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KNOWLEDGE SHARING AMONG ACADEMICS IN AN ODL CONTEXT: THE CASE OF THE OPEN UNIVERSITY OF SRI LANKA

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Abstract

Knowledge sharing is a critical aspect of an organization's strategy of knowledge management that contributes to higher levels of performance. The paper examines the process of knowledge sharing among academics in the context of the Open University of Sri Lanka, which is a leading institution practicing open and distance learning. The findings based on a sample survey of 51 academics revealed that most preferred KS practices such as the conduct of day schools and informal sharing of knowledge among colleagues are confined largely to the boundaries of the University. The findings also show that the practice of ODL methods of knowledge sharing such as developing audio-visual aides and on -line study material has been limited. Undertaking research and publishing papers in journals has been a practice adopted largely by the senior academics. The findings revealed that administrative responsibilities involved with regular academic programmes of the University are perceived by the academics as a major barrier to practicing KS. The paper concludes that the current state of KS which is less developed, is to be addressed through a strategy specific to open and distance learning.

Introduction

Knowledge is defined as a fluid mixture of experience, values, contextual information and expert insight for evaluating and incorporating new experiences and information (Davenport and Prusak, 1998). Knowledge sharing is considered a critical organizational process that leads an organization to re-discover itself or to re-position itself with greater capacity to compete in a changing market environment. Besides the already existing corporate knowledge in the form of information systems and R&D based knowledge, the organizations draw heavily on individual knowledge which has two forms:namely, explicit and tacit knowledge (Debowski 2006:20). Explicit knowledge captures the documented and codified knowledge usually transmitted through written or electronic forms while tacit knowledge, which is experience-based and usually unarticulated, resides within individuals. Knowledge sharing (KS), which involves sharing of an individual's understanding of a given subject or information and experience with others, is considered an

important aspect of the knowledge management strategy of an organization.

A university as a centre of generation and dissemination of knowledge adopts different knowledge sharing practices such as lectures, seminars and research and publications in addition to informal means of knowledge sharing practiced by individuals. It is believed that in the context of a university, KS could result in positive outcomes such as developing new knowledge through research, designing new courses and study programmes and revision of existing courses as well as learning material. The Open University of Sri Lanka being a national centre of open and distance learning (ODL) has a considerable potential for generation and sharing of knowledge in relation to the academic disciplines under its four faculties. However, in terms of the indicators of generation and sharing of knowledge such as the number of research publications, number of conferences held and the papers presented, annual expenditure on research and the number of courses revised or new courses developed, it appears that the performance of the University during the past few years has not been satisfactory. Hence, it is important to inquire in to the issue of lack of knowledge sharing among the academics of the Open University of Sri Lanka.

Objectives

The paper intends to:

I. Assess the current state of knowledge sharing among the academics of the Open University through the study of a sample of academics, and

II. Identify the constraints, if any, that hinders knowledge sharing as well as developing new knowledge in an ODL context and suggest possible remedies.

Knowledge Sharing in Organizations

Knowledge is a dynamic and intangible asset which continues to grow depending on its generation, application and sharing. The relevance of knowledge depends on its application for strategic effectiveness of an organization. Of the two types of knowledge, explicit knowledge is shared more easily than tacit knowledge in the context of organizations. It has been observed that explicit knowledge, which is

formal and systematic, can be easily communicated and shared. But tacit knowledge, which is highly personal and hard to formalize, is difficult if not impossible to communicate (Nonaka 1998:27). However, the individual-based tacit knowledge as well as explicit knowledge can become part of the collective knowledge of an organization by creating an organizational culture that values knowledge creation as well as sharing (Gupta, 2007).

Nonaka and Takeuchi (1995) in their classic "The Knowledge Creating Company" have identified four ways of creating knowledge in organizations. They include, (i) from tacit to tacit (socialization), depicted by a master sharing his knowledge with an apprentice (ii) from tacit to explicit (articulation), where one transmits his internalized knowledge to others through communication, (iii) from explicit to explicit (combination), a situation where a person is capable of combining different pieces of explicit knowledge, and (iv) from explicit to tacit (internalization), which suggests that explicit knowledge shared between individuals over a period of time could become tacit. Thus, the four stages of knowledge creation articulated by Nonaka and Takeuchi suggest that in successful learning organizations knowledge creation operates as a cycle creating and reinforcing knowledge continuously.

