Demographic Factors and Knowledge Sharing Quality among Malaysian Government Officers

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Abstract

Knowledge sharing is one of the important elements in knowledge management. Previous works indicate that employees are reluctant to share knowledge among themselves. Many factors impede knowledge sharing among employees in organizations. One of those factors is demography. The purpose of this study is to find out the differences among government officers' knowledge sharing quality in terms of demographic factors. A survey of 48 respondents using questionnaire as data collection method was conducted. The results show that demographic variables are not significant predictors to government officers' knowledge sharing quality.

Keywords: knowledge management, knowledge sharing, government, demographic factors, Malaysia

1. Introduction

Knowledge has been identified as the most strategically significant resource for organizations to gain competitive advantage and superior performance [1,2,3]. Although competitive advantage is more relevant to private sector, it can be extended to public sector by including '*serving the public'* because it is it's ultimate objective [4]. As suggested by Wiig [5], knowledge management could help public organization to improve service delivery. Realizing its importance, public organizations seem to pay attention on knowledge management in relation to formulating policies and enhance service delivery [6].

One of the activities in knowledge management is knowledge sharing. In many organizations people believe that knowledge hoarding is more beneficial to them compare to knowledge sharing [7]. Since knowledge is a central resource of government services, effective knowledge sharing among employees is a significant management challenge for providing excellent services to the public at all levels [8]. However, sharing knowledge is difficult to occur because it is an unnatural act [9]. Previous studies indicated that employees in general are reluctant to share knowledge [10,11]. Thus, it is important to identify factors affecting knowledge sharing in public sector including demographic factors.

2. Literature review

Knowledge sharing

Knowledge sharing is defined as a deliberate act that makes knowledge reusable by other people through knowledge transfer [9]. Van den Hooff, Elving, Meesuwsen & Dumoulin [12] defined knowledge sharing as a process where individuals exchange knowledge (tacit or explicit) and together create a new knowledge. In broader perspective, knowledge sharing refers to '*the communication of all types of knowledge*' including explicit knowledge (information, know-how and know-who) and tacit knowledge (skills and competency) [13].

Knowledge sharing is a human act and is considered critical to organizations [14]. Knowledge sharing happens when an individual is interested to help others develop a new capability for action [15]. In organizations, the biggest value of knowledge that can be achieved is when it is shared because it can help to increase job performance and facilitate new knowledge creation [16]. Knowledge sharing can also increase intellectual capital, change individual competitiveness, change organizational competitiveness and reduce cost [17].

Most of previous studies focused on factors influencing knowledge sharing. For instance, Riege [18] identified three dozens of factors affecting knowledge sharing and categorised them into three factors: individual, organizational and technological. With regard to public sector, there is a little study both on knowledge management and knowledge sharing [19] because public sector is non profit organizations [20]. Among those studies are: public sector readiness in implementing knowledge management [21] and knowledge management in local authorities [22]. Whereas studies focusing on knowledge sharing in public organizations in Malaysia are: knowledge performance transfer in a ministry [20]; factors affecting knowledge sharing in three selected higher learning institution and its impact on performance [23] and knowledge sharing in public sectors from business process management perspectives [24]. No study has been carried out particularly on the relationship between demographic factors and

knowledge sharing quality among public sector officers in Malaysia.

Demographic factors and knowledge sharing quality
Changes in demography are one of the factors that affect knowledge sharing and knowledge transfer in public services [25]. However, there were only a few studies that look into the impact of demographic factors on knowledge sharing behaviour [26]. Among demographic variables been studied were gender, age, organizational tenure, job position and ethnicity.

In terms of relationship between gender and knowledge sharing, previous studies [27,28,29] reported that gender did not have a significant impact on knowledge sharing. However, a study by Miller and Karakowsky [30] discovered that there are differences between men and women in their effort to seek knowledge. Women gained more benefits from knowledge sharing [31]. A study by Lin [32] indicated that women are more willing to share knowledge because they are more sensitive to instrumental ties and have need to overcome traditional occupational challenges. Pangil and Nasrudin [26] found that there is a difference between men and women in terms of tacit knowledge sharing behaviour. So, it is hypothesized that:

H_1: Knowledge sharing quality differs between male and female.

