

A Structural Equation Modeling Approach to Examine the Factors Affecting Knowledge Sharing Behaviour of Teaching Professionals

Subhasish Das

Assistant Professor,
GIET University Odisha,
India

Dr. Mahendra Kumar Sahu

Librarian, GIET University, Odisha,
India

Abstract

This study examines the factors affecting knowledge sharing behavior (KSB) of teaching professionals of the educational Institutes of Odisha. It explores the relationship between teacher's attitude to share (AS), subjective norms (SN) and perceived behaviour control (PBC), the constructs developed by well known theory of planned behavior (TPB) on the teachers' behavior of sharing knowledge. It develops a better understanding of the theory of knowledge management and TPB model in Indian context. It is a descriptive study, based on the primary data collected from a sample of 196 teaching professionals of educational institutions.

The study finds positive relationship of AS, PBC on KSB and a negative relationship between SN and KSB. This study also tries to check the adequacy of the well accepted TPB model in the Indian context.

Keywords: Knowledge management, Knowledge sharing behavior of teaching professionals

Introduction

The concept of knowledge management (KM) was first introduced by Davenport & Prusak in the year of 2000. KM is sharing knowledge, ideas and experience (Cabrera & Cabrera, 2002). The primary objective of any teaching is sharing knowledge and their success depends upon the employee's willingness for the same (Koulopoulos & Frappaolo, 1999). The studies done by (Bock & Kim, 2002; Ryu et al, 2003; Lin & Lee, 2004; Bock et. al., 2005 and Kankahalli et. al., 2005) have identified various factors affecting KSB. Those studies were related to manufacturing, service and banking industry but no study explains KSB of teaching professionals, though they are meant for KSB (Kubo et. al., 2001). The study is based on the TPB model which explains an individual's KSB (Ryu et. al., 2003).

Literature Review

KM is a process of knowledge creation, transfer or sharing and use (Davenport et. al. 1998). One of the most important components of KM is sharing knowledge (Bock & Kim, 2002; Lahti & Beyerlein, 2000; Quinn, 1996). Willingness to share knowledge is a key factor for KM.

Sometimes, Knowledge is shared even if it is not deliberately managed or efforts made (Chua, 2003; Davenport & Prusak, 2000). Therefore, it is necessary to understand the factors that influence KSB of employees of any organizations. Previous studies on this regard were limited to Banking and Hospital sectors only. The biggest gap in literature is that, there is no study that examines KSB of educational sector though it is a known fact that the primary business of educational sector is sharing knowledge. The business of teaching professionals is information sharing and therefore, this study tries to fill the gap in literature by analyzing the factors responsible for KSB in educational sector's teaching professionals.

Ajzen (1991) explains that, there are three components of KSB and they are attitude towards knowledge sharing (AS), subjective norms (SN) and perceived behaviour control (PBC). The first component is about the favorable or unfavorableness of the behaviour, the second component is about the organizational pressure to perform the

behaviour and the last component is about the past knowledge regarding the consequence of performing the specific behaviour. Ajzen (1991) also says that the influence of these three factors on KSB would vary from organization to organization and from situation to situation. There are evidences that suggest an investigation on the applicability of KSB model in various sectors (Bock et al, 2005; Bock & Kim, 2002; Chang, 1998; Millar & Shevlin, 2003; Ryu et. al., 2003; Shreeran & Orbell, 1999) but are limited to only Banking, Finance and Hospital sectors only.

Methodology

It is a descriptive study and is based on the primary data collected from the educational institutions of Odisha, India. Odisha has more than 200 private and Government educational institutions and they constitute the population of this study. The respondents of the study are teaching professionals and belong to different designations of teaching department. The sample of the study is 196. The data analysis is done with the help of SPSS and AMOS.

Table-1: Demographical profile of the respondents			
Demographics	Particulars	No.	%
Gender	Male	121	62
	Female	75	38
Age	<20 Yrs	55	18
	20-35 Yrs	109	39
	35-50 Yrs	11	33
	>50 Yrs	21	10
Experience	<1yr	46	22
	1-3 years	49	35
	3-5 Yrs	33	30
	>5 Yrs		17
Education	Passed 10th	58	21
	Passed Graduation	146	51
	Post Graduate/ Doctorate	80	28

The Measures

The study measures four constructs i.e. AKTS, SN, PBC and KSB. The measures are adopted from the previous studies of Ajzen (1991, 2002), Bock & Kim (2000, 2002), Lee (2001), Lin & Lee (2004), and Ryu et al. (2003). Lin & Lee (2004). The questionnaire consists of 17 items i.e. four items each for AKTS, SN, PBC constructs and five items for KSB. The questionnaire is pretested by taking a sample

of 30 employees to establish content validity (Zikmund, 2003).

Hypotheses

H1: Attitude towards knowledge sharing positively affects knowledge sharing behavior

H2: Subjective norms positively affect knowledge sharing behavior.

