Analysis of the Utilization of Online Product Registration Services ASROT BPOM by Traditional Medicines SME's PPJAI Members Through the Technology Acceptance Model (TAM) Approach in the Working Area of the BPOM Banyumas

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Article Info	ABSTRACT
	This research will attempt to evaluate the degree of acceptance of the application of e-registration of traditional medicines and food supplements, otherwise known as the ASROT application, through the Indonesian Natural Herbal Medicine Association (PPJAI), with the application of the Technology Acceptance Model (TAM) approach, with the addition of the 'trust of the government' component. Digitalization of public services, such as traditional medicine registration, will increase the efficiency, transparency, and accountability of the services being rendered. However, with the adoption of the digital system, many challenges have arisen, such as adapting users to the system, the complexity involved, as well as its inability to provide users with the necessary features. This will explore the relationship of Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Trust of the Government as seen in its impact on Attitude Towards Use (ATU), as well as its subsequent impact on Intention To Use (ITU) the application. With this, researchers will apply the use of a Quantitative method with a questionnaire as the medium through which the researchers will seek information from PPJAI members. This will allow the researcher the flexibility in terms of formulating their hypotheses that will seek to show its effect on its enjoyable use, with the addition that the ease with which the application will allow the user, as well as its reliance on the trust that the citizen gives. This will offer strategic recommendations with regard to this aspect, as researchers will seek to evaluate them. With this, researchers will offer theoretical contributions with regard to the literature being established as it relates to this aspect.
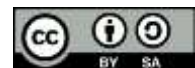
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1. INTRODUCTION

Providing public services is one of the most crucial roles played by the Government in addressing the requirements of the public, as well as the development of economic growth, increasing the level of quality of the public's life, addressing issues of education,

health, population administration, transport, and licensing [1]. Based on Law No. 25 of 2009 concerning Public Services, public services can be defined as an activity or series of activities within the framework of addressing service needs, as governed by laws and regulations, for every citizen and resident, addressing goods, services, and/or administration services, provided for public service providers. Currently, public services remain one of the sectors that garner much attention from the Government in terms of strategic policies such as digitalization of services, online licensing, as well as increasing the capabilities of the apparatus of the State. However, this transformation of public services as intended, is aimed at enhancing efficiency within the bureaucracy, increasing public satisfaction with the Government, as well as enhancing economic as well as social development [1], increasing the efficiency of public service excellence in developing a work culture focusing on public satisfaction [2]. However, the quality of public service in Indonesia remains with problems that come in the form of bureaucratic complexity, transparency, as well as low efficiency, being barriers for businesses, particularly for MSMEs (Micro, Small, Medium Enterprises) in terms of accessing public services [3]. However, in addressing this concern, the Indonesian Government issued a presidential regulation number 82 of 2023 concerning the Acceleration of Digital Transformation, Integration of National Digital Services. This move aims to promote the development of a comprehensive, full, as well as dependable electronic-based system of the Government (SPBE).

In digital transformation, digital service-based public services, or e-government, were seen as the best solution that would enhance efficiency, transparency, accountability, and convenience of public services [4], [5]. Digital services in the governmental system provide benefits such as efficiency, ease of accessibility, as well as the confidentiality of data protection [5], [6]. However, digital service-based public services, or e-services, will face challenges such as infrastructure, human service competencies, resistance, as well as service design. Research carried out by Jermsittiparsert et al. [6] shows that service quality is identified through application facilities, accessibility, ease of navigation, as well as completeness of information. An example of digital services in drug control, as well as meals, can be found through the e-registration system produced by the Food and Drugs Supervisory Agency (BPOM), with the system's name 'ASROT. 'ASROT is the implementation of BPOM Regulation Number 25 of 2023 with regards to the Criteria for Registration of Natural Drugs, built to facilitate traditional drugs distribution permits, as well as increase efficiency, that must be fulfilled as a guarantee that the product was tested through quality, security, as well as its potency, as collaborated in BPOM Regulation Number 32 of 2019 with regards to Security as well as the Needs of Safety for Traditional Drugs, as well as Regulation of the Ministry of Health Number 007 of 2012 with regards to Registration of the Traditional Drugs. Although this service was implemented, in other terms, some obstacles were found such as low adaptability of service actor, facilities that were seen less than ideal, extensive verification, as well as ineffectiveness through socialization as well as trainnings for users, so that enhancement as well as improvement in 'ASROT still being carried out periodically, with consideration of users' inputs [7].

Figure 1. ASROT Display

In understanding user acceptance of the ASROT digital service, which has passed through several stages of system development, this study adopts the approach of the Technology Acceptance Model developed by Davis in 1989. This model stipulates that a person's attitude and intention to use information technology are influenced by two main factors, namely perceived usefulness and perceived ease of use. Studies by Adeyemi et al. [8], Natasia et al. [9], and Wei et al. [10] have shown that perceived usefulness and perceived ease of use are determinant factors in attitude and intention toward information technology use. However, in addition, the literature provides that the public trust variable in the government itself influences the attitude and intentions related to the use of e-government services, as explained by Burns et al. [11], Jermsittiparsert et al. [12], Khan et al. [13], and Nguyen et al. [14], since it is one of the indicators of the success of supporting government programs. With this background, this paper seeks to discuss what influences users' acceptance of the services provided by ASROT; evaluate the effectiveness of the implementation of ASROT digital services in the licensing process for a traditional medicine distribution permit; identify obstacles found in the process; and propose strategic recommendations to improve the quality of online licensing services provided by the POM Agency.

