

The Issues of Knowledge Management Technology Used Among Selangor State Government Agencies

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Abstract

Knowledge management is very critical for the success of any organization. The purpose of this study is to identify the issues of knowledge management technology used among Selangor State government agencies. The study used a quantitative approach by conducting a survey methodology to 236 employees from 10 Selangor State government agencies. The findings of the study have shown that the government agencies of Selangor State are using IT in assisting their daily operations. Besides, in general, there is also no issues that can be associated with the use of knowledge management technology in the government agencies of Selangor State. However, obviously there is a need to strengthen the implementation process to sustain knowledge management within the agencies.

Keywords: *knowledge management, information technology, knowledge management technology.*

1. Introduction

In the era of knowledge-based economy, the activities of generation, distribution and use of knowledge, which is also called as knowledge management has become the most vital asset to the success of an organization (David N. Abdulai, 2001). In 2005, the Selangor State government has declared Selangor as the first developed state in Malaysia in line with the growth of the knowledge-based global economic system. After more than 15 years of the Selangor State government being declared a developed state, it is appropriate to conduct a study to identify the issues of knowledge management technology used among selected 10 Selangor State government agencies. The knowledge management categories that involved in this study are Internet, Intranet, Extranet, Data Warehousing, Document Management/Content Management, Decision Support System, Knowledge Agents and Groupware/E-Mail, while the Selangor State government agencies involved consist of Perbadanan Perpustakaan Awam Negeri Selangor (PPAS), Majlis Agama Islam Selangor (MAIS), Lembaga Zakat Selangor (LZS), Perbadanan Wakaf Selangor (PWS), Lembaga Perumahan dan Hartanah Selangor (LPHS), Perbadanan Adat Melayu dan Warisan Negeri Selangor (PADAT), Pejabat Lembaga Urus Air Negeri Selangor (LUAS), Majlis Sukan Negeri Selangor (MSNS), Perbadanan Kemajuan Pertanian Negeri Selangor (PKPS), and Perbadanan Kemajuan Negeri Selangor (PKNS).

2. Knowledge

Huber (1991) and Nonaka (1994) have described knowledge as a justified belief that improves an entity's capacity for effective action. According to study by Alavi & Leidner (1999), they have concluded that knowledge can be seen from several viewpoints, which are (1) a state of mind, (2) an object, (3) a process, (4) a condition of having access to information, or (5) a capability. Knowledge that associated with knowledge management can be either tacit or explicit knowledge. Knowledge learned through experience, action and involvement is called tacit, while the one that obtained through formal learning is called explicit.

3. Knowledge Management

It is not that easy to define knowledge management for the researchers in this field (Mokmin et al. 2019), as they are a lot of definitions of knowledge management out there that have been given by researchers, academicians and so on (Girard & Girard, 2015). The general definition of knowledge management is the process of creating, sharing, using and managing organizational knowledge and information (Girard & Girard, 2015). Nurul Ibtisam et al. (2019) summarized that knowledge management is all about how an organization can show or communicate in the form of knowledge that is disseminated and shared easily, systematically and efficiently across organization's people, technologies and processes.

4. Methodology

The study used a quantitative approach by conducting a survey methodology to the employees from 10 Selangor State government agencies as shown in Table 1. A total number of 2,677 employees in these agencies. According to the sampling technique table by Krejcie & Morgan (1970), a total of 355 is needed for sampling size. 500 copies of the questionnaires have been distributed to the employees and a total of 236 were successfully returned. The data then has been analyzed by using Statistical Package for the Social Science (SPSS) software application.

