Research

ROLE OF REWARDS TO FOSTER KNOWLEDGE SHARING PRACTICES: MEDIATING ROLE OF PSYCHOLOGICAL COMMITMENT

Yasser Arfat[1], Muqqadas Rehman[2], M. Ilyas[3] and Ayesha Saqib[4]

Abstract

We investigate how rewards can foster knowledge sharing practices in the education sector. This study also aims to determine whether psychological commitment mediates in the relationship between rewards and KS practices. To get the objectives of this study, data have been collected from 363 employees of private universities. The results exhibit a strong positive relationship of intrinsic, extrinsic rewards and psychological commitment with KS practices. The intrinsic reward has been proved a stronger predictor of KS practices. Moreover, the current study exhibited that intrinsic rewards are of prior importance to people than extrinsic rewards. The results suggested that in order to foster KS culture in organizations, it is necessary for strategic managers to devise such environment and polices where employees are given commitment and rewards of intrinsic nature so that they are motivated to get involved in KS practices and can provide competitive edge to the organization.

Keywords: Intrinsic rewards, extrinsic rewards, Knowledge sharing practices, Psychological commitment

JEL Classification: Z190

1,2&4 Superior University, Lahore, Pakistan

3- Economics Department, Government College Women University Sialkot, Pakistan

Introduction

Knowledge sharing (KS) is a newly emerging area, so this study has taken it as a key area to be studied in the context of rewards and psychological commitment within the education sector of Pakistan. Organizations are always different with respect to ownership, authority, hierarchy, control, modes of communication, utilization of budgets, functioning, policies, and fostering knowledge sharing practices compared to private sector organizations (Aslam, Arfeen, Mohti, & Rahman, 2015; Aslam, Ilyas, Imran, & Rahman, 2016). It was identified that educational institutions such as colleges, universities and other organizations are now considered to be in the knowledge business due to their function of transforming the knowledge which is produced, stored, disseminated and authorized (Muqadas, Ilyas, Aslam, & Rehman, 2016; Muqadas, Rehman, Aslam, & Rahman, 2017). Competent employees involve in acquiring, creating, sharing, and exploiting the knowledge in the wide interest of their organizations (Muqadas et al., 2017; Henri, 2016; Aslam, Rehman, Imran, & Muqadas, 2016). According to the knowledge theory, knowledge has been considered as an intellectual asset and a source of competitive advantage (Grant, 1996a, 1996b). Knowledge development, knowledge life cycle, KS, and knowledge capture are enhancing innovation and performance of organizations (Rutten, Blaas-Franken, & Martin, 2016). KS practices foster high performance standards, employees' creativity and operational effectiveness in leading organizations (Muqadas et al., 2016; Inkinen, 2016). These institutions also face similar pressure of competitiveness in the marketplace as faced by other institutions (Jahani, Ramayah, & Effendi, 2011). KS is documented as an important weapon for supporting the competitive advantage of an organization as well as to improve its performance (Muqadas et al., 2016; Zaied, Hussein, & Hassan, 2012). In order to sustain competitive advantage, educational institutions should identify the importance of KS practices. According to Shengquan (2001), an individual's KS mainly refers to the process of transformation and innovation of acquisition, storage,

sharing and exertion of professional knowledge. Ramayah, & Effendi (2011) stated that knowledge should be leveraged from higher education for improving the quality of education, customer service and innovation in order to give excellent operational quality.

According to numerous studies, the most widely researched area with regard to rewards is knowledge sharing (e.g., Lin & Lee, 2004; Lee & Ahn, 2007; Muqadas et al., 2016; Jahani et. al., 2011; Zawawi, et al., 2011) but in this study, two variables i.e. reward system and psychological commitment along three dimensions of KS practices are addressed. According to Doll et al., (2005) knowledge workers need to be empowered so that they may undergo creation and innovation. Moreover, organizational tasks can become more knowledge oriented when individuals are empowered to take appropriate actions (Marakus et al., 2002). According to Ozbebek & Toplu (2011) psychological commitment and KS are positively related. Additionally according to researchers, psychological commitment was found to have a mediating role between other variables as between the teachers' perceptions about authentic leadership and with their withdrawal and citizenship behaviors; leadership styles and follower organizational identification; impact of transformational leadership on follower commitment and many others (Givens, 2011; Shapira-Lishchinsky & Temach, 2014; Zhu, *et al.,* 2012). Mediation of psychological commitment between organizational rewards and KS practices was not found; therefore, to cope with this gap, the present study proposes mediation of psychological commitment between rewards and KS practices.

