

## Exploring the Effect of Organizational Learning Capabilities (OLC) on Knowledge Performance

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**Abstract:** This study assessed the effects of Organizational Learning Capabilities (OLC) dimensions on knowledge performance and the relationships between dimensions of OLC and knowledge performance among librarians in academic libraries. A research survey method using questionnaire was distributed to 240 academic librarians in selected university libraries in Malaysia which reflected the study objectives. From the findings, *Employees' Skills and Competencies* and *ICT* dimensions are found to be the significant predictor of knowledge performance after going through the multiple regression analysis. Results of the findings revealed that there were significant positive relationship between OLC dimensions and knowledge performance in academic libraries. The outcome of the study is expected to assist the librarians and the academic libraries for improving the skills of acquiring knowledge and learning capabilities towards enhancing the knowledge performance in the library.

**Key words:** Organizational learning capabilities (OLC) • Employees' skills and competencies • Information communication and technology • Academic librarians • Knowledge performance

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### INTRODUCTION

The study of organizational learning capabilities (OLC) has been dealt with comprehensively in the literature and generates many academic publications both in specialised journals and those of a more general scope. Organizational learning works like a method to push forward the organization in a holistic way to be a successful learning organization. In this circumstance, librarians who work in organizations such as academic libraries are specialised in many works that dealt with learning process. They work in many different areas which cover user services, administrative and technical services. However, nowadays, librarians' responsibilities have been challenged by increasingly complex and constant change in the organizational, technological and information environment in their library. In fact, librarians need to stay update with new technologies and systems, new forms of information, information media and information sources, tasks and roles [1].

Nowadays, libraries have collaborated with the university departments and lecturers to achieve the learning capabilities [2]. Hence, libraries have become the most potential learning atmosphere that function at the university. This is the result from the loads of information sources [3]. In addition, organizational learning capabilities (OLC) have been investigated in non library setting but no studies have been done on OLC and knowledge performance in Malaysian academic library [4]. Thus, this study addresses two research objectives based on two dimensions of OLC (employees' skills and competencies, ICT) and knowledge performance. The objectives are:-

To assess the effect of employees' skills and competencies and ICT on knowledge performance among academic librarians.

To determine the relationships between OLC's dimensions (employees' skills and competencies and ICT) and knowledge performance.

From these objectives, two research hypotheses were formulated:

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**H<sup>o1</sup>:** There is no significant effect of employees' skills and competencies and ICT on knowledge performance

**H<sup>o2</sup>:** There is no significant relationship between employees' skills and competencies, ICT and knowledge performance

There were several dimensions on organizational learning capabilities that have been identified as to determine the knowledge performance of the librarians from the previous literature. Dimensions of the OLC in this study have been cited by previous researchers and academicians in their study on OLC [5-10].

**Organizational Learning Capabilities (OLC):**

Organizational learning capabilities has become as important aspect to enhance the growth and innovation of one organization. According to Senge [5], organizational learning or organizational learning capability is about the ability of one organization in order to apply the accurate and appropriate management practices, its structures as well as the procedures which enhance, facilitate and encourage learning. The increase of this practice will result stronger learning capability throughout the organization [5]. An organizational learning capability is the learning process for each of the organization who practices it [6]. On the other hand, Sayyed *et al.* [7] stated that OLC is the organizational and managerial factors which contribute to the enhancement of organizational learning process in organization.

**Employees' Skills and Competencies:** According to Azmi *et. al* [12], in order to develop the employees' performance in their present and future tasks, employees' skills and competencies which are based on career development is important to be implemented in the organization. Employees' skills and competencies are special ability which are distinguished by representing, at society defined level, the ability to behave adequately and to take responsibility for one's performance [2]. Ordon [13] mentioned that through employees' competencies, it allows the access and reflects one another's works among employees and also to take the responsibility for the results of the work. A study by [14] stated that those employees' skills and competencies are likely to go far beyond technical skills and managerial abilities on specific organizations' growth plan.

