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Mix method analysis for analyzing user behavior on logistic company mobile pocket software

Satria Fadil Persada[1*], Farid Afandi[2], Anak Agung Ngurah Perwira Redi[3], Reny Nadlifatin[4], Yogi Tri Prasetyo[5], Adji Candra Kurniawan[6]

[1] Department of Entrepreneurship, Bina Nusantara University, Araya Mansion 8-22, Malang 65154, Indonesia

[2] Department of Technology Management, Institut Teknologi Sepuluh Nopember, Cokroaminoto 12A, Surabaya 60111, Indonesia

[3] Department of Industrial Engineering, Sampoerna University, Jl. Raya Pasar Minggu No.Kav. 16, Jakarta 12780, Indonesia

[4] Department of Information System, Institut Teknologi Sepuluh Nopember, Jl. Raya Sukolilo, Surabaya 60111, Indonesia

[5] Department of Industrial Engineering and Engineering Management, Yuan Ze University, 135 Yuan-Tung Road, Chung-Li 32003, Taiwan

[6] Department of Logistics Engineering, Universitas Pertamina, Jl. Teuku Nyak Arief, RT.7/RW.8, Simprug, Jakarta 12220, Indonesia

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A B S T R A C T

The present study emphasizes mixed-method analysis, integrating the partial least square structural equation model (PLS-SEM) and customer journey for mobile pocket office improvement in logistic XYZ company. The extension of the unified theory of acceptance and use of technology (UTAUT 2) model by incorporating perceived risk (PR), personal innovativeness (PI), and trust (TR) variables are used. The sample for this study consisted of 243 respondents. Based on the results of the PLS-SEM analysis, two of the eleven tested hypotheses were determined to be rejected. In application usage, the proposed model effectively explained 85.7 per cent of the influence on behavioral intention (BI) and 72.1 per cent on use behavior (UB). The customer journey mapping (CJM) investigation's findings show that fluctuations in the use of mobile pocket office technology in the field are generally brought on by a lot of data entry, sluggish internet connections, and overworked field operations. The XYZ company may acquire suggestions and knowledge for developing further applications due to this inquiry.

*Corresponding Author

Satria Fadil Persada
E-mail: satria.fadil@binus.ac.id

1. INTRODUCTION

Communication technology and innovation are important for proactive management in driving economic growth [1]. It has an impact on business competition between companies becoming increasingly stringent. Companies must continue to innovate in technology to improve the quality of their services so as not to be left behind by other business competitors.

In the process, there are traditional business processes that are left behind. In contrast, new business processes will emerge, such as the emergence of mobile digital business platforms based on smartphones and tablet PCs, e-commerce, big data, business analysis, cloud-based computing systems and mobile pocket offices utilized in management to achieve company goals in accordance with its business. Technological innovations supporting the digital-based smartphone business are recognized as effective and efficient in improving service quality and customer satisfaction [2].

XYZ company is a shipping and logistics

company. The company uses web-based information technology in all divisions to carry out daily business processes. However, in the operational division, especially ship operations and yard operations, it is difficult for those working in the field to carry out their work due to the difficulty of getting a signal for internet access and using web-based applications, which are less flexible. The user manually enters container data on paper to complete his job on ship loading and unloading activities, whilst data in the field is in the form of bay design and haulage data. After completing the loading and unloading activities, the user can return to the office, process data input, and upload it to the computer. The situation, of course, makes data containers to be not in real-time.

To increase effectiveness and efficiency in its business processes in mid-2019, XYZ company innovates to develop and launch a mobile pocket office application aimed at ship loading and unloading activities with a pilot project for loading and unloading activities in the city of Surabaya, the head office of XYZ company. The mobile application began to be implemented in all branches in early 2020, and the features of the application also began to be developed for stripping and stuffing containers aimed at the operational yard division. With this mobile application, users do not need to do manual input but can directly input data on the smartphone tablet provided by the company. The first time the mobile application is launched, load activities are required to be carried out. Loading activities in this application are carried out semi-online. The activity is done because a lousy signal often constrains the port. The use of the application in ship loading activities is divided into three parts, namely first, the user must download the data container which will be loaded on the destination ship. In downloading this data, the application must be connected to the internet.

