A COMPREHENSIVE EXAMINATION OF USER SATISFACTION IN INDONESIAN PASSPORT SERVICES: INSIGHTS FROM THE M-PASPOR APPLICATION

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ABSTRACT

Measuring user satisfaction with the mobile application (M-Paspor) for making passports is a challenge currently being faced by public services from the Directorate General under The Ministry of Law and Human Rights of the Republic of Indonesia (*Kemenhumkam*). Fueled by a surge in demand for passports, the research aims to identify factors influencing user satisfaction and proposes improvements for a seamless user experience. The results of a survey of 100 users of the M-Paspor application indicate that system quality and perceived value have a positive and significant effect on user satisfaction, while information quality, service quality, and perceived ease of use do not have a significant effect. The research results show that system quality, information quality, and service quality are mediated by perceived value variables that influence user satisfaction. Other findings reveal that navigability and responsiveness, but not download delay, have a positive and significant effect on perceived ease of use. In conclusion, the study recommends ongoing enhancements to the application's features and user interface, incorporating user feedback for continuous optimization. The findings provide guidance and contribute valuable insights in measuring the success of the digital public service sector.

Keywords: *E-government, Indonesia, M-Passport Application, Public Service, User Satisfaction*

1. INTRODUCTION

The rapid development of technology in the current digital era has had a major impact on the development of information technology, especially the Internet. The Internet has become a means to connect all users worldwide. By October 2022, the number of internet users worldwide will reach 5.07 billion. This figure represents 63.5% of the world's population of 7.99 billion people [1]. In Indonesia itself, internet users increase every year. A survey from the Indonesian Internet Service Providers Association (APJII) revealed that 64.80% of the population in Indonesia already uses the Internet. This figure continues to increase compared to previous years. The latest survey results reveal that internet penetration of the total population of Indonesia in Q1 2022 reached 77.02% or 210,026,769 users [2]. The main reasons for using the Internet are very diverse. Based on The Global State of Digital 2022, the internet is generally used to search for information (58.4%), maintain relationships with friends and relatives, and get the latest news [1].

It cannot be denied the Internet has become part of the daily lives of Indonesian people. There have been many positive impacts on users to support and facilitate various activities. Seeing the potential of technology and the large number of active internet users in Indonesia and worldwide, the Indonesian government strongly encourages digital transformation, especially in the public service sector [3]. The Ministry of Communication and Informatics (*Kominfo*) stated that adapting to digital technology aims to bring changes in services to the community so that they are faster, easier, more affordable, better quality, and measurable. This is also in line with the Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE), which considers the need for an electronic-based government system to realize effective, efficient, clean, transparent, accountable, quality, and trustworthy government governance.

The Ministry of Law and Human Rights of the Republic of Indonesia (*Kemenhumkam*) is one of the ministries in the Indonesian government that uses

electronics to support public service activities to the community. The Directorate General of Immigration (Ditjen Immigration), under and responsible to the Ministry of Human Rights, released the Mobile Passport (M-Paspor) application on January 26, 2022, and can be used by people throughout Indonesia. The M-Paspor application is here as an innovation from the Directorate General of Immigration to simplify and speed up the process of applying for a new passport and passport replacement because it is done online. This research focuses on user satisfaction of the M-Paspor application because a passport is one of the important documents needed to travel between countries, both in and out, for a certain period [4]. In Article 1, paragraph (13) of Law Number 6 of 2011 concerning Immigration, a passport is an immigration document issued by the competent authority of a country. It contains the identity of its owner for those traveling between countries. Therefore, a passport is an essential identity as the identity of Indonesian citizens traveling abroad [5].

The Immigration Management Information System functions as data and information management, applications, and other integrated technological devices to support immigration operations and management. M-Paspor is one of the immigration applications for submitting passport applications via mobile devices so that the service becomes more transparent, accountable, and fast [6], under the Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning SPBE. In this way, M-Paspor can reduce the time it takes to make a passport at the immigration office because the user has uploaded scanned files to the application. Applicants only need to show the original documents during the interview at the immigration office and do not need to wait for officers to scan the documents and upload the applicant's data into the system.

Until December 2022, the passport application registration procedure can be done manually or online via M-Paspor. The calculated increase in users of the M-passport application from February 2022 to September 2022 has increased by 1900% on Google Play [7]. According to AppBrain documentation, M-passport recorded 50,000 downloads until February 2022. Due to the high need for passport applications, the M-Passport application has been downloaded 1,000,000 times since its initial release until September 2022 on Google Play. Not only on Google Play, the M-Paspor application is ranked as the top application in third place with the highest number of downloads and active users for free iPhone applications in the Indonesian Business category in early 2023 [8]. The increase in the number of downloads has impacted the needs of the public, who have begun to adapt to maximizing technology in the digital era to support improving the quality of public services.

The surge in users of the M-Paspor application is also supported by the increasing demand for passports in all Indonesian immigration offices in mid-2022 [9]. Through a press release, the Directorate General of Immigration revealed that many people applying for passports had difficulty getting application quotas through M-Paspor. The increase in demand for passports is due to various reasons. The main reason is the COVID-19 pandemic situation, which continues to improve. Because of this, several countries have relaxed COVID-19 regulations and allowed foreign tourists to visit their countries. In addition, the Saudi Arabian government has officially reopened the Umrah and Hajj pilgrimages. In response to this phenomenon, the Directorate General of Immigration has increased the passport issuance quota at all immigration offices in Indonesia through the M-Paspor application by three times starting June 2022. Seeing the large number of users and the public's need for the M-Paspor application, the Directorate General of Immigration needs to routinely pay attention to the quality of public services electronic based to maintain user satisfaction.

Implementing information system applications must focus on crucial things to understand user satisfaction. Knowing the factors and level of user satisfaction with the M-Paspor application is necessary because of the current phenomenon. The increase in the number of applications for passports through the application and the increase in the passport issuance quota by the Directorate General of Immigration has illustrated the need of the Indonesian people for the existence of the M-Paspor application. Apart from that, this phenomenon is supported by the Indonesian government, which is encouraging digital transformation in public services because of the benefits offered by information technology and the number of active internet users in Indonesia, and continues to increase every year. Therefore, it is necessary to measure system quality by understanding the user satisfaction level to suit their needs. However, one of the aims of information technology applications is to provide comfort and convenience to users in using the application itself [10].

In business, user satisfaction plays an important role so an organization can run smoothly over a long period [11]. User satisfaction is obtained from direct assessment by the user, which is a benchmark or scale of the user's feelings and desires after using an

application or product [12]. If a product or application can meet user expectations, the level of satisfaction obtained will be higher. Based on previous research that has been conducted, user satisfaction can be influenced by many factors [13].

Figure 1: M-Passport Application Rating Graph on Google Play in December 2022. (Source: watch.appfollow.io Friday 06/01/2023).

The level of use of the M-Paspor application is quite high, giving rise to many positive and negative reviews. From 1 million+ downloads on Google Play, the M-Paspor application has an average rating of 1.5/5 stars from 11,404 users who have provided reviews and ratings through the platform. According to data up to December 2022 obtained from AppFollow (App Review Management & ASO Tool) [14], the number of reviews from user ratings that give a rating of 5 or very satisfied with the application with a total of 894 reviews or 8% and followed by rating 4 or satisfied with the application with a total of 136 reviews or 1%. In the next ranking, some users give a rating of 3 or quite satisfied with the application, with a total of 245 reviews or 2%, while a rating of 2 or less satisfied with the application, with a total of 490 reviews or 4%, and a rating of 1 or not satisfied with the application with a total of 9639 reviews or as much as 85%. Based on Figure 1, the M-Passport

application rating has experienced a change in decline every month from an average rating of 3 stars in April 2022 to 1.4 stars in December 2022.

Figure 2: M-Passport Application Rating Chart on the App Store in December 2022. (Source: watch.appfollow.io Friday 06/01/2023).