**Information Communication and Technology (ICT):**

A study by [15] mentioned that collaboration support systems are integrated information and communication technologies that facilitated communication and connectivity among individuals in supporting organization's collaboration during performance. In addition, organizational learning using computer systems give a positive impact on the organizational learning process [16]. Moreover, it is one kind of systems that is enriched with knowledge acquisition, knowledge distribution, broadcasting, updating and memory features. Furthermore, librarians and information professionals are facing complex tasks and exciting future as the results from the rapid change of technologies.

**Knowledge Performance:** Muhammad *et al.* [17] found that team learning and empowerment are highly correlated to organizational performance. A significant relationship between organizational learning and organizational performance has been indicated by the researchers. Previous study by Selden [18], Abdullah and Kassim [19] mentioned that knowledge performance is about the ability of individual, team and organization to understand what they have learned. Knowledge is sustainable and it has been divided into four subsystems including acquisition, creation, storage and transfer. The management of knowledge is vital as it is the centre or the heart of organizational learning. Besides that, the performance of the librarians is dependent on the efforts to learn and upgrade the new skills that have been required by the parent institution [20].

**MATERIALS AND METHODS**

In this study, selected university libraries in Malaysia were chosen as the study setting. The respective university libraries were Universiti Teknologi MARA (UiTM), Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), Universiti Sains Malaysia (USM), Universiti Islam Antarabangsa Malaysia (UIAM), Universiti Teknologi Malaysia (UTM) and Universiti Utara Malaysia (UUM). They were chosen because the universities have the most number of academic librarians in the university libraries. Questionnaire was developed after conducting an exhaustive literature review and relevant variables and questionnaires on OLC dimensions and knowledge performance were adapted [3-5, 10]. Questionnaires were

personally distributed to a total of two hundred and forty (240) librarians of the selected university libraries. From the feedback, only one hundred and eighty-six (78%) of the questionnaires were returned and usable for analysis. The questionnaire consists of two dimensions of OLC (employees' skills and competencies and information communication and technology) and knowledge performance. The questionnaire items were designed on a 1 (strongly disagree) through 7 (strongly agree) Likert scale. Descriptive statistics include frequency and percentage while the inferential statistics includes multiple regression analysis and Pearson's correlation of coefficient were used in data analysis.

## RESULTS AND DISCUSSIONS

**Reliability Test:** Table 1 demonstrates the results of the reliability tests. It shows that Cronbach's alpha value of knowledge performance (0.939), information communication and technology (0.875) and employees' skills and competencies (0.872) exceed 0.7 thus reliable. The value is arranged in rank order. It was determined that respondents understood and had adequate knowledge to respond to the entire questionnaire items.

**Profile of Respondents:** Table 2 shows the respondents' profile. From the total of 186 respondents, 70.4% (131) of the respondents were female and 29.6% (55) of the respondents were male. Majority (153 of 82.3%) are middle management staff compared to 33 (29.6%) holding senior management post. Slightly, more than half (95 or 51.1%) of the respondents had Bachelor's degree while 91 (48.9%) had Master's degree. Respondents were quite well spread over seven different departments. The catalog and classification department represents the most number of respondents (43 or 23.1%). This is followed by the acquisition department (35 or 18.8%), reference service department (31 or 16.7%) and automation and IT department (24 or 12.9%). There were less than 10% of respondents in each of the circulation department (17 or 9.1%), administration department (15 or 8.1%), training and support service department (6 or 3.2%) and other department (15 or 8.1%).