The second process is that the user arrives in the field and inputs data. In this process, the application does not use an internet connection because the data input activities are stored in the local database from the smartphone tablet. The last step is uploading data; if there is a signal in the area, the user can complete this step, and the server will instantly get the data. The last step is uploading data; if there is a signal in the area, the user can complete this step, and the server will instantly get the data. After the ship loading and unloading, activities have been successfully implemented in Surabaya. Then later, in early 2020, this application will be gradually implemented in all branches. Subsequent progress of this mobile application was continued with the addition of container stuffing and stripping activities launched and implemented in August 2020. Unlike ship loading and unloading activities, stuffing and stripping activities use a fully online system without storing data on the mobile application first. The situation is done because the activity is carried out at the depot by a yard operation, a place for stacking containers. This condition is considered a need for continuous improvement.

The analysis must examine the elements that lead users to embrace and utilize modern technologies, particularly this mobile application. The current study aims to examine the factors that affect user interest in and adoption of the mobile pocket office application. Specifically, the famous UTAUT 2 model will be extended [3]. The research combines quantitative analysis with qualitative customer journey mapping (CJM). The research can reveal the insight to help the company better develop the strategy resulting from this research so that it can be input to the company as a reference for further application development.

The gap in this study is the contribution of the mix of quantitative and qualitative methodologies to the logistics industry. Previous studies measure the performance of web applications by quantitative approaches [4]–[6] or qualitative approaches [7]–[9]. Few research studies combined quantitative and qualitative approaches, especially structural equation modelling and customer journey mapping in the logistic area. This research will integrate the analysis methods to understand the situation better and solve the case.

2. RESEARCH METHODS

PLS-SEM is a multivariate statistical analysis that can measure multiple independent and dependent variables simultaneously to check the influence effect from one dimension/factor to others. PLS-SEM is used in much behavioral research that uses behavioral models such as the theory of planned behavior, the technology acceptance model (TAM), UTAUT, and many others.

The UTAUT 2 model, which served as the foundation for technological adoption, is employed. The analysis is conducted because other studies regard the UTAUT 2 concept model as the best, most effective, and heavily used in the business to promote cutting-edge technology

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adoption [10], [11]. Additionally, the UTAUT 2 model employed in this study has seven primary dimensions: habits, pricing values, enabling situations, hedonic motivation, performance expectations, effort expenditure, and social impact [3]. The researcher applies moderator constructs like age, education, and experience in applying the construct, which impacts behavioral intention and use behavior. This study added the construct variables trust, personal inventiveness, and perceived risk to the UTAUT 2 model.

Table 1. Hypotheses research

Hypotheses	Description
H1	Performance expectancy has a significant relationship with behavioral intention.
H2	Effort expectancy has a significant relationship with behavioral intention.
H3	Social Influence has a significant relationship with behavioral intention.
H4	Hedonic motivation has a significant relationship with behavioral intention.
H5	Price value has a significant relationship with behavioral intention.
H6	Habit has a significant relationship with use behavior.
H7	Facilitating condition has a significant relationship with use behavior.
H8	Perceived risk has a significant relationship with behavioral intention.
H9	Trust has a significant relationship with behavioral intention.
H10	Personal Innovativeness has a significant relationship with behavioral intention.
H11	Behavioral intention has a significant relationship with the use of behavior.