This study focuses on the Indonesian Food and Drug Administration online registration service through the ASROT e-registration application and its main users, namely members of the Indonesian Natural Herbal Medicine Practitioners Association. The ASROT BPOM represents an e-registration system developed for the purpose of facilitating companies in registering traditional medicine, health supplements, and quasi-medicine online so as to get distribution permit numbers, which can be accessed via https://asrot.pom.go.id/asrot. This online registration facility was developed in 2013 and continuously refined to make it easier, faster, more efficient, and transparent; it is designed to make the licensing process more transparent, faster, and accountable. According to data recorded on the website in April 2025, the total number of visitors to this service reached 20,999,159, with 2,289 active registrant accounts. On the other hand, PPJAI

is a Banjarnegara, Purbalingga, Banyumas, and Cilacap-based business association for SMEs dealing in traditional medicine, where their vision is to ensure the legality of the traditional herbal medicine industry and to consistently provide quality and safety. It consists of 21 herbal medicine industries that currently have a total of 364 traditional medicine products registered with BPOM.

Although ASROT was developed to make licensing easier, increase efficiency, and guarantee the transparency and accountability of services, public services within the scope of drug and food supervision are still plagued by various problems. E-government systems are expected to increase efficiency and effectiveness; however, in practice, various obstacles are still faced, such as technological infrastructure readiness, human resource competence, resistance to change, and the extent to which the community trusts the government as a digital service provider. In the context of ASROT, the implementation of the system continues to meet technical and administrative obstacles to this day, so that refinement and development of the system continue according to need [7]. Apart from technical obstacles, trust in the government is an important aspect that influences attitudes and intentions to use the digital system, since those who doubt the government's credibility and integrity will also doubt its benefits and security in providing digital services, including ASROT. Based on a literature search, no research has been found that specifically evaluates the effectiveness and efficiency of ASROT use by linking the perceived usefulness and perceived ease of use with the factors of public trust in government, so further research should be done.

Based on this gap, this study uses the approach of the Technology Acceptance Model (TAM), which is extended by the variable of government trust to understand technology adoption in public services more deeply through a study entitled "Analysis of the Utilization of the Asrot Online Licensing Service of the POM Agency by Traditional Medicine MSMEs that are Members of PPJAI through the Technology Acceptance Model

(TAM) Approach in the Banyumas POM Agency Working Area." Research questions are such as: (1) Does perceived usefulness influence the attitude toward use of ASROT by PPJAI members? (2) whether perceived ease of use influences attitude toward use? (3) whether trust in the government influences attitude toward use; and (4) whether attitude toward use influences intention to use ASROT. In line with this, the purpose of this study is to analyze the influence of perceived usefulness, perceived ease of use, and trust in the government on attitude toward use, as well as the influence of attitude toward use on intention to use ASROT by PPJAI members. Theoretically, this study is expected to provide new insights into the implementation of e-government in improving the effectiveness of public services, especially in the registration of traditional medicines, while providing empirical research on the impact of licensing service digitization on the development of MSMEs and how to implement more effective and efficient digital-based licensing. Practically, this study gives strategic recommendations for improvement in the digitization of licensing services in order to assist the government in identifying the main obstacles in the implementation of the digitization and providing evaluation material to simplify licensing procedures for traditional medicine products.

2. LITERATURE REVIEW

2.1 Information Technology and Digital Government

The use of information and communication technology (ICT) in the digital age, as a strategy, is considered essential for effective governance and competitiveness on a global scale. ICT implementation helps minimize time, costs, as well as bureaucratic requirements, thus giving rise to substantial economic as well as social advantages [4], [15]. According to Kala et al. [4], digital governance helps in enabling more efficient, more transparent, as well as more convenient public services. ICT deployment within digital

governance helps identify additional value through focused public services, thus increasing public acceptance of digital governance [12]. Evidence from the previous experiences of China clearly illustrates that digital governance helps induce a supportive environment for businesses, such as micro-enterprises [16]. Thus, the governmental effort in ICT infrastructure is greatly essential for increasing the accessibility of the creative industry on a global scale [17].

2.2 Technology Acceptance Model

Davis [18] proposed the Technology Acceptance Model (TAM), which is most commonly applied as the theoretical framework in explaining the acceptance as well as the usage of information technology. This theoretical framework illustrates the relationship that exists between trust, attitude, intention, and action in technology usage, incorporating two primary constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) [8], [19]. TAM describes that some external variables may affect PU as well as PEOU, which will then develop into the intended use of technology (intention to use).

a. Perceived Usefulness (PU)

Perceived Usefulness refers to the user's believed positive expectations of being able to enhance their own performance through system use [8], [9], [19]. Within the realm of ASROT, PU represents users' perceptions that technology will ease the process of obtaining a license as well as enhance efficiency. It was established that individuals with higher positive expectations would use technology more [10].

b. Perceived Ease of Use (PEOU)

Perceived Ease of Use (PEOU) refers to the extent to which a system is found to be easy to use, requiring minimal effort. With regard to the use of ASROT, ease of navigation, ease of registration, and ease of submitting permits were considered. [18] argues that ease of

use positively correlates with the ease of use benefit, with this correlation being supported by other studies citing that PEOU positively affects attitudes, behaviors, and usage rates of e-government services [4], [10], [12]. Indeed, other studies led by [20], [19], [9], and [21] alike found that PEOU positively correlates with PU, influencing attitudes, usage, and technology. Other studies, conducted by [8], [22], as well as [23], assert that accuracy, completeness, consistency, as well as timeliness with regard to information further enhance PU as well as the use of technology.

2.3 Trust in Government

Government trust is a crucial determinant in users' acceptance of digital services provided by the public sector. Loss of public trust through corruption and inefficient bureaucracy is a challenge to the adoption of technology within the public sector. Government trust, PU, and PEOU were considered as determinants that affect users' acceptance of digital services in the technology acceptance model [12], [24].

Such a trust represents the public's beliefs in the professionalism of the government, the security of their data, as well as the integrity of the service process. Several studies [14], [24] use the trust component within TAM, TRA, and TPB models. [13], [25], as well as [26], affirm that the strong links found between trust, attitude, intention, and behavioral aspects in the adoption of e-government services do indeed play a pivotal role.