Literature review

The ability of an organization to capture, retain, convert and apply knowledge in the right direction provides an integrated framework through which the existing and new problem can be addressed quickly (Andrews & Delahaye, 2000). KS process capability becomes the source of innovation for organizations through

developing new learning avenues of management and employees of the organizations (Ju, Li, & Lee, 2006). KS means correspondence, production and utilization of ideas for private and organizational benefits (Bailey and Clarke, 2000). KS process capability refers to the ability of a firm to create, convert, disseminate, retain and apply new or existing knowledge to gain competitive advantage and innovative ability of firm (Gold & Arvind Malhotra, 2001; Ju et al., 2006). A study conducted by Yu, Kim, & Kim (2004) showed that intrinsic and extrinsic rewards are strongly and directly related to KS practices in the organizations. Gan, Ryan, & Gururajan (2006) proved that collaboration, mutual trust, incentives/rewards and leadership have some impact on the level of KS practices. Individual-based reward system is in favor of firm because it encourages workers to share their knowledge (Amayah & Nelson 2010; Lee & Ahn, 2007). Organizations must have to apply the existing knowledge for routine or already known problems and develop new knowledge for uncertain and new problems (Chang & Chuang, 2011). The knowledge intensive culture provides support to the leaders for enhancing motivation regarding knowledge flow, more particularly, tacit knowledge flow. When implicit knowledge of one individual is converted into explicit knowledge to be used by others is called KS (Ipe, 2003). When gained knowledge is implemented in a fruitful manner it is then known as knowledge application (Muhammed et al., 2011).

H1: Intrinsic rewards are positively correlated with KS practices.
H2: Extrinsic rewards have positive relationship with KS practices.

Reward system should be based and related to psychological commitment system (Spreitzer, 1995). Organizational factors, supervision style, job design and reward system have significant relation with psychological empowerment(Hassanpoor, Mehrabi, Hassanpoor, & Samangooei, 2012). Research findings indicated a significant relationship among reward system and psychological empowerment(Soltani & Sanatyzadeh, 2013). Empowered employees may participate in proper management of organization, designing the

jobs, defining rewards and incorporating changes in work environment(Garg & Suri, 2013).

H3: Intrinsic rewards are positively related to psychological commitment.
**H4:** Extrinsic rewards are positively related to psychological commitment.

Muhammed (2006) found that psychological commitment is predecessor of the individuals' KS practices. Ozbebek & Toplu (2011) explored that employees who are empowered exhibit greater level of willingness for sharing their knowledge. Ahmadi et al. (2012) found that psychological commitment and KS practices in the social security organizations are strongly influenced by one another. Muhammed, Doll & Deng (2013) found that for knowledge workers, psychological commitment is linked significantly with the knowledge sharing and application behaviors; but not with the knowledge creation. While, in the certain knowledge work contexts, Doll et al., (2005) contented that knowledge creation and innovation finishes without empowered human agents.

H5: Psychological commitment is positively related to an individual's KS practices.
H6: Psychological commitment mediates between intrinsic rewards and KS practices.
H7: Psychological commitment acts as a mediator between extrinsic rewards and KS practices.

Figure 1: Research Model
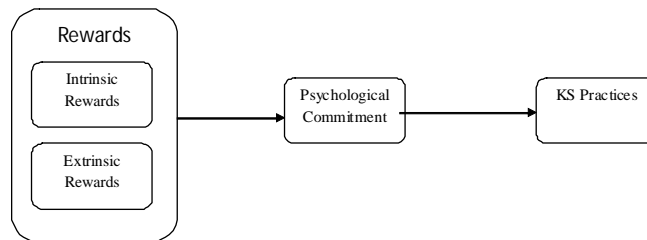
Methodology

Research paradigm

According to Creswell (2003), researchers should undergo research by following specific procedure called philosophical assumptions. This study falls under the category of positivism because it verifies the theories and hypothesis of empirical sciences where larger sample size is taken for conducting the study and as this research is aimed to verify the existing theories, so deductive approach is most suitable.

