

User Satisfaction of E-Learning System Implementation for Training and Development Program in Organization

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ABSTRACT

The current learning model is more modernized with the implementation of advanced technology. Knowledge management systems in the company can be used efficiently and effectively also supported by sophisticated technology. E-learning or electronic learning is one of the information technology products that enter the business world. This research discusses important factors that can increase the satisfaction and interest of trainees to use e-learning system. The method used to this research is quantitative analysis with hypotheses testing using Structural Equation Modeling on the proposed model. The results of this study are expected to enrich the literature on the application of e-learning and can be applied to companies that develop e-learning in corporate training and development programs.

Keywords: *e-learning, user satisfaction, training and development*

1. INTRODUCTION

E-learning is an alternative way of teaching and learning in the current knowledge economy environment. The number of organizations using this learning strategy for employee development has increased [1]. Other researchers have defined e-learning as distance education using computer-based technology, information communication technology (ICT), and learning management systems [2-4]. Although there are various definitions of e-learning, a common element is "learning content or learning experiences that are delivered or activated by electronic technology" [5].

The development and implementation of e-learning throughout the organization has required high expenses including costs, time, and training. From an ecological perspective, these expenditures must be balanced with the satisfaction obtained [6]. Individuals experience satisfaction (or dissatisfaction) when they are involved with e-learning programs. Although the adoption of e-learning in organizations has increased, failure and neglect rates continue to exist [7-9]. Little is known about why some users stop using e-learning after their initial experience or how we can encourage individuals to use voluntary e-learning programs [10]. Drawing from the information systems literature, the authors have found that satisfaction is an important factor influencing individuals to repeat the use of e-learning [11, 12].

Company A and Company B already implemented e-learning for employee development and training in all divisions developed by special divisions that enhance e-learning system. As a large technology-based company that has implemented e-learning for a long time, there should be no obstacle for PT Kereta Api Indonesia in developing and implementing e-learning in its

organizations. But in this case the ease of e-learning in the company can only be accessed through company website and does not have a special application yet that can make it easier for employees to do e-learning in their activities.

Recent research shows that most e-learning programs show higher failure rates when compared to traditional instructor-led courses [13]. There are many reasons that can explain the low adoption rate such as the relevance of the content, the level of comfort with technology, and the availability of technical support. The increasing dependence and availability of technology in the modern world, and the economic potential available to organizations, it is very important to understand the factors that might lead to an increase in e-learning adoption in an organizational context. The intention to use e-learning is a motivational factor that captures the will of individuals who try to do a behavior [14]. Based on previous studies, behavioral intention is considered as the most influential predictor of behavior [15, 16]. This study aims to examine important factors that can increase user satisfaction and intention to adopt e-learning system in the future. In addition, our study proposes that these key factors influence the user's intention to engage in voluntary e-learning in the future.

2. LITERATURE REVIEW

The Technology Acceptance Model (TAM) has been widely applied to explain consumer behavior in the acceptance of information technology. The basic theory of TAM is Theory of Reasoned Action (TRA). This theory is used to determine the causal relationship between the main beliefs: perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use and actual system use. Behind the main beliefs based on TRA, TAM itself has

two factors, namely perceived usefulness and perceived ease of use [17]. In addition, according to Davis in Isaac et al. [18], TAM is used to explain the behavior of using computer whether it has responded to broad acceptance and has been validated by many empirical studies as an accurate predictor of the using and acceptance of system. Finally, TAM has become one of the most accepted models of using and acceptance technology.

2.1 Perceived Usefulness

According to Saade [19], there are several dimensions of perceived usefulness, namely 1). social cognitive theory; 2). intrinsic motivation; 3). learning goal orientation. Social cognitive theory shows that the results of expectations affect performance as well as choices. Where social, cognitive factors and actors play an important role in learning [20]. Therefore, individuals who expect positive benefits from using a computer will be more motivated than those who do not expect positive benefits because finally self-assessment of the ability possessed to carry out the necessary actions can achieve the specified performance. Intrinsic Motivation captures that intrinsic motivation is a construct of pleasure when using technology. The pleasure is a significant predictor as a result related to the use and acceptance of technology. Learning goal orientation is a form that is increasingly considered outside the information system. Goal orientation is a specific type of individual task while performing tasks. Individuals with learning goal orientation will work on assignments with a view of understanding something new, gaining knowledge and increasing competence. The individual is interested in increasing his competence which is directly related to development to get achievement. With these objectives, individuals can provide more benefits to themselves.