2.4 Factors Affect

a. Service Quality

Service quality is a crucial factor that helps mold the perceptions of users as well as their acceptance, particularly about mandatory services such as ASROT. Small businesses, like other users, may face difficulties in comprehending digital platforms, so the quality of information as well as service support is always essential [4], [8], [12], [22],

[23]. Adeyemi & Issa [8] highlight the relevance of digital public services that not only work well but offer a satisfying user experience as well.

b. **Technology Infrastructure**

However, the successful adoption of digital systems largely relies on the readiness of infrastructure, such as internet accessibility, devices, as well as the system being accessible to different people. Jermsittiparsert et al. [12] and Kala et al. [4] highlight that the infrastructure divide is the most severe challenge facing e-government within developing countries. Evidence presented through the Ministry of Cooperatives and Small, Medium Enterprises (2023) indicates that most of the MSMEs were facing difficulties accessing digital platforms. Readiness in terms of infrastructure support [8] must be facilitated by the concerned governments, as highlighted by Mahrinasari et al. [17].

c. **User Education and Understanding**

Lack of digital literacy will also impede the uptake of digital technology such as ASROT [4]. Training, workshops, and mentoring programs in technology use have been effective in developing users' capabilities as well as their perceptions of PU and PEOU [8], [27]. A combined effort from the government, education sector, and organizations will ensure the establishment of a dynamic technological adoption environment [10]. Strategies for public communications, such as advertisements through social media platforms, can also enhance perceptions of digital technologies [28].

2.5 *Digitalization of MSMEs*

The digitalization of public services via e-government has been found to significantly affect MSMEs, as evidenced by Kala et al. [4] that the accelerated pace of digitalization caused by the COVID-19 pandemic led to public reliance on digital services beyond the pandemic, as found in Indonesia about the digitalization of public services [29]. An example supporting this implication of digitalization is the development of the ASROT system administered by BPOM that improved the speed of processing licenses, particularly ease of access of SMEs to permits for product distribution [30], thus enabling cost savings, efficiency, and service accessibility, as intended through e-government. However, digitalization also brings forth issues in terms of the digital divide, whereby some of the MSMEs still experience obstacles in terms of technology infrastructure [31].

2.6 *Previous Studies and Conceptual Framework*

In this research, some literature is used, which is linked with technology acceptance, explaining variables that may affect digital service usage through the Technology Acceptance Model (TAM) incorporating Trust of the Government. Literature evaluating other surveys that use the same method, focusing on users' perceptions, system quality, as well as digital service environmental aspects, is summarized as a starting point for formulating empirical models for use with the online licensing service provided by ASROT. Several studies explain that two variables, that is, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), have been established as influencing users' attitude as well as their intention toward the use of information technology (IT) [8]–[10]. However, other studies further clarify that public trust within their governments not only affects those users' attitudes but their intentions in the use of e-Government services [11]–[14], being also a determinant for the effective measures of government program support [11].
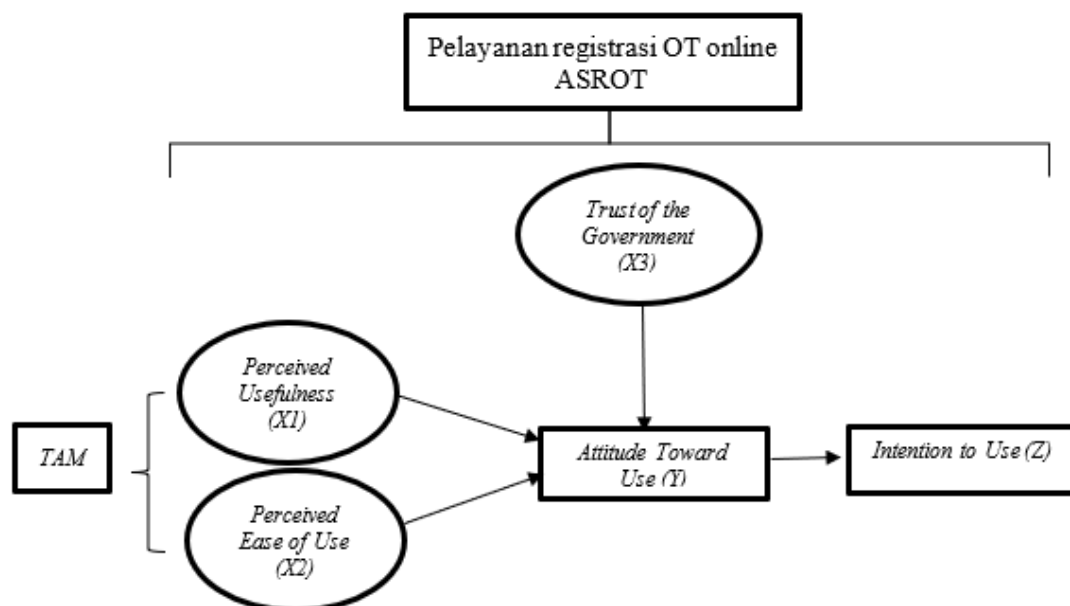
Figure 2. Conceptual Framework
Source: Author's (2025)

Perceived Usefulness positively relates to Attitude Towards Use, such that as the more benefits of the use of ASROT accrue to the MSMEs, the more positive their attitudes towards the use of the system will be. In addition, Perceived Ease of Use significantly affects user attitudes, such that ease of use of the system will foster a positive attitude towards its use. Trust in the Government also enhances user attitudes, particularly if the MSMEs perceive that the services of ASROT can prevent corruption and gratification, do away with bureaucratic costs, as well as protect the data security of their companies. Thus, the greater the positive attitude (Attitude Toward Use), the greater its direct effect on the increased intention (Intention to Use) of the users in continuing to use the services of ASROT in the product licensing process.