Sample

To draw sample,the targeted population was divided into clusters according to geographical location. Punjab was divided into 9 clusters according to its divisions which included Faisalabad, Bahawalpur, Gujranwala, Rawalpindi, Lahore, Dera Ghazi Khan, Sargodha, Multan and Sahiwal. Lahore division was chosen from those 9 clusters through simple random sampling.

In order to get 491 respondents, 10 private universities employees were selected through simple random sampling. Total 491 questionnaires were distributed among respondents of this study. Out of 491 questionnaires, there were 363 useable responses. Therefore the response rate for this study is 74%.

Instrumentation

Demographic information included age, gender, marital status, education level, salary and teaching experience. To measure intrinsic rewards, we adopted the already used scale of Mottaz (1981) and for extrinsic rewards we adopted the already used scale of Clifford (1985). These well calibrated scales have also been used in various good indexed studies e.g. used by Rehman et al. (2010). The scale for the mediating variable i.e. psychological commitment was adopted from Spreitzer (1995) which was used in various good indexed studies

such as in the study of Muhammed et al. (2013). Lastly, well calibrated scale for measuring individual's KS practices was adopted from Muhammed et al. (2011).

Data Analysis

Correlation and Reliability Analysis

The value of Cronbach's Alpha close to 1 is considered to be the indicator of reliable construct but the cut-off point is described in different ways by different authors such as the cutoff value of Cronbach's Alpha for a reliable construct is 0.7 according to Chin (1998) which is also cited by Bock et al., (2005). For this study, Cronbach's Alpha value ranges from 0.755 to 0.942 showing that each measure is highly reliable. Moreover, correlation test has been applied to measure the strength of relationship among variables. These extracted values showed good relationship among variables.

Table 1:
Correlation and Reliability Results

Constructs	Alpha	1	2	3
Intrinsic Rewards	.755			
Extrinsic Rewards	.817	$.451^{**}$		
Psychological Commitment	.898	$.510^{**}$	$.516^{**}$	
KS Practices	.942	$.641^{**}$	$.620^{**}$	$.514^{**}$

Structural Model

Structural model fitness was assessed by examining the variety of fit indices (see Table 3). Those fit indices indicated that hypothesized research model exhibits an acceptable fit to the data and is therefore acceptable.

Table 2:

Results for Structural Model

	X^2	d.f	X^2/d.f	CFI	GFI	NFI	RMSEA	RMR
Model Values	116.1	136	2.79	0.913	0.933	0.922	0.056	0.063
Recommended			=3	=0.9	=0.9	=0.9	=0.08	=0.5

Hypotheses Testing

Intrinsic rewards have positive relationship with individual's KS practices and psychological commitment ($\beta = 0.331$, t = 4.117, p Â 0.01 and $\beta = 0.441$, t = 6.114, p Â 0.01). Furthermore, the results indicated that extrinsic rewards have also significant relationship with KS practices ($\beta = .281$, t = 3.871, p Â 0.01). As proposed, H4 also proved that extrinsic rewards have significant relationship with psychological commitment ($\beta = 0.456$, t = 7.158, p Â 0.01). The relationship between psychological commitment and KS practices shows a significant relationship ($\beta = 0.566$, t = 11.115, p Â 0.01) too. Please see the below given details

Table 3:

Regression Analysis

Relationships	Estimate	S.E.	Composite R.	Sig.
PC <--- IR	.441	.034	6.114	***
PC<--- ER	.456	.058	7.158	***
KSP <--- PC	.566	.091	11.115	***
KSP <--- IR	.331	.041	4.117	***
KSP <--- ER	.281	.039	3.871	***

Mediation

It was found that psychological commitment partially mediated the relationship between intrinsic, extrinsic rewards and KS practices. The below given results confirmed the proposed hypotheses of these relationships.