Table 1: Total of study sample

Government Agency	Sample
Perbadanan Perpustakaan Awam Negeri Selangor (PPAS)	23
Majlis Agama Islam Selangor (MAIS)	23
Lembaga Zakat Selangor (LZS)	45
Perbadanan Wakaf Selangor (PWS)	5
Lembaga Perumahan dan Hartanah Selangor (LPHS)	13
Perbadanan Adat Melayu dan Warisan Negeri Selangor (PADAT)	12
Pejabat Lembaga Urus Air Negeri Selangor (LUAS)	11
Majlis Sukan Negeri Selangor (MSNS)	7
Perbadanan Kemajuan Pertanian Negeri Selangor (PKPS)	5
Perbadanan Kemajuan Negeri Selangor (PKNS)	92

5. Finding & Discussion

Table 2 shows the mean score interpretation table used in this study. The finding of the study will be presented based on 4 main activities of information life cycle, which are (1) knowledge discovery, (2) knowledge capturing, (3) knowledge sharing, and (4) knowledge application.

Table 2: Mean score interpretation

Total Mean Score	Level
1.00 - 2.33	Low
2.34 - 3.67	Moderate
3.68 - 5.00	High

Source: Landell (1977)

Table 3 shows the demographic information for all the respondents that consist of information on agency name, age, gender, race, service duration, educational level, service scheme type, computer use at the workplace, and computer using experience.

Table 3: Demographic information of the respondents

		Frequency	Percentage (%)
Agency Name	PPAS	23	9.7
	MAIS	23	9.7
	LZS	45	19.1
	PWS	5	2.1
	LPHS	13	5.5
	PADAT	12	5.1
	LUAS	11	4.7
	MSNS	7	3.0
	PKPS	5	2.1
	PKNS	92	39.0
Age	18-21 years old	3	1.3
	22-30 years old	36	15.3
	31-40 years old	120	50.8
	41-50 years old	55	23.3
	51-60 years old	22	9.3
Gender	Male	101	42.8
	Female	135	57.2
Race	Malay	233	98.7
	Chinese	1	0.4
	Others	2	0.8
Service duration	1-2 years	39	16.5
	3.-5 years	47	19.9
	6-10 years	61	25.8
	11-20 years	77	32.6
	21 years and above	12	5.1
Educational level	SPM	18	7.6
	Diploma	40	16.9
	Bachelor Degree	43	18.2

	Master Degree	119	50.4
	PhD	13	5.5
	Others	3	1.3
Service scheme type	Integrated	7	3.0
	Executor	90	38.1
	Management and professional	139	58.9
Computer use at the workplace	Yes	221	93.6
	No	14	5.9
	Not sure	1	0.4
Computer using experience	1-2 years	105	44.5
	3-5 years	46	19.5
	6-10 years	1	0.4
	11-20 years	59	25.0
	21 years and above	14	5.9
	None	11	4.7

Table 4 shows the mean distribution for the frequency of use of IT at the workplace. The highest mean score for the frequency of use of IT at the workplace is email 4.48 mean score. In general, the usage of IT in the workplace at these 10 Selangor State government agencies is more concentrated in emailing.

Table 4: Mean distribution for the frequency of use of IT at workplace

	Once a month F %	Once a week F %	Once a day F %	> 2 times a day F %	> 5 times a day F %	Mean Score	Level
Email	- -	3 1.3	24 10.2	65 27.5	144 61.0	4.48	High
Website	3 1.3	7 3.0	46 19.5	57 24.2	122 51.7	4.40	High
Social media	18 8.1	2 0.8	22 9.3	63 26.7	75 31.8	4.43	High
Leave application	121 51.3	82 34.7	25 10.6	3 1.3	5 2.1	1.68	Low
Pay slip	175	20	3	26	12	1.64	Low

	74.2	8.5	1.3	11.0	5.1		
Claim	151 64.0	1 0.4	40 16.9	2 0.8	12 5.1	2.23	Low
E-procurement	126 53.4	- -	52 22.0	2 0.8	2 0.8	2.64	Moderate
E-complaint	108 45.8	43 18.2	3 1.3	39 16.5	2 0.8	2.61	Moderate
Cloud computing	89 37.7	42 17.8	15 6.4	31 13.1	15 6.4	2.89	Moderate
Knowledge Management System	98 41.5	42 17.8	29 12.3	24 10.2	2 0.8	2.63	Moderate
Decision Support System	96 40.7	22 9.3	42 17.8	13 5.5	3 1.3	2.94	Moderate
Internet of Things (IoT)	78 33.1	35 14.8	27 11.4	31 13.1	5 2.1	3.13	Moderate
Big Data Analytic	116 49.2	- -	43 18.2	2 0.8	2 0.8	3.00	Moderate

