The Application of Developed Delone & McLean Method to Analyze The Success and Effectiveness of Alfagift Application Among Big Cities' Users in Indonesia

Dendy K. Pramudito¹,², Susi Arijanti², Zulfikri Akbar³, Rio Haribowo⁴, Prety Diawati⁵
¹Universitas Pelita Bangsa
²STP Aviasi Jakarta
³Universitas Muhammadiyah Jambi
⁴Universitas Mulawarman
⁵Universitas Logistik dan Bisnis Internasional

doktor.haji.dendy@pelitabangsa.ac.id

Abstract
This research aims to find out how successful application use is and what factors influence the successful use of online shopping applications. This research uses quantitative methods. Users of online shopping applications in Jabodetabek were given a questionnaire via Google Form as part of the data collection method used in this study. Users of online shopping apps made up the study's population. Purposive sampling was the method used to choose the study's sample. In this study, a sample of one hundred respondents was used. The two types of data analysis are statistical analysis and demographic analysis. The results of the conducted research support the notion that the presence of online shopping applications is beneficial, and that user perceptions play a significant role in the success of an application's use. Respondents can shop online with convenience and utility thanks to the services offered by online shopping applications. User satisfaction with net benefits is the most significant factor, according to the path coefficient and t-test values. This indicates that consumers are happy with the online shopping app and are inclined to accept the advantages it provides. Consumers believe that an element that can raise the net benefit value of online shopping applications is user satisfaction. According to the path coefficient and t-test values, service quality is the factor that has the least impact on users' perceptions of its usefulness. This indicates that consumers believe the usefulness value they perceive from online shopping applications cannot be enhanced by the quality of those services. So, improvements need to be made so that the success of using the application increases.

Keywords: Online Shopping, Applications, Successful, Delone & Mclean,

1. Introduction

Technological developments are currently growing rapidly and will continue to increase in all fields, making the use of technology a very important part of carrying out various aspects of life. One of them is in the economic field. Technological developments in the economic sector have resulted in shopping activities without having to leave the house; just by relying on smartphones or other electronic intermediaries, people can carry out transactions from home [1]. With the development of this technology, it is possible for us to carry out any transaction or marketing with the help of the internet. This is usually called e-commerce (electronic commerce). E-commerce is carrying out business transactions digitally between companies and individuals using the internet, web, and applications [2]. The buying, selling, shipping, or trading of data, products, or services through the internet is known as e-commerce. E-commerce, to put it briefly, is the buying and selling of goods and services solely through the use of cellphones and online media [3]. E-commerce encompasses more than just buying and selling; it also includes a number of elements from the company's value chain, including transaction services, customer security, invoicing and payment systems, and promotions. Consequently, e-commerce can be viewed as a broad term that unifies various digital functions [4]. Because it's so convenient these days, some people have made online shopping a habit. A lot of people believe that buying things online is a good way to find necessities, hobbies, and other things [5].

The growth of e-commerce value in Indonesia reached 80%. The world's highest growth rate is this one. First place goes to Indonesia, the tenth-largest country in terms of e-commerce growth. With 250 million people living there, there is a huge potential for Indonesian electronic commerce to grow [6]. People's enthusiasm for using the internet to support their daily lives, the steadily increasing number of people who use it, and the rising cost of internet connections all lend credence to this [7]. The proliferation of creative, visually appealing, and user-friendly online
product and service offerings is another factor driving the growth of e-commerce. In Indonesia, about 90% of internet users have done their shopping online [8]. The increasing interest in shopping online has resulted in several companies that initially only had offline stores also providing online facilities to pamper their consumers and, at the same time, survive in the midst of increasingly sophisticated developments. One of the largest minimarket chains in Indonesia, Alfamart, has the Alfagift application, which pampers its customers by meeting their daily needs just by using internet services. Alfagift is a shopping application launched by PT Sumber Alfaria Trijaya Tbk, or what we usually know as Alfamart [9].

In addition to the shopping application, we can use it to shop online [10]. We can also see all types of promotions available because there is a promotional catalog that is updated in each series. The online shopping application will be a platform that can connect people who need speed with every minimarket outlet [11]. Based on complaints felt by users, they tend to lead to problems with system quality, information quality, and accuracy, which cause users to have difficulty accessing online shopping applications and not get optimal benefits from using the application. Previous research indicating that users have trouble logging in and cannot use shopping vouchers when using online shopping applications supports this issue as well [12]. It is anticipated that the use of information systems (applications in this case) by businesses will give them a competitive edge over rivals in both similar and unrelated industries, as well as against rivals worldwide [13]. The existence of this online shopping application also helps companies to further facilitate the process of company activities related to the sales system and to respond to changes in market needs effectively in order to improve service quality [14].