A study by Ojha [27] and Watson & Hewett [29] showed that age does not affect knowledge sharing behaviour. However Reige [18] suggested that difference of age could be also a potential factor for knowledge sharing behaviour. This is supported by a study by Gumus [33] which indicated that there were significant differences between age groups concerning knowledge collecting not knowledge donating. People with the age between 36 to 40 are poor on collecting knowledge. A study by Keyes [34] uncovered a more definite relationship between age and knowledge sharing. This leads to the second hypothesis.

H_2: Knowledge sharing quality varies according to age group.

Level of education was also reported that it does not influence knowledge sharing among software engineering development managers [27]. However Riege [18] found that there is a likelihood a causal relationship between education level and knowledge sharing behaviour. A study by Keyes [34] indicated that education somewhat affect knowledge sharing. The lower the education level, the less likely persons would share knowledge. Hence, it is hypothesized that:

H_3: Knowledge sharing quality differs among respondents in terms of education level.

Job position is another variable that has been studied beside gender, age and education level. Ardichvili et al. [35] found that top managers and middle managers were not interested to participate in knowledge sharing activities. This indicates that job position has no significant impact on knowledge sharing behaviour. In contrary, a study by Collin [36] indicated that senior employees often acted as mentors to junior employees. In most cases, knowledge sharing often occurs in mentoring relationship [37]. A study by Gumus [33] showed that collecting knowledge is influenced by position (academic versus administrative). Based on previous studies, it is hypothesized that

H_4: Knowledge sharing quality differs among respondents in terms of position grade.

According to Pangil and Nasrudin [26] no study reports the effect of work experience on knowledge sharing behaviour. Organizational tenure has a negative significant relationship with knowledge sharing [27]. A study by Keyes [34] and Gumus [33] indicated that tenure within the organization had no effect on knowledge sharing. However other studies reported that organizational tenure has a positive significant relationship with knowledge sharing behaviour [29,31] This leads to the fifth and sixth hypothesis.

H_5: Knowledge sharing quality differs among respondents in terms of workplace.

H_6: Knowledge sharing quality differs among respondents in terms of tenure of service.

Based on the hypothesis, the relationship of demographic variables and knowledge sharing quality is illustrated in the theoretical framework below:
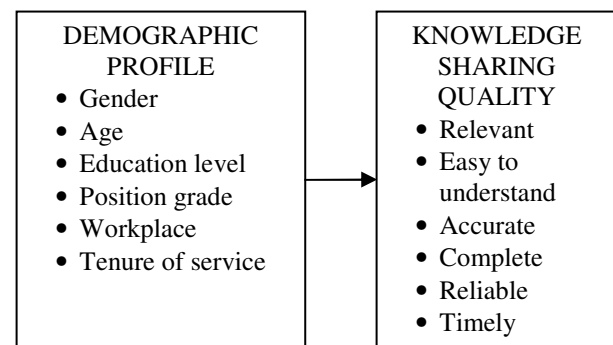

Fig. 1. Proposed theoretical framework

Previous researches showed that there were mix relationship between knowledge sharing quality and demographic factors. It is hoped that the study would produce a significant relationship between demographic factors and knowledge sharing quality among Malaysian government officers.

3. Methodology

The respondents

The target population for this study encompasses of middle management officers in three selected government agencies in Malaysia. Three agencies in Putrajaya, the government administrative capital of Malaysia, were selected in the study based on their role in planning, coordinating and monitoring the implementation of national policies [38]. According to Husted et al. [10], the policy formulation and business development are thrusted by the knowledge-based activities depend on the knowledge and capabilities of the government agencies.

These three agencies basically involve in formulation of public sector human resource management policies, public sector financial management policies and national socio-economic policies. The functions of agency A are: to be the main advisor to the government of Malaysia in the management of public services personnel; to formulate public service personnel policies including employment, emplacement, promotion, training, salaries, allowances, pension benefits, accident claims, working environment, motivation, incentives and recognition; to plan for quality public service manpower requirements; to determine the optimum size and appropriate organisational structure; and to manage employer-employee relations towards creating a harmonious working environment.

Agency B is responsible to formulate policies and strategies for socio-economic development; to prepare medium and long term plans; to prepare development programmes and project budget; to monitor and evaluate the achievement of development programmes and projects; to advise government on economic issues; to initiate and undertake necessary economic research; to plan and coordinate the privatization programme and evaluate its achievement; to coordinate Malaysia's involvement in the development of the Growth Triangle Initiatives; to initiate and coordinate bilateral and multilateral assistance; to manage the Malaysian Technical Cooperation Programme (MTCP); and to monitor and evaluate investment activities to ensure they are in line with the corporate equity restructuring objective.