It has been observed that organizations can achieve and sustain competitive advantage through the adoption of effective knowledge management practices, which also helps in removing the constraints to knowledge sharing (Jain, Singh and Kaur, 2007). The direction of an organization is usually determined by its strategic knowledge for which an organization may depend on individuals whose knowledge is of high strategic value (Debowski, 2006).The extent of knowledge sharing within organizations is influenced by people, processes and technology. Of these three, the most complex factor is considered to be the people due to the fact that unfavorable attitudes and values can create a dysfunctional climate for KS within organizations. Studies have also revealed that significant differences in knowledge generation exist among different age groups and the extent of knowledge sharing differs across different designations, education levels and also between males and females(Gupta, ibid).

Literature shows that KS is subject to the influence of both "hard" factors such as technology and "soft" factors which are people-based. Basu and Sengupta (2007) identify three major approaches that influence KS in organizations. The first approach which is 'tool-based" emphasizes the importance of ICT in knowledge sharing. The second

approach which is "incentive-based" emphasizes the importance of incentives to promote KS within organizations. The third approach is "integrative" where managers are expected to integrate factors such as management practices and values, organizational culture, organizational structure and processes to facilitate KS within organizations.

It has been observed that effective communication, both verbal and written, is fundamental to effective knowledge sharing (Davenport and Prusak, ibid). The lack of communication and interaction between knowledge sources and the recipients has been identified as a major barrier to KS. The sharing of tacit knowledge is considered more difficult than sharing of explicit knowledge in the context of organizations. Polanyi (1967) has developed the concept of "indwelling" to convey the idea that sharing of tacit knowledge takes place through a process of personal participation of the knowledge source and the recipient. Ajith Kumar and Ganesh (2007) observe that both interaction and indwelling are necessary for effective sharing of tacit knowledge between individuals. Research has further revealed that in the context of university and college environments in Malaysia, the academics have perceived that the existing culture has not provided much support for KS. They have also taken the view that rewards and recognition that motivate the academics for knowledge sharing were lacking (Jain, et al, ibid). Though knowledge sharing is considered to be of equal importance as knowledge generation, there has not been much research on knowledge sharing carried out in the context of Sri Lankan organizations, particularly the universities. This lacuna makes the present study further relevant.

Research Questions

I. The paper focuses on the following research questions:

II. What is the current state of knowledge sharing among the academics of OUSL?

III. What are the preferred methods of knowledge sharing?

IV. Does intensity of KS vary according to gender, level of education, age and status of individuals in the academic hierarchy?

V. Are there personal or institutional variables that restrict KS?

Propositions

Based on the literature as well as the researcher's own insights in to KS in the context of universities, the following propositions were developed for empirical testing during the study:

P1- The tendency for knowledge sharing will be greater among the young academics at lower levels in the academic hierarchy.

P2- The extent of knowledge sharing is influenced to a higher degree by organizational factors than individual-specific factors.

P3- Perceived benefits of KS in an ODL environment are likely to determine the level of individual participation in KS.

Methodology

The study adopted the questionnaire survey method for the purpose of data collection. A structured questionnaire consisting of 30 questions was forwarded through e-mail to a sample of academics in the four faculties of the Open University. Table 1 indicates the distribution of academic staff between the four faculties of OUSL. The survey questionnaire was forwarded to randomly chosen 112 academics (50 per cent of the total population) through e-mail. The researchers were able to retrieve 51 valid responses (45.5%) from 26 males and 25 females. The questionnaire included structured questions which offered several answer options involving a choice or ranking of factors in the order of importance. One of the questions which adopted the Likert scale technique intended to measure the participant's response to institutional and individual- related variables that tend to affect KS. The lowest response to the survey questionnaire was received from the Faculty of Engineering Technology. The completed questionnaires were analyzed using the SPSS package.