Similar to the conditions on the Google Play platform, the rating of the M-Paspor application has also experienced a decrease that varies every month on the App Store platform from an average rating of 2.1 stars in February 2022 to 1.3 stars from 3,330 users who have provided reviews and ratings on December 2022. Based on Figure 2 [15], the number of reviews from user ratings gave a rating of 5 or very satisfied with the application with a total of 190 reviews or 6%, followed by a rating of 4 or satisfied with the application with a total of 41 reviews or 1 %. In the next ranking, some users give a rating of 3 or quite satisfied with the application, with a total of 68 reviews or 2%, while a rating of 2 or less satisfied with the application, with a total of 112 reviews or 3%, and a rating of 1 or not satisfied with the application with a total of 12919 reviews or 88%. From the many users who have provided reviews and ratings, most (>85%) of users are dissatisfied with the M-Paspor application.
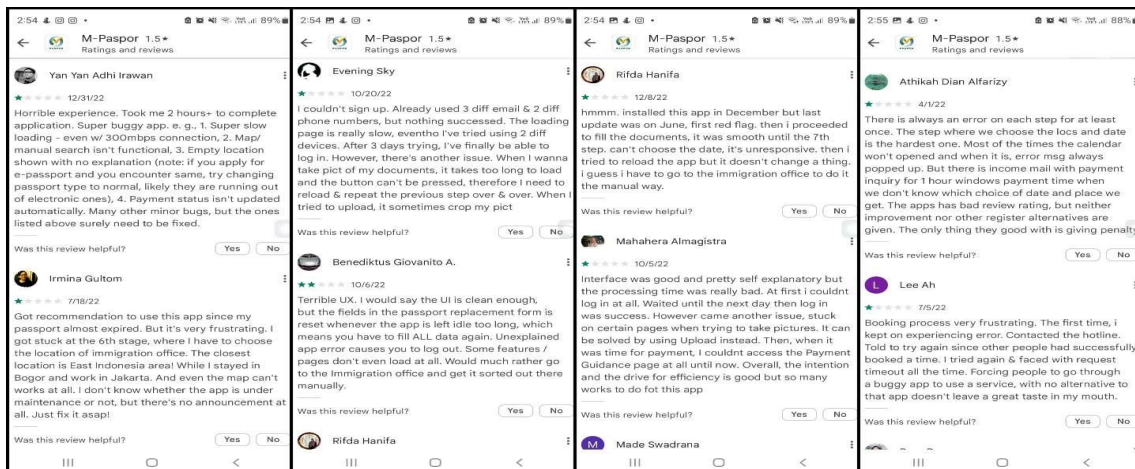

Figure 3: Ratings & Reviews of the M-Passport Application in Most Relevant Order Via Google Play. (Source: Google Play Saturday 01/07/2023).

In Figure 3, namely, the ratings and reviews sorted from the most relevant, it can be concluded that there is a very low level of user satisfaction with the M-Paspor application. After conducting observations with M-Paspor application users, several problems were found by users, namely poor system quality. Application users gave a 1-star rating due to the obstacles experienced during the passport application process in the application. The M-Paspor application runs very slowly when used, causing users to be frustrated. One user, Yan Yan Adhi Irawan, experienced a bad user experience and revealed that it took him over 2 hours to complete all stages of submitting a passport application. Even though there is no problem with internet connection speed, the long loading time for a process causes the passport application activity to fail. Some users get stuck on a page, cannot proceed to the next stage, and are forced to reload or restart the application from the beginning of the previous process. In fact, according to the Head of the Sub-Directorate for Regular Hajj Documents and Equipment at the Ministry of Religion, Nasrullah Jasam, the process of making a passport via M-Paspor could be completed in less than 4 minutes during the M-Paspor trial in January 2022 [16]. Other problems that can be found from user reviews are the map feature not working, some buttons not working or unresponsive, server errors that cause users to be logged out, some pages cannot open, payment status is not updated automatically, and the help center which does not provide an alternative solution. This shows that there are differences in expectations and actual events experienced by some users.
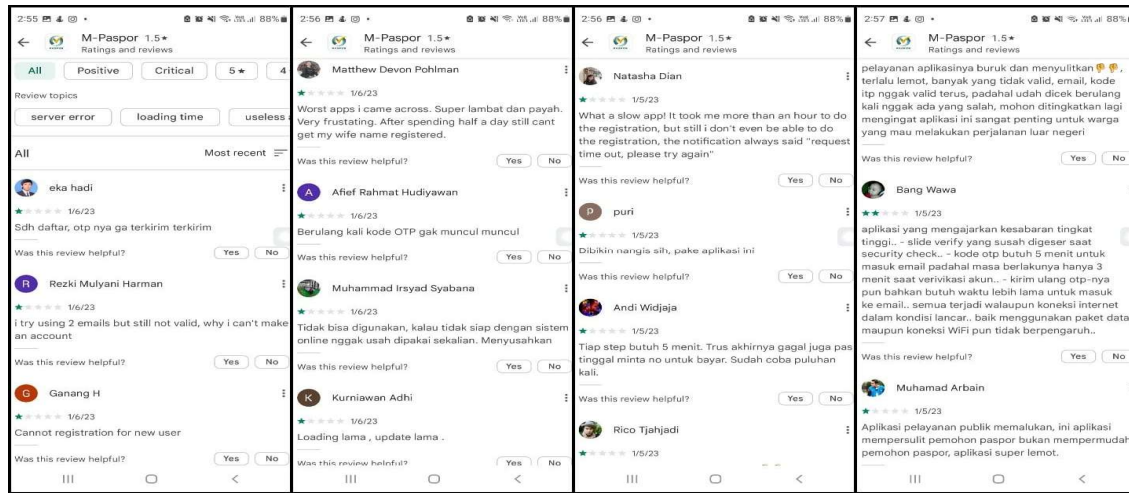

Figure 4: Ratings & Reviews of the M-Paspor Application Latest Sequence Via Google Play. (Source: Google Play Saturday 01/07/2023).

In Figure 4, namely, the ratings and reviews sorted from the newest, it was found that some users also experienced other problems, namely server errors or bugs, so the application did not run as it should. To apply for a passport, users are required to create an account first. However, some users still have difficulty registering or creating a new account. The obstacles experienced were invalid emails, not receiving OTP codes sent via email, and invalid OTP codes. A user named Natasha Dian revealed that it took her more than 1 hour to register an account. If the user cannot register, then the user cannot utilize the main function of the M-Paspor application, namely submitting a passport application.

Apart from that, in terms of user interface and user experience, some users feel that the M-Paspor application still needs improvement to make it easier for users to use. Another example is when users have made payments, some cannot download proof of payment, and some other files cannot be downloaded. Some users also experienced failure in changing the arrival schedule for passport applications, so they felt that the M-Paspor application was less flexible. When users experience difficulties and experience problems, the M-Paspor application does not provide a complete and real-time help center. A user hopes that the M-Paspor application provides customer service and includes WhatsApp number information that can be contacted as a help center.

Although some users feel that the M-Paspor application still needs various improvements, others feel that they have benefited from the existence of M-Paspor. Users who gave a 5-star rating provided

a review and stated that the flow through which they applied for a passport was clear and structured. Users feel helped by clear instructions that make it easier to use. With the existence of M-Paspor, several users feel they have benefited because it improves its practical and efficient performance. With the M-Paspor application, several users find it helpful when applying for a passport at the Immigration Office because the queuing process is fast.

In public service activities in Indonesia, ministries or institutions in Indonesia utilize information system applications to make it easier for the public to obtain services with different objectives according to their functions. Several ministries/institutions in Indonesia have issued applications: Mobile JKN (BPJS Health), M-Paspor (Ministry of Foreign Affairs), Touch My Land (Ministry of Agrarian Affairs and Spatial Planning), Digital Population Identity (Ministry of Home Affairs), M-Pajak (Ministry of Finance), SIKS Mobile (Ministry of Social Affairs), Nusantara Tourism Village (Ministry of PDTT Villages), Laut Nusantara (Ministry of Maritime Affairs and Fisheries), SiPongi (Ministry of Environment and Forestry), and Healthy Families (Ministry of Health). A comparison of the number of downloads of these applications on Google Play is in Figure 5, while a comparison of the ratings of these applications on Google Play is in Figure 6.
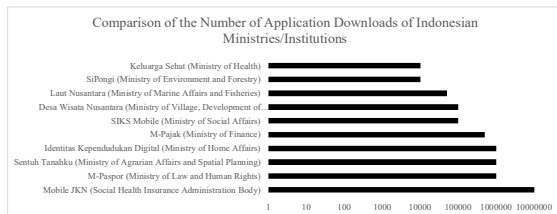

Figure 5: Comparison of the Number of Downloads of Indonesian Ministry/Institution Applications Via Google Play. (Source: Google Play Saturday 01/07/2023).

