

Implementing E-Learning System Success to Measure Quality of Online Training in Jakarta Religion Ministry Affair Training Center

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Abstract—This study is a descriptive explorative research aims to assess the quality of LMS in Jakarta Minister of Religion Affair Training Center. The assessment uses E-Learning System Success (ELLS) formulated by Wang and colleague that consists of five dimension and 34 items. Data has been collected through online survey from 556 participants who passed in 25 online classes conducted in 2018. The data has been analyzed using independent t-test and one way ANOVA to explain different mean score from the view of geography, gender and course type. The conclusion of the study are, firstly the number participant register from DKI area is lower than Banten and west Borneo. Besides, the LMS score given by DKI participants are significantly lower than from other. Secondly, Intension to Use dimension has got the lower score than the four others and 12 items that got under average score has been identified. Third, the number of female attended and graduated from the program is significantly more than male, but gave not significantly different score. Fourth, Teaching Model (MP) course has significantly got the better score than the four other courses. The lowest score is in the Intention to Use dimension. The improvement recommended to improve the quality of LMS focused to the low quality dimension and specifically to the 12 low scored items.

Keywords—online training, learning management system, online learning system assessment, online learning system dimension.

I. INTRODUCTION

In developed countries, internet usage is not new. Waits & Lewis, (2003) in Lee-Post [1], as of 2003, 100% of public schools in the U.S. had Internet access, up from 98% in 2000. Ninety percent of public schools offered Internet courses using asynchronous computer-based instruction. Eighty-eight percent of public schools indicated plans to start or increase use of the Internet as a primary mode of instructional delivery.

In Indonesia the model of education began to rise at around the year 2000. For many countries with a huge population, limited human resources and remote geographical areas like Indonesia, e-learning plays a key role to provide better access to education and knowledge resources. In the context, e-learning is an effort to improve the learning process, encourage knowledge

transfer and compliment their existing learning environment.

Jakarta Minister of Religion Training Center (Balai Diklat Keagamaan/BDK Jakarta) has implemented Online Training since 2013. The training model is an innovation and flagship program to accelerate the number of employees in the Ministry of Religion in three provinces namely DKI Jakarta, Banten and West Borneo to obtain performance improvement services. The training program uses a full online approach. A group of participants was registered into a class to participate in an open and independent learning course presented through a Learning Management System (LMS). Most of the learning activity are provided asynchronously in text and video format. The learning processes are guided by a tutor and an administrator. Tutors sometimes provide synchronous activity via phone, media social chat and video conference.

Every course in the program implements product base training approach. This approach is used to support competency-based training. In this approach the results and training are not only knowledge but skills to support the quality of employee performance. At the end of the program the participants are expected to master knowledge and skill with a ratio of 25% and 75%.

The program uses MOODLE Learning Management System (LMS) platform to organize materials, learning activities and services. The LMS development uses Bates Online Learning Development Model. The model provides four development stages; those are course outline developed stage, selection of media stage, development/production of materials stage, course delivery stage [2]. The model provide some advantages. Firstly, the cycle of the model is simpler than other model. Secondly, the model provides guideline for instructional developer team to determine who should do, what to do and what materials should be produced in every stages. Third, the model provides guideline for the team to control and evaluate the products of every stage.

Learning activities in LMS are divided into three main parts namely program orientation, learning activity

and evaluation. Learning activity is the main part of the course. The number of learning activity in each course can be different depend on difficulty of materials. Variety of teaching strategies are used to make activity easier to participants. Some learning strategies that are often applied include inquiry, problem base, project base, collaborative and experiential learning. The learning strategies help instructional developers in LMS development and engineering. Each strategy determines the sequence of sessions in each learning activity so that the activity sessions in are presented systematically and logically.

Learning session in each learning activity presented in LMS is a learning cycle concise of variety of synchronous and asynchronous combined activities. Some mind activity are online quizzes, reflection, online discussion, reading, cases study, observation, make a report, watch and comment video, social media chat, video conference, doing task and online test. The variety of activities constructed in order that participants can finish every leaning activity fast and easily. Each participant must complete each learning activity according to the time line and only those participants who have accumulated a passing grade score (76) can proceed to the next learning activity. For the purpose, LMS is set in enrolment system for every learning activity and restriction system for some session.

