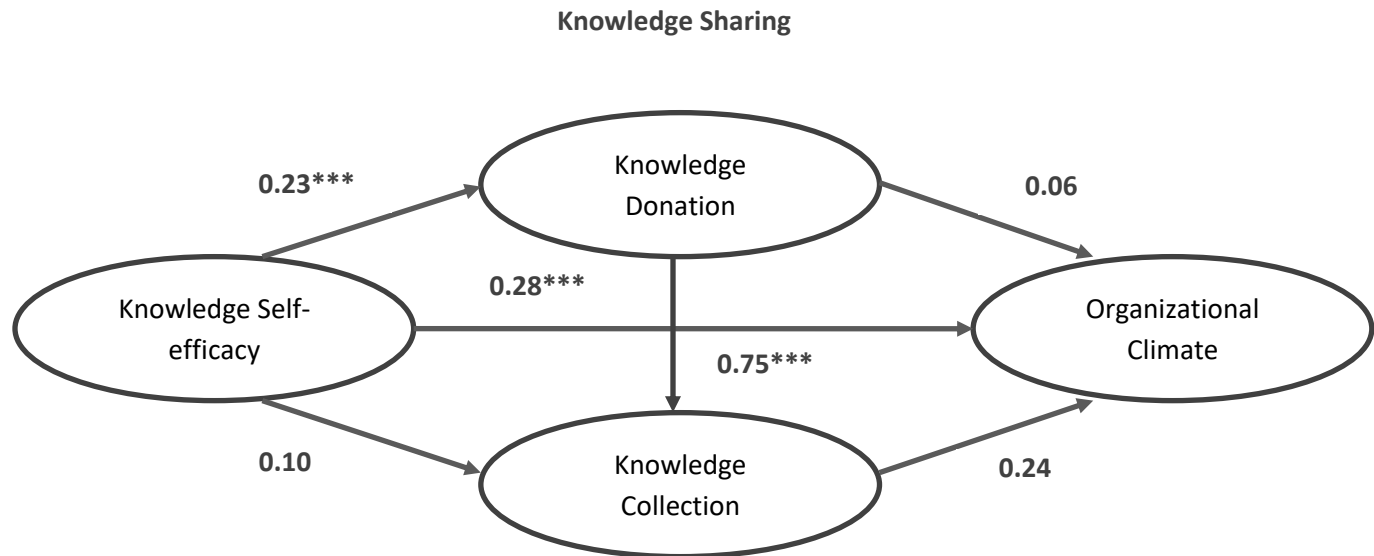


Figure 2: Results of structural model

Discussion

Chen and Hung (2010) reported that knowledge self-efficacy was found to influence both knowledge contributing and collecting behaviour. The finding of this research is that knowledge self-efficacy positively influences the knowledge donation but not knowledge collection. Hence our findings are partially supported by previous research.

Many previous researchers in the field of knowledge management have considered organizational climate as influencing factor for knowledge sharing behaviour. But in this research we proposed that knowledge donation and knowledge collection behaviour influence organizational climate. Though there is a significant correlation (given at Table.4) between knowledge donation with organizational climate and knowledge collection with organizational climate they could not predict the organizational climate significantly. Results indicate that there is no significant influence of knowledge donation and knowledge collection behaviour over the organizational climate. Knowledge donation has negative

relationship with organizational climate. The possible explanation for this is that knowledge donation is restricted in terms of usefulness to other department which means that the knowledge donators cannot simply donate unless there is a requirement from other members belonging to different departments. Inter departmental knowledge donation is mainly taking place in formal meetings such as continuous medical education (CME) once in a month or more. Organizational climate may be improved with informal donation and collection of knowledge.

Van den Hooff and De Ridder (2004) reported that more the knowledge collecting, more the willingness to donate and thus said both knowledge collection and knowledge donation are positively related. In this research it is found that there is a significant influence of knowledge donation over knowledge collection behaviour. The finding of this research is in line with the findings of existing research.

Table-5: Summary of Results of Hypothesis Testing

Hypothesis	Hypothesized path	Path coefficient	Results
H1	Knowledge Self-efficacy → Knowledge Donation	0.23***	Supported
H2	Knowledge Self-efficacy → Knowledge Collection	0.10	Not Supported
H3	Knowledge Donation → Knowledge Collection	0.75***	Supported
H4	Knowledge Self-efficacy → Organizational Climate	0.28***	Supported
H5	Knowledge Donation → Organizational Climate	-0.06	Not Supported
H6	Knowledge collection → Organizational Climate	0.24	Not Supported

Note: (***) $p < 0.001$

Implications

Future researchers may consider checking the influence of knowledge self-efficacy over organizational climate with different organizational set up and with different industrial background, because in medical field many departments are not related to each other, e.g. department of ophthalmology may not be able to share their knowledge with department of ENT or orthopaedics or psychiatry. This study considered only the professionals working in medical colleges and hospitals, future research may consider others professionals.

Organizations trying to inculcate knowledge sharing behaviour can first make employees feel or conduct training programs aiming at improving their self-efficacy pertaining to their knowledge i.e. knowledge self-efficacy. Through creating employees of high knowledge self-efficacy, the organization can make them to donate their knowledge and in turn improve knowledge collection. Organizational climate can be created through attraction-selection-attrition (ASA) processes which result in attraction, selection and retention of similar kind of people (Schneider and Reichers, 1983). So during the process of ASA, knowledge self-efficacy can be given utmost importance to bring in better organizational climate. Good organizational climate is much essential in any achievement of organizations. The achievement may be in terms of making profit, reducing cost, reducing conflicts, etc. All these can be achieved through creating members of the organization of high knowledge self-efficacy.

Conclusion

Knowledge self-efficacy influences inter departmental knowledge donation because employees who feel that their knowledge is capable of being helpful to others, involve in knowledge donation rather than knowledge collection. Employees who donate their knowledge to other departmental members are more likely to collect knowledge from members of other departments. Inter departmental knowledge donation and knowledge collection could not influence the organizational climate whereas, knowledge self-efficacy of employees could influence organizational climate.

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