The proposed hypotheses were tested in this study through planned research. The PLS-SEM approach was also used to examine the hypotheses test. The primary hypotheses is to adopt the UTAUT 2 model, proposed previously in research [3]. According to their study, user intentions to utilize technology are highly influenced by performance expectations, effort expectations, social impact, hedonic incentives, and price value. Meanwhile, the acceptance of technology use is highly influenced by habit and supportive circumstances. The primary hypotheses also adopts previous researchers' conclusions, previously done [12]. The study concluded that the user's perceived risk significantly impacts how they utilize technology, followed by expectations for performance, effort, hedonic incentive, and price. There is also supporting evidence regarding personal Innovativeness, which states that innovation significantly influences the intention to use technology [13], [14]. Likewise, there is evidence that the trust constructs significantly influence acceptance and intention to use technology, especially Internet banking [15]. Table 1 describes the proposed hypotheses, and Fig.1 illustrates the hypotheses model.

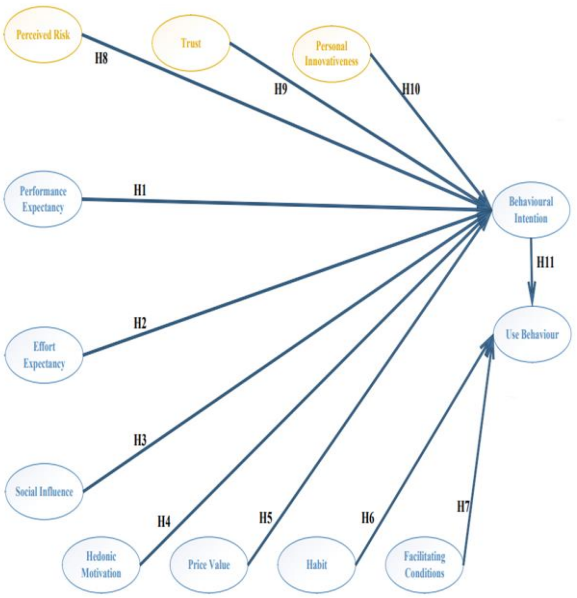

Fig. 1. Hypotheses model

Customer journey mapping is the second analysis tool. The process customers go through when interacting, particularly in the context of this research, with technological applications or features offered by corporate organizations is called the "customer journey" [16]. The customer's process includes all stages and contact points where consumers interact with products (touchpoints) that shape the customer experience. Customer journeys are essential for a company to understand consumers' mindset in their transactions journey. The reason is that technological changes have made it possible for buyers to go

through various contact points such as online, offline media, channel channels and various devices when purchasing.

The importance of customer experience results from a complicated customer journey in making purchases or using products and services. Customer experience is a response from a person's sensory, affective, cognitive, relational and behavioral responses to a company or brand while travelling through touchpoints throughout the buying process, both pre-purchasing when buying and post-buying [17]. Companies must be able to update the customer experience (customer experience) continuously. The approach is made to maintain customer loyalty long-term.

The customer journey mapping template can be used to implement customer journey to business. CJM is a visual form of the customer journey that is used to map, using graphics and diagrams, the way a user or customer interacts with a service, especially in the context of this research, is an application. Customer Journey has now been used not only in the marketing sector but also in other general sectors. It aims to improve the quality of service in these sectors [18]. To record and comprehend the numerous phases or stages of a journey that someone might take, CJM is used. While many of these actions might not seem important to the person doing them, taking a deeper look could assist service providers and policymakers in improving customer experience. Loyalty and acceptability of a product, goods, and services will be impacted by improved customer experience.