**Multiple Regression Analysis:** Table 3 shows that the magnitude of the Pearson's correlation coefficient ( $R$ ) for the linear relationship between dependent variable and independent variables is 0.663. The  $R$  value also

represents the correlation coefficient for the relationship between the observed value of dependent variable and the estimated value of dependent variable based on the regression model produced. If the value of  $R$  is squared, another useful statistical value i.e. coefficient of determination ( $R$  square,  $R^2$ ) will be produced. The  $R^2$  value ( $0.663 = 0.439$ ) can provide information about the amount of variance in the dependent variable that can be explained by the independent variables based on the regression model produced. In this example, the independent variables, Employees' Skills Competencies and ICT can explain 43.9% of the variance in the dependent variable, Knowledge Performance. The remaining 56.1% of the dependent variable might be explained by other variables not included in the study. The value of Adjusted  $R^2$  provides information about the amount of variance in the dependent variable that can be explained by the independent variable by using another set of data obtained from the same population. The value of Adjusted  $R^2$  is usually equal or less than the actual value of  $R^2$ . In this example, the value of Adjusted  $R^2$  is 0.433 which is less than the actual value of  $R^2$  i.e. 0.439. On the other hand, the value of standard error of the estimate (0.42520) is the estimated variance of the dependent variable for each value of the independent variable.

The ANOVA table (Table 4) indicates that the 'Sum of squares of regression' is 25.922 whereas the 'Sum of squares of residual' is 33.085. Thus, the 'Total sum of squares' is 59.007 ( $25.922 + 33.085$ ). The degrees of freedom for the numerator (i.e. 2) is the number of parameters not including the constant whereas the degrees of freedom for the denominator (i.e. 183) is obtained by using the formula (Number of samples - number of parameters not including the constant - 1). The value of the 'Mean squares of regression' is calculated by dividing the 'Sum of squares of regression' by the degrees of freedom for the numerator ( $25.922 / 2 = 12.961$ ). The value of the 'Mean squares of residual' is calculated by dividing the 'Sum of squares of residual' by the degrees of freedom for the denominator ( $33.085 / 183 = 0.181$ ). The value for F-ratio is calculated by dividing the value of 'Mean squares of regression' by the value of 'Mean squares of residual' ( $12.961 / 0.181 = 71.688$ ). The value of the coefficient of determination,  $R^2$  can be obtained by dividing the value of 'Sum of squares of regression' by the value of 'Total sum of squares' ( $25.922 / 59.007 = 0.439$ ). On the other hand,

Table 1: Results of Reliability Test

No.	Variables	Cronbach's Alpha	No. of Items
1	Knowledge Performance	0.939	14
2	ICT	0.875	7
3	Employees' Skills and Competencies	0.872	7

Table 2: Summary Respondents' Profile

Variable	Category	Number of Respondents	Percent of Sample (%)
Gender	Male	55	29.6
	Female	131	70.4
	Total	186	100
Position	Senior management	33	17.7
	Middle management	153	82.3
	Total	186	100
Education level	Bachelor degree	95	51.1
	Master degree	91	48.9
	Total	186	100
Work department	Administration	15	8.1
	Reference services	31	16.7
	Acquisition	35	18.8
	Catalogue and Classification	43	23.1
	Automation and IT	24	12.9
	Circulation	17	9.1
	Training and Support	6	3.2
	Others	15	8.1
	Total	186	100

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.663 <sup>b</sup>	0.439	0.433	0.42520

a. Predictors: (Constant), Employee Skills Competencies, ICT

b. Dependent Variable : Knowledge Performance

Table 4: ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.922	2	12.961	71.688	0.000 <sup>b</sup>
	Residual	33.085	183	0.181		
	Total	59.007	185			

a. Predictors: (Constant), Employee Skills Competencies, ICT

b. Dependent Variable : Knowledge Performance

Table 5: Coefficients of Multiple Regression

Model		Unstandardised Coefficients		Standardised Coefficients		Sig.
		B	Std. Error	Beta	t	
S1	(Constant)	2.097	0.312		6.730	0.000
	Employee Skills Competencies	0.436	0.060	0.500	7.270	0.000
	ICT	0.210	0.063	0.230	3.336	0.001

a. Dependent Variable: Knowledge\_Performance

Table 6: Summary of the t-Statistic

Variables	t-Statistic	Significant	Relationship	Decision
Employees' Skills and Competencies	6.857	> 0.05	Significant	Rejected
Information Communication and Technology (ICT)	3.216	> 0.05	Significant	Rejected