Figure 6: Comparison of Application Ratings of Indonesian Ministries/Institutions Via Google Play. (Source: Google Play Saturday 01/07/2023).

Based on Figure 5, the M-Paspor application is in a high position as one of the Indonesian ministry/institution applications with the highest number of downloads on Google Play, totaling 1,000,000+ downloads. However, in Figure 6, M-Paspor has the lowest rating (average 1.5 stars) compared to applications belonging to these Indonesian ministries/institutions. As one of the applications with a high number of users, M-Paspor should maintain user satisfaction figures because the Indonesian people need services through M-Paspor to make passports. However, due to the poor state or condition of the current system, users still feel dissatisfied with using the application issued by the Directorate General of Immigration, Ministry of Law and Human Rights.

The problems described above are the basis for measuring user satisfaction with the M-Paspor application. The need to use the M-Passport application is increasing, but there is a gap where people still have problems when using the application. The Ministry of Law and Human Rights of the Republic of Indonesia can monitor and evaluate implemented projects, including the M-Paspor application. The user satisfaction factor in the M-Paspor application can be used as a reference for creating better public services through future improvements. So, people can feel the impact, such as increased productivity, trust, and overall well-being.

Based on the background of the problem described, the problem formulation will be used as a reference for research through this research, namely, what factors influence user satisfaction with the M-Paspor application? Next, based on the questions, this research aims to test and analyze the factors influencing user satisfaction with the M-Paspor application.

Based on the research objectives to be achieved, this research will benefit the academic and practical fields. Regarding academic benefits, this research can add references and knowledge for theory developers and other researchers in applying studies on factor analysis that influence user satisfaction with the M-Paspor application. Meanwhile, the practical benefits are to help ministries/institutions/government to find out what factors influence user satisfaction with the M-Paspor application and to help ministries/institutions/government by providing input to relevant agencies in terms of improving public services in order to build user satisfaction of the M-Paspor application through the factors that influence it.

2. LITERATURE REVIEW

2.1 Public Service Application

An application is a program or a software unit that can perform user commands [17]. Applications

exist to fulfil various needs and activities to get users' desired results [18]. In general, the definition of an application is an applied tool that is used specifically and integrated according to the application's capabilities. Meanwhile, according to the Big Indonesian Dictionary (KBBI), the definition of application is the implementation of a system design for data processing that uses the rules or provisions of a programming language [19].

Based on the explanation above, it can be concluded that an application is a computer program that has its function and is designed to carry out commands from its users to assist human needs and activities because of its ability to process data and produce things expected by its users.

According to Law Number 25 of 2009 concerning public services, the definition of public services is activities aimed at meeting the service needs of every Indonesian citizen, which can be in the form of goods, services or administrative services provided by public service providers and regulated under statutory regulations. In short, public service is an effort by a bureaucratic group or person to assist the Indonesian people in achieving specific goals [20]. One of the public services implemented is the Directorate General of Immigration, which serves applications for making new passports or replacing passports. The public can obtain this service through an application called M-Paspor. With the explanation in the previous paragraph, it can be interpreted that a public service application is a system used to assist the public's needs in obtaining public services by processing data and producing what users expect. In the case of the M-Passport application, the user's expected output is to get a faster passport by cutting and replacing some processes online.

2.2 User Satisfaction

Satisfaction is the level of someone's feelings after their expectations as a customer have been met or exceeded and are deemed satisfactory [21]. When using a product or service, customer satisfaction means an emotional reaction, which can be in the form of pleasure, joy, neutrality, anger, dissatisfaction, or annoyance. Customers tend to evaluate by comparing perceived performance or results with their expectations. If the product or service's performance is the same or exceeds customer expectations, it can be said that they are satisfied. However, on the other hand, if the product or service's performance is less than expectations, it can be said that the customer is dissatisfied.

Like customer satisfaction, user satisfaction also means the level of a user's feelings that compare the expectations of a product with the actual results that the user gets after using the product [22]. A user receives the results of work or services from another person or an organization. Because of this, users have the right to determine the quality of a product or service based on the results received. User satisfaction is an essential aspect of the success of application implementation. If service users, including public services, are satisfied, the service user can experience benefits that facilitate or support the service user's activities.

2.3 System Quality

According to [23], system quality is the ability or performance of the system to provide information according to user needs. Meanwhile, according to Jogiyanto, in 2007 [24], system quality is the technical quality of the system which combines hardware and software aspects. System quality can also be defined as the reliability, suitability and stability of information system features [25], which include understandable functionality, flexibility and ease of use [26]. Bugs and uniform system functions also determine the quality of a system [27].

When completing specific tasks, the interaction process between the user and the system forms the user's perception of the system's quality [28]. Many types of research have focused on system quality variables since Delone and Mclean proposed the information system success model. The level of user satisfaction with an information system is reflected in the quality of the system. System users will tend to feel satisfied with using the system if the quality of the information system is deemed good enough [29]. It can be concluded that system quality influences user satisfaction because the higher the quality of the information system, the higher the level of user satisfaction will be [30].

2.4 Information Quality

Information quality is the output quality of the information the information system produces [31]. Information characteristics are assessed based on the information's accuracy, up-to-dateness and completeness. Apart from that, [32] added that other information quality characteristics are relevance, understanding and accessibility.

One of the successes of an information system can be seen and influenced by the quality of the information [29]. This is because the quality of information can significantly impact an individual, be it positive or negative, depending on the information displayed. If information is displayed well, users will increase their ability to make decisions, effectiveness and efficiency in carrying out an activity, and also improve the quality of work [25]. So, if a system does

not have good quality information, this will harm user satisfaction [30].

2.5 Service Quality

Service quality represents the quality-of-service users receive from the information system service providers used. According to [33], service quality results from a comparison between users' expectations or desires and the quality of the service they receive. Through the latest information system success model proposed by [25], several system quality indicators are tangibles, responsiveness, reliability, assurance and empathy. Service quality is also a significant factor besides system and information quality in the overall quality construct proposed by DeLone and McLean.

According to [34], service quality influences user satisfaction as with system and information quality. Users will feel satisfied using a system if the quality of the service provided is good enough. This is proven through research by [30], which reveals that service quality positively and significantly affects user satisfaction. So, the level of satisfaction will be higher if the system manager provides high-quality service.

2.6 Perceived Value

According to [35], perceived value is a comparison between the evaluation of customer/user perceptions regarding the benefits and sacrifices of an offer and the alternatives obtained. This aspect looks at the quality of products or services in terms of value and price [36]. Value itself is a collection of benefits or expectations that customers get from a product or service. For consumers, the total value can be service, image, products and employees.

Research conducted by [37] shows that the perception of high-quality information from a system can increase the system's perceived value. System quality is often connected with perceived value because good system quality provides fast access, appropriate use, speed in resolving error problems, and easy system interaction [38]. [39] conducted research, which showed that service quality influences perceived value. Based on this explanation, information quality, system quality, and service quality are things that the application offers to its users, and users can evaluate products based on the perceptions received and provided.

Mardikawati et al. [40] conducted research, and from the results of their research, it was found that perceived value had a positive effect on customer loyalty through the customer satisfaction variable. From these results, it can be proven that customers form expectations of value and act based on the level of that value. Customers will compare and evaluate offers they think provide them the highest value. This research also shows that high perceived value will increase customer satisfaction, which will then have a positive effect on increasing loyalty.

2.7 Perceived Ease of Use

According to [41], perceived ease of use can be defined as the extent to which consumers believe that technology will be free from effort. In other words, ease of use is a concept that measures how easy it is to use a technology for different people. Meanwhile, [42] stated that ease of use is the level to which a person feels and believes that using information technology can reduce a person's effort in carrying out an activity. Based on these explanations, it can be concluded that perceived ease of use is the confidence a person feels in using the system being used. However, on the other hand, if the user feels that a system is challenging to use, that will be a consideration for the user to use the system.