Table 1: Faculty- wise distribution of academic staff of OUSL as at end of 2007

Category of academic staff	Faculty of Education	Faculty of Humanities & Social Sciences	Faculty of Engineering Technology	Faculty of Natural Sciences	*Total*
Professor		04	04	04	*12*
Senior Lecturer	09	27	38	31	*105*
Lecturer	02	07	10	19	*38*
Lecturer (Probationary)	20	22	13	16	*71*
Total	*31*	*60*	*65*	*70*	*226*

Source: Establishments Division, OUSL

Analysis and Findings

The sample population is analyzed according to the status in the academic hierarchy, educational qualifications and age in Tables 2, 3 and 4 respectively. About 35 per cent of the sample belonged to senior levels in the academic hierarchy, 29 per cent to the middle level and a further 35 per cent to the junior level. The junior academics in the sample came under the 28-40 year age group.

Table 2: Sample analyzed according to status in the academic hierarchy

Status	Frequency	*Percentage*
Professor	03	*05.9*
Senior Lecturer	30	*58.8*
Lecturer	04	*07.8*
Probationary Lecturer	14	*27.5*
Total	*51*	*100.0*

Source: Survey data

Table 3: Sample analyzed by educational achievements

Educational qualification	Frequency	*Percentage*
Bachelor's Degree	08	*15.7*
Master's Degree	12	*23.5*
M Phil	11	*21.6*
PhD	20	*39.2*
Total	*51*	*100.0*

Source: Survey data

Table 4: Sample analyzed by age groups

Age group	Frequency	*Percentage*
28-40 years	18	*35.3*
41-50 years	13	*25.5*
51-65 years	16	*31.4*
Total	47	*92.2*
No response	04	*07.8*
Total	*51*	*100.0*

Source: Survey data

Methods of Knowledge Sharing

The methods adopted by the respondents for knowledge sharing were assessed in relation to ten criteria. The respondents were requested to identify three most preferred methods out of ten in the order of importance. Table 5 which presents the findings shows that "conduct lectures for students" is ranked as the most preferred method of KS which has taken the number 1 position in the relative rank. Almost 84 per cent of those who responded have given the first preference to this method. The second place in the relative rank has been given to "sharing of knowledge informally with one's colleagues". The third place in the relative rank is taken by "publish research papers in journals", while the fourth place has been given to "present papers at conferences". It is interesting to note that methods adopted for sharing knowledge with wider audiences such as "write and publish books", "write articles to news papers and magazines", and "make presentations to professional associations" have taken the 8th, 9th and 10th places respectively in the relative ranks.

Table 5: Preferred methods of knowledge sharing by respondents

Method of KS	1st preference	2nd preference	3rd preference	*Relative rank*
Conduct lectures for students	36 (83.7)	5 (11.6)	2 (4.7)	*1*
Conduct faculty seminars	4 (40.0)	5 (50.0)	1 (10.0)	*5*
Conduct lectures in public seminars	4 (36.4)	3 (27.3)	4 (36.4)	*6*
Present papers at conferences	6 (33.3)	3 (16.7)	9 (50.0)	*4*
Publish research papers in journals	6 (31.6)	9 (47.4)	4 (21.1)	*3*
Write articles to news papers and magazines	4 (50.0)	2 (25.0)	2 (25.0)	*9*
Make presentations to professional associations	5 (83.3)	-	1 (16.7)	*10*
Write and publish books	4 (50.0)	3 (37.5)	1 (12.5)	*8*
Share my knowledge with colleagues informally	7 (31.8)	7 (31.8)	8 (36.4)	*2*
Share my notes/ power point slides with others	*4 (50.0)*	*4 (50.0)*	-	*7*

Source: Survey data

Important knowledge sharing activities such as writing and publishing research articles and writing of lessons by the sampled academics were further analyzed according to age, gender, status in the academic hierarchy, and qualifications of the respondents. The data presented in Table 6 shows that statistically significant variations with respect to gender and qualifications of the respondents have been recorded in relation to lesson writing. The table shows that the average number of lessons written per year has been 17.64 for males in comparison with 6.73 for females. The table further shows that those with M Phil or Ph D qualifications have recorded an average of 14.0 lessons per year as against 4.0 recorded in respect of those having

Bachelor's or Master's Degrees. As indicated in Table 6, academics who are senior in the hierarchy as well as in age have done better compared with their junior and younger counterparts with regard to writing of lessons. The data do not show much variation between males and females, senior and junior academics or young and old with regard to KS practices such as publishing articles in journals and presenting papers at conferences. However, with regard to presentation of papers at conferences, the variation recorded between those with lower academic qualifications and those having higher academic qualifications (mean value of 1.67 as against 3.15) was found to be significant at 5 per cent.