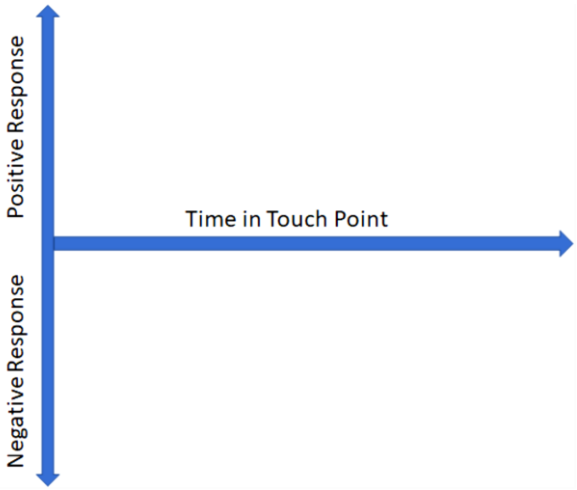

Fig. 2. CJM flow

CJM was made to collect data from users or consumers, then convert it into a visual form so that it is easy to understand, and from this mapping, the results of field facts show how the customer experience is in the process of using or buying. This data can be obtained using surveys, direct interviews or research on social media. One of the important points in carrying out the customer journey approach is determining the touchpoints (points of contact) where consumers interact with brands or products. Fig.2 illustrates the flow of CJM.

2.1. Quantitative data collection

Quantitative data collection techniques are done by distributing questionnaires online to XYZ's mobile pocket office application users. XYZ uses Google form media. The multiple-choice approach with a 5-point Likert scale was used to distribute the survey. The dissemination method is done by sharing the Google form questionnaire link, sent via the WhatsApp group and company email. Researchers get help from the company to distribute official questionnaire links so that it is mandatory for every user to fill it out. The distribution of this questionnaire was carried out on 19 November - 05 December 2020. All users of the mobile pocket office in the operational division of XYZ company across the headquarters and branches in Indonesia make up the population for this study.

In this operational sector, there are about 250 users who use the mobile pocket office program as a whole. The 250 users are employees at different levels who use the mobile office application directly. With a population that is not large, the researcher will involve all of the population as part of the sample in this study to obtain accurate information data. The number of adequate samples for PLS analysis is around 30-100 [19]. Therefore, this number is sufficient to conduct further research trials. The detail of the definition of operational variables is presented in Table 2.

2.2. Qualitative Data Collection

Qualitative data collection techniques used group discussion forums (FGD) and personal interviews with several central and branch users. The contents of the respondent's data will be mapped based on the customer journey mapping (CJM) template, which is then analyzed descriptively. This data collection was carried out on 15 November – 08 December 2020.

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Table 2. Definition of operational variables

Indicator	Operational	Source
PE1	Usage	Venkatesh
PE2	Improve opportunity	*et al.* [3]
PE3	Faster settlement	
PE4	Increase productivity	
EE1	Easy to understand	Venkatesh
EE2	Easy to use	et al. [3]
EE3	Easy learning feature	
EE4	Easy to expert	
SI1	User around	Venkatesh
SI2	Surrounding perception	*et al.* [3]
SI3	Surrounding influence	
FC1	Resource availability	Venkatesh *et al.* [3]
FC2	Knowledge own	
FC3	Compatibility	
FC4	Help	
HM1	Fun usage	Venkatesh
HM2	Needs	*et al.* [3]
HM3	Availability to invest/pay	
PV1	Price	Venkatesh
PV2	Benefits	*et al.* [3]
HB1	Natural	Venkatesh
HB2	Habit	*et al.* [3]
HB3	A must	
HB4	Addiction	
TR1	Importance use	Venkatesh
TR2	Job requirement	*et al.* [3]
TR3	Can be trusted	
TR4	Secure in work	
PR1	Uncertainty	Featherman
PR2	Not understandable	and Pavlou
PR3	Diverse	[20]
PR4	Unclear	
PI1	Passion to experiment	Farooq *et*
PI2	Availability to experiment	*al.* [14]
PI3	Frequency to experiment	
BI1	Intent to use in future	Venkatesh *et al.* [3]
BI2	Intent to use in daily	
BI3	Intent to use frequently	
UB1	Intensity to use	Venkatesh
UB2	Frequency to use	*et al.* [3]
UB3	Activity to use	

3. RESULTS AND DISCUSSION

3.1. Quantitative Analysis

Surveys were conducted among employees who used the Mobile Pocket Office program, particularly those in the operational division of XYZ company, to collect quantitative data for this study. A pre-test using Google Forms was conducted before the questionnaires were given to administrators and supervisors familiar with the mobile pocket office application. It was done to gather ideas and feedback so that, when given to employees, the questionnaire questions may be regarded as sound and clear. The survey data for 30 mobile pocket office users were then tested using SmartPLS to see if it was valid and reliable. The data is valid if the loading factor is higher than 0.70. Once the pilot test results are deemed valid and reliable, the final questionnaire is disseminated through the online service survey form offered by the company. It ensures that the survey is distributed professionally and that employees take it seriously. The period from November 19 to December 5, 2020, was used to collect survey data. A total of 243 respondents made up the survey data. It represents around 250 users, or 97.2% of the mobile pocket office users.