Five years' experience the program at least shows three main benefits. Firstly, the program has successfully increased the enthusiasm of the employees to attend training. On average 750 employees from various positions register online every year. It is because the program is flexible, provides capacity building for employee without time and place limit. Employees can attend training without leaving their duties and family. Secondly, the program has increased multiply opportunity to attend training. Before the program, an employee of Ministry of Religion has more than four years opportunity to attend training, but after the program, the employee can attend training every year. The problem is the limited course diversity. An employee who has finished all course types has no longer choice. Thirdly, the program is very efficient. A class of online course spends 25% budget compared to face-to-face course.

In spite of the success, some dissatisfactions is found in terms of retention rate and number of graduates. In the first year, only 32, 2% participants have fulfill the course completely and 60% participants get under passing grade formative and summative score in first opportunity. The program has been improved regularly in every year. After five years improvement, based on 2018 evaluation, the percentage of graduate increased to 70.99% but the retention score remained steady. It is an impressive improvement in graduate rate however, this achievement has not been satisfactory when it is compared to the face-to-face training output.

This is an important issue which needs to be resolved. In one hand, online training is an alternative training model to multiply employee opportunity to obtain training and can enhance budget efficiency up to 400%. A Research conducted by Strother [3] finds that

E-learning is less expensive than traditional classroom instruction. In addition, many expenses - booking training facilities, travel costs for employees or trainers, plus employee time away from the job - are greatly reduced. Bouhnik and Marcus in Ramayanah, Ahmad and Hong [4], specifically stated that e-learning has four advantages: (1) freedom to decide when each online lesson will be learned, (2) lack of dependence on the time constraint, (3) freedom to express thoughts and (4) accessibility to the course's online materials.

On the other hand it is low retention and graduate's rates. It happens in online course generally. Bawa [5] identifies research finding from Hayman, Herbert and Smith about low retention and fulfilment rate in higher education online course. Hayman (2010) finds out that one of the biggest concern in high education online program is low retention. Herbert (2006) states that online courses have a 10% to 20% higher failed retention rate than traditional classroom environments, and totally 40% to 80% online students drop out of online classes (Smith, 2010). Research conducted by Dutton and Perry found some phenomena that despite all the perceived benefits of e-learning, research indicates that a high rate of students who commence e-learning courses do not finish them [6].

The rate can be improved. Online School Center web site [7] released a list of graduation rate in university online course in the United States. The lists contents percentage of graduations in 30 universities. Pennsylvania State University World Campus with a graduation rate of 87% stay in the first place. Second place is the University of Florida with a graduation rate of 84%, and the third is George Washington University with a graduation rate of 81%. It is a proof that graduation rate can be improved.

Improving the graduation rate and retention must be begun with improvements of the online learning components. Gautam and Tiwari [8] draw a system of e-learning diagram. The system is supported by five main components namely course structure, usability, contents engagement, page design, and audience. Gautam and Tiwari explain that the diagram above illustrates how these components are connected. Each e learning component plays an important role in designing an E-learning system. Alhomod and Shafi in Gautam and Tiwari identified various components of e-learning. These factors include development of course, the way of teaching and learning, course structure, student support, instructor, technology, previous use of technology by a student, the suitability of course content, building e-learning course, and e-learning platform. Sun et al. in Alsabawy, Cater-Steel and Soar [9] classified the critical factors which drive successful e-learning in six dimensions which are learner, instructor, course, technology, design, and environmental. In Information System DeLone and McLean updated model, online leaning has six dimensions include information, system, service quality, (intention to) use, user satisfaction, and net benefit [11].

So far there has been no research carried out to understand the factors of online training in system in the institution. Therefore, it is important to assess the quality

of each component. The development and implementation of the program needs continuous quality evaluation and assessment to improve the graduation rate and learning objectives.

The assessment aims to measure participants perception on the online system quality. The assessment focused to answer question: How is participant's perception about the quality of LMS in online training of Jakarta Ministry of Religion Training Center? The findings of this study will provide a theoretical foundation and empirical evidence explaining the determinants responsible for the successful LMS in Online Training in Jakarta Ministry of Religion Training Center.