Table 4:

Mediation Results

Relationships	T.E	D.E	I.E	Sobel Results	
				z-value	p-value
IR → PC → KSP	0.4411 (0.043)	0.1832 (0.053)	0.3523 (0.059)	7.9101	0.003
ER → PC → KSP	0.5181 (0.061)	0.1714 (0.069)	0.5145 (0.071)	7.3434	0.004

Note: *IR = Intrinsic Rewards; ER = Extrinsic Rewards; PC= Psychological Commitment; KSP = Knowledge sharing Practices, T.E= Total Effect, D.E= Direct Effect, I.E=Indirect Effect*

Discussion and Conclusion

Literature provides strong evidence for the relationship of both types of rewards with individual's KS practices (Bartol & Srivastava, 2002; Lawler, 2013; Yu, Kim, & Kim, 2004). This study also found consistent results with these researches for the relationship between intrinsic rewards and KS practices but we found contrary results for extrinsic rewards. There are some other studies which also provide evidence that rewards have insignificant relationship with employee's attitudes towards KS (Olatokun & Nwafor, 2011; Seba et al., 2012). It was also suggested that it may be time to revise the motivation theory as a basis for research in KS (Seba et al., 2012). It is found that there is a need to recognize the value of employee's intellectual capabilities which are used for knowledge creation. Huysman & de-Wit (2002) stated that financial rewards could only create short-term effect rather than having long term effects. In fact, most experienced employees regard knowledge sharing as part of their work responsibilities and thus held a negative perception towards the introduction of extrinsic rewards (constant et al., 1994). The presence of extrinsic rewards can attract non-intrinsically motivated individuals to participate in knowledge sharing (Davenport, Prusak, & Wilson, 2003). Another main finding or contribution of this research is the development of theoretical basis of intrinsic rewards for KS practices. Intrinsic rewards such as task autonomy; task significance and task involvement were found to be important predictors of KS practices.

Through this, we came to know that intrinsic rewards are important in enhancing KS practices and this can lead to better perception regarding how to create effective reward and recognition systems in an organization for knowledge workers. Another finding of this research i.e. intrinsic and extrinsic rewards have positive relationship with psychological commitment is also consistent with previous studies (such as Garg & Suri, 2013; Hassanpoor, et al., 2012; Soltani & Sanatyzadeh, 2013). Lastly, the finding of this study that psychological commitment is a strong predictor of individual's KS practices is consistent with the results drawn by Muhammed (2006), Ahmadi et al. (2012) and Muhammed et al. (2013). This also proposed a new relationship based on previous theory that psychological commitment acts as a mediator between intrinsic, extrinsic rewards and individual's KS practices and found support for hypotheses. Summarizing this, it can be acknowledged that the main priority should be given to intrinsic rewards and commitment of employees for enhancing the KS practices in an organization. Intrinsic rewards are more suitable for exhibiting KS practices than extrinsic rewards which are considered to be an important driver for organizational success and competitiveness (Sajevaa, 2014). Lastly, reward system (including both intrinsic and extrinsic rewards) plays greater role in predicting individual's KS practices via including mediator i.e. psychological empowerment.

This paper is significant because it highlights the importance of rewards and psychological commitment provided to teachers in order to enhance the KS practices adopted by them. The results of this study are important for teachers as well as managers as it provides insights about the management of knowledge in educational institutions. So, by knowing that intrinsic rewards are greater source of motivation for teachers to integrate KS practices as compared to extrinsic rewards, organization can effectively design their rewards system as a source to gain competitive advantage. Above all, if teachers are empowered psychologically, it will have a significant effect on knowledge creation, sharing and application in their

organizations. To conclude, this research is important in the context of KS as in today's dynamic era it is essential for every organization to manage its knowledge.

Limitations and Future Researches

They first limitation is the limited generalization of this study because the target area is only one province (i.e. Punjab) of Pakistan. So, this study can be conducted in future by taking larger sample under consideration. This cross sectional design of survey may not yield some of the aspects of KS practices in organization which can be seen in the studies conducted on more than one point in time. So, longitudinal studies can be conducted to see the long term effects of rewards and psychological commitment on KS practices.

