

# The Effectiveness of Model Application (CMMi) in MYGURU2 portal

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## ABSTRACT

*Globalization Era has shifted the human's paradigm of thinking. Knowledge is now seen as the most valuable asset to go through the modernization of the 21<sup>st</sup> century. Education field is vital to produce professionals in many employment sectors. The education institution today is not only conventional but also integrating ICT in the education process. MyGURU 2 Portal in UPSI is one of the ways to integrate ICT in the education and learning process. A research has been done to study the no avidness of the application of the Capability Maturity Model Integration (CMMi) in MyGURU 2 Portal. The respondents of the study are 100 which come from students and lectures in UPSI. A set of questionnaire is used to accumulate data that will be analyzed with the use of descriptive SPSS version 12.0 as the chosen software in data analysis. The analysis that be found from the research were used CMMi in MyGURU 2 Portal is satisfactorily improving the students' achievement in learning. CMMi Model describes more productive and useful to achieving development objectives. It is hoped that this research will benefit many people. The results from this research are also hope to motivate and stimulate the effectiveness, usability and quality of the MyGURU 2 Portal following the CMMI standards.*

### Keywords

*Capability Maturity Model Integration ( CMMi ) , MyGURU 2*

## 1.0 INTRODUCTION

The education system is a field that evolved during time to time. Some of the evolution come from internal and external of education field. The usage of e-learning had been applied in Malaysia and other countries around the world (Sheingold, K & Hadley, M. 1990).

Applying technology within the education process whether the existing and new is aligned with the

vision of the country in the 21st Century in achieving Vision 2020 (Arfah Abdul Aziz, 1996). (Sandholtz, 1997) has mentioned that the usage of technology could make the learning process much more easier.

Therefore learning with e-learning had been introduced as a new strategy to support the weakness in the existing education system whether new or old. This type of learning if applied in a good way would enable the birth of new generation which are not only skillfull in using computer but also in applying the information effectively (Arfah Abdul Aziz, 1996). The exploration towards media and information is still continued anywhere and daily for obtaining various sources and product information technology at the global market. The thinking always expanding from time to time in order to forward develop country with high technology. (Hargreaves, D.H. 1994).

This future a lot of higher institution in various countries equiped the lecturing system electronically, whether to compliment or to replace the education system. Few Higher Education maintaining the activities of e-learning as additional work towards the subject created inside the classroom (Wildavsky, 2001; Lewis, 2002). Apart of that, e-learning also has been defined as a new approach of learning where the education training, learning and structured information is integrated and delivered using computer through internet particularly web, CD ROM and portable storage with high technology through organisation network (Jamaludin Mohaiadin, 2000).

The teaching that used electronic media has spread the media as the sources of information. This will enabled the students to self learned interactive and effectively. This type of learning applying text media, pictures, e-forum, discussions on internet, announcement, files sharing, hyperlink to other related pages and also the usage of e-mail inside the education institution. Interaction between, the lecturer and students, or students with other students. Other students can use e-mail or discussion using text or e-forum. This type of Portal

has been used extensively particularly for MyGURU 2.

( CMMI ) could be used to identify at which stage achieved by MyGURU2 System could be used to identify at which stage has been achieved by this System. Problems inside this portal:

- 1) Sending data by students and lecturer being interrupted by "server down".
- 2) Bottle neck in retrieving notes will cause latency and congestion.
- 3) Buttons and user interface to achieving its purpose.

## 2.0 OBJECTIVES

The main objective of this research is to develop "target profile" that contain the ability stage to be achieve in the future. With the objective of using CMMi, UPSI could choose to be at one of the process of the 5 stages of ranking, to improve quality:

- i) Planning the job
- ii) Checking and controlling
- iii) Operation Readiness
- iv) Effect and Resolution Analysis

Corelation Factor	Relation Strength
0.00-0.19	No relation/Can be avoided
0.20-0.39	Low
0.40-0.59	Medium
0.60-0.79	High
0.80-1.00	Very High

### 2.1 Research Questions

- a. Is Portal MyGURU 2 is fully used by lecturer and students in finding related infos.
- b. Is there problems in upload and download ?.
- c. Is the buttons and interfaces easy to used ?.

## 3.0 RESEARCH METHODOLOGY

Survey questions to 20 lecturers and 80 students. Results being entered and process and analyzed using SPSS 12.0 software.