Table 5 shows the mean distribution for knowledge discovery issues. SD is for strongly disagree, D for disagree, NS for not sure, A for agree and SA for strongly agree. It shows the highest mean score in identifying knowledge discovery issue in Selangor State government agencies is fast internet connection in the use of IT helps the process of knowledge discovery in the organization which obtained 4.03 mean score.

Table 5: Mean distribution for knowledge discovery issues

	SD F %	D F %	NS F %	A F %	SA F %	Mean Score	Level
I no longer have problems finding new knowledge with IT	2 0.8	- -	64 27.1	133 56.4	37 15.7	3.86	High
The organizational environment always helps me use IT	1 0.4	1 0.4	65 27.5	130 55.1	39 16.5	3.87	High
Every respondent in this organization uses IT	- -	- -	48 20.3	155 65.7	33 14.0	3.94	High

The organization's vision regarding new knowledge is clearly related to the use of IT	-	-	63	147	26	3.84	High
	-	-	26.7	62.3	11.0		
I got top management support in using IT	-	2	44	164	26	3.91	High
	-	0.8	18.6	69.5	11.0		
IT hardware and software assist the process of discovering new knowledge in the organization	1	17	16	169	34	3.93	High
	0.4	7.2	6.8	71.6	14.4		
Fast internet connection in the use of IT helps the process of knowledge discovery in the organization	-	16	16	149	55	4.03	High
	-	6.8	6.8	63.1	23.3		

Table 6 shows the mean distribution for knowledge capturing issues. It shows the highest mean score in identifying knowledge capturing issue in Selangor State government agencies is sophisticated databases and IT help the knowledge capturing process in the organization that obtained 4.07 mean score.

Table 6: Mean distribution for knowledge capturing issues

	SD	D	NS	A	SA	Mean	Level
	F	F	F	F	F	Score	
	%	%	%	%	%		
The organization provides IT facilities to generate new knowledge and innovation	-	1	33	156	46	4.05	High
	-	0.4	14.0	66.1	19.5		
IT is the main source of knowledge acquisition	-	16	17	168	35	3.94	High
	-	6.8	7.2	71.2	14.8		
IT assists the knowledge acquisition process among employees	-	16	16	132	26	3.75	High
	-	6.8	6.8	55.9	11.0		
Every employee in the organization is very skilled in using IT in the knowledge acquisition process	-	13	55	143	25	3.76	High
	-	5.5	23.3	60.6	10.6		
The completed of IT hardware and software assist in the knowledge acquisition process.	1	1	31	157	46	4.04	High
	0.4	0.4	13.1	66.5	19.5		
The fast and stable internet connection in the use of IT helps the knowledge acquisition process in the organization	-	17	14	156	49	4.00	High
	-	7.2	5.9	66.1	20.8		
Sophisticated databases and IT help the knowledge capturing process in the organization	-	-	29	162	45	4.07	High
	-	-	12.3	68.6	19.1		

Table 7 shows the mean distribution for knowledge sharing issues. It shows the highest mean score in identifying knowledge sharing issue in Selangor State government agencies is a fast and stable internet connection using IT helps the knowledge sharing process in the organization that obtained 4.00 mean score.