H1: Perceived usefulness positively affects the attitude towards the use of ASROT.

H2: Perceived ease of use positively affects the attitude towards the use of ASROT.

H3: Trust in the government is positively related to attitude towards the usage of ASROT.

H4: Attitude toward use positively affects the intention to use ASROT.

3. METHODS

3.1 Type of Research

Research is a systematic, well-organized effort in seeking solutions for a given problem through a series of search processes, as well as thorough analyses of the elements causing the problem, from identifying the problem, gathering information, analyzing data, and determining corrective measures [32]. In this regard, this research utilizes the descriptive causal method with a focus on quantitative data, as this study aims merely at describing the occurrences that happen in the course of this research without any form of generalization, as explained in [26]. Utilizing the causal method to determine the cause-and-effect relationship between independent variables and dependent variables, thus allowing researchers to respond to the research questions and examine the hypotheses that were formulated [33], [34].

3.2 Operationalization of Variables and Measurement Scales

In this research, there are three primary sets of variables, classified as independent variables (Perceived Usefulness, Perceived Ease of Use, Trust

of the Government), mediator variables (Attitude Toward Use), and dependent variables (Intention to Use). Variable operationalization takes its theoretical roots from the Technology Acceptance Model (TAM) paradigm, along with the consolidation of the 'trust of the government' construct, as presented within previous conceptual studies [32], [34]. Variables within this paradigm have been subdivided appropriately into their dimensions, which may include accelerated service accessibility, ease of system learning, competence/integrity of the government, along with user attitudes/intentions towards the services of ASROT, along aspects such as statement usage. The contents of the variables operational table provide detailed descriptions entailing dimensions, indicators, statement usage, as well as the measurements undertaken in order to measure every defined construct in a uniform manner.

It is worth mentioning that all the variables of the studied research were assessed via the use of the 5-point Likert scale. What this entails is that this scale specifies the degree of agreement that participants provide with regard to their views, opinions, or perceptions, as reflected from the scale that utilizes phrases such as "strongly dislike" through to "strongly like" [35]. By adopting this scale, researchers will be better placed in terms of determining participants' views, perceptions, or opinions on the quality, efficiency, as well as quality of service delivery that is associated with the use of BPOM's services through the use of its ASROT system [36].

3.3 Population and Sample

The population in this study was the 16 member companies of PPJAI that use the services of ASROT in the working area of the Banyumas POM Office. Population generally refers to all units of analysis that satisfy the focus of the objective of a research, as explained by Sekaran & Bougie [32] and Abdussamad et al. [33]. To compute for the sampling,

this study used the NonProbability-Purposive Sampling, which is the procedure of allocating participants with some attributes that relate to fulfillment of the requirements of the project, that is, individuals who relate directly with the usage of the services of ASROT in traditional medicine industries [32]. Using the Slovin formula with a population of 40 participants with a Margin Error of 5%, the result gave a Final Sample Size of 40 participants [37].

Sample size was determined through a set of criteria, so that the respondents were truly representative as regards their ability and experiences in the registration process via the ASROT system. The criteria were: (1) owners of traditional medicine companies that were PPJAI members, (2) pharmacists involved with production, and (3) officers of registered companies. Sample size was also determined so that the working area of the Banyumas POM Office, which includes Cilacap, Purbalingga, and Banyumas, would be well represented so that the collected information would be more representative of realities with regard to the use of the ASROT system.

3.4 Data Collection and Data Sources

The method of data collection in this study was done with primary data collected directly from the service users of the ASROT service in traditional medicine companies in the working area of the Banyumas POM Office, employing two primary methods. Firstly, the method involved collecting the primary data using a questionnaire with a scale of 5 points in determining the respondents' attitude, opinion, belief, or perceptions towards social events, as explained in the literature presented by Sekaran & Bougie [32], Abdussamad et al. [33], Creswell & Creswell [34], Kala et al. [4], and Sugiyono [36], Also, in this method, a questionnaire was prepared based on the required variables of this study. The questionnaire was given in Google Forms. Using Google Forms helped the respondents easily respond with their desired answers.

Secondly, as explained in the literature presented, this study also involved a literature method that involved reading literature such as books, articles, or other relevant documents, mostly in the form of literature studies, as explained in the literature presented by Abdussamad et al. [33].

3.5 Data Analysis

on descriptive analysis was conducted to explore the respondents' perceptions, which was performed through descriptive calculations, such as calculating the mean value, distribution of results, and defining scores based on the 'Likert Scale' through a recapitulation of the scores, calculation of the total, mean variables, and determination of assessment-category ranges [36]. In addition, Structural Equation Models (SEM) were applied in this study as the theoretical tool that explains the linear relationship between two or more Hidden Variables. In this topic, this procedure was applied as there was the ability of breakthrough into the linear relationship between many Hidden Variables, together with measurement errors [34]. This application was carried out through the use of 'SmartPLS3.0,' which is free from any assumptions, as illustrated in 'Abdussamad et al.' [33].

Model testing was carried out through outer model testing and inner model testing. During outer model testing, validity testing was carried out through convergent validity, which required factor loadings >0.50, with Average Extracted Variance (AVE) >0.50, whereas discriminant validity was carried out through cross-loading, which required that the indicators load more on their own variables than any other variables. On the other hand, reliability testing required Composite Reliability (CR) >0.70, with a value of Cronbach's Alpha >0.70. At the same time, inner model testing was carried out through testing of R^2, path coefficients, as well as t-statistic, with bootstrapping used for testing the significance of links between constructs. Requirements for testing were that the value of R^2 would be >0.67 (strong), >0.33 (medium), or >0.19 (weak), along with significant structural parameters, enabling the acceptance of the hypothesis. By running this series of tests, the use of the PLS model was qualified as a method for examining links between variables.