II. LITERATURE REVIEW

Quality of online system can be measured using various techniques and instrument of accession. Some assessment mode identified include Online Learning Environment Survey (OLES) from Pearson and Trinidad [12], D&L IS Model from DeLone and McLean [13], CSF E-Learning Model and E-Learning Effectiveness Model [14]. Wang[15] identified some assessment in Information System (SI) industry. According to Wang, traditionally there are two kinds of instrument in IS, namely SETE and US. Wang identified variety of SETE include Endeavor instrument, Students Instructional Rating System (SIRS), Instructor and Course Evaluation System (ICES), Students Description of teaching (SDT) Educational Quality (SEEQ), and Instructional Development and Effectiveness Assessment (IDEA). In the next step Wang develop instrument, Wang and his colleague develop assessment scale that especially for organizational context called ELSS)

Every model has special characteristics, strengths and weaknesses. The selection of assessment models is determined by the purpose and character of the object to be measured. OLES for example, used to measure the quality of a blended learning system, while ELLS is especiallu used to measure e-learning system Quality for fully employee online learning.

A. DeLone and McLean IS Model

One of the most popular frame work to assess the effectiveness of online learning system is DeLone and McLean System Information. Alsabawy, Catter-Steel and Soar [16] concluded that the DeLone and McLean model is believed to be one of the most important measurements which can be used to address this issue in the e-learning field. The model is better known as the D & M IS Success Model. DeLone and McLean develop the model since 1992. The model was developed by DeLone and McLean base on the Information System initiated by Keen in the year 1980 [17].

Delone and Mclean have postulated comprehensive and multidimensional model IS success based on Shannon and Weaver definition about level of communication. Shannon and Weaver defined communication into three levels. *Technical* level of communications as the accuracy and efficiency of the communication system that produces information. Semantic level is the success of the information in conveying the intended meaning. While the effectiveness

level is the effect of the information on the receiver. Based on the definition DeLone and McLean formulated the D&M IS Success Model. The model describes six dimension of information system: *system quality, information quality, use, user satisfaction, individual impact, and organizational impact*. Furthermore the model formulated relation among the dimension with the level of communication. Delon and Mclean explained that "systems quality" measures technical success; "information quality" measures semantic success; and "use, user satisfaction, individual impacts," and "organizational impacts" measure effectiveness success [18].

The idea was implemented by lots of researcher as a conceptual framework to study e-learning. Based on experience and validation some researcher identified weaknesses of the frame work and propose to update it. After ten years of the first publication, and based on the evaluation of the many contributions to it, DeLone and McLean proposed an updated IS success model in 2003. The updated model consists of six interrelated dimensions of IS success: *information, system Quality, service quality; (intention to) use; user satisfaction; and net benefits*. DeLone and McLean suggests that the six dimension of success are interrelated rather than independent. The model can be described in the following scheme.

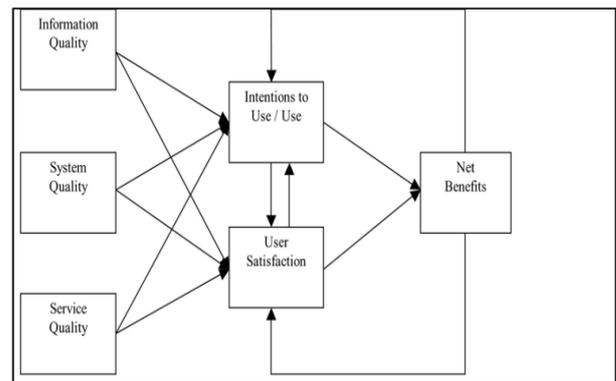


Figure 1 DeLone and McLean IS Model

The scheme describes that information quality, system quality and information quality singularly and jointly affect both intention to use and user satisfaction. Intention to use has positive and negative effects on the degree of user satisfaction and vice versa. Both intention to use and user satisfaction influence an individual, which will eventually impact net benefit [21]. Peter and McLeand [19] resume description of dimension as follow.

Table 1 DeLone and McLean Construct Definition

CONSTRUCT	DESCRIPTION
System Quality (SQ)	Performance of the IS in terms of reliability, convenience, ease of use, functionality, and other system metrics
Information Quality (IQ)	Characteristics of the output offered by the IS, such as accuracy, timeliness, and completeness

Service Quality	Support of users by the IS department, often measured by the responsiveness, reliability, and empathy of the support organization
Intention to Use	Use Expected future consumption of an IS or its output
Use	Satisfaction Approval or likeability of an IS and its output
Net Benefits	The effect an IS has on an individual, group, organization, industry, society, etc., which is often measured in terms of organizational

In D&M IS Model updated, System quality, service quality and information quality separately and jointly affect both use and user satisfaction. Additionally, the amount of use can affect the degree of user satisfaction – positively or negatively – and vice versa. Use and user satisfaction are direct antecedents of individual impact. This impact on individual performance should eventually have some organizational impact.