2.8 Navigability

Research conducted by [43] revealed ten website usability factors with strong psychometric properties. These factors are navigability, credibility, consistency, learnability, supportability, interactivity, simplicity, telepresence, content relevance, and readability. Various other studies show that an application system that is easy to navigate can reduce error rates, reduce time to learn the system, improve performance, and increase user satisfaction [44]. Good navigation in design is vital because it makes it easy for users to reach the page or information they want.

2.9 Responsiveness

Lee et al. [45] conducted research and created a model for studying the usability of a website. From the results of his research, it was found that navigability, responsiveness, download delay, content, and interactivity are important factors in the usability and success of a website. Not only does it have good application features, but according to [46], the user interface must also have a good feedback function. Providing feedback and answers to each user's questions is essential [47]. Responsiveness or responsiveness in this research explains the level of feedback and availability of responses from system managers to users.

2.10 Download Delay

Download delay can be defined as the time required for the system to respond to each activity carried out by the user [44]. Based on previous research by [48], it was found that relatively small

increases in delay can have an enormous impact on how users react to a website. The research found significant results in this relatively short range if there was a delay ranging from 0-12 seconds. Through this research, if the download delay increases, the user's perception of ease when using the system will decrease.

2.11 Related Works

The following related works explain the factors that determine user satisfaction on different application platforms or websites. The background explained previously is the basis used to select the variables to be used in the research. Due to limited previous research regarding user satisfaction with e-government, previous research was used, studied, and reviewed well as a reference in this research. This way, a research model for user satisfaction of the M-Paspor application can be created based on appropriate theory.

The research entitled "Integrating website usability with the electronic commerce acceptance model" [44] examines the use of websites on e-commerce platforms. The research looks for factors or variables influencing system acceptance so that users intend to make transactions. Researchers in the study proposed a hypothetical model to measure user satisfaction. The research results show that user satisfaction positively and significantly affects user intentions to carry out transactions. User satisfaction is also influenced by perceived usefulness and perceived ease of use. In contrast to perceived risk, this variable does not affect user satisfaction. Trust was found to be a significant and negative predictor of perceived risk. Meanwhile, the variable that influences trust significantly and positively is design credibility. The perceived ease of use variable has a positive influence and relationship with perceived usefulness. The content and interactivity variables have a significant effect on perceived usefulness. Apart from that, it was found in the research that the variables navigability, responsiveness, and download delay had a positive and significant effect on perceived ease of use.

The research entitled "Dimensions of Business-toConsumer (B2C) Systems Success in Kuwait: Testing a Modified DeLone and McLean IS Success Model in an E-Commerce Context" [39] examines the factors that influence the success of a system in the context of e-commerce. The research refers to the DeLone and McLean (2003) and Wang (2008) models to add essential aspects with gaps in both. Researchers in the study proposed a hypothetical model to measure user satisfaction and intention to reuse an e-commerce platform. The research results

show that perceived value and user satisfaction positively affect the intention to reuse. Meanwhile, information quality, system quality, and perceived value influence the user satisfaction variable. In this research, service quality does not affect user satisfaction on e-commerce platforms in Arabia. Apart from that, research finds that perceived value is influenced by information, system, and service quality.

The research entitled "An investigation of the effect of online consumer trust on expectations, satisfaction, and post-expectation" [49] examines consumer trust, satisfaction, expectations, and post-expectations in e-commerce. These variables are used for consumer behaviour regarding repurchase intention and satisfaction in e-commerce. Researchers in the study made their model proposals. The research results show that consumer trust significantly affects consumer satisfaction and expectations. Although consumer expectations positively affect user satisfaction, it is not significant. Expectations have a positive and significant effect on confirmation. It was found that perceived performance had a positive and very significant influence on confirmation. The confirmation variable has a strong and positive impact on user satisfaction. Apart from that, perceived usefulness is also influenced by the user satisfaction variable. Meanwhile, user satisfaction and perceived usefulness influence the variable repurchase intention.

The research entitled "The DeLone and McLean Model of Information Systems Success: A Ten-Year Update" [25] examines the update of the framework or model for measuring the success of a system. This research improves the previous model that (Delone & McLean) published in 1992. The latest model adds net benefits as a hypothesis, which is influenced by use and user satisfaction. Not only that, the hypothesis regarding service quality was added as a variable that influences intention to use and user satisfaction. The research results show three critical factors for measuring quality on a platform: system quality, information quality, and service quality. Success metrics for system quality variables are adaptability, availability, reliability, response time, and usability. Then, the metrics for information quality are completeness, ease of understanding, personalization, relevance, and security. Meanwhile, the service quality variable metrics are assurance, empathy and responsiveness. One of the main variables is user satisfaction, which uses repeat purchases, repeat visits and user surveys as success metrics.

Research by [50] explains user satisfaction with the Shopee application in Malaysia. Four variables or factors are tested to measure customer satisfaction: perceived usefulness, perceived ease of use, perceived

trust, and perceived convenience. This research aims to provide insight and guidance in the e-commerce sector regarding customer perceptions, to increase customer satisfaction. The research results show that perceived ease of use and perceived convenience influence Shopee user satisfaction in Malaysia. On the other hand, perceived usefulness and perceived trust do not significantly affect customer satisfaction with the Shopee application.

Work from [51] explains user satisfaction with e-government services, namely the Myanmar Companies Online registration (MyCO) system. The research developed a Technology Acceptance Model with three main variables: perceived ease of use, perceived usefulness and perceived risk. This research aims to understand the gap between public expectations and e-government services. That way, the government can further increase effectiveness and efficiency in providing public services. The research results show that MyCO user satisfaction is influenced by ease of use, accurate and fast information, and more straightforward website design. It is known that another factor in the satisfaction of public service users is transaction problems in payments so that they become better and user-centred.

Work from [52] explains user satisfaction with the Gojek application. The research variables used are information quality, experience quality, and customer-perceived value. This research aims to determine and prove the influence of information quality on the quality of experience and perceived value of customers, as well as satisfaction, from using the GoFood application in Malang City. The research results show that information quality positively and significantly affects experience quality, customer perceived value and satisfaction. Next, experience quality positively and significantly affects customer perceived value. Apart from that, customer-perceived value positively and significantly affects customer satisfaction.

Research by [53] explains mobile banking service quality and user satisfaction in Iran. The research applies the SERVQUAI model to examine the relationship between service quality and mobile banking customer satisfaction. The factors or variables used in research are tangibles, reliability, responsiveness, assurance, and empathy. This research examines the relationship between mobile banking services and customer satisfaction. The results show that tangible, reliability, responsiveness, and empathy significantly correlate with customer satisfaction. However, the assurance variable has no significant relationship with customer satisfaction. Apart from that, the ANOVA test research results

show a significant relationship between mobile banking services and customer satisfaction.

Another work from [27] explains user satisfaction with internet use in the government sector in the United Arab Emirates. The research developed the Delone & McClean method to discuss the relationship between user satisfaction and the variables system quality, information quality, and service quality. This research was conducted to improve performance or productivity in the public sector and private sector organizations. The research results show that system quality, information quality, and service quality positively affect user satisfaction in using the internet. Based on the order, the most critical parameter to increase user satisfaction is system quality, followed by information quality, and the last position is service quality.

Work from [54] explains user satisfaction with the academic information system at Surabaya State University (UNESA). This research uses the Green and Pearson method of usability to measure user satisfaction and loyalty. This research was conducted to measure the success of campus services/applications on user satisfaction and loyalty, which is influenced by usability. The research results show that the variables ease of use, customization, and content positively affect user satisfaction. On the other hand, variable download delay does not affect user satisfaction with the UNESA academic information system. The research results also reveal that loyalty is influenced by user satisfaction.