4. RESULTS AND DISCUSSION

4.1 Description Statistics

Characteristics of the respondents indicate that most of the 40 respondents who were members of PPJAI in the working area of Balai POM Banyumas involved in their existing organizations possess different working experiences, with most being in the category of more than 5 years (37.50 percent) and others being in the category of 1-3 years (37.50 percent). This shows that there is a mix of still relatively new individuals as well as experienced individuals in running their businesses and engaging with the system. Also, most of the respondents about their organizational capacity possessed work experiences in companies with more than 20 employees (65.00 percent), with others being in the category of employees with organizational capacities of 5-19 employees (25.00 percent), with only 10.00 percent in the category of employees with organizational capacities of 1-4 employees.

With regard to service usage, all of the respondents (100.00%) were users of the ASROT online licensing service, as expected, since the sampling was focused on users of the system. Most of the companies that the respondents were working with had managed to attain traditional medication distribution permits through the use of ASROT, that is, 92.50%, as opposed to 7.50% who had not managed to attain permits yet. This provides evidence that not only is the service being used, but there is also a percentage that is facing difficulties with permit attainment, which is further

explained through variables within the TAM model.

Table 1. Descriptive Statistics

Variable	Item	Minimum	Maximum	Mean	Std. Deviation
Perceived Usefulness (X1)	5	4.38	4.70	4.54	0.12
Perceived Ease of Use (X2)	11	4.08	4.60	4.40	0.18
Trust of the Government (X3)	12	4.28	4.73	4.59	0.15
Attitude Toward Use (Y)	5	4.25	4.70	4.49	0.16
Intention to Use (Z)	4	4.18	4.58	4.39	0.17

Source: Results processing data by the author (2025)

Perceived Usefulness (X1) demonstrates that the respondents overwhelmingly perceive the value within the licensing process of ASROT with a mean percentage of 90.80% and a mean score of 4.54, which belongs to strongly agree. However, the highest indicator was faster access to licensing (94.00%); the second-highest was support for businesses in terms of continuity (92.50%); but the lowest, feature suitability (87.50%), shows that there is a call for improvement in terms of feature suitability. On the other hand, Perceived Ease of Use (X2) acquired a mean percentage of 87.91% with a mean score of 4.40, showing that the system is perceived as easy-to-use, efficient, as well as flexible. Among the highest indicators were ease of accessing through devices (92.00%); flexibility in use (91.50%); system speed (82.00%); as well as admin responsiveness (81.50%); still requiring improvement for better user service.

The Trust of the Government (X3) had an extremely high value, with an average of 91.79% and a score of 4.59, showing that the respondents trusted the integrity of BPOM and the cleanliness of the services through ASROT. However, the aspects of being free from illegal charges/bribery (94.50%) and being able to prevent gratification and increase transparency (93.00%) were dominant, although some of the respondents did not use ASROT confidently on their own (85.50%). Also, the Attitude Toward Use (Y) was still positive with an extremely high value, with an average of 89.87% and a score of 4.49, as shown through the high experiences in direct use (94.00%), satisfaction with the service (90.00%), and use as a habit (89.50%). However, the aspects of satisfaction (85.00%) and comfort (87.50%) still require improvement. Finally, the Intention to Use (Z) component shows that there was a strong positive value with a percentage that was extremely high, with an average of 87.75% and a score of 4.39, particularly through the indicator of continuing use (91.50%). However, being loyal as a user still requires improvement since the aspect of being willing to use the internet-based services through ASROT, even if other alternatives were also available, only reached (83.50%).

4.2 Measurement Model Analysis (Outer Model)

The measurement model was tested for the value of Item Reliability, Composite Reliability, Average Variance Extracted (AVE), and Discriminant Validity, with the first three being the measures for Convergent Validity. Convergent Validity measures how well the indicators can measure the variables, which can be evidenced in three ways: (1) Item Reliability, the indicator validity that requires a value of minimum 0.70 as the ideal level, though a value of minimum 0.50 will still be valid, based on the loading factor value of ≥0.70, (2) Composite Reliability, which requires a value of minimum 0.70 with Cronbach's Alpha and D.G. rho, as a measure of goodness of reliability, and (3) Average Variance Extracted (AVE) that measures the percentage of indicator variance explained by the variables, requiring a

value of minimum 0.50 as a measure of Convergent Validity. It ensures that the measures applied through the indicators of the model can measure the variables together in mutual correlation as required.

Table 2. Measurement Model

Variable	Code	Loading Factor	Composite Reliability	AVE
Perceived Usefulness (X1)	X1.1	0.880	0,928	0,722
	X1.2	0.759		
	X1.3	0.863		
	X1.4	0.871		
	X1.5	0.869		
Perceived Ease of Use (X2)	X2.1	0.742	0,965	0,716
	X2.2	0.752		
	X2.3	0.879		
	X2.4	0.876		
	X2.5	0.917		
	X2.6	0.798		
	X2.7	0.905		
	X2.8	0.807		
	X2.9	0.885		
	X2.10	0.742		
	X2.11	0.759		
Trust of The Government (X3)	X3.1	0.887	0,971	0,738
	X3.2	0.867		
	X3.3	0.934		
	X3.4	0.835		
	X3.5	0.859		
	X3.6	0.839		
	X3.7	0.840		
	X3.8	0.901		
	X3.9	0.773		
	X3.10	0.912		
	X3.11	0.883		
	X3.12	0.766		
Attitude Toward Use (Y)	Y1	0.802	0,931	0,729
	Y2	0.899		
	Y3	0.792		
	Y4	0.852		
	Y5	0.917		
Intention to Use (Z)	Z1	0.785	0,924	0,754
	Z2	0.947		
	Z3	0.900		
	Z4	0.835		

Source: Results processing data by the author (2025)

Taking into consideration the outcome of the outer model of analysis from the PLS, the value of the loading factor for all the indicators in the variables studied exceeded 0.70, which fulfilled the convergent validity requirements and was considered valid in representing their related constructs. The value of the loading factor for the Perceived Usefulness variables (X1) was between 0.759–0.880, Perceived Ease of Use (X2) was between 0.742–0.917, whereas for the Trust of the Government (X3) variables, the value was between 0.766–0.934, explained well as each indicator contributed much to the measure of the variables. Meanwhile, the value of the Attitude Toward Use (Y) indicator was

0.792–0.917, whereas for the Intention to Use (Z) indicator, the value was between 0.785–0.947; all of them were valid and explained well their related dimensions.