However, not all information systems used can be said to be successful, even though the company has spent large amounts of capital providing this application [15]. Determining whether an application is implemented in accordance with the useful function and end user satisfaction is a crucial step in measuring the success of an information system, so that, in the end, the information system in use can be evaluated and improved in order to give customers the best service possible. Understanding how to use an information system and reaping its benefits will determine its success [16]. The effectiveness of an organization's information system is contingent upon its utilization, user-friendliness, and technology integration to facilitate task completion. The ability of an information system to process input and generate high-quality information, user satisfaction, and the system's capacity to meet organizational objectives are just a few of the many intricate factors that affect an information system's successful implementation [17]. In the meantime, there are two reasons why an information system implementation fails. First, there is the technical aspect, or more specifically, the technical quality of the information system, which is the aspect that deals with the system itself [18]. Many syntax errors, logical errors, and even information errors are indicative of poor technical quality [19]. The second is a non-technical factor that has to do with how information system users perceive the system and whether or not they want to use the developed information system [20].

Over the past few decades, a great deal of research has been done to determine what factors serve as benchmarks for an information system's success in order to assess its success [21]. The D&M Information Success Model is a model of information system success that was developed by DeLone and McLean. According to DeLone and McLean's information system success model, user satisfaction is one metric that can be used to gauge the success of e-commerce [22]. User acceptance, on the other hand, is a crucial component that affects how well a system is implemented since it always has to do with how well users can accept and comprehend the system; consequently, the variables that affect user acceptance also affect how well the implementation goes [23]. Two things determine whether or not a system is implemented: the user's perception of the system's ease of use and benefits [24]. The interdependence of six metrics for information system success is reflected in the DeLone and McLean model [25]. System quality, information quality, use, user satisfaction, individual impact, and organizational impact are the six components or measurement factors of this model [26]. Nevertheless, this model assesses the six success measurement dimensions collectively rather than separately. The updated DeLone and McLean Information System Success Model is the result of their model's update, according to DeLone and McLean. Six variables make up this updated model: net benefit, system quality, information quality, service quality, use, and user satisfaction [27].

The effectiveness of information systems has been assessed using the DeLone & McLean model in a number of prior studies [28]. These studies have demonstrated that while perceived usefulness is unaffected by system quality, perceived convenience is significantly impacted [29]. Considerations of perceived convenience and usefulness are influenced by the quality of the information [30]. Perceived usefulness is strongly influenced by service quality, but perceived convenience is unaffected. Perceived usefulness is strongly influenced by perceived convenience. User satisfaction is strongly influenced by perceived utility and convenience, and net benefits are significantly influenced by user satisfaction [31]. Perceived usefulness is influenced by perceived ease of use, system quality, and information quality. User satisfaction is influenced by perceived usefulness, perceived ease of use, and service quality, which in turn influences net benefits. Perceived ease of use is influenced by system and information quality, but net benefits are not directly affected by these factors. Information quality does not affect user satisfaction and perceived usefulness, and perceived ease of use does not influence perceived usefulness [32].
Perceived usefulness influences user satisfaction, system quality influences user satisfaction and perceived usefulness, and perceived ease of use influences user satisfaction.

2. Research Methods

Quantitative methods are employed in this study. The method of gathering data for this study involved using Google Forms to conduct an indirect survey and distribute questionnaires to users of online shopping applications in Jabodetabek. Purposive sampling was the method used to choose the study's sample. In this study, a sample of one hundred respondents was used. The two types of data analysis are statistical analysis and demographic analysis. Using Ms. software, researchers first examined demographic data. Excel 2016. Second, researchers used SmartPLS to perform statistical analysis. At this point, researchers are doing two analyses: an inner model called the structural model analysis and an outer model called the measurement model analysis. Average variance extracted (AVE), discriminant validity, internal consistency reliability, and indicator reliability are used in the measurement model (outer model) to assess the validity and reliability of the outer model. Next, the t-test, path coefficient (β), and coefficient of determination (r²) were tested for the structural model (inner model) using the bootstrapping method. Next, for effect size (f²), predictive relevance (Q²), and relative impact (q²), apply the blindfolding testing method. The researcher then compared and took into consideration a number of earlier related works of literature in order to interpret the results. She also discussed the results of the demographic analysis of respondents with the actual conditions that occurred. Finally, she translated the results of the model analysis in a quantitative statistical manner. Eight successive steps will be followed in order to conduct this research, which will act as a foundation and guide.