Research by [55] explains the empirical testing of hypotheses related to the influence of customer expectations, perceived value, perceived quality, customer satisfaction and loyalty in the banking services industry. This research aims to help solve problems and make decisions for more effective strategic solutions in the market in the future. The research results show that good service performance from organizational actors to their customers positively and significantly influences customer satisfaction. Even though customer expectations do not directly affect user satisfaction, perceived performance is a mediating variable that has a more decisive influence on satisfaction than expectations in determining satisfaction. Another finding from the research is the importance of the perceived value variable as a determinant of user satisfaction because it has a positive and significant effect. Customer satisfaction has a significant influence on loyalty in the banking services industry.

Work from [56] explains user satisfaction and continuous use intentions in the hotel industry in Jordan, especially Electronic Human Resources Management (e-HRM) systems. The research

developed the TAM & PAM method to evaluate the relationship between perceived usefulness, perceived ease of use, and continuity of usage intention. The research aims to provide insight for organizational actors to use e-HRM more effectively and efficiently. The research results show that user satisfaction is influenced by the variables' perceived usefulness and perceived ease of use. The continuity usage intention (CUI) variable is influenced by perceived ease of use, while perceived usefulness does not affect CUI. Another discovery in the research is user satisfaction, which mediates perceived ease of use and CUI.

Work from [57] explains user satisfaction and intention to use e-government websites to serve citizens. Researchers modified the Technology Acceptance Model (TAM) method for the proposed research model. The variables used in the research are credibility, usability, satisfaction, and intention to use. The research aims to understand satisfaction factors and citizens' intentions to use e-government websites to obtain public services from the government. The research results show that the variables of credibility and usability significantly influence positive user satisfaction. Additionally, intent to use, an independent variable, is significantly influenced by credibility and usability. Another finding in the research is that user satisfaction has a positive and significant effect on the intention to use variables.

Another work from [58] explains the satisfaction of users of the Atma Jaya Yogyakarta University (UAJY) lecture site. The research adopted the Palmer 2002 Usability Model to analyze usability. The variables used in this research are download delay, navigability, information content, interactivity, responsiveness, and user satisfaction. This research aims to measure the level of usability of an academic website. The research results show that the variables navigability, information content, interactivity, and responsiveness significantly influence positive user satisfaction, while the download delay variable does not affect user satisfaction. Through research, the UAJY lecture site is also usable or has a high level of usability when assessed using the Palmer 2002 Usability model.

3. RESEARCH METHODOLOGY

3.1 Research Model

In this research, the model is a modification and combination of the [44], [39], [25]. The Green and Pearson research model variables are Navigability, Responsiveness, Download Delay, and Perceived Ease of Use. Then, the variable used in Rouibah et al.'s research model is Perceived Value. Meanwhile, the Delone & McClean research model variables are System Quality, Information Quality, Service Quality, and User Satisfaction. This research uses these variables to examine factors influencing user satisfaction with the M-Paspor application.
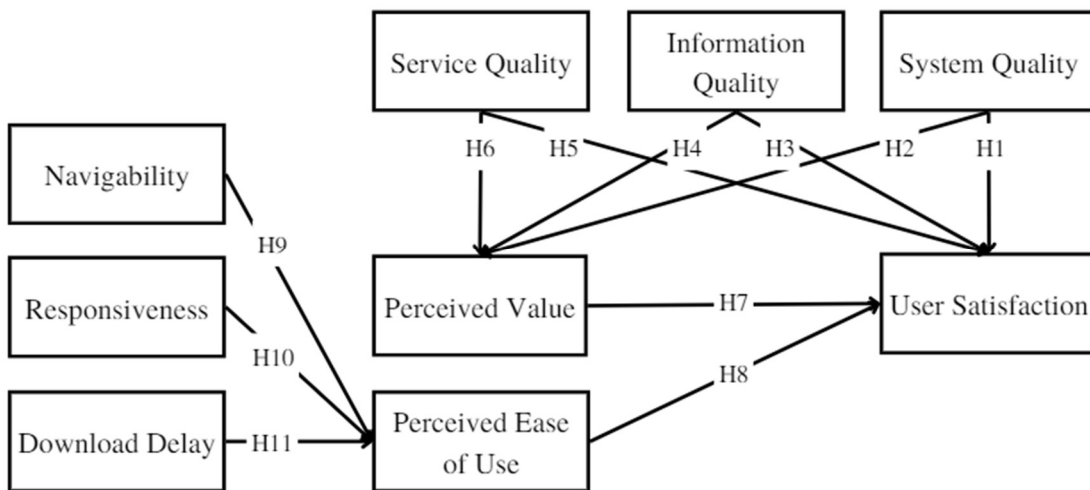

Figure 5: Research Model

The following are consolidated user satisfaction constructs and measurement items used in the research:

Table 1: Constructs and Measurement Items

Variable	Indicator	Code	Items
System Quality	System Flexibility	SQ1	The M-Passport system is very flexible to interact with, and I can change the available data according to my needs.
	System Integration	SQ2	The system is integrated with all immigration services.
	Time to Respond	SQ3	It does not take long to get information after accessing the system.
	Stability	SQ4	The M-Passport application is stable.
	Error Recovery	SQ5	The system provides repair facilities if a system failure occurs.
	Convince of Access	SQ6	The M-Passport application system is easy to learn and operate.
	Language	SQ7	M-Paspor uses language that is easy to understand.
Information Quality	Completeness	IQ1	M-Paspor provides complete information to meet my needs.
	Precision	IQ2	M-Paspor provides the accurate information I need.
	Reliability	IQ3	M-Paspor provides reliable and useful information to achieve its goals.
	Currency	IQ4	M-Paspor provides the most current and always updated information.
	Format of Output	IQ5	M-Paspor provides information according to the output format I expect (visual images, text, page sizes, etc).
Service Quality	Assurance	VQ1	I feel safe in accessing or sending data via the M-Paspor application.
	Empathy	VQ2	The application has technical support if I have problems with the system.
	Tangible	VQ3	M-Paspor has a neat and visually attractive interface.
Perceived Value	Valuable	PV1	The services of the M-Paspor application have good value and are useful for me.
	Acceptable	PV2	Applications/Services from M-Paspor can be accepted.
	Time Saving	PV3	Applying for a new passport or replacement via the M-Paspor application saves me time.
	Contentment	PV4	I feel happy with the benefits I get from M-Paspor.
	Enjoyment	PV5	I enjoy using M-Passport.
Perceived Ease of Use	Flexibility Use	EU1	In my opinion, the M-Paspor application is very flexible to use.
	Clarity	EU2	The features in the M-Paspor application are very clear and easy to understand.
	User Friendly	EU3	In my opinion, the M-Paspor application is easy to use.
Navigability	Consistency	NA1	The different pages in the M-Passport app have similar designs.
	Uniformity	NA2	Within each page, there is a uniform page layout.
	Progress Bar	NA3	A progress bar can predict information about the next page from the start page.
	Information Sequence	NA4	The sequence of obtaining passport application information is clear.
	Sufficient	NA5	The amount of information displayed on the screen is quite adequate.
Responsiveness	Help Center	RE1	The M-Paspor application provides Frequently Ask Questions information.
	Feedback	RE2	The M-Paspor app provides a feedback mechanism for questions and concerns I have.

	Support	RE3	The M-Paspor application offers customer service assistance when problems and errors arise.
Download Delay	Speed	DD1	The M-Paspor application provides information quickly.
	Rate	DD2	The M-Paspor application displays information at a fast level.
	Downloadable	DD3	The ability to download documents seamlessly and quickly.
User Satisfaction	Reuse	US1	I find the M-Paspor application interesting and should be used.
	User Surveys	US2	I am satisfied that the M-Paspor application has met my needs or the required information.
	Efficiency	US3	I am satisfied with the efficiency of the M-Passport application.
	Effectivity	US4	I am satisfied with the effectiveness of the M-Paspor application.
	Repeat Visits	US5	Overall, I am satisfied with the existing system.