2.2 Perceived Ease of Use

According to Chuttur [21], perceived ease of use is defined as the expectations of prospective users to the extent to which the target system is easily implemented. Prospective users can implement the use of technology by not expecting excessive difficulty to learn and implement the technology. According to Venkatesh [22], perceived ease of use has several dimensions or determinants, namely 1). Computer self-efficacy; 2). Perception of external control; 3). Computer playfulness; 4). Computer anxiety. Self-efficacy is a person's judgment about his ability to use computers, information systems or information technology. Without direct experience of the system, trust in the capabilities and knowledge associated with computers can be expected to be the basis of individual judgments about how easy or difficult a system is to use. Perception of external control can be interpreted as an assessment where individuals believe that organizational and technical resources support the use of system. Computer playfulness means the level of spontaneity in the interaction of individuals with the system.

Computer playfulness relates to those who play with computer technology. Individuals who like to play around tend to easily find difficulties in the process of using the new system because they enjoy the process. Computer anxiety can be interpreted as anxiety and even individual fears if faced with the possibility of using computers, information technology or information systems.

2.3 User Satisfaction

According to Kotler and Keller [23], if the decision is felt by the user, then the user will indirectly do the following action, namely 1). Using the service again; 2). The user will recommend the service to others; 3). Users never complain. If the service used by the user can satisfy the user, then the user will definitely use the service again. But if the user feels dissatisfied, the user will not return to use the service. Then If the service used by the user can satisfy the user, then the user will recommend the service to others. But if the user feels unsatisfied, eating can be sure the user will not recommend the service to others.

3. METHODOLOGY

This research is included in a descriptive and verification study with a quantitative approach. The main purpose of descriptive research is to describe the characteristics of objects, humans, groups, organizations, and the environment (Zikmund et al, 2013). Quantitative analysis is a systematic scientific study of parts and phenomena and their relationships. The aim is to develop and use mathematical models, theories and hypotheses associated with phenomena.

The variables used are perceived usefulness, perceived ease of use, user satisfaction and intention to adopt. The sampling technique used in this study is probability technique with total sampling. Respondents are all permanent employees come from the biggest company as representative of transportation industry and banking. Alternative answers to the questionnaire consist of 5 alternative answers, one to five, where the meanings of each alternative answer are very low, low, moderate, high and very high. The data analysis technique applied in this study is Structural Equation Modelling (SEM) with AMOS software. It aims to examine the influence of perceived usefulness and perceived ease of use as independent variables toward intention to adopt as dependent variable through user satisfaction as intervening variable.

4. RESULTS AND DISCUSSION

To determine the demographics of respondents, each respondent was asked to fill in their demographic characteristics before filling out a questionnaire relating to the variables to be examined. Based on the questionnaire that has been distributed to the respondents, it is known that

the characteristics of 76% respondents were men and 24% were women. Meanwhile, based on age, it can be seen that 45% respondents in this study under the age of 25 years old, 20% between 26 to 30 years old, 19% aged between 31 to 35 years old, 16% aged 36 to 40 years old, and the rest over 40 years old. Based on recent education, it appears that 5% respondents in this study have a high school or vocational background, 4% diploma, 75% undergraduate level, and the rest holds a Master degree. Whereas based on the length of work, 11% of respondents had only worked under 1 year, 29% had worked 1 to 5 years, 19% had worked 5 to 10 years, and 41% had worked over 10 years.

4.1 Descriptive Analysis

After the respondent characteristic data is presented, then the descriptive questionnaire results will be elaborated on each research variable consisting of perceived usefulness, perceived ease of use, user satisfaction and intention to adopt variables. The perceived usefulness variable consists of 3 dimensions, namely extrinsic motivation, intrinsic motivation, and learning goal orientation. Based on the results of data processing, the extrinsic motivation dimension measured by 3 statement items with the final result 3.89 included in the high category. While the intrinsic motivation dimension is also measured by 3 statement items with the final result 3.51 which is included in the high category. Then for the Learning Goal Orientation dimension measured by 3 statement items with the final result 3.75 included in the high category. Based on the calculation of the average value of the answers from the variable Perceived Usefulness, the results obtained for 3.71, or in other words the perceived usefulness according to respondents is at "high" level.