The functions of Agency C are: to formulate and implement fiscal and monetary policies in order to ensure effective and efficient distribution and management of financial resources; to formulate financial management and accounting processes, procedures and standards to be implemented by all government agencies; to manage the acquisition and disbursement of federal government loans from domestic and external sources; to monitor that Minister of Finance Incorporated companies are managed effectively; to monitor the financial management of ministries, government departments and statutory bodies; to formulate policies and administer government housing loans for public sector employees.

The study population consisted of about 1200 officers from Management and Professional Group (MPG). MPG are middle managers between top management and support staff. The group consists of 5 categories, which are Grade 41, Grade 44, Grade 48, Grade 52 and Grade 54. The grade ranges from junior managers (Grade 41) to senior managers (Grade 54). The MPG was selected because they are directly involved in policy making of human resource management, financial management and socio-economic development of the country. According to Nonaka and Takeuchi [39] '*middle managers play a key role in the organizational knowledge-creation process'*. They usually become a team leader because of the knowledge they possess. Middle managers are answerable to the top management and supervise support staff as well. Furthermore, knowledge is systematically created at this level [19].

The sampling frame was obtained from the agencies and stratified random sampling was used to determine the sample size. By using stratified random sampling, information can be obtained from different strata and respondents represent their group according to their strata [40]. Self administered questionnaire were given to 60 respondents. Each respondent was required to return the questionnaire to the contact person identified. Respondents were given two weeks to complete the questionnaires. After two weeks, 48 questionnaires (80%) were returned to the researcher and were used in the data analysis.

Instrumentation

In this study, there are six independent variables namely gender, age, education level, position grade, department and tenure of service. The questions for demographic factors were adapted and modified from Syed Ikhsan and Rowland [20]. The dependent variable which is knowledge sharing quality which

was derived from Chiu et al. [41]. Knowledge sharing quality was conceptualised as the extent to which one exchange knowledge (tacit or explicit) and together create new knowledge [12]. This knowledge sharing quality construct is measured using 6 items adapted from Chiu et al. [11] which encompasses of relevancy, easy to understand, reliability, accuracy, completeness, and timely. The questions for knowledge sharing quality are derived from Chiu et al. [41]. Response to the items were made on a 5-point Likert scale (1=strongly disagree to 5=strongly agree). The questionnaires were pre-tested with two postgraduate students and three government officers to test the validity. A few amendments were made to the questionnaires based on the comments received.

A principal component analysis with varimax rotation was conducted on the measurements for knowledge sharing quality. As a result from the factor analysis of the knowledge sharing quality scale, two factors emerged with Eigenvalue of above 1. One item was dropped due to high cross loadings which is 'the knowledge that I share with my colleagues in my organization is reliable'. On the basis of factor loadings, the two factors were named *external quality* and *internal quality*. The items for external quality are 'The knowledge that I share with my colleagues in my organization is relevant to my job' and 'The knowledge that I share with my colleagues in my organization is easy to understand'. Whereas the items for internal quality are 'The knowledge that I share with my colleagues in my organization is accurate', 'The knowledge that I share with my colleagues in my organization is complete' and 'The knowledge that I share with my colleagues in my organization is timely'. A reliability test conducted from both factors indicate alpha Cronbach of .878 and 0.766.

4. Findings and discussion

60 copies of questionnaires were distributed to the three agencies in Putrajaya. 48 were returned and usable. The respondents' demographic characteristics are presented in the table below.

Table 1: Respondents' demographic characteristics (n=48)

Demographic	Characteristics	n	%
Gender	Male	32	66.7
	Female	16	33.3
Age	<26	2	4.2
	26 to <30	12	25.0
	30 to <35	10	20.8
	35 to <40	9	18.8
	40 to <45	6	12.5
	45 to <50	3	6.3
	≥ 50	6	12.5
Level of Education	Phd	0	0.0
	Masters	17	35.4
	First Degree	30	62.5
	Others	1	2.1
Job Position Grade	54	4	8.3
	52	11	22.9
	48	12	25.0
	44	7	14.6
	41	14	20.2
Department	A	16	33.3
	B	18	37.5
	C	14	29.2
Years of service in public sector	<1	3	6.3
	1-5	17	35.4
	6-10	5	10.4
	11-15	11	22.9
	16-20	5	10.4
	>20	7	14.6

Of the 48 respondents, a majority were males (66.7%). The respondents mostly come from age between 26 to 35 (45.8%). Since the target group is middle managers, all of them has at least a bachelor degree except one respondent. Only 4 officers (8.3%) are from the senior post (Grade 54). Majority of respondents (52.1%) have less than ten years experience in public service.