Table 6: Selected KS practices analyzed according to characteristics of the sample

		Age		Gender		Position in the hierarchy		*Educational Qualification*	
KS activity & Output	Aggregate mean value (No. per year)	< 45 yrs	> 45 yrs	Male	Female	Senior	Middle & Junior	Ph D or M Phil	*Bachelor's or Master's degree*
Publications in refereed journals	1.84	1.40	2.33	1.67	2.14	1.75	1.91	1.94	*1.33*
Publications in non-refereed journals	3.05	2.44	3.60	3.25	2.91	3.22	2.90	3.00	*3.20*
Papers presented at conferences	2.81	3.29	2.27	2.80	2.82	2.56	2.94	3.15	*1.67* **
Lesson writing	*12.18*	*11.18*	*13.18*	*17.64***	*6.73*	*13.91*	*10.45*	*14.0* **	*4.0*

** Significant at 5 per cent

Source: Survey data

Time Spent by Academics on KS

The survey inquired from the sampled academics how much time they spend per week on knowledge acquisition and dissemination with regard to activities comprising research, preparation for lectures and conducting lectures. The data shows that for the total sample, the average time spent on research work had been 11.7 hours, while the average time spent on preparation of lectures was 8.0 hours. The average time spent on the delivery of lectures had been 5.5 hours per week. The data showed a significant variation between males and females with regard to the average time spent on research. While the males had spent on average 14.8 hours per week on research work, the average for females was 8.4 hours per week. This variation was found to be significant at 5 per cent. The females had spent an average of 8.5 hours per week on preparation for lectures while the males had averaged 7.6 hours per week. The data also revealed that those having M.Phil and Ph.D qualifications had spent an average 12 hours per week on research compared to lesser qualified counterparts who were reported to have spent an average 10 hours per week on research. The data also revealed that there were no significant differences between young and old academics as well as senior and junior academics with regard to the time spent on acquisition and dissemination of knowledge.

Advantages of Knowledge Sharing

The respondents were requested to identify three advantages of KS in the order of priority from among seven factors included in the questionnaire. The data presented in Table 7 shows that the first place in the relative rank is taken by "KS improves quality of teaching" and the second place has been taken by "KS helps in career advancement". Of those who had identified KS as a means of improving the quality of teaching, 60.5 per cent had given it the first preference. Of the 25 respondents who identified KS as a means of career advancement, 40.0 per cent had given it the first preference. The third place in the relative rank has been given to "KS creates a climate of teamwork". Of the 24 academics who ranked this factor as an advantage of knowledge sharing, 45.8 per cent had given it the first preference. The fourth place in the relative rank has been taken by "KS could benefit students" while the fifth place has been taken by "personal recognition".

Table 7: Perceived advantages of knowledge sharing

Advantage of KS	1st Preference	2nd Preference	3rd Preference	*Relative rank*
Personal recognition	10 (62.5)	-	6 (32.5)	*5*
Helps career advancement	10 (40.0)	10 (40.0)	5 (20.0)	*2*
Create a climate for teamwork	11 (45.8)	7 (29.2)	6 (25.0)	*3*
Improve quality of teaching	23 (60.5)	8 (21.0)	7 (18.4)	*1*
Potential to earn a higher income	2 (33.3)	2 (33.3)	2 (33.3)	*7*
KS could benefit students	7 (28.0)	11 (44.0)	7 (28.0)	*4*
KS benefits my organization	*5 (38.5)*	*3 (23.0)*	*5 (38.5)*	*6*

Source: Survey data

Although the literature on KS emphasizes the benefits of KS towards organizational growth, the respondents have ranked it in the sixth place. Also, the last place in the ranking of benefits has been given to "capacity to earn a higher income", which is a response that LS to be expected in the context of a university environment. Another interesting finding is that though the contribution of KS towards teamwork has been given the third place in the relative rank, the actual number of respondents who admitted that they have teamed up with colleagues in conducting research, writing papers and developing lesson material and audio visual aids was 27 or 52 per cent of the sample.