Table 7: Mean distribution for knowledge sharing issues

	SD	D	NS	A	SA	Mean	Level
	F	F	F	F	F	Score	
	%	%	%	%	%		
There is a knowledge sharing (implicit/experience) among colleagues using IT	18 7.6	14 5.9	72 30.5	115 48.7	17 7.2	3.42	Moderate
Organizational management encourages knowledge sharing among employees using IT	- -	3 1.3	61 25.8	146 61.9	26 11.0	3.83	High
Information sharing using IT facilities is a common thing in this organization	- -	19 8.1	41 17.4	152 64.4	24 10.2	3.77	High
Internet facilities, databases and IT help information sharing among employees	- -	3 1.3	37 15.7	166 70.3	30 12.7	3.94	High
There is a unit or division of IT for knowledge sharing	- -	29 12.3	57 24.2	121 51.3	29 12.3	3.64	Moderate
The completed IT hardware and software assist the knowledge sharing process in the organization	1 0.4	2 0.8	51 21.6	150 63.6	32 13.6	3.89	High
A fast and stable internet connection using IT helps the knowledge sharing process in the organization	- -	1 0.4	56 23.7	120 50.8	59 25.0	4.00	High

Table 8 shows the mean distribution for knowledge application issues. It shows the highest mean score in identifying knowledge application issue in Selangor State government agencies is the respondent uses the knowledge gained through IT for use in daily tasks that obtained 4.11 mean score.

Table 8: Mean distribution for knowledge application issues

	SD	D	NS	A	SA	Mean	Level
	F	F	F	F	F	Score	
	%	%	%	%	%		
I easily apply the knowledge gained from the use of IT in this organization	- -	1 0.4	58 24.6	145 61.4	32 13.6	3.88	High
I use the knowledge gained through IT for use in daily tasks	2 0.8	1 0.4	49 20.8	154 65.3	30 12.7	4.11	High

The knowledge I gained through IT can improve my understanding and work performance	-	1	33	167	35	4.00	High
	-	0.4	14.0	70.8	14.8		
I use the knowledge I gain through IT for the purpose of long-term work planning	-	1	35	169	31	3.97	High
	-	0.4	14.8	71.6	13.1		
I use the knowledge I gain through IT for the purpose of evaluating and improving organizational performance	1	3	52	148	32	3.88	High
	0.4	1.3	22.0	62.7	13.6		
I use the knowledge I gain through IT for decision making purposes	-	2	56	145	33	3.89	High
	-	0.8	23.7	61.4	14.0		
I use the knowledge I gain through IT for problem solving purposes	-	4	41	160	31	3.92	High
	-	1.7	17.4	67.8	13.1		

The findings of the study have shown that the government agencies of Selangor State are using IT in assisting their daily operations. The top 3 IT usages are e-mail, social media applications like Facebook, Whatsapp, WeChat and Instagram, and also through websites. For knowledge discovery, this study has found that, there is no IT issues that can be associated with this process. Employees acknowledge that each of them in their respective organizations are using IT. Furthermore, the fast internet connection in the use of IT is acknowledged to help the process of knowledge discovery in the organization. For knowledge capturing, this study has found that, there is also no IT issues that can be associated with this process. Employees believe that IT as the main source and helps the knowledge capturing process among employees. Besides, employees also acknowledge that each of them in the organization is very skilled in using IT in the knowledge capturing process. For knowledge sharing, this study has found that, there is also no IT issues that can be associated with this process. In terms of encouragement, the management of the Selangor state government agencies encourage knowledge sharing among employees using IT and in fact, information sharing using IT facilities is a common thing in the organizations. For knowledge application, this study has found that, there is also no IT issues that can be associated with this process. Employees acknowledge that they easily apply the knowledge that can be gained from the use of IT in their respective organizations. The knowledge gained through IT is acknowledged to not only improve their understanding and work performance, but they also use the knowledge gained through IT in daily tasks.

6. Conclusion

The study proves that knowledge management technology is being used to assist governance in the Selangor State government agencies. The study also proved that overall, there is no issues that can be associated with the use of knowledge management technology in the Selangor State government agencies. However, obviously there is a need to strengthen the implementation process to sustain knowledge management within the agencies. Therefore, in order to accomplish this, more effort and trainings on the Selangor State government IT usage are required in attaining more efficient and well-organized management in the Selangor State government agencies.

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