3.2 Research Hypothesis

A hypothesis is a temporary answer to a research problem formulation, where the research problem formulation has been stated as a question sentence. The hypotheses in this research are as follows:

- H1: System Quality influences User Satisfaction in the M-Paspor application
- H2: System Quality influences Perceived Value in the M-Paspor application
- H3: Information Quality influences User Satisfaction on the M-Paspor application
- H4: Information Quality influences Perceived Value in the M-Paspor application
- H5: Service Quality influences User Satisfaction in the M-Paspor application
- H6: Service Quality influences Perceived Value in the M-Paspor application
- H7: Perceived Value influences User Satisfaction in the M-Paspor application
- H8: Perceived Ease of Use influences User Satisfaction in the M-Paspor application
- H9: Navigability influences Perceived Ease of Use
- H10: Responsiveness Influences Perceived Ease of Use
- H11: Download Delay Influences Perceived Ease of Use

3.3 Population and Sample

The population is all research subjects in a research area. The population is a collection of individuals or objects with certain traits and characteristics. Qualities and characteristics are determined in research to study the nature of the population in question, and conclusions are drawn. The population will be an area for generalising research results [59].

This research's population or data source is M-Paspor application users who have applied for a new passport or passport replacement online via the application throughout Indonesia. Based on the data presented in the background, the total number of M-Paspor users until January 2023 is more than 1,000,000. The total population data was obtained from the number of users who downloaded the M-Paspor application on Google Playstore. So, the population used in this research is 1,000,000 users.

A sample is a part of a population taken through certain methods, with certain clear and complete characteristics that represent the population. It must be ensured that the sample represents the population to obtain valid results when carrying out measurements [59]. This study's sample size was determined using the Slovin formula [60].

The research uses a confidence level of 90%, so the error rate is 1% with a population (N) of 1,000,000 people. The results of the Slovin formula, n = 99.99, are rounded to 100 samples from a population of 1,000,000. So, the minimum number of samples that must be used in this research, according to the Slovin formula, is 100 respondents using the M-Paspor application throughout Indonesia as samples.

4. RESULTS AND DISCUSSIONS

4.1 Respondent Profile

Questionnaires in the form of a Google form were distributed to research samples via Line, WhatsApp, and Instagram. A total of 103 respondents filled out the questionnaire. Respondent data collection started from October 23 to November 8, 2023. Data from respondents who had never made a passport via the M-Paspor application and did not answer open questions are eliminated. The total invalid data is around 3 respondents, while valid data is 100 respondents. The following are the

characteristics of respondents based on gender, age, domicile, education and occupation.

Table 2: Constructs and Measurement Items

No.	Gender	Frequency	Percentage
1	Male	46	46.0%
2	Female	54	54.0%
Total		100	100%

Table 3: Respondent Age Profile

No.	Age	Frequency	Percentage
1	13-25 years old	28	28.0%
2	26-41 years old	70	70.0%
3	42-57 years old	2	2.0%
Total		100	100%

Table 4: Respondent's Domicile

No.	Domicile	Frequency	Percentage
1	Jakarta Metropolitan Area (Jabodetabek)	34	34.0%
2	Inside Java Island (Outside Jabodetabek)	38	38.0%
3	Outside Java Island	28	28.0%
Total		100	100%

Table 5: Respondent's Educational Profile

No.	Education	Frequency	Percentage
1	High school/equivalent	23	23.0%
2	Associate degree	18	18.0%
3	Bachelor's degree	57	57.0%
4	Postgraduate (Master's degree/Doctoral's degree/equivalent)	2	2.0%
Total		100	100%

Table 6: Respondent's Job Profile

No.	Occupation	Frequency	Percentage
1	Self-employed	27	27.0%
2	Student	26	26.0%
3	Employees/Civil Servants	20	20.0%
4	Teacher/Lecturer	14	14.0%
5	Freelancers	12	12.0%
6	Housewife	1	1.0%
Total		100	100%

Data regarding the user profile of the M-Paspor application shows that respondents consisted of 46% men and 54% women. In terms of age, the majority of respondents were in the 26–41-year range at 70%, followed by 13-25 years at 28%, and 42-57 years at only 2%. In terms of domicile, 34% of respondents came from Jabodetabek, 38% from within Java (outside Jabodetabek), and 28% from outside Java. In terms of education, the majority of respondents had a D4/S1 background at 57%, followed by a high school/equivalent level at 23%, a D1-D3 at 18%, and a postgraduate degree at only 2%. Based on occupation, respondents consisted of various professions, with entrepreneurs and students accounting for 27% and 26%, respectively, followed by employees/PNS (20%), teachers/lecturers (14%), freelancers (12%), and housewives (1%).

4.2 Measurements Model (Outer Model)

The evaluation part of the measurement model (outer model) is the convergent validity test, discriminant validity test, and reliability test. Validity and reliability testing is assisted by the SmartPLS program using the "PLS Algorithm" method. Validity testing is carried out to measure whether a question used in the questionnaire is valid or invalid. The processing results of SmartPLS for validity testing based on loading factor and AVE values can be seen in Figure 6 below.
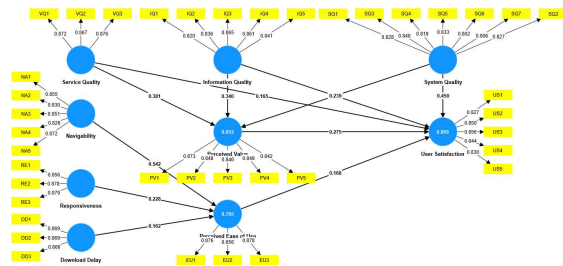

Figure 6: Outer Model – SmartPLS Loading Factor & AVE Results

4.2.1 Convergent Validity Test

The convergent validity test is carried out by calculating the loading factor value of each instrument. An indicator has good validity if its loading factor value is greater than 0.7. Table 7 shows the results of the validity test for each instrument for this research variable.

Table 7: Convergent Validity Test Results

Variable	Code	Outer Loading	Cut Point	Results
System Quality	SQ1	0.828	0.7	Valid
	SQ2	0.827	0.7	Valid
	SQ3	0.840	0.7	Valid
	SQ4	0.819	0.7	Valid
	SQ5	0.833	0.7	Valid
	SQ6	0.802	0.7	Valid
	SQ7	0.806	0.7	Valid
Information Quality	IQ1	0.820	0.7	Valid
	IQ2	0.836	0.7	Valid
	IQ3	0.865	0.7	Valid
	IQ4	0.861	0.7	Valid
	IQ5	0.841	0.7	Valid
Service Quality	VQ1	0.872	0.7	Valid
	VQ2	0.867	0.7	Valid
	VQ3	0.876	0.7	Valid
Perceived Value	PV1	0.873	0.7	Valid
	PV2	0.848	0.7	Valid
	PV3	0.846	0.7	Valid
	PV4	0.849	0.7	Valid

	PV5	0.842	0.7	Valid
Perceived Ease	EU1	0.876	0.7	Valid
of Use	EU2	0.856	0.7	Valid
	EU3	0.878	0.7	Valid
Navigability	NA1	0.855	0.7	Valid
	NA2	0.830	0.7	Valid
	NA3	0.851	0.7	Valid
	NA4	0.826	0.7	Valid
	NA5	0.872	0.7	Valid
Responsiveness	RE1	0.856	0.7	Valid
	RE2	0.878	0.7	Valid
	RE3	0.879	0.7	Valid
Download	DD1	0.869	0.7	Valid
Delay	DD2	0.869	0.7	Valid
	DD3	0.866	0.7	Valid
User	US1	0.827	0.7	Valid
Satisfaction	US2	0.850	0.7	Valid
	US3	0.856	0.7	Valid
	US4	0.844	0.7	Valid
	US5	0.830	0.7	Valid

Based on the results of validity testing in table 7 which was carried out on 100 respondents with a coefficient value of 0.7, all statements in the questionnaire have met the requirements and can be said to be valid. The next evaluation of convergent validity can be determined by looking at the value of the Average Variance Extracted (AVE). AVE is good if it has a value of more than 0.5. Table 8 shows the results of the AVE values for each variable.

Table 8: AVE Value Results

Variable	Average Variance Extracted (AVE)
System Quality	0.676
Information Quality	0.714
Service Quality	0.760
Perceived Value	0.725
Perceived Ease of Use	0.757
Navigability	0.717
Responsiveness	0.759
Download Delay	0.754
User Satisfaction	0.708

From Table 8, each variable has an AVE value > 0.5. Therefore, this research model has good convergent validity because it meets the requirements.