Factors Influencing Knowledge Sharing

During the study an attempt was made to identify the factors that influence the process of knowledge sharing. This was done by presenting six statements to the respondents with the aid of a five point Likert scale ranging from the answer option of "Strongly Agree" to "Strongly Disagree". The factors conveyed through the statements included personal motivation to share knowledge in the given work environment, organizational culture, administrative responsibilities, recognition of KS for career advancement in an ODL environment, availability of resources

and presence or absence of a compelling reason for KS. A summary of the aggregate data is presented in Table 8.

Table 8: Factors influencing knowledge sharing in an ODL environment

Statement	% Strongly Agree or Agree	*Mean Value*
I am not motivated in the present work environment to share knowledge	31.4	*2.80*
There is no knowledge sharing culture in my University	32.0	*2.82*
My capacity to share knowledge is affected due to administrative responsibilities	55.5	*3.51*
Knowledge sharing efforts in ODL are not recognized for advancement of one's career within the university system in Sri Lanka	36.7	*2.98*
I do not have access to resources to engage in knowledge sharing activities	16.0	*2.46*
I do not have a compelling reason to share knowledge	*17.1*	*2.36*

Source: Survey data

The findings given in Table 8 show that as far as the sampled academics are concerned, the most important impediment to KS in the context of OUSL is the administrative responsibilities entrusted to them. The mean value attached to this factor, which was 3.5, was found to be highly significant. The second most important factor appears to be the perceived lack of recognition for KS efforts in ODL for career advancement within the university system in Sri Lanka. The mean value assigned to this factor, which was 2.98, can be considered significant. It appears that the existing organizational culture and the work environment at OUSL do not provide much encouragement for the academics to share knowledge. The data also suggests that the access to resources is not a constraint affecting KS in the context of OUSL.

Table 9 presents a disaggregated analysis of data on the factors affecting KS in relation to characteristics of the sampled academics. According to the table the mean values for both male and female academics recorded in respect of statement 3 were greater than the critical value of 3.0 and therefore could be considered significant. This

means both male as well as female academics perceive administrative responsibilities as a serious constraint affecting KS efforts. The table also shows that the mean value for statement 3 falls above the critical value of 3 across younger and older age groups, senior and junior members of the academic hierarchy as well as those having higher research degrees and the rest. This clearly shows that administrative responsibilities entrusted to academics are a serious impediment to knowledge sharing. The mean values of male academics for statements 1, 2, and 4 have also fallen above the critical value of 3.0. Thus, the males seem to think that organization culture and work environment-related factors as well as the lack of recognition for KS efforts in ODL within the university system are acting as impediments to knowledge sharing. The data also shows that the senior academics and those having Ph D and M Phil qualifications have considered that perceived lack of recognition for KS efforts in ODL within the university system is a factor impeding knowledge sharing.

Table 9: Factors affecting knowledge sharing analyzed by characteristics of the sample

Statement	Means for total sample	Age		Gender		Position in the hierarchy		*Qualification*	
		<45	>45	Male	Female	Senior	Middle & Junior	PhD or M Phil	*Bachelors or Master's*
S1	2.80	2.78	2.91	3.12	2.48	2.61	2.91	2.74	*2.90*
S2	2.82	3.12	2.48	3.08	2.56	2.61	2.94	2.81	*2.84*
S3	3.51	3.46	3.50	3.48	3.55	3.13	3.70	3.50	*3.53*
S4	2.98	3.08	2.87	3.25	2.72	3.17	2.87	3.00	*2.95*
S5	2.46	2.56	2.23	2.48	2.44	2.29	2.55	2.40	*2.55*
S6	*2.36*	*2.15*	*2.55*	*2.79*	*1.91*	*2.20*	*2.44*	*2.30*	*2.45*