B. E-Learning System Success Model

The D&M ISS model was used in different types of information systems. Yakubu identifies [20] some different of modifications. Hsu, Chang, Chu, & Lee extended the model by adding the trust variable in the context of e-commerce; Jagannathan, Balasubramanian, and Natarajan employed the model by adding security as a construct in a study to examine the acceptance of internet banking.

In the context of eLearning, identifies that the updated D&M IS model has been applied to different types of systems. For examples, Lin proposed a model to examine the determinants for the successful use of online learning systems by undergraduate students. Lwoga employed the model to examine the factors that predict usage of a web-based learning management system by students. Cheng used constructs from the technology acceptance model (TAM) and the updated D&M ISS model to propose a model to examine the effect of quality antecedents on learners’ intention to use an e-Learning system.

Wang, Wang and Shee [21] develop a scale to measure e-learning system for organization context, especially in employee e-learning. The scale called e-learning System Success (ELSS), is a multi-dimension model developed base on D&M IS framework. For the purposes Wang et. al. has formulated items for each dimension od D&M IS Model. The scale concise of 34 items as follow.

Wang et.al. reviewed literature on IS success includes IS performance, web success, e-learner satisfaction user information satisfaction etc. and obtained 46 items that represent the six dimension of D&N IS Model. To make sure that only important items obtained, Wang et. al. conducted experience surveys and personal interviews on e-learning systems success with the assistance of four university professors, three professionals, and five IS managers. They were asked to review the initial item list of the ELSS scale, and they recommended eliminating 15 items because of redundancy, and adding three new items. After careful

examination of the result of the experience surveys and interviews, the revised 34 items were further adjusted to make their wording as precise as possible, and could be considered to constitute a complete scale for the ELSS measurement.

An initial ELSS scale involving 34 items presents 6 dimension and two global measures perceived overall performance and perceived overall success of the e-learning system. The scale was developed using a seven point Likert-type scale, ranging from “strongly disagree” to “strongly agree”. The global measures can be used to analyze the criterion-related validity of the instrument, and to measure the overall e-learning systems success prior to detailed analysis. For each question, respondents were asked to circle the response which best described their level of agreement. The items of each dimension are as follow:

Table 2 Number of Items by Each Dimension

DIMENSION	ITEMS
SYSTEM QUALITY	7
INFORMATION QUALITY	6
SERVICE QUALITY	5
USE	3
USER SATISFACTION	3
NET BENEFITS	10
	34

The scale has been validated through instrument testing involved eight international and local organization in Taiwan. The organization have conducted e-learning system. A sample of 206 usable e-learner responses was obtained from a variety of respondents with different backgrounds. The respondents concise of different level of employee includes top-level managers, middle level managers, first level managers, professional employees, and general employees. Of these respondents 65.2% were male, and the respondents had an average of 8.56 years of work experience (SD = 7.201) in their field, and most respondents (64.3%) had a college, university, or higher degree. Based on the validation the 34-item has a reliable (Cronbch’s alpha) of 0.9668. The reliability of each factor was as follows: system quality = 0.8956; information quality = 0.9102; service quality = 0.8807; system use = 0.8561; user satisfaction = 0.9080; and net benefit = 0.9505.

The 34-item instrument has a criterion-related validity of 0.828 and a significant level of 0.000, representing an acceptable criterion-related validity. The correlations within-factor are: system quality = 0.37; information quality = 0.49; service quality = 0.42; system use = 0.64; user satisfaction = 0.73; net benefits = 0.46. These correlations are significantly higher than zero and large enough to proceed with discriminant validity analysis. Wang et.al furthermore stated that the rigorous procedures used in conceptualizing the ELSS construct and its dimensions, generating items representing the six dimensions underlying the ELSS

construct, and purifying the ELSS measures suggest that the ELSS instrument has strong content validity.

Wang et.al., suggests practical implication that the ELSS instrument can be utilized to assess the success of organizational e-learning systems from learner/employee perspectives. Assessment result can provide a fast and early feedback to improve the quality of the system. Wang et.al. also suggests that besides making an overall assessment, this ELSS instrument can be used to compare effectiveness for different e-learning systems with specific factors (i.e., information quality, system quality, service quality, system use, user satisfaction, and net benefit).