Based on the variables of age, most recent schooling, and work experience, a demographic analysis of the respondents was conducted to ascertain the broad characteristics of the respondents' profile. It is done to examine how the moderator variable affects how people use technology. In this study, descriptive analysis was done using information from indicators for each latent variable, specifically total, mean, standard deviation, skewness, and kurtosis. Table 3 displays the findings of this investigation. The data's findings are based on responses from 243 survey participants.

Two stages—convergent validity and discriminant validity—were used to test the measurement model's validity. Factor loading and Average Variance Extracted values can be used to gauge convergent validity (AVE). Table 4 displays this test.

The outcome of the outer model test's convergent validity analysis is shown in Table 4. The AVE value of each indicator is more significant than 0.50 according to the table test and numerous SEM studies [21]–[26]. However, as numerous research investigations reveal, the FC1 and PR2 indicators are below 0.70 in one of the validity tests, the loading factor (outer loading)

[27]–[32]. As a result, even though the value of the AVE has been met, the two indicators do not satisfy the validity test requirements. Therefore, the two indications must be eliminated first, then their validity must be retested before performing the following test.

Table 3. Descriptive result

Indicator	Sum	Mean	Stdev	Skewness	Kurtosis
PE1	970	3.992	0.786	0.699	-0.805
PE2	949	3.905	0.808	0.790	-0.813
PE3	956	3.934	0.814	0.839	-0.846
PE4	933	3.840	0.793	0.891	-0.851
EE1	994	4.091	0.588	2.841	-0.754
EE2	963	3.963	0.618	2.522	-0.927
EE3	985	4.053	0.582	1.898	-0.509
EE4	945	3.889	0.720	1.272	-0.895
SI1	916	3.770	0.773	0.386	-0.706
SI2	938	3.860	0.746	1.141	-0.784
SI3	983	4.045	0.692	1.961	-0.959
FC1	894	3.679	0.932	0.743	-1.007
FC2	952	3.918	0.668	1.783	-0.905
FC3	925	3.807	0.811	2.646	-1.353
FC4	961	3.955	0.656	2.307	-1.010
HM1	907	3.733	0.860	1.160	-0.979
HM2	917	3.774	0.867	1.601	-1.146
HM3	927	3.815	0.808	1.242	-1.015
PV1	938	3.860	0.757	0.433	-0.619
PV2	910	3.745	0.776	1.138	-0.906
HB1	916	3.770	0.794	1.205	-1.003
HB2	867	3.568	0.883	0.141	-0.658
HB3	906	3.728	0.846	0.860	-0.965
HB4	903	3.716	0.805	1.142	-0.964
TR1	934	3.844	0.754	2.095	-1.009
TR2	959	3.947	0.715	1.024	-0.736
TR3	958	3.942	0.689	1.297	-0.762
TR4	954	3.926	0.699	1.213	-0.771
PR1	663	2.728	0.977	-0.673	0.275
PR2	513	2.111	0.851	1.224	0.994
PR3	763	3.140	1.009	-0.777	-0.333
PR4	729	3.000	1.018	-1.022	-0.188
PI1	949	3.905	0.687	3.132	-1.175
PI2	916	3.770	0.762	0.897	-0.819
PI3	995	4.095	0.555	2.699	-0.544
BI1	958	3.942	0.735	1.152	-0.848
BI2	953	3.922	0.747	1.860	-1.065
BI3	937	3.856	0.714	1.844	-1.008
UB1	875	3.601	0.982	0.127	-0.730
UB2	912	3.753	0.804	1.312	-1.002
UB3	952	3.918	0.760	1.441	-0.936