H3: Perceived behavioral control positively affects knowledge sharing behavior.

Data Analysis

Data is analyzed with the help of structural equation modeling (SEM). SEM includes measurement and

structural model. Measurement model checks the extent to which the items truly represent the latent construct (Straub, 1989) and structural model tests the relationship between the constructs (Hair et al., 2007).

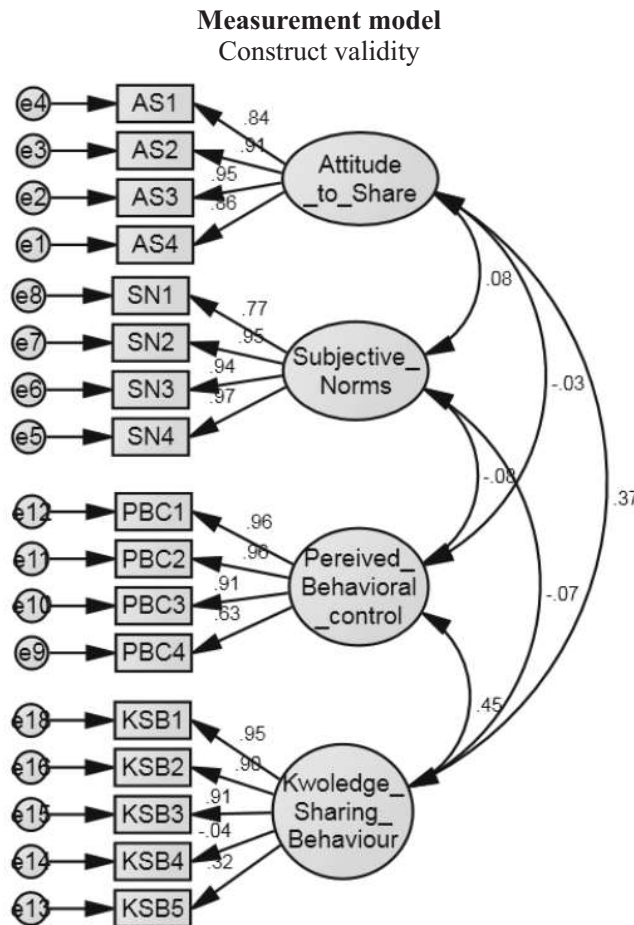


Fig-1: Measurement Model

Composite reliability (CR) is a measure of internal consistency (Lin & Lee, 2004). The accepted value of CR is above 0.7 (Chin, 1998). From table- we can see that the values of CR for all constructs are above 0.7 i.e. the constructs are reliable. Construct validity can be established through convergent and discriminant validity (Straub, 1989). For a good convergent validity, the values of factor loadings, CR and AVE should be above 0.7 (Hair et al., 2006). From the above model we can clearly see that the values of factor loadings are above 0.7 except KSB4, which is negative and KSB5, which is below the threshold

limit of 0.5 hence both of them are excluded from the structural model. For the discriminant validity the values of AVEs' should be more than MSVs' (Bock & Kim, 2002; Hair et al., 1998; Lin & Lee, 2004; Ryu et al., 2003). From table- it is evident that the values of AVEs' of all constructs are far above MSVs', therefore the constructs have good discriminant validity too. The overall fit of the measurement model is established with the help of χ^2/df , RMSEA, GFI, CFI, NFI as suggested by (Kline, 2005).

Table-2: Construct Validity

Constructs	Items	Factor Loadings	CR	AVE	MSV
PBC	PBC1	0.957	0.927	0.765	0.205
	PBC2	0.961			
	PBC3	0.96			
	PBC4	0.631			
AS	AS1	0.84	0.868	0.767	0.138
	AS2	0.91			
	AS3	0.954			
	AS4	0.864			
SN	SN1	0.769	0.95	0.829	0.006
	SN2	0.948			
	SN3	0.94			
	SN4	0.97			
KSB	KSB1	0.95	0.798	0.531	0.205
	KSB2	0.901			
	KSB3	0.915			
	KSB4	-0.041			
	KSB5	0.317			

Structural Model

In CFA the last two items of the construct 'KSB' i.e. KSB4, KSB5 were dropped because of their low factor loadings.

The structural relationships among the constructs are examined using SEM. Fig- represents the structural model along with factor loadings and path coefficients.