III. METHOD

Data needed in this study are participant's assumption about the quality of the LMS in six dimension formulated in D&M IS Model. Data was collected through online survey using e-Learning System Success (ELSS) Scale constructed by Wang. The Instrument selection based on the character of ELSS that is constructed for the purpose of measuring e-learning effectiveness in the context of developing staff performance in organization. The scale uses five-point Likert scale ranging from strongly agree (1) to strongly disagree (5). The scale is put in MOODLE flat form of LMS at the evaluation of the course. The five scale can be qualified into five qualification: poor (1), fair (2), good (3), very good (4), and excellent (5).

Respondents were all graduate participants in online training in 2018 with a total of 556 from 23 online training classes in five different courses. Participants who have finished all learning activities complete the evaluation session include summative test and LMS evaluation.

Data gathered was analyzed by statistic to find tendency of data begin with constructing tables of means, quintiles and measures of dispersion such as variance or standard deviation, Independent Sample t-test and One Way ANOVA using SPSS software. Furthermore the analyzed data was interpreted in context of strengths and weaknesses of each dimension. An overview of quality of each dimension will be carried out through 3 angles, namely the course type, geographical location of participants, and gender. Each dimension average score will be compared to the overall average. If there are dimensions whose average score is below the overall average, the analysis continue to identify item that contribute to the low score on that dimension.

IV. RESULT AND DISCUSSION

A. Overall score of dimension

The data has been collected at the end of year program in December 2018. Totally 556 participants who have finished from 23 online classes involved as respondents in the survey. The demographic characteristic of the respondents presented in the following table.

Table 3 Demographic Characteristic of Participant

DEMOGRAPHIC CHARACTERISTIC		FREQUENCY	%
PROVINCE	Jakarta	55	9.97
	Banten	257	46.15
	West Borneo	244	43.87
GENDER	Male	184	33.00
	Female	372	67
JOB	Teachers	476	85.61
	Religion services	46	8.27
	Administrative services	34	6.11
AGE	25-30	102	18.34
	31-40	265	47.66
	41-50	133	23.92
	51-60	56	10

The data on the table shows four information. Firstly, the number participants of the training mostly from Banten, followed by DKI Jakarta and the last is West Borneo. Secondly, most of training participants are female. Third the most number of participants are teachers. Lastly, the age of participants mostly between 31 and 50 years old.

Data from online survey has been tabulated and classified on the six dimension. In summary the data tabulated in the following table.

Table 4 Overall Score

	<i>SQ</i>	<i>IQ</i>	<i>SV</i>	<i>U</i>	<i>US</i>	<i>NB</i>
AVERAGE	4.25	4.29	4.38	3.95	4.46	4.35
MAX	4.39	4.43	4.41	4.31	4.56	4.55
MIN	3.89	4.14	4.28	3.53	4.27	4.18
SD	0.17	0.09	0.05	0.32	0.13	0.12

Overall summary score of the six dimension is follow: the average mean score of the all dimension is 4.29 with standard of deviation 0.19; the maximum average score is 4.56 in US3 item and the minimum average score 3.53 in U3 items. User Satisfaction dimension got the highest score (4.46), while U (Intention to Uses) got the lowest (3.95).

The score of each item can be classified into level of above average and below average. The classification will be used to identify the priority aspect of LMS that should be improved. The classification presented in the table below.

Table 5 Items Score Qualification

LEVEL OF SCORE	ITEM
ABOVE AVERAGE	SQ1, SQ2, SQ3, SQ4, SQ7, IQ1, IQ3, IQ4, SV1, SV3, SV4, SV5. U2, US1, US2, US3, NB1, NB2, NB5, NB9, NB10
BELOW AVERAGE	SQ5, SQ6, IQ2, IQ5, IQ6, SV2, U1, U3, NB3, NB4, NB6, NB7, NB8

The table shows that 21 (61.76%) items got above average score, while 13 (35.29%) items got below average score. The ratio between items score above overall average and number of item in each dimension is as follow: SQ (5/7), IQ (3/6), SV (4/5), U (2/3), US (3/3), and NB (5/10) of each. User Satisfaction (US) dimension got the highest ration, while Use dimension (U) got the lowest. The item with the score under average should have been the priority for improvement.