A literature review, model development, research design, instrument creation, data collection, analysis, and interpretation, as well as report preparation, make up these eight steps.

3. Results and Discussion

The demographic analysis of the respondents revealed that 84% of the respondents were female. Meanwhile, 16% is male respondents. Based on this data, it can be concluded that more women use online shopping applications as a place to shop for daily necessities online than men. This is in line with research conducted previously that found women transact in e-commerce more often in one year, namely 30 times, compared to men, who only do so 12 times. 65% of respondents were between the ages of 21 and 26, 28% were between the ages of 15 and 20, 2% were between the ages of 27 and 32, 4% were over 40, and 1% were between the ages of 33 and 39. According to this data, the majority of users of online shopping applications are between the ages of 24 and 35, which accounts for over half of the study's respondents when compared to other age groups. Researchers surmise that this happens as a result of a less even distribution of questionnaires distributed via social media, which distributes the questionnaires more widely among respondents between the ages of 21 and 26.

The measurement model analysis's findings highlight a number of crucial points, including the following: SQ3 is the one indicator that has been removed. The indicator had to be deleted because its outer loading value was less than 0.6, which was considered to be an unsatisfactory value. The analysis's final findings demonstrate that the research model satisfies the criteria and has positive attributes, making it appropriate to move on to the next phase of the model's structural analysis. Researchers think that it is very likely that this deletion occurred due to several factors, including the use of inappropriate question items or indicators in the research questionnaire. Overall, the questionnaire was distributed indirectly (online) via social media such as WhatsApp, Twitter, Instagram, and Telegram so that there was no direct assistance, which could cause biased and different interpretations between respondents. Therefore, it is necessary to review the selection of instruments for this research, both through suggestions and constructive input from experts, in order to obtain a more appropriate research model (especially regarding the deletion of indicators) in future research so that the deletion of indicators can be minimized later. Even though researchers have tried their best in preparing instruments and selecting respondents, there are other factors beyond their control that can arise in field research.

The model's structural analysis yielded a t-test of 8.3, which was consistent with the acceptance of H1. The path coefficient value of 0.5 indicates that IQ has a significant impact on PEU, supporting the idea that the quality of information affects how easy it is to use. In addition, the results of the f² and q² tests showed that the influence of IQ on PEU is medium at 0.3 and 0.2, respectively. This is consistent with other research that demonstrates how perceived ease of use is influenced by the quality of the information. This indicates that users believe they can shop more easily because of the high-quality information offered by online shopping applications. Users believe that one of the things that makes using online shopping applications simple for them is the quality of the information. Therefore, users will feel more convenience the higher the quality of the information. The model's structural analysis yielded a t-test of 3.302, which was consistent with the acceptance of H2. A path coefficient value of 0.3 indicates that IQ significantly influences perceived utility (PU), indicating that the quality of the information has an impact on PU. Aside from that, the results of the f² and q² tests showed that the impact of IQ on PU is negligible at 0.08 and 0.04. This is consistent with other research that indicates perceived usefulness is influenced by the quality of the information. This indicates that consumers believe the high-quality information...
offered by online shopping apps will be beneficial to them. Consumers believe that one of the advantages of using online shopping applications is the quality of the information. Therefore, the user will perceive information as being more useful the higher its quality.

It was discovered to be 0.4 based on the t-test analysis results, suggesting that H3 was rejected. This indicates that user satisfaction is unaffected by the quality of the information, and the path coefficient value of 0.03 indicates that IQ has no discernible effect on US. Apart from that, based on the f2 and q2 tests, the values obtained were 0.000 and -0.002, which means that the influence of IQ on US is small. This contradicts other research that shows that, in the context of e-commerce, information quality significantly improves user satisfaction. This indicates that consumers are not happy with the level of information in the e-commerce app. Users believe that there are other factors that can increase user satisfaction besides the quality of the information available, and it is possible that this is the case. The t-test value was 2.1 based on the analysis results, meaning that H4 was accepted. As indicated by a path coefficient value of 0.1, this indicates that system quality (SQ) has a significant impact on perceived ease of use (PEU). In addition, the results of the f2 and q2 tests showed that the influence of SQ on PEU is negligible at 0.02 and 0.005, respectively. This is consistent with other research that indicates perceived ease of use is highly influenced by system quality. This indicates that users believe the online shopping application's high-quality system can be convenient for them. Users believe that one of the things that makes using online shopping applications simple for them is the quality of the system. It follows that user will find the system easier to use the higher its quality.