Table 7 : Correlations Analysis

		KP	ESC	ICT
Knowledge Performance	Pearson Correlation	1	0.637**	0.527**
	Sig. (2-tailed)		0.000	0.000
	N	186	186	186
Employees' Skills and Competencies	Pearson Correlation	0.637**	1	0.594**
	Sig. (2-tailed)	0.000		0.000
	N	186	186	186
Information Communication and Technology (ICT)	Pearson Correlation	0.527**	0.594**	1
	Sig. (2-tailed)	0.000	0.000	
	N	186	186	186

\*\* . Correlation is significant at the 0.01 level (2-tailed).

the variance of dependent variable (i.e. knowledge performance) that cannot be explained by the independent variables can be calculated by dividing the value of 'Sum of squares of residual' by the value of 'Total sum of squares' ( $33.085 / 59.007 = 0.561$ ) or  $1 - 0.439 = 0.561$ .

Table 5 presents that the value of  $B$  (unstandardized coefficients) for the constant, the slope of the independent variable, 'Employee Skills Competencies' and 'ICT' is 2.097, 0.436 and 0.210 respectively. For each set of data obtained from different samples in the same population, there will be a set of  $B$  value for the constant and the slope of the independent variables. The distribution of the value of  $B$  for the constant and the slope of the independent variables is normal if the assumptions of regression are met. The standard deviation of the mentioned distribution of the value of  $B$  is known as the standard error. In this example, the value of the standard error for the constant and the slope of the independent variables are 0.312, 0.60 and 0.63 respectively.

Table 6 indicates the summary of the t-Statistic and the significant relationship between variables. The  $t$  value for the slope of Employees' Skills and Competencies is 6.857 ( $= 0.504 / 0.074$ ) and ICT is 3.216 ( $= 0.207 / 0.064$ ). The  $p$  value for the constant, the slope of these independent variables are less than 0.05. Hence, the null hypothesis was rejected. There exists adequate evidence to conclude that Employees' Skills Competencies and ICT are significant predictors in measuring librarians' knowledge performance.

**Correlation Analysis:** The Pearson's correlation analysis was carried out to determine the relationship between OLC dimensions and knowledge performance. Table 7 shows that employees' skills and competencies and ICT are both associated with knowledge performance, with a positive linear moderate correlation at a 0.01 level of significance. The correlation between employees' skills and competencies and knowledge performance is the

highest (0.637) followed by ICT and employees' skills and competencies (0.594) and ICT and knowledge performance (0.527). Thus, the null hypothesis was rejected.

## CONCLUSIONS

From the results, the dimensions on employees' skills and competencies and ICT are both significant predictor in estimating the effects on knowledge performance. Thus, it was concluded that the null hypothesis was rejected and the proposed hypothesis (*there is no significant effect of employees' skills and competencies and ICT on knowledge performance*) was not supported. The findings also showed that there is a significant moderate positive relationship between the OLC dimensions and knowledge performance. Thus, it was concluded that the null hypothesis was rejected and the proposed hypothesis (*there is no significant relationship between employees' skills and competencies, ICT and knowledge performance*) was not supported. The levels of significance could be improved with wider samples in future study. Besides, academic libraries and librarians can achieved better results on knowledge performance if the organizational learning capabilities are well emphasized among librarians. It is suggested that future study can focus on other OLC dimensions such as leadership, transfer of knowledge and performance measurement. On the other hand, learning and knowledge are to attain the effectiveness of organizational capabilities among librarians in the academic libraries. The outcome of this study is expected to improve the learning capabilities and skills among the academic librarians.

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