B. Geographic view

The participants of the online training are government employees and temporary employees from three provinces (DKI Jakarta (9.97%), Banten (46.15%) and West Borneo (43.83%)). The participants of different geography is important to be identified for a certain purpose. DKI Jakarta, Banten and West Borneo has different language, culture, and infrastructure. Such differentiation can cause different perception. The following table expresses the participants' perception of different geography.

Table 6 Dimension Score by Province

	SQ	IQ	SV	U	US	NB	AV
DKI	4.14	4.16	4.20	3.91	4.30	4.25	4.16
BANTEN	4.29	4.33	4.43	3.96	4.50	4.39	4.32
WEST BORNEO	4.14	4.26	4.41	4.00	4.62	4.44	4.31
AV	4.19	4.25	4.34	3.96	4.47	4.36	

*AV=Average

The table shows interesting information. Participants from DKI Jakarta percepts less than others. It is mean that the participants who live DKI Jakarta cannot use the LMS better than Banten and West Borneo. Meanwhile, participants who live in Banten and Wes Borneo can access and use the LMS in nearly the same. In the table also can be seen that by the dimension, the highest score is in US dimension (4.47) and the lowest is in U dimension (3.96).

The significant differences was analyzed using One-way ANOVA 0.05 level of significant. The output of the analysis shows that participants live in DKI Jakarta give significant different perception from participates who live Banten (sig: 0.015) and WB (sig: 0.037). While participants who live in Banten do not give significant different perception from those who live in WB (sig: 0.94). This means that participants who live in DKI can access and use the LMS better than those who live in Banten and WB.

C. Gender view

The participants concise of 33% male and 67% female. This is an interesting phenomenon that should be analyzed theoretically and should be followed by practical policy in LMS development. The survey identified data shod in following table.

Table 7 Dimension Score by Gender

	SQ	IQ	SV	U	US	NB	AV
MALE	4.17	4.17	4.26	3.96	4.35	4.35	4.21
FEMALE	4.21	4.31	4.43	3.96	4.48	4.48	4.31
AV	4.18	4.24	4.34	3.96	4.41	4.41	

The data in the table show that in overall dimension and mostly in each dimension, female give higher average score (4.41) than male (4.205). However output of Independent Sample t-Test in 0.05 significant level shows that the difference is not significant (sig: 0.006). This informs that both male and female can access and use the LMS in the same quality. Partially the dimension that have the highest score is US and NB with the same score (4.41), and the lowest is in U dimension (3.96).

D. Course type view

The study conducted to measure five course evaluation of learning (PHB), computer operation (com), model of teaching (MP), lesson plan (RPP) and Classroom Action Research (PTK). The number of respondent in every course is different, depend on number of class conducted and the number of graduate of every course. The survey have resulted average of perception score in following table.

Table 8 Dimension Score by Course Type

	SQ	IQ	SV	U	US	NB	AV
PHB	4.20	4.18	4.24	3.92	4.35	4.26	4.19
COM	4.30	4.28	4.46	4.04	4.45	4.39	4.32
MP	4.31	4.41	4.49	4.06	4.55	4.44	4.37
RPP	4.24	4.26	4.35	3.85	4.43	4.32	4.25
PTK	4.23	4.26	4.35	3.83	4.48	4.37	4.25
AV	4.25	4.28	4.38	3.95	4.45	4.36	

*AV=Average

The table shows that the highest score was obtained by MP, followed by COM, RPP and PTK, and the lowest is by PHB. The highest average score in each dimension is in US with average score (4.45), followed by SV 4.36), NB (4.36), IQ (2.26) and SQ (4.25). Like in the gender and geographic angle, U dimension got the lowest score.

The significant difference of the five course has been analyzed in using One Way ANOVA below. The output of the analysis shows five points. Firstly, PHB is significantly different from model, but is not from three others. Secondly, COM is not significantly different from the four others. Third, MP is significantly different from PHB, but is not from three others. Fourth, RPP is not significantly different from the four others. And fifth,

PTK is not significantly different from the four others. It implies that MP has significantly better score than other, but the different mean score amongst other courses is not significant.

At least there are six interesting points that is important to discuss. The points should be discussed to find underlined information that can be us as a practical base to formulate conclusion and propose improvement recommendation. The six points are demographic differences, overall and dimension mean score, geographic differences, gender differences and course differences.