From the results of the construct reliability analysis via Composite Reliability (CR), the models display a strong internal consistency, with CR measures of 0.928 (X1), 0.965 (X2), 0.971 (X3), 0.931 (Y), and 0.924 (Z), respectively, which surpass the minimum

requirements of 0.70. Another test that met the convergent validity was the Average Variance Extracted (AVE) test, with AVE measures higher than the required minimum of 0.50, as shown: 0.722 (X1), 0.716 (X2), 0.738 (X3), 0.729 (Y), and 0.754 (Z). These results indicate that the models are robust enough in explaining the variance of their corresponding measures.
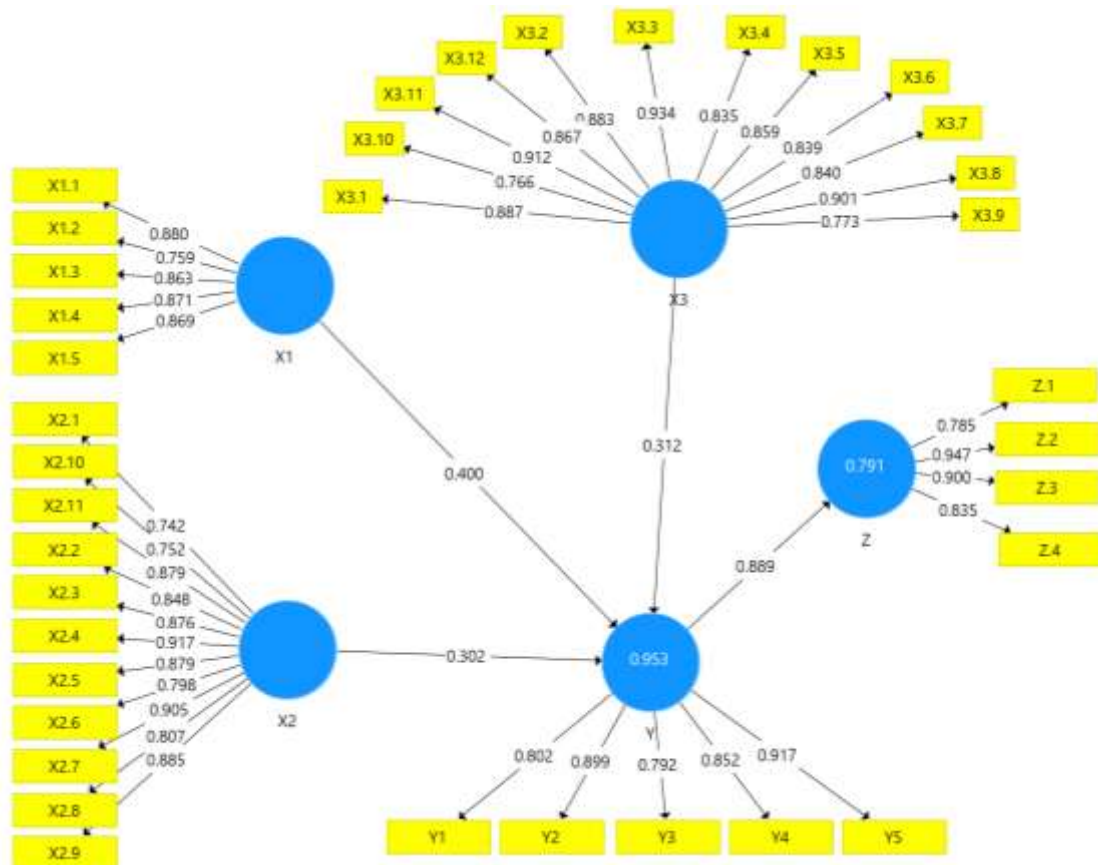

Figure 3. PLS Algorithm
Source: Results processing data by the author (2025)

Analysis of the discriminant validity of the variables through cross-loading analysis and the comparison of AVE with the correlation between variables indicates that every indicator correlates higher with its own variables than with other variables. This verifies that all variables of the proposed measurement model satisfy the conditions of discriminant validity and that they are valid for the PLS method-based reflexive measurements. Cross-loading analysis identified that within

Perceived Usefulness (X1) variables, the highest loading belongs to the X1 variables, with a range of 0.759–0.880, whereas Perceived Ease of Use (X2) variables, with indicator variables of X2.1 through X2.11, presented the highest loading value on X2 with a range of 0.742–0.917. In the Trust of the Government (X3) variables, the highest loading was seen for all variables with a constant value range of 0.773–0.934, while in Attitude Towards Use (Y) variables, the highest loading

presented a value range of 0.802–0.917 on variables Y1 through Y5.

At the same time, the value of the Intention to Use (Z) indicator also displays a similar finding, whereby the loadings of the four indicators (Z1-Z4) on the Z construct range from 0.785 to 0.947. A higher loading was found in Z2, whereas in other constructs, the highest loadings were found in the X1.1, X2.4, X3.3, and Y5 indicators, respectively. However, all of them clearly validated that every indicator correlates better with its original construct than with other constructs. In this regard, the discriminant validity of the measurement model in this study is found to be more than excellent, as this model can be considered suitable for structural analysis in the subsequent stage.