### 3.1 Research Hypothesis

- a.  $H_0$  : No significance difference in using Portal
- b.  $H_0$  : No significance difference in bottleneck
- c.  $H_0$  : No significance difference in using buttons and interfaces

## 4.0 RESULTS

Table 1: Results of First Hypothesis

Factor	N	Pearson Factor (r)	Significant value (2-tailed) $\alpha/2 = 0.025$
The usage of MyGuru2	Lecturer	20 -0.313**	0.178
	Students	80 -0.085**	0.456

### Results of First Hypothesis:

$H_0$  : No significance difference in using Portal

The correlations is to test relation of the usage of the portal by lecturers and students in par of quality and CMMi in Portal MyGURU2. First Hypothesis has a low relation  $r = -0.313$  and  $-0.085$  for lecturers and students.

The results of the analysis showed  $H_0$  accepted both for lecturers and students and reject alternative hypothesis ( $H_a$ ) showing 0.178 and 0.456 larger than  $\alpha/2$  value 0.025 for lecturers and students.

From the results its clear that the application of MyGURU2 of the students and the lecturers did not give any positive impact towards the application of MyGURU2 regarding CMMi factors. Pertaining issue relate to document the user manual and system manual for this system as part of CMMi project.

## Results of Second Hypothesis

$H_0$  : No significance difference in bottleneck

The result of the analysis is to test the relation of the traffic of the application.

There is positive correlation  $r = 0.568$  and  $r = 0.407$  to the students.

The results of the analysis showed  $H_0$  accepted for lecturers and rejected for students and reject alternative hypothesis for lecturer and accept alternative hypothesis for students ( $H_a$ ) showing 0.09 larger than  $\alpha/2$  value 0.025 for lecturers and 0 for students smaller than  $\alpha/2$  value 0.025. Problems therefore occur for students upload and download assignments.

**Table 2 :Results of Second Hypothesis**

Factor	N	Pearson Factor	Significant (2-tailed)
		( r )	
Accessing to upload and download	Lecturer	2	0.568* 0.09
	Students	8	0.407* 0.000

## Result of the third Hypothesis:

$H_0$  : No significance difference in using buttons and interfaces

There's very high correlation based on the Pearson Correlation Test for the lecturer  $r = 0.894$ . The  $H_0$  has been rejected and ( $H_a$ ) has been accepted because 0.000 is smaller than the value  $\alpha/2$  which is 0.025.

For the students the Pearson Correlation Test for the students show an average  $r = 0.506$ . The  $H_0$  has been rejected and ( $H_a$ ) has been accepted because 0.000 is smaller than the value  $\alpha/2$  which is 0.025.

From the results it shows there is usability weakness that could be improved for MyGURU2 Portal. The CMMi model could be used as a project plan and project monitoring especially to increase the management process in par with CMMi.

**Table 3 :Results of Second Hypothesis**

Factor	N	Pearson Factor	Significant (2-tailed)
		( r )	
Usability	Lecturer	2	0.894 0.000
	Students	8	0.506 0.000

**Table 4: CMMi Level**

*Checklist for the initial stage (First Stage)*

Items (10 perkara dalam senarai semak)	Measurement (0= evaluation = 1) (Measurement Samples)
1. Unavailability in Software Development plan	0.7 (Parts of the plan)
2. Availability in Engineering part	1.0 (Guideline)
3. No availability Model Agreement	1.0 ( No process Model or Agreement)
4. Secrecy	0.0 (Secrecy given by the group)
5. Unavailability of Management	0.4 (The involvement of the management)
6. The Change Management	0.8 (Chaotic Mark)
7. Lack of Experience	1 (inexpert user)
8. Non availability of prototype	1 (Non available prototype)
9. Incremental of Size.	1 (No measurement in size)
10. Not enough support.	0.9 Lack of Commitment toward Project )

Total of	? <u>Sign of Early Mature</u>
Maturity Level	<u>Level</u> =
	10
	= 0.78

#### 4.1 Summary

From the Pearson correlation from the data taken and analysis it could be summarized that CMMi application towards Portal MyGURU2 will be more effective if it could be applied in the development of the software to improve the usability and recognition in the quality of the software that has been developed from Universiti Pendidikan Sultan Idris

#### 5.0 CONCLUSION

There is chances for the application to be improved by CMMi regarding usability factors particularly user interfaces. The other factor like reliability also plays an important role to the CMMi to be implemented. The ICT as the key resource to improve the application quality high up the CMMi stage. Handover documents must be thoroughly specified together with appropriate UAT testing. The documents should come handy especially technical and use manual to improve the CMMi level.

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