E. Demographic differences

The last updated of the number of state employee released in year 2016 [25], notes that DKI Jakarta has 8325, Banten 5962 and West Borneo 3.645. The number of state employee is not linear the number of employee registered to online training. In percentage the number of employee of each province are 46.42% (DKI), 33.24% (Banten), and 20.32% WB, whereas the percentage of participants registered in online training is 9.97% (DKI), 46.15 (Banten), and 43.87 (WB).

This is an anomaly condition. Online training organizer has socialized the program in the three provinces in the same method and frequency, and employee are compulsory to register. Ideally the proportion of participants for each province is directly proportional. DKI Jakarta is the capitol city, so the number of employee register to online training should be the highest because of the bigger number of employee and has better availability of infrastructure such as internet access and computer. The latest number of internet user updated by Coursehero.com in Januari 2019, DKI is 5.6 milion(56%), Banten 3.3 milion (28%) and WB 1.1 milion (30%) [26].

It implies that other factors than number of employee and internet accessibility are play important role. Some factor that could influence this condition include motivation, opportunity to obtain other training, bustle, and support from people around. It needs further research to identify exact factors and to formulate suggestion to improve LMS.

F. Mean score

The survey has found out that the overall score of the LMS is 4.29 and reaches very good qualification. User satisfaction (US) has the highest score (4.46), followed by service quality (4.38), information quality (4.29), system quality (4.25), and the lowest is intention to use (3.95). Two dimension has under average score namely system quality and intention to use.

The analysis has identified items that contribute to low score in each dimension. The items are:

- SQ5 : The e-learning system provides a personalized information presentation
- SQ6 : The e-learning system has attractive features to appeal to the user
- IQ2 : The e-learning system provides information you need at the right time
- IQ5 : The e-learning system provides information that is easy to understand

- IQ6 : The e-learning system provides up-to-date information
- SV2 : The e-learning system developers interact extensively with users during the development of the e-learning system
- U1 : The frequency of use with the e-learning system is high
- U3 : You depend upon the e-learning system
- NB4 : The e-learning system enables the organization to respond more quickly to change
- NB6 : The e-learning system helps the organization provide new products or services to customers
- NB7 : The e-learning system helps the organization save cost
- NB8 : The e-learning system helps the organization to speed up transactions or shorten product cycles

In the system quality dimension, two items contribute to its low score. Firstly, information is not enough personalize to participants. It means that information is too common to the participants. Participants can find information anywhere. Secondly, features in LMS is not enough eye cache. Based on a survey in every LMS, the features is dominated by text in monochromatic color, whereas eyes generally more likely to catch info graphic and pictorial information. The information sensor far more easily to get information from audiovisual sources.

In information quality dimension, there are three items have under average score. The score implies that information presented in LMS is not enough on time, not too easy to understand and not updated. It means that the information is not what participants need recently. For example, participants need lower level or higher level of information. For those who have learn the same material before, it can be perceived too low and boring but for those who learn the subject for the first time, the information should be too hard. Also, the information in LMS is perceived out of date. Theories, regulations, examples, cases, and issues are not the latest version. Furthermore the information is not easy to understand. The information is not presented in simple sentences, graphical, pictorial, tabulation, simulation, or audiovisual.

The service quality leaves one item that has under average score. The item is about participation of participants in LMS development. In the case of online training development in Jakarta Religion Ministry Training Center, LMS development was handled by LMS development team without participation of training participants. Wang and colleague formulate the items for organizational purpose where online training materials formulation involved all organization component. It can be concluded that the item is not in accordance with the type of online course.

The Use (intention to use) dimension is the dimension that has the lowest score. The low score is contributed by two from three (2/3) items that have very low score. The first item is about the frequency of LMS

use, and the second is about the participant's dependency on the LMS. The score express that the frequent of participants to access the LMS is low. It need to explore the motivation of the low frequency use. It could be that participants don't really need the LMS, the LMS is not interesting, the LMS is hard to be accessed, or other reason. Secondly, the participants are not depend on the LMS. For example, if they need to learn or find information about the topic, they don't need to open the LMS but better to open other resources.

In the Net Benefit dimension, four of ten items contribute low score. The same as the item SV3 in Service quality dimension, the items are likely not in accordance with the the type of LMS. The items are especially to assess e-learning in the organization purposes. For example item: The e-learning system helps the organization provide new products or services to customers, purposely for production Company. So the four items should be eliminated.