References

Ahmadi, S. A., Daraei, M. R., khodaie, B., & Salamzadeh, Y. (2012). Structural equations modeling of relationship between psychological commitment and KSpractices (A case study: social security organization staff of Ardabil Province, Iran). International Business Management, 8(1), 8-16.

Amayah, A. T., & Nelson, F. F. (2010). Knowledge sharing –Types of knowledge shared and rewards. Midwest Research-to Practice Conference in Adult, Continuing, and Community Education. Michigan State University.

Andrews, K. M., & Delahaye, B. L. (2000). Influences on knowledge processes in organizational learning: The psychosocial filter. *Journal of Management studies, 37*(6), 797-810.

Aslam, U., Arfeen, M., Mohti, W., & Rahman, U. U. (2015). Organizational cynicism and its impact on privatization (evidence from federal government agency of Pakistan). Transforming Government: People, Process and Policy, 9(4), 401-425.

Aslam, U., Ilyas, M., Imran, M. K., & Rahman, U. U. (2016). Detrimental effects of cynicism on organizational change: an interactive model of organizational cynicism (a study of employees in public sector organizations). Journal of Organizational Change Management, 29(4), 580-598.

Aslam, U., Rehman, M., Imran, M. K., & Muqadas, F. (2016). The Impact of Teacher Qualifications and Experience on Student Satisfaction: A Mediating and Moderating Research Model. *Pakistan Journal of Commerce and Social Sciences*, *10*(3), 505-524.

Armstrong, M. (1991). Reward management - A handbook of remuneration strategy and practice (2nd & 3rd ed.). London: Kogan Page Ltd.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. Journal of the Academy of Marketing Science, 16(1), 74-94.

Bailey, C., & Clarke, M. (2000). How do managers use knowledge about knowledge management? Journal of Knowledge Management, 4(3), 235-243.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. Journal of Personality and Social Psychology, 51, 1173-1182.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: the role of organizational reward system. Journal of Leadership & Organizational Studies, 9(1), 64-76.

Bloom, M. & Milkovich, G. T. (1998). A SHRM on international compensation and reward systems (CAHRS Working Paper #98-11). Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies.

Bock, G.-W., Zmud, R. W., Kim, Y.-G., & Lee, J.-N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. MIS Quarterly, 29(1), 87-111.

Byrne, B. M. (2010). Structural equation modeling with AMOS: basic concepts, applications, and programming. New York: Taylor & Francis Group.

Carroll, J., Choo, C., Dunlap, D., Isenhour, P., Kerr, S., Maclean, A., & Rosson, M. (2011). KSSupport for Teachers. University of Toronto, 1-38.

Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In Markoulides, G.A. (Ed.), Modern Methods for Business Research (pp. 295-336), Lawrence Erlbaum, Mahwah, NJ.

Chang, T.-C., & Chuang, S.-H. (2011). Performance implications of knowledge management processes: Examining the roles of infrastructure capability and business strategy. *Expert Systems with Applications, 38*(5), 6170-6178.

Clifford, J.M. (1985). The relative importance of intrinsic and extrinsic rewards as determinants of work satisfaction. Sociological Quarterly, 26(3), 365-385.

Constant, D., Kiesler, S., & Sproull, L. (1994). What's mine is ours, or is it? A study of attitude about information sharing. Information Systems Research, 5(4), 400-422.

Creswell, J. (2003). Research desighn:qualitative,quantitative approaches and mixed methods. Thousand Oaks,CA: Sage.

Christensen, J. A. (2009). Positivist research. Research Methods in Early Childhood , 11-19.

Davenport, T. H., & Prusak, L. (2000). Working knowledge: How organizations manage what they know. Boston: Massachusetts: Harvard Business School Press.

Davenport, T., Prusak, L., & Wilson, H. J. (2003). What's the big idea? Creating and capitalizing on the best management thinking. Boston: Harvard Business School Press.

DeCenzo, R. A., & Robbins, S. P. (2013). Fundamentals of human resource management (11th ed.). Newyork.