A value of 0.9 was found based on the t-test analysis results, meaning that H5 was rejected. This indicates that perceived usability is unaffected by system quality, and the path coefficient value of 0.05 indicates that SQ has no discernible effect on PU. In addition, the results of the f2 and q2 tests showed that the influence of SQ on PU is negligible at 0.003 and -0.003, respectively. This contradicts earlier studies that demonstrate the strong relationship between perceived usability and system quality. Furthermore, other research indicates that perceived usability is significantly impacted by system quality, which is at odds with this. This indicates that users believe the usability value that they perceive in an online shopping application cannot be increased by the system's quality. It's probable that elements other than system quality can boost users' perceptions of usefulness. A user who finds an online shopping application's information to be comprehensive and feels valuable is one example. The information quality is what gives the user this usability value instead of system quality factors. H6 was deemed acceptable when a value of 2.4 was obtained from the t-test analysis results. According to the path coefficient value of 0.1, it can be inferred that system quality (SQ) has a noteworthy impact on user satisfaction (US). Aside from that, the results of the f2 and q2 tests showed that the impact of SQ on US is negligible at 0.03 and 0.01. This is consistent with earlier studies that demonstrate how, in the context of e-commerce, system quality significantly improves user satisfaction. User satisfaction is significantly impacted by system quality. This indicates that consumers are pleased with the online shopping application's system quality. Users believe that one of the things that can boost their happiness is the quality of the system. As a result, the degree of user satisfaction directly correlates with the system's quality. The system's quality directly correlates with user satisfaction.

A value of 2.2 was found based on the t-test analysis results, suggesting that H7 was accepted. With a path coefficient value of 0.17, it can be concluded that service quality affects perceived ease of use. This indicates that SVQ significantly affects PEU. In addition, the results of the f2 and q2 tests showed that the impact of SVQ on PEU is negligible at 0.033 and 0.015, respectively. This is consistent with earlier studies that discovered a positive relationship between perceived ease of use and service quality. This indicates that consumers believe the high level of support provided by online shopping apps can make their lives easier. Customers believe that one of the things that facilitates and eases their use of online shopping applications is the quality of the information provided. Users will therefore experience greater convenience the better the quality of the service provided. H8 was rejected when the t-test value was 0.25, which was determined by the analysis results. Based on a path coefficient value of 0.02, this indicates that service quality has no effect on perceived usefulness and that SVQ has no discernible effect on PU. In addition, the results of the f2 and q2 tests showed that the impact of SVQ on PU is negligible at 0.000 and -0.006, respectively. This contradicts earlier studies that discovered a positive relationship between perceived usefulness and service quality. This indicates that consumers believe the usefulness value they perceive from online shopping applications cannot be enhanced by the quality of those services. It is possible that there are other factors, besides service quality, that can increase the usefulness perceived by users.

Based on the analysis results, the t-set value was 1.9, indicating that H9 was accepted. This indicates that user satisfaction is influenced by service quality, and the path coefficient value of 0.13 indicates that SVQ significantly affects US. In addition, the results of the f2 and q2 tests showed that the impact of SVQ on US is negligible at 0.024 and 0.01, respectively. This is consistent with earlier studies that demonstrate the importance of service quality in influencing user satisfaction. In the context of e-commerce, customer satisfaction is strongly positively impacted by service quality. This indicates that consumers are pleased with the level of support that the online shopping app offers. According to users, one element that can raise user satisfaction is service quality. As a result, customers are more satisfied when they receive higher-quality services. The t-test value was 2.3 based on the
analysis results, meaning that H10 was accepted. This indicates that user satisfaction is influenced by accuracy, and the path coefficient value of 0.17 indicates that ACC significantly affects US. In addition, the results of the f2 and q2 tests showed that the impact of ACC on US is negligible at 0.02 and 0.008, respectively. This is consistent with earlier studies' findings that user satisfaction is positively and significantly impacted by the accuracy variable. This indicates that consumers are happy with the online shopping application's information display's accuracy. Information accuracy, in the opinion of users, is one of the things that can boost user satisfaction. As a result, the degree of user satisfaction directly correlates with the accuracy of the information. The user is more satisfied when the accuracy level is higher.