G. Geographic view

For the second time the anomaly data found in this study. The participants who live in DKI percept the quality of LMS less than participants who live in Banten and west Borneo, whilst, participant who live in Banten and West Borneo percept nearly the same. DKI percept the LMS quality significantly diffrenet from those who live in Banten and West Borneo, but participants who live in Banten is not significantly different from those who live in West Borneo. It means that the LMS can be accessed and used better in Banten and West Borneo than in DKI.

The phenomenon is hard to understand because in the normal view, DKI has higher internet accessibility and tools availability. Again, this data finding explain that the perception of LMS quality is not only determined by internet accessibility and tools availability but should include motivation, culture and belief. One of rational argument is that participants who live in DKI have better online learning experience and can compare the quality of the LMS with other e-learning system but need further study to prove.

Partially, participants in all provinces give the highest score for user satisfaction dimension and the lowest for use dimension. The Intention to Use dimension need more attention to improve than others. Whilst System Quality dimension also need more improvements.

H. Gender view

The data shows interesting information that the number of female attends the course more than male. Firstly, male and female perception of LMS quality is not significantly different. It means that LMS can be accessed and used by male and female in the same way. It don't need to give different system and services. The average score level by gender is not different from the whole average score where, the lowest is in Intension To Use dimension.

Secondly, the higher number of female than male attending online learning is an important issues to discuss. While Margolis and Fisher [21] suggested that online learning environments are gender neutral and provide a democratic and equal environment, but in fact

in many countries over the past 10 years, females constitute the majority of online learners. Even in the United States at the turn of this century, 60% of the students studying online degree courses were women and most of whom were over age 25 years. Most of them are mature (over age 40 years), single-parent, minority, and low-income women.

In Indonesia the ratio of male and female in state employee by 2013 is 51:49 but the number of female employee is increasing [22]. Ideally the number of male attends the training more than female. It needs further study to explore the motives of the issue.

I. Course view

Based on the survey the five course have got relatively same score. MP has got the highest (4.37), followed by Com (4.32), RPP and PTK (4.25) and PHB (4.19). The result of Wan-Way ANOVA analysis, MP score is significantly different from others, whilst the four other course score have not significant different. Furthermore, like in the gender and geographic angle, low score of intension to use (U) dimension determines the whole score. This information shows that in general participant's perception about the course is very good but need to improve the quality in certain dimension an items.

V. CONCLUSION

In conclusion, overall average score shows that the participant's perception about the quality of online training LMS in Jakarta Ministry of Religion Training Center reaches **very good** qualification. Partially, the dimension that gets the highest score is User Satisfaction and the dimension that gets the lowest score is Intension to Use. More specifically, there are 12 items that have under average score.

The study also have measured perception score of the LMS from demography, gender and course type view. Two interesting phenomena found in the geographic view. Firstly, the number of participants from DKI who register in the program is lower than Banten and West Borneo, while the number of employee in the province is the highest. Secondly, perception score has given by participants who live in DKI is lower significantly than other those who live in Banten and west Borneo. This is contrary to the better internet accessibility and tools provided. From the gender view, the number of female attend and graduate from the course is more than male, but perception score of LMS quality is not significantly different. Lastly, from course type view, the five course has been perceived very good from each group of participants. Nevertheless, MP has got significantly better score that the four others, but is not significantly different amongst the four other courses. The same as in the overall score, service quality dimension got the highest score, whilst Intension to Use dimension got the lowest. In the level of dimension, the priority improvement should be given to Intention to Use dimension. More specific there are 12 items which need priority improvements.

J. Recommendation

The study recommends four improvements. Firstly, improvement of opportunity equality in geography and gender issues. Further research need to be addressed to identify socio-cultural factor that inhibit DKI employee to attend online training and obstacles male to register in online training. The research finding should be used to rearrange the LMS. Secondly, in the level of dimension, some priority improvement should be addressed for Intention to use dimension. The improvements should focus to the the items that have low score. Likewise, improvement in the four other dimensions should focus to the items that got low score. Third, need further identification that make the MP Course got better score than the four others. The advantage of the course should be imitated by the others. Fourth, most of the items that need to be improvement correlates to quality of information system. Based on the finding, quality, variety and esthetic aspect of LMS should be improved. The LMS needs more colorful features, infography, pictures, and video. Besides, information should be updated regularly and presented simply to help participants understand easily.

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