Doll, W. J., Deng, X. & Metts, G. A. (2005). User commitment in virtual knowledge work. Working Paper, The University of Toledo.

Drucker, P. F. (1999). Management challenges for the 21st century: Elsevier Butterworth Heinemenn.

Gan, G. G., Ryan, C., & Gururajan, R. (2006). The effects of culture on KSpractice. Malaysian Management Review, 24(1), 97-128.

Garg, A., & Suri, S. (2013). Analysisng the impact of psychological commitment on orgnizational citizenship behaviour in public banking sector. International Journal of Marketing, Financial Services & Management Research, 2(7), 1-15.

Grant, R. M. (1996a). Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization science, 7*(4), 375-387.

Grant, R. M. (1996b). Toward a knowledge based theory of the firm. *Strategic management journal, 17*(S2), 109-122.

Givens, R. J. (2011). The role of psychological commitment and value congruence in mediating the impact of transformational leadership on follower commitment in american churches. International Journal of Leadership Studies, 6(2), 188-214.

Goodale, J., Koerner, M., & Roney, J. (1997). Analysing the impact of service provider commitment on perceptions of service quality inside the organization. Journal of Quality Managment, 2(2), 191-215.

Garg, A., & Suri, S. (2013). Analyzing the impact of psychological empowerment on organizational citizenship behaviour in public banking sector. International Journal Of Marketing, Financial Services & Management Research, *2*(7), 1-15.

Gold, A. H., & Arvind Malhotra, A. H. S. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems, 18*(1), 185-214.

Hair, J.F. Jr, Anderson, R.E., Tatham, R.L. and Black, W.K. (1998), Multivariate data analysis with readings (5th ed.). Prentice-Hall, Engelwood Cliffs, NJ.

Hassanpoor, D. A., Mehrabi, D. J., Hassanpoor, M., & Samangooei, B. (2012). Analysis of effective factors on psychological commitment of employees. American International Journal of Contemporary Research, 2(8), 1-8.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. Communication Monographs, 76(4), 408-420.

Henri, I. (2016). Review of empirical research on knowledge management practices and firm performance. *Journal of knowledge management, 20*(2), 230-257. doi: 10.1108/jkm-09-2015-0336

Inkinen, H. (2016). Review of empirical research on knowledge management practices and firm performance. *Journal of knowledge management, 20*(2), 230-257. doi: doi:10.1108/JKM-09-2015-0336

Jahani, S., Ramayah, T., & Effendi, A. A. (2011). Is Reward System and Leadership Important in Knowledge Sharing Among Academics? *American Journal of Economics and Business Administration, 3*(1), 87-94.

Ju, T. L., Li, C.-Y., & Lee, T.-S. (2006). A contingency model for knowledge management capability and innovation. *Industrial Management & Data Systems, 106*(6), 855-877.

Muqadas, F., Ilyas, M., & Aslam, U. (2016). Antecedents of knowledge sharing and its impact on employees 'creativity and work performance. *Pakistan business review*, *18*(3), 655-674.

Muqadas, F., Rehman, M., Aslam, U., & Rahman, U. U. (2017). Exploring the Challenges, Trends, and Issues for Knowledge Sharing: A Study on Employees in Public Sector Universities. *VINE Journal of Information and Knowledge Management Systems*, 47 (1), 2-15.

Reid, I. C. (2000). The Web, Knowledge Management and Universities. *Southern Cross University*.

Rutten, W., Blaas-Franken, J., & Martin, H. (2016). The impact of (low) trust on knowledge sharing. *Journal of knowledge management, 20*(2), 199-214.

Soltani, I., & Sanatyzadeh, S. (2013). Analysis of Effective Factors on Psychological Empowerment of Employees. *International Journal of Management Academy, 1*(2), 102-108.

Spreitzer, G. M. (1995). Psychological Empowerment in the Workplace: Dimensions, Validation and Measurements. *Academy of Management Journal, 38*(5), 1442-1465.

Zaied, A. N. H., Hussein, G. S., & Hassan, M. M. (2012). The Role of Knowledge Management in Enhancing Organizational Performance. *I.J. Information Engineering and Electronic Business, 5*, 27-35.