Based on the analysis results, the t-test value was 4.7, indicating that H11 was accepted. A path coefficient value of 0.4 indicates that PEU significantly influences PU, indicating that perceived ease of use influences perceived usefulness. Apart from that, based on the f2 and q2 tests, the values obtained were 0.16 and 0.09, which means that the influence of PEU on PU is medium and small. This is in line with previous research, which states that perceived convenience significantly influences perceived usefulness. This means that users feel that the ease they feel in using online shopping applications can produce various uses, such as making shopping activities easier. Users feel that perceived convenience is one of the factors in the usability or usefulness obtained from using online shopping applications. So the higher the convenience felt by the user, the greater the usefulness felt by the user. A value of 1.6 was found based on the t-test analysis results, meaning that H12 was rejected. This indicates that user satisfaction is unaffected by perceived ease of use. Examining PEU's path coefficient value on the US, we find that it is 0.13, indicating a considerable impact of PEU on the US. It has a small influence, despite being highly influential. The values that are obtained are 0.02 and 0.007, according to the findings of the f2 and q2 tests. This contradicts other research that found a strong correlation between user satisfaction and perceived ease of use. This means that users are not satisfied with the convenience provided by online shopping applications. Users feel that the convenience provided cannot increase user satisfaction, and it is possible that there are other factors besides ease of use that can increase user satisfaction.

A value of 4.8 was found based on the t-test analysis results, suggesting that H13 was accepted. This indicates that user satisfaction is influenced by perceived usability, and the path coefficient value of 0.4 indicates that PU significantly affects US. Aside from that, the results of the f2 and q2 tests showed that the influence of PU on US is negligible at 0.15 and 0.08, respectively. This is consistent with other research, which found that user satisfaction is significantly influenced by perceived usefulness. This indicates that consumers are content with the utility they get from using applications for online shopping. Usability is regarded by users as one of the elements that can boost user happiness. Consequently, the degree of satisfaction experienced by the user directly correlates with perceived usefulness. User satisfaction will rise in proportion to how useful you find the application to be. A t-test value of 12.3 was obtained based on the analysis results, suggesting that H14 was accepted. As a result, user satisfaction affects net benefits, which have a significant impact on NB due to the US, as indicated by the path coefficient value of 0.6. In addition, the results of the f2 and q2 tests showed that the US had a significant influence on NB, with values of 0.6 and 0.42, respectively. This is consistent with earlier studies that found a strong correlation between net benefits and user satisfaction. This indicates that consumers are happy with the online shopping app and are inclined to accept the advantages it provides. Users believe that factors such as user satisfaction can raise the application's net benefit value. Because users tend to use applications more frequently when they are satisfied, application utilization values increase proportionately.

4. Conclusion

It is possible to draw the conclusion that, among users of online shopping applications, over 45% think that the application is good, over 30% think it is fairly good, and over 20% think it is very good based on the research findings. So it can be concluded that the existence of online shopping applications is good, and the status of success in using the application is based on user perceptions at a good level. The services in online shopping applications provide usefulness and convenience for respondents shopping online. Perceived usability of information is influenced by its quality. Quality of information affects how useful it is perceived. Perceived usability is influenced by system quality. User satisfaction is influenced by system quality. Perceived ease of use is influenced by service quality. User satisfaction is influenced by service quality. User satisfaction is influenced by accuracy. Perceived usefulness is influenced by perceived simplicity of use. User satisfaction is influenced by perceived usefulness. The net benefit is influenced by user satisfaction. Thus, user satisfaction with net benefits is the most significant factor, according to the path coefficient and t-test values. This indicates that consumers are happy with the online shopping app and are inclined to accept the advantages it provides. Consumers believe that an element that can raise the net benefit value of online shopping applications is user satisfaction. User satisfaction is unaffected by the quality of the information. Perceived utility is unaffected by system quality. Perceived usefulness is unaffected by service quality. User satisfaction is not affected by perceived ease of use. According to the path coefficient and t-test values, service quality is the factor that has the least impact on users' perceptions of its usefulness. This indicates that consumers believe the usefulness value they perceive from online shopping applications cannot be
enhanced by the quality of those services. Therefore, changes must be made to increase the application's success rate.

In this section, the researcher will explain suggestions for further research based on the limitations of conducting the research, as follows: Review the indicators used in the research, especially the indicators contained in the system quality variable, because from the results of this research, there was a deletion of instruments in these variables. This is done to avoid deleting indicators. The questionnaire was distributed directly to respondents (face-to-face) to allow researchers to assist them in answering the questions and ensure that there were no misunderstandings regarding their interpretation. When respondents fill out the questionnaire, researchers can also learn about their grievances with the object of study. Developing applications while keeping the variables of information quality, system quality, and service quality in mind. One specific thing that application developers can do to improve service quality is to include a live chat feature with customer support in the application. This aims to make it easier for users to contact customer care and for them to get help more quickly if they experience problems with the application.

References


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