4.3 Structural Model Evaluation

a. GoF Model

Results from the calculations show that the value of the R-Square (R^2) for the Attitude Toward Use (Y) dependent variable is 0.953, which indicates that 95.3% of the variation is explained well by Perceived Usefulness (X1), Perceived Ease of Use (X2), and Trust of the Government (X3) variables, thus being in the very strong group. On the other hand, the Intention to Use (Z) dependent variable shows a value of 0.791, implying that 79.1% of the variation in the use of the services of the Assistance Service for Rapid Response Operation Teams (ASROT) is explained well by the Attitude Toward Use (Y) independent variable, thus being strong. Finally, the value of the predictive relevance (Q^2) of more than 0.990 shows that the model presented in this study explains the situation with a high degree of predictability, as claimed in the Hair et al. (2019) rules. In conclusion, the value of those measures shows that this research model is able to explain and predict the situation with the use of services in PPJAI members.

b. Bootstrapping Testing

The importance of the relationships between the constructs can be identified through the path coefficient. The sign of the path coefficient must be consistent with the proposed theory. To identify the importance of the path coefficient, use the t test, which is derived from the bootstrapping (resampling) procedure. Below are the t-test statistics for the inner and outer models.
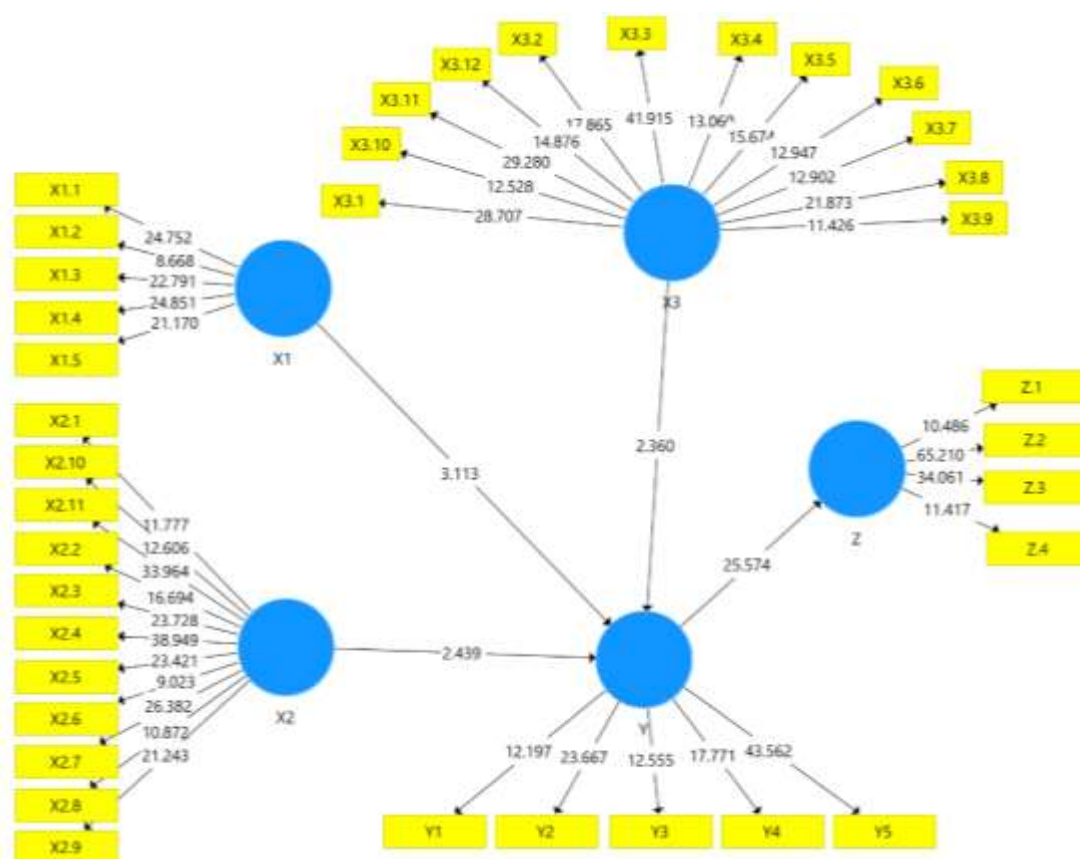
Figure 4. PLS bootstrapping
Source: Results processing data by the author (2025)

The t-test performed is the result of a t-test from bootstrap calculations. The t-test results in the figure above will then be compared with the t-table value or compared between the p-value and the significance level.

Table 3. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perceived Usefulness → Attitude Toward Use	0,400	0,412	0,128	3,113	0,002
Perceived Ease of Use → Attitude Toward Use	0,302	0,298	0,124	2,439	0,015
Trust of the Government → Attitude Toward Use	0,312	0,304	0,132	2,360	0,019
Attitude Toward Use → Intention to Use	0,889	0,893	0,035	25,574	0,000

Source: Results processing data by the author (2025)

Applying path analysis, the outcome shows that all hypotheses in this model testing are accepted because every correlation between variables in this model is greater than the t-statistic value of 1.96 with a value of less than 0.05. Perceived Usefulness (X1) significantly influenced Attitude Toward Use (Y) with a value of 0.400 (p = 0.002), which shows that the more the users perceive the system as being useful, the more positive their attitude will be towards the use of ASROT.

Perceived Ease of Use (X2) significantly influenced Attitude Toward Use with a value of 0.302 (p = 0.015), showing that ease of use of the system will give users a positive attitude. However, Trust of the Government (X3) significantly influenced Attitude Toward Use with a value of 0.312 (p = 0.019), showing that users' trust of the government helps form positive attitudes towards users of ASROT. However, the most dominant factor was found in the relationship of Attitude Toward Use (Y) with Intention to Use (Z), with a value of 0.889 (p = 0.000), showing that users' positive attitudes were the most dominant factor in increasing the users' intention of PPJAI member MSMEs to use the services of ASROT.