4.2.2 Discriminant Validity Test

The discriminant validity test was carried out by looking at the cross-loading values of variable measurements. The cross-loading value shows the magnitude of the correlation between each variable and its items/indicators and indicators from the other block variables used. A measurement model has good discriminant validity if the correlation between variables and indicators is higher than the correlation with indicators from other block variables. After

carrying out the data using SmartPLS 4, cross-loading results were obtained, which can be seen in Table 9.

Table 9: Discriminant Validity Test Results

	DD	IQ	NA	EU	PV	RE	VQ	SQ	US
DD1	0.869	0.74	0.75	0.741	0.711	0.732	0.658	0.768	0.731
DD2	0.869	0.797	0.814	0.71	0.79	0.721	0.743	0.752	0.753
DD3	0.866	0.731	0.703	0.695	0.724	0.722	0.716	0.756	0.747
IQ1	0.731	0.82	0.733	0.759	0.742	0.682	0.73	0.769	0.712
IQ2	0.735	0.836	0.746	0.706	0.766	0.708	0.753	0.753	0.709
IQ3	0.716	0.865	0.745	0.698	0.74	0.737	0.735	0.746	0.721
IQ4	0.758	0.861	0.757	0.759	0.747	0.749	0.729	0.797	0.775
IQ5	0.737	0.841	0.782	0.68	0.768	0.684	0.749	0.778	0.721
NA1	0.743	0.8	0.855	0.737	0.797	0.687	0.746	0.776	0.733
NA2	0.776	0.764	0.83	0.682	0.764	0.698	0.74	0.761	0.765
NA3	0.696	0.752	0.851	0.774	0.767	0.749	0.774	0.773	0.753
NA4	0.738	0.725	0.826	0.753	0.687	0.704	0.687	0.751	0.732
NA5	0.739	0.734	0.872	0.753	0.726	0.719	0.723	0.783	0.742
EU1	0.698	0.702	0.741	0.876	0.655	0.718	0.702	0.755	0.759
EU2	0.708	0.723	0.773	0.856	0.698	0.705	0.698	0.766	0.729
EU3	0.746	0.801	0.769	0.878	0.717	0.715	0.765	0.757	0.723
PV1	0.748	0.754	0.755	0.663	0.873	0.707	0.742	0.732	0.736
PV2	0.719	0.74	0.709	0.647	0.848	0.711	0.743	0.719	0.717
PV3	0.751	0.758	0.773	0.667	0.846	0.731	0.716	0.756	0.758
PV4	0.723	0.795	0.757	0.677	0.849	0.725	0.769	0.777	0.778
PV5	0.696	0.742	0.76	0.72	0.842	0.707	0.807	0.771	0.755
RE1	0.777	0.711	0.701	0.704	0.714	0.856	0.684	0.769	0.75
RE2	0.721	0.761	0.738	0.745	0.741	0.878	0.785	0.781	0.741
RE3	0.684	0.729	0.758	0.689	0.743	0.879	0.721	0.786	0.803
VQ1	0.685	0.748	0.721	0.647	0.747	0.736	0.872	0.752	0.718
VQ2	0.664	0.742	0.737	0.762	0.765	0.71	0.867	0.766	0.758
VQ3	0.769	0.795	0.804	0.756	0.807	0.749	0.876	0.777	0.803
SQ1	0.74	0.724	0.734	0.682	0.677	0.757	0.703	0.828	0.773
SQ2	0.695	0.726	0.71	0.736	0.71	0.755	0.736	0.827	0.771
SQ3	0.717	0.741	0.769	0.694	0.746	0.752	0.75	0.84	0.746
SQ4	0.748	0.769	0.765	0.703	0.774	0.777	0.746	0.819	0.75
SQ5	0.725	0.768	0.751	0.755	0.711	0.744	0.732	0.833	0.771
SQ6	0.711	0.758	0.746	0.751	0.712	0.668	0.701	0.802	0.723
SQ7	0.694	0.75	0.748	0.701	0.748	0.689	0.683	0.806	0.706
US1	0.702	0.697	0.724	0.659	0.737	0.735	0.705	0.72	0.827
US2	0.738	0.736	0.705	0.699	0.752	0.748	0.75	0.753	0.85
US3	0.74	0.764	0.781	0.762	0.769	0.736	0.788	0.809	0.856
US4	0.706	0.711	0.766	0.737	0.708	0.751	0.739	0.804	0.844
US5	0.716	0.712	0.718	0.7	0.735	0.722	0.687	0.741	0.83

Based on Table 9, the cross-loading results show that the correlation between the construct and its indicators is higher than the correlation with indicators from other block variables, so discriminant validity is good.

4.2.3 Reliability Test

The reliability test in this research was carried out to see the Cronbach's alpha and composite reliability values, which will determine whether the indicators used can be trusted as a variable measuring tool. A variable is reliable if the Cronbach's alpha value is greater than 0.7. Table 10 shows the results of reliability tests carried out using the Smart PLS program.

Table 8: Variable Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Results
System Quality	0.920	0.936	Reliable
Information Quality	0.900	0.926	Reliable

Service Quality	0.842	0.905	Reliable
Perceived Value	0.905	0.929	Reliable
Perceived Ease of Use	0.839	0.903	Reliable
Navigability	0.901	0.927	Reliable
Responsiveness	0.841	0.904	Reliable
Download Delay	0.837	0.902	Reliable
User Satisfaction	0.897	0.924	Reliable

4.3 Structural Model Evaluation (Inner Model)

Evaluation of the structural model or inner model is carried out by looking at the results of the coefficient of determination (R-Square) value for each construct and looking at the value of the significance of the path coefficient.

4.3.1 Evaluation of R Square Value (R2)

The first step in the structural model is to look at the R-Square value of the dependent variable. This value is used to explain how far the data on the independent variable can explain the data on the dependent variable. R-Square has a range between 0-1, which means that if the value is closer to 1, the better. Table 11 shows the R-Square value of each dependent variable.

Table 11: R Square Value

Variable	R Square	R Square Adjusted
Perceived Ease of Use	0.795	0.788
Perceived Value	0.852	0.848
User Satisfaction	0.869	0.862

The Perceived Ease of Use variable has an R-Square value of 0.795 or 79%. This means that the Perceived Ease of Use variable is influenced by the Navigability, Responsiveness, and Download Delay variables by 79%. The remainder, namely 21%, is influenced by other factors that are not included in the research variables. Meanwhile, the Perceived Value variable has an R-Square value of 0.852 or 85%. This means that the Perceived Value variable is influenced by the System Quality, Information Quality, and Service Quality variables by 85%. The remaining 15% is influenced by other factors that are not included in the research variables. Then, the User Satisfaction variable has an R-Square value of 0.869 or 86%. This means that the User Satisfaction variable is influenced by the System Quality, Information Quality, Service Quality, and Perceived Value variables by 86%. The remainder, namely 14%, is influenced by other factors that are not included in the research variables.

4.3.2 Hypothesis Test

Hypothesis testing in this research was carried out using the SEM-PLS analysis method with the aim of finding out how significant the variables used were and seeing the influence they had on the research hypothesis. The SEM-PLS analysis method is used because the results of the data processing carried out can be used to answer hypotheses. Hypothesis testing is carried out by measuring path coefficients, which will show the correlation relationship between two variables. The relationship between these two variables can be seen from the P-Values. Table 12 shows the value of P-Values, where the hypothesis in the research can be declared accepted if the P-Values value is < 0.05, and if the P-Values is > 0.05, then the hypothesis is rejected.