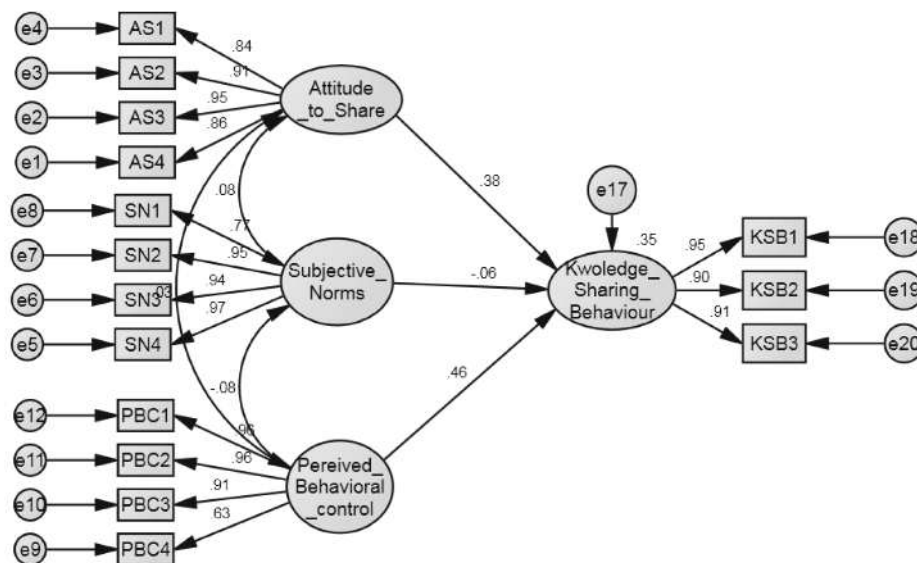


Fig-2: Structural Model

Table-3: Model fit			
Indices	Obtained values	Threshold values	Reference
CMIN/DF	1.306	0 > CMIN/DF < 5	Gerpott et al., (2001); Hair et al., (2006); Homburg & Baumgartner, (1995)
RMSEA	0.040	< 0.08	
GFI	0.932	> 0.9	
CFI	0.991	> 0.9	

Table-4: Regression weights		
Relationships	Path coefficients	P-Value
KSB<---AS	0.38	0.000
KSB<---SN	-0.06	0.336
KSB<---PBC	0.46	0.000

The structural model indicates that PBC has the highest influence on KSB with a path coefficient of 0.46 followed by AS with a path coefficient of 0.38 and both are significant at $p < 0.05$. These results are in consistent with the prior studies done by Ajzen (1991) so far as the positive influence is concerned and differs slightly because Ajzen (1991) in his TPB model has found a strong positive influence of AS on KSB whereas this model shows the strongest positive influence of PBC on KSB. As Ajzen (1991) says that the past behavior influences future behavior hence the stronger influence of PBC on KSB may be due to this fact. As the respondents of the current study belong to educational institution therefore the consequence of past behavior will strongly influence their future behavior and thus, PBC is found to have a strong influence on KSB.

The model also shows that SN has a negative influence on KSB but it is insignificant at $p < 0.05$ level. It is consistent with the finding of Ryu et al. (2003) which suggests the least effect of SN on KSB. The study done by Bock and Kim (2002) also indicates no positive effect of SN on KSB.

Overall the findings of the study are consistent with most of the studies done before on the TPB model (Bock et al., 2005; Bock & Kim, 2002; Lin & Lee, 2004; Kankahalli et al., 2005; Prodromos & Eftichia, 2009). And the slight differences may be because of the difference in the organizational culture, nature etc. As Ajzen (1991) says the influence of the three predictors are independent and may

vary from situation to situation and across the nature of organization.

Conclusion

The purpose of this study was to develop better understanding about the factors affecting KSB construct. The major contribution of this study is that it is the first of its kind to test a well accepted model in Indian context. It also tried to explore the adequacy of TPB model in a specific professional group. It is also one of the first studies to understand the KSB construct in educational sector. As previous studies were limited to bank and hospital sector.

Hypotheses (H1) and (H3) were significant and supported. PBC influences KSB the most with the highest path coefficient of (0.46) followed by AS with a path coefficient of (0.38). Hypothesis H2 is rejected as the effect is negative and insignificant. In short, this study has tested TPB model not only in Indian context but also in education sector which was ignored by previous studies. This is also a reason for choosing education sector for the study. It will be useful to understand the predictors of KSB in relevant sectors like education (Ryu et al., 2003). The model fitted the data well and has identified the predictors of KSB. The study concludes that an individual's perceived behavior and attitude to share are primary influencing their behavior to share knowledge. It means an individual's past experience and favorable ness will decide its future behavior.

As attitude and perception played an important role to share knowledge, organizations must create an environment that can support these factors. Ryu et al. (2003) and Bock et al. (2005) have advocated for creating a culture and environment that cultivates mutual relationships, attitudes and perceptions to share knowledge. More over employees should be encouraged by creating an environment where they feel the pressure of sharing knowledge. When employees understand that sharing what they know helps them then they share effectively (Gruen, 1999).

Lastly, the study is focused on educational sector and includes only 196 observations hence it cannot be generalized. The study can be extended to more sectors and to a larger observation to confirm the findings. The findings of the study may have influence of the domestic culture and beliefs.

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