4.4 Discussion

From the analysis, the outcome shows that the level of acceptance of the online licensing system of ASROT is high. All variables considered for the model, namely Perceived Usefulness (PU), Perceived Ease of Use (PEU), Trust of The Government (TOG), Attitude Toward Using (ATU), and Intention to Use (ITU), exceeded the percentage of 87% or rated more than 4.3 on a scale of 1–5, categorizing them under the scale of "strongly agree." Among the variables, the highest was that of Trust in the Government (X3) with a rate of 91.79% or a score of 4.59, showing that the public trusts the transparency and integrity of BPOM via the services of ASROT. On the other hand, the lowest was that of Intention to Use (Z) with a rate of 87.75% or a score of 4.39, which, despite being higher, still has room for further improvement, particularly with regard to service attributes and technological support.

With regards to the impact of Perceived Usefulness towards Attitude Towards Use, the finding of this study shows that the respondents perceive that ASROT provides real benefits in terms of ease of licensing traditional medicines.

This is supported by the high value of the PU indicator, as shown in the Perceived Usefulness towards Attitude Towards Use, that ASROT provides facilities that aid in the processing of registration documents until the distribution permits, so that the ease of registration positively impacts the development of businesses, particularly traditional medicines MSMEs. This supports studies that indicate that the implementation of digital governance positively impacts the development of businesses [16]. But the indicator with the lowest value, namely 'ASROT feature requirements as needed,' with a value of 87.50%, shows that there remains hope that the facilities provided through ASROT will better fit the requirements of users, which has been fulfilled as seen through the improvements undertaken periodically in the system by the BPOM.

In the Perceived Ease of Use dimension, the findings from the research confirm that the respondents regard ASROT as being easier to use, more flexible with regard to accessibility anytime and anywhere, as well as more cost-effective with regard to the costs of registration. About the indicator "ASROT is cost-efficient" (91.00%), this finding confirms that the move from the offline system of registration payment of fees to the online system can enhance efficiency about the time spent as well as costs, since the companies do not require their physical presence, as recommended in previous studies about the ease of application, effectiveness, as well as efficiency of online services [4], [8], [9], [15], [19]. However, some other indicators that show relatively low value with regard to system speed as well as system stability, as well as admin response, recommend that there is room for improvement with regard to improvements in technology, as well as improvement in services. This finding corresponds with previous studies that provide recommendations that through improved information as well as service

systems, users will be able to attain a higher PU concerning ease of use, functionality, as well as flexibility [4], [8] that ease of accessibility and use contributes positively to attitudes toward technology. Also, the Trust of the Government factor was established as effective in influencing Attitude Toward Use, as evidenced by the high value of the indices associated with the absence of illegal fees, the absence of bribery, the prevention of gratuities, and transparency and efficiency in the workings of ASROT.

This indicates that the public considers ASROT as a clean, transparent, and corruption-free system, as required of a competent, trustworthy, highly ethical, low-corruption, and accountable institution [11], [20]. High levels of trust in the competence, fair and professional services, and security of their firm's data of BPOM enhance the conclusions reached by Li [24], Jermsittiparsert et al. [12], and Nguyen et al. [14] that public trust in the competence of the governmental institution encourages the public to submit to the processes of e-government services. However, the fact that some participants still do not display sufficient reliance on the use of the system autonomously shows the necessity of providing constant support, particularly for new employees or persons who have experienced changes in their job positions.

Finally, for Influence of Attitude Toward Use on Intention to Use, the outcome shows that positive attitudes toward use play a dominant role in determining the intention to further use the ASROT system. A high value for ITU represents that many respondents strongly exhibit their intentions to further use the ASROT system through their intentions to continue with its use, use it despite the availability of alternative systems, increase its usage, and recommend the system for other businesses. Nevertheless, many indicators of the intention appear as 'high but not yet optimal,' which thus suggest

that more improvement in system quality, ease of use, as well as further positive experiences within the registration process, as indicated in system attitude, would allow further augmentation of user loyalty. Therefore, through the above results, this confirmatory study verifies that together, joint perceptions of benefits, ease of use, as well as governmental trust interactively impact positively toward system attitudes that further push the intention to use the online license service within PPJAI member MSME.

5. CONCLUSION

From the analysis and discussion, it may be concluded that perceived usefulness significantly influences attitudes toward the use of ASROT, such that the more positive perceptions of benefits, the more positive attitudes toward the system. Perceived ease of use significantly affects attitudes toward use, such that the easier the system is, the more positive users' attitudes toward the service. Moreover, the level of trust in the government significantly affects attitudes toward the use of ASROT, implying that the higher the respondents' level of trust in the BPOM as a system administrator, the more positive their attitudes toward the use of the system. Finally, attitude toward use was found to significantly impact the intention to continue the use of ASROT, such that a positive attitude toward the system is a dominant factor that encourages its continuous use by the business actors.

Practical, theoretical, as well as proposals for further studies, that can be shared, are that the improvement of the ASROT facilities of BPOM must be carried out continually in such a way as to better meet users' requirements. In addition, there must be improvement in the quality of information as well as services provided, such as better services via FAQ facilities as well as more responsive admin contacts. Socialization, as well as assistance, in the use of the system within the ASROT must also be carried out, particularly within companies that use traditional medication, with the aim of

upgrading the literacy as well as capabilities of system users. In terms of scientific progression, further studies may be proposed that focus on, for example, variables of user satisfaction through the use of a more qualitative method, such as interviews, which will provide further insights regarding difficulties in system implementation. An increase in the coverage of samples studied can also be considered so that the outcome will be more inclusive.

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