Source: Survey data

Knowledge Sharing through Audio-visual Material

Developing audio-visual aides for the dissemination of knowledge occupies a significant place in an ODL environment like the OUSL. Thus, an attempt was made during the survey to assess how far the academics of the university have participated during the past two years in the development of audio-visual material for the dissemination of knowledge. The data given in Table 10 shows that out of the 51

academics who responded to the questionnaire only 16 (31.4%) have taken the initiative to share knowledge through the development of audio-visual aides. This comprises of an equal number of males and females who belonged to below 45 and above 45 age groups. They also comprised of senior and middle as well as junior members of the academic hierarchy. Between those having research degrees and others having Bachelor's or Master's degrees, the extent of involvement in developing audio-visual aides has been somewhat higher among the academics who had research degrees. It is of interest to note that of the 33 middle and junior level academics who participated in the survey, 75 per cent have not involved themselves in developing audio-visual material for the dissemination of knowledge.

Table 10: Participation in developing audio-visual aides analysed by sample characteristics

Participation in AV Aides development	Number & percentage	Age		Gender		Position in the hierarchy		*Qualification*	
		< 45	> 45	Male	Female	Senior	Middle or Junior	Ph D or M Phil	*Bachelors or Masters*
Yes	16 (31.4)	8 (29.6)	8 (34.8)	8 (30.8)	8 (32.0)	8 (44.4)	8 (24.2)	11 (35.5)	*5 (25.0)*
No	*35 (68.6)*	*19 (70.4)*	*15 (65.2)*	*18 (69.8)*	*17 (68.0)*	*10 (55.6)*	*25 (75.8)*	*20 (64.5)*	*15 (75.0)*

Source: Survey data

Discussion

The three propositions stated earlier can be examined in the light of the data presented above. The study findings have not supported P1 that the tendency for KS will be greater among the young academics at lower levels in the academic hierarchy. It was presumed that academics at middle and lower levels in the hierarchy would engage in KS activities such as research and publications, presenting papers at conferences and writing lesson materials as they tend to have higher level of career expectations linked to promotions. However, the data did not reveal that young (< 45 years) and middle or junior level academics performed equally or better than the older and senior academics with regard to KS.

The findings adequately supported proposition 2 that the extent of KS is influenced to a higher degree by organizational factors than individual- specific factors. The data clearly showed that administrative

responsibilities entrusted to academics acted as a major constraint to knowledge sharing. Proposition 3, the "Perceived benefits of KS in an ODL environment are likely to determine the level of individual participation in KS", was supported to a reasonable extent by the study findings. According to the findings, the mean value for agreement with the statement "KS efforts in ODL are not recognized for advancement of one's career within the university system in Sri Lanka" was 2.98 and hence came much closer to the critical value of 3.0. The data also showed clearly that the level of participation of academics in the dissemination of knowledge through development of audio-visual material was very low. Thus, one could safely assume that the current unsatisfactory state of KS in ODL environment is due to poor perceived benefits of KS than individual specific reasons such as poor motivation and lack of competence.

The findings indicated that the degree of involvement of females in common KS practices such as lesson writing was lower than that of male academics. Informal discussions with some of the female respondents in the sample revealed that their capacity to spend more time on KS activities has been affected due to family responsibilities. According to the data, though the males have spent more time than females on research work, one might note that the difference between males and females in KS through publication of papers in academic journals was marginal. In fact, the females appear to have performed better than the males with regard to publication of papers in refereed journals. As indicated by the data the low level of involvement of junior academics in ODL research and KS practices deserve recognition and greater attention by the academic administrators of the University.

Conclusion

According to the study findings knowledge sharing practices at OUSL appear to be at a less developed stage though the University has completed 25 years of existence. The findings regarding the current unsatisfactory state of knowledge sharing in ODL, particularly with regard to development of audio-visual material and learning aids during the past three years, poses the issue whether the institution has failed in adopting an effective strategy for sharing and managing knowledge. As revealed by the data the administrative responsibilities entrusted to academics appear to be a serious impediment to KS. Hence, there is a need to take immediate measures to relieve the academics from mundane administrative responsibilities. The findings also suggested that the University has not been successful in creating a knowledge

sharing culture and creating adequate incentives for the young academics to get actively involved in knowledge sharing in ODL other than conducting day schools. Thus, it would be important to link KS in ODL with career advancement prospects of academics.

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