Table 2: Result of T-test

Variable	Item	Mean	S.D	T-value	p-value
Gender	Male	2.69	.471	1.405	.129
	Female	2.44	.629		

Result from t-test indicates that there was no significant difference between mean knowledge sharing quality of the male officers and female officers. The result fails to reject the null hypothesis and thus Ha is not supported. This result is in line with previous studies [27,29] which reported that gender has no significant impact on knowledge sharing.

Table 3: Results of one-way ANOVA and mean values on knowledge sharing quality

Variables	Item	Mean	S.D	F-value	p-value
Age	<26	2.50	.707	.231	.964
	26 - <30	2.75	.452		
	30 - <35	2.60	.516		
	35 - <40	2.56	.527		
	40 - <45	2.50	.548		
	45 - <50	2.67	.577		

	≥ 50	2.50	.837		
Educ. Level	PhD	0	0	.273	.762
	Masters	2.59	.618		
	Degree	2.60	.498		
	Others	3.00			
Grade	54	2.75	.500	.603	.662
	52	2.45	.688		
	48	2.50	.522		
	44	2.71	.488		
	41	2.71	.469		
Department	A	2.88	.342	3.469	.040
	B	2.50	.514		
	C	2.43	.646		
Tenure of service	<1	3.00	.000	.787	.565
	1 - <5	2.65	.493		
	5 - <10	2.40	.548		
	10 - <15	2.55	.522		
	15 - <20	2.80	.447		
	>20	2.43	.787		

The results above show that there is no significant difference among officers of different age group in their knowledge sharing quality where F-value is 0.231 and p-value is 0.934. This result is in line with previous studies [26,27]. There is also no significant difference among officers of varied education level where F-value is 0.273 and p-value is 0.762. This result supports previous study by Ojha [27]. In terms of position grade, there was also no significant difference among officers of different grade with F-value 0.603 and p-value 0.662. This is in line with previous study by Ardichvili et al. [35]. However, there was a significant different among officers of different agencies where F-value 3.469 and p-value 0.040. In terms of tenure of service, there was no significant different among officers of varied experience where F-value is 0.787 and p-value is 0.565. This result supports the studies by Keyes [34] and Gumus [33]. In summary, there is no significance difference in terms of gender, age, level of education, position grade and tenure of service in their knowledge sharing quality. They only differ in terms of work place. Therefore the results of the study support H_5 only but fail to accept other hypotheses.

5. Conclusion

Previous studies indicated that there were mix results on the relationship between demographic factors and knowledge sharing. The early assumption of the study was that demographic variables would have a significant relationship with knowledge sharing quality among public sector employees. However, the results showed otherwise. The results indicated that demographic factors (gender, age, level of education, job position and tenure of service) have no significant impact on knowledge sharing quality except workplace. This shows knowledge sharing quality among employees does not influenced by demographic factors. This study concludes that demographic factors have no significant impact on knowledge sharing quality among public officers in central agencies in Malaysia.

There were a few shortcomings in this study due to time and financial constraints. The main shortcoming of this study was the sample size was very small. The interpretation cannot be generalized to all the government agencies. There are about 720 government agencies in Malaysia with more than 1.2 millions employees. The sample confined to one location only which is Putrajaya, the administrative capital of Malaysian government. This study only considered demographic factors and public sector agencies only. It is suggested that future study can be conducted with adequate sample size and bigger number of government agencies in various locations in the country. It is also suggested that a study can be conducted in private sector. Comparative study should also be undertaken to see the difference of knowledge sharing quality between private employees and public sector employee. Other factors such as culture, personality traits, job performance should also be studied.

Although the results of the study do not show significant relationship between demographic factors and knowledge sharing quality, it is recommended that a more comprehensive study should be done to see some insights of the impact of demography on knowledge sharing quality among employees. Furthermore, previous studies produced mix results. The findings of a larger sample may produce a significant relationship. It is interesting to find out whether the findings could be different in other federal government agencies, state agencies, local councils or even private sectors.

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