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# User Satisfaction Model for e-Learning Using Smartphone

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## Abstract

Level of smartphone usage can be used as an indicator of technological progress of a region. This study aims to explore and make user satisfaction model for e-learning using smartphone applications in Mulawarman University. The purpose of the research is to make user satisfaction model for e-learning using smartphone, and to produce and to recommend e-learning content for research and e-learning. The components that would be evaluated in this research are focused on the following matters: User satisfaction for e-Learning using Smartphone; Service quality, Information quality, User participation, and Benefit. Where service quality consists of demeanor, responsiveness, competence and tangible. Information quality consist of completeness, relevancy, accuracy, and currency. User participation consist of training provider, user understanding and participation. Benefit consist of easier to the job and increase productivity. The research method used Path Diagram, Structural Equation Model, Lisrel and Manova Analysis. Total of respondent are 178 students which are consist of 83 females and 95 males. The statistical value in the model of e-learning user satisfaction has a highly significant correlation values and strong construction between variables, which is evidenced by the size of the construct reliability values above 0.70 and the value of its variance extracted 0.50 The model can be considered in developing an e-learning application in the future.

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## 1. Introduction

E-Learning process on the internet can be done using a variety of platform or applications. It is expected to facilitate to transfer and to share the knowledge to the user. It does not mean to replace the existing class, it serves to enrich and be an alternative at the right time and needed [1]. Many applications tools in educational content which the learner can access depending on its needs and learning style. A new learning style can reproduce the main role of the student to properly reform the traditional teaching and education, to train a large number of high-quality personnel [1].

But e-learning has limited in body language and social excuse also face to face learning session. We should be creative in multimedia learning. Planning and facilitating frequent and the relevant interaction is probably the single important that we can do to interactive virtual learning. We must be careful to designing e-learning interface interaction; it is not adding interaction in interactive activities seeks. This interaction must be had intends; engaged, paying attention, retaining the material that we are covering. It must be support leaning objectives and the same time supporting user attention.

## 2. Literature Review

### 2.1. E-Learning

People are involved in e-learning developers helping to make the course look good, make sure the student learn better and make the learning meaningful. However, we need to make sure that we were getting the performance of each individual who involved. We need to capture how the courses design, how the instructors have deliver the course to the learner, as we know many of e-learning courses design by someone else but taught by someone different, so comprehensive performance records of each individual should be noted. We can do comprehensive team evaluation how this course been taught, where is the students problems, if the problem is a content was miss represented, maybe we must to do updating. How to help learners feel engaged and encourage in active participation.

The interaction between user and system could be divided on several steps: the user should set a goal, determine what actions he should make to achieve this goal, make these actions, interpret a new system state and evaluate the result. It follows from this that duration of the user's work with system consists of the following components: duration of source information perception, duration of user's mental work, duration of user's physical work, during interaction with the computer the user enters data by means of different devices for information input and duration of system response. The criterion of user's mistakes such as mistakes caused insufficient data domain knowledge, these mistakes could be solved by user education. Misprints, it happens when the user for some reason does not attend to action that he makes in the present moment, paying no attention to system indication and motor mistakes [2].

The successful features of the program and its interface included; the interface actions supported the tasks the learner needed to perform, the screen layout drew the learner's eye to the right things, less-crucial actions were hidden rather than cluttering the screen, a tutoring component was always available to the learner, the entire program emphasized in-context, general information, the feedback and guidance were designed and written to aid generalization, the program design cut off learner paths so the learner stayed goal-focused; yet taught error recovery where it would be needed in real life and the learners did not need to click the mouse more than twice to complete an action [3].

### 2.2. Smartphone for e-Learning

Smartphone is a communication tool whose ability is getting closer to the use of notebook. Although now the most popular activities performed on smartphones is accessing social media, but one day the smartphone can replace the function of the notebook in processing files and other important data. The most frequent activities of smartphone users are social media, group discussion, youtube, browsing, games, download, e-commerce, and entertainment news.

However, e-learning and other learning applications are the shortest activities of all activities, whether through smartphones or notebooks. Social learning concepts, micro-content, and informal learning are a result of the mobile learning surge. This research is the preliminary research of three stages of research. For the future research will be developed smartphone content that can be used for e-learning.