Table 12: Hypothesis Testing Results based on P-Values

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Results
SQ → US	0.450	0.451	0.140	3.203	0.001	H1 accepted
SQ → PV	0.239	0.245	0.118	2.024	0.043	H2 accepted
IQ → US	-0.080	-0.073	0.126	0.639	0.523	H3 rejected
IQ → PV	0.340	0.340	0.120	2.841	0.005	H4 accepted
VQ → US	0.165	0.167	0.099	1.656	0.098	H5 rejected
VQ → PV	0.381	0.375	0.094	4.072	0.000	H6 accepted
PV → US	0.275	0.272	0.111	2.479	0.013	H7 accepted
EU → US	0.168	0.158	0.088	1.922	0.055	H8 rejected
NA → EU	0.542	0.541	0.099	5.455	0.000	H9 accepted
RE → EU	0.228	0.236	0.098	2.341	0.019	H10 accepted
DD → EU	0.162	0.157	0.122	1.324	0.186	H11 rejected

4.4 Discussions

System Quality is obtained from the interaction between the user and the system, which then forms the user's perception of the quality of a system. Through open questions in the questionnaire distributed using G-Form, several respondents said that the M-Passport system often experienced errors. Apart from that, some respondents stated that it took a long loading

time to upload documents or proceed to the next stage when filling out a passport application. This incident caused reactions from users who felt irritated because their interaction with the system did not run smoothly. Unstable application systems and long response times hinder the activities that users want to achieve. However, when the system provides a good response (flexible, reliable, and intuitive), this will have a good impact on the user's perceived value. The overall value received by users depends on the quality of the system. There needs to be an investment in maintaining and improving the technological infrastructure of the M-Paspor application to increase perceived value and user satisfaction.

Information Quality can be determined from the relevance, understanding, and accessibility of the information. Even though information quality does not have a direct effect on user satisfaction with the M-Paspor application, the information quality variable has a correlation with user satisfaction when mediated by the perceived value variable. In the open questions filled in by respondents, several problems were found, such as payment status information that was not updated, difficulty understanding information on the requirements for making a passport, and information on making a passport that was considered incomplete. Poorly displayed information can hinder the user's ability to make decisions, effectiveness, and efficiency in carrying out passport application activities. Users have difficulty understanding what must be prepared when applying for a new passport. It takes a long time to search for the information needed from external sources, even though the M-Passport application is supposed to present this information completely and accurately. Payment status information that needs to be updated also makes users wonder whether the payment has been received or not. In fact, one of the characteristics of information must be assessed by its recency. This condition can affect user satisfaction through poor user perceived value because it is considered less useful, and the application is less acceptable. Therefore, improving the quality of information is necessary by paying attention to aspects of accuracy, up-to-dateness, and completeness of the information displayed.

Service Quality means fulfilling user expectations or desires for the services received. Even though service quality does not directly influence user satisfaction with the M-Paspor application, the service quality variable has a correlation with user satisfaction when mediated by the perceived value variable. In the open questions filled in by respondents, the problem found in service was customer support, which was considered unresponsive or unhelpful. When users have problems when using the application, the customer's expectations and hopes are that the immigration service can provide answers to each question quickly and in detail. This is because the user's problem is quickly resolved, and the goal is met. This condition can affect user satisfaction through poor user perceived value because the value provided by immigration is not good, and the use of the M-Passport application does not save the user's time. Therefore, focusing on service quality is very important in meeting user needs and speed in resolving user problems.

Perceived value is a user evaluation based on a comparison of the benefits and sacrifices of an offer and the alternatives obtained. Perceived value has a positive and significant effect on user satisfaction of the M-Paspor application. In the open questions filled in by respondents, several respondents said that with the M-Paspor application, the process of making a passport became more effective and efficient, made the queuing process easier, and helped overall. This is because the M-Paspor application offers flexibility where users can apply for a passport anywhere and at any time. The process of uploading documents online can reduce the time required for document verification at the Immigration Office. Users can experience the benefits of innovation offered by the Directorate General of Immigration through the M-Paspor application. Because perceived value is influenced by the variables of system quality, information quality, and service quality, it is important for Immigration to maintain and continue to improve the quality of its products and services. It is necessary to ensure that application features and functions can provide clear added value for users to achieve user satisfaction.

Perceived ease of use means measuring the effort expended by users to understand the use of technology. The perceived ease of use variable does not have a significant effect on user satisfaction. In the open questions filled in by respondents, there were respondents who said that a good user interface and ease of operating the application were some of the things that contributed to the level of user satisfaction. Some of these conveniences include easy downloading of documents, editing personal data, making payments, and using other features. This shows that it is important to ensure that the user interface is intuitive and easy to use in order to reduce user effort in carrying out an activity.

Navigability is the ease of application navigation, which can reduce error rates, reduce time, and improve user performance. The navigation variable has a positive and significant effect on the perceived ease of use of the M-Paspor application. In the open questions filled in by respondents, there were

respondents who said that applications that were easy to navigate were one of the things that they thought contributed to the level of user satisfaction. In this research, perceived ease of use is influenced by how the user interface has a consistent design, clear progress bars, and an adequate user interface. When all this is achieved, users will support the user's ease of operating the M-Paspor application. Therefore, it is important to maintain user convenience in using the M-Paspor application through the user interface and user experience.

Responsiveness means feedback and the availability of responses from system managers (Immigration) to users. The responsiveness variable has a positive and significant effect on the perceived ease of use of the M-Paspor application. When this research was conducted, M-Paspor did not yet have a Frequently Ask Questions (FAQ) menu and customer service assistance in the application. When users need help or have problems when wanting to make a passport via the M-Paspor application, they can contact Immigration via social media, email, or chatbot on the official website of the Directorate General of Immigration. This shows that the M-Paspor application is not yet integrated with help support. In fact, an information system should be able to support a help center, support, or feedback mechanism to help users if they have questions or problems. The Directorate General of Immigration may consider implementing these features to optimize positive perceived ease of use.

Download Delay means the speed of the system when a user accesses and performs an activity on the system. In the open questions filled in by respondents, the problem found in download delay was the difficulty of downloading documents provided by the system. Another respondent said that speed in downloading data was one of the factors that he thought contributed to the level of user satisfaction. Even if Download Delay is not significantly related to Perceived Ease of Use, management should still ensure that download time is minimal to prevent potential user frustration. Increased download speed can provide a better experience.

Overall, user satisfaction means fulfilling or exceeding user expectations and feeling satisfied after using the M-Paspor application. In the open questions filled in by respondents, there were certain features or functions of M-Paspor that, according to respondents, needed to be improved to increase user satisfaction, apart from the variables previously explained. There are respondents who hope for integration with digital wallet payment platforms, a user interface with night mode, direct chat services with customer support, stronger identity verification for security using

biometrics, and others. The Directorate General of Immigration can consider developing features from research results so that application performance meets customer expectations. System development needs to be carried out regularly to suit user needs and expectations. User satisfaction is an important aspect of the success of application implementation.

5. CONCLUSIONS

The M-Paspor application is a form of digital transformation in Indonesia's public service sector. An electronic-based government system is hoped to make services effective, efficient, clean, transparent, accountable, quality, and trustworthy. The current gap is that there are several obstacles when people use the M-Paspor application. This ranges from poor user experience and information that is not clear and structured to poor system quality, which causes the M-Passport application to get a low rating and poor reviews. This causes the function of the M-Passport application to be less acceptable in Indonesian society, and the government's goals have yet to be achieved in implementing e-government.

By looking at the analysis and discussion in the previous chapter regarding the analysis of factors that influence user satisfaction with the M-Paspor application, it can be concluded as follows:

1. System Quality and Perceived Value have a positive and significant effect on User Satisfaction of the M-Paspor application. In contrast, Information Quality, Service Quality, and Perceived Ease of Use do not have a significant positive effect on User Satisfaction of the M-Paspor application.
2. System Quality, Information Quality, and Service Quality have a positive and significant effect on the Perceived Value of the M-Paspor application.
3. Navigability and Responsiveness have a positive and significant effect on the Perceived Ease of Use of the M-Paspor application. In contrast, Download Delay has no significant positive effect on the Perceived Ease of Use of the M-Paspor application.

The research results in this study help the Ministry of Law and Human Rights of the Republic of Indonesia focus on improvements to the M-Paspor application in maintaining user satisfaction. Evaluation is necessary to improve the quality of public services because that is the government's responsibility. Factors that influence user satisfaction can be a priority in application development. Continuous development is a must because the M-

Paspor application is still very much needed in the process of making passports to achieve a better government system in Indonesia.

Researchers realize that this research is far from perfect, so it is hoped that further research will be developed. Suggestions that can be recommended for further research are as follows:

1. It is necessary to add more factors that influence user satisfaction of the M-Paspor application.
2. Increase and expand the area for distributing questionnaires throughout Indonesia.

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