The perceived ease of use variable consists of 3 dimensions, namely computer self-efficacy, computer playfulness and computer anxiety. Based on the results of data processing, the computer self-efficacy dimension measured by 10 statement items with the final result 3.57 included in the high category. Computer playfulness dimensions measured by 7 statement items with the final result 3.36 included in the high category. Computer anxiety measured by 8 statement items with the final result 3.36 included in the high category. Based on the calculation of the average value of the answers from the variable perceived ease of use, the results obtained for 3.22, or in other words the Perceived Ease of Use according to the respondents are at "high" level. The user satisfaction variable is measured by 6 statement items. Based on the calculation of the average value of the answers from the variable user Satisfaction, the results obtained for 3.85, it means satisfaction using e-learning according to respondents is at "high" level. Based on the calculation of the average value of the answers from the variable Intention to Adopt, then the results obtained for 3.82, it means the interest in using e-learning in the future according to respondents is at "high" level.

4.2 Hypotheses Testing

Hypothesis testing is partially carried out to determine how the effect of perceived usefulness on user satisfaction, the effect of perceived ease of use on user satisfaction and the effect of user satisfaction on intention to adopt. The results of data processing showed that the coefficient β_1 was equal to 0.424, so H_0 was rejected and H_1 was accepted. However, the value of significance the coefficient β_3 is greater than 0.05, so the effect of the variable perceived usefulness on user satisfaction is not significant. Then the coefficient β_2 is equal to 0.167, and the value of significance. the coefficient β_2 is smaller than 0.05, so it can be said that the perceived ease of use significantly affects user satisfaction. The results show that the coefficient β_3 is equal to 0.356, so H_0 is rejected and H_1 is accepted. In addition, the value of significance the coefficient β_4 is smaller than 0.05, so it can be said that user satisfaction significantly influences intention to adopt.

Structural equation based on data processing as follows:

1. Structural equation 1

$$Y = \alpha + 0.09X_1 + 0.167X_2 + \epsilon_1$$

Note:

- X_1 : Perceived usefulness
- X_2 : Perceived ease of use
- Y : User satisfaction

2. Structural equation 2

$$Z = \alpha + 0.356Y + \epsilon_2$$

Note:

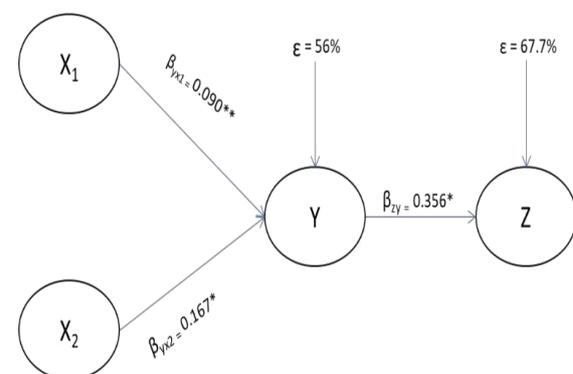
- Y : User Satisfaction
- Z : Intention to Adopt

The research model of the factors that influence user satisfaction and its impact on intention to adopt can be described as shown in Figure 1.

Figure 1 Research Model

Note:

- * : Significant at $\alpha = 5\%$
- ** : Significant at $\alpha = 10\%$



- X_1 : Perceived usefulness
- X_2 : Perceived ease of use
- Y : User satisfaction
- Z : Intention to Adopt

With the results of descriptive analysis and hypotheses testing, efforts can be made to conduct regular workshops related to the use of e-learning, especially if there are updates to the e-learning system. Organizations can also make manuals on the use of e-learning systems to help employees for using e-learning. The organization must also evaluate the satisfaction and effectiveness of the use of e-learning systems for each participant in the training and development program. Participants are asked to provide input related to the e-learning system as part of the improvement process. This is to keep the e-learning system updated with the latest developments but still user-friendly that is tailored to the user's style and behavior. The system is also made to be able to provide feedback every time. Person in charge also need to be appointed to be responsible as service administrators in the use of e-learning processes and to solve technical problems that arise in the use of e-learning systems. The next suggestion is to expand the types of organizational activities that are required to use e-learning so that it encourages all employees to learn and are accustomed to use e-learning systems. This must be accompanied by reducing traditional asynchronous learning activities.

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