This study conducted the reliability test by evaluating each construct's Cronbach's alpha and composite reliability. Many research studies have found that the tested model is reliable if these values are over 0.70 [33]–[39]. Table 5 displays the reliability test results on the measurement model's findings. It is possible to state that all of the indicator data passed a reliable test because Cronbach's alpha and composite reliability scores for each variable are both greater than or equal to 70, according to the table test. The researcher will move on to a structural test after the measurement model passes the reliability test (inner model). Based on previous studies, the Cornell-Larcker Criterion is used for discriminant validity test; when the cross value is relatively more significant than the AVE, there is no problem with discriminant data [40]. Table 6 and Table 7 show the result of the Fornell-Larcker criterion.

Table 4. Convergent validity

Indicator	Loading	AVE	Note
BI1	0.925	0.866	Valid
BI2	0.939		Valid
BI3	0.928		Valid
EE1	0.838	0.744	Valid
EE2	0.875		Valid
EE3	0.863		Valid
EE4	0.874		Valid
FC1	0.260	0.589	Not Valid
FC2	0.894		Valid
FC3	0.838		Valid
FC4	0.887		Valid
HB1	0.908	0.841	Valid
HB2	0.903		Valid
HB3	0.929		Valid
HB4	0.926		Valid
HM1	0.904	0.815	Valid
HM2	0.916		Valid
HM3	0.888		Valid
PE1	0.909	0.838	Valid
PE2	0.927		Valid
PE3	0.928		Valid
PE4	0.897		Valid
PR1	0.813	0.616	Valid
PR2	0.376		Not Valid
PR3	0.926		Valid
PR4	0.898		Valid
PV1	0.898	0.823	Valid
PV2	0.917		Valid
SI1	0.873	0.785	Valid
SI2	0.911		Valid
SI3	0.874		Valid
TR1	0.898	0.807	Valid
TR2	0.854		Valid
TR3	0.914		Valid
TR4	0.927		Valid
UB1	0.880	0.768	Valid
UB2	0.898		Valid
UB3	0.849		Valid
PI1	0.888	0.715	Valid
PI2	0.884		Valid
PI3	0.759		Valid

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Table 5. Reliability result

Latent	Cronbach's	CR	Note
Behaviour Intention	0.923	0.951	Pass
Effort Expectancy	0.886	0.921	Pass
Facilitating Conditions	0.850	0.909	Pass
Habit	0.937	0.955	Pass
Hedonic Motivation	0.886	0.930	Pass
Perceived Risk	0.857	0.912	Pass
Performance Expectancy	0.936	0.954	Pass
Price Value	0.786	0.903	Pass
Social Influence	0.863	0.916	Pass
Trust	0.920	0.944	Pass
Use Behavior	0.848	0.908	Pass
Personal Innovativeness	0.803	0.882	Pass

Table 6. Fornell-larcker criterion-1 for discriminant validity

	CR	AVE	BI	EE	FC	HB	HM	PE
BI	0.951	0.866	**0.931**					
EE	0.921	0.744	0.683	**0.863**				
FC	0.909	0.589	0.809	0.773	**0.767**			
HB	0.955	0.841	0.852	0.659	0.739	**0.917**		
HM	0.93	0.815	0.872	0.646	0.796	0.868	**0.903**	
PE	0.954	0.838	0.836	0.71	0.773	0.818	0.831	**0.916**
PI	0.882	0.715	0.691	0.524	0.639	0.633	0.658	0.55
PR	0.912	0.616	0.256	0.211	0.188	0.218	0.224	0.33
PV	0.903	0.823	0.808	0.584	0.756	0.773	0.774	0.743
SI	0.916	0.785	0.833	0.7	0.796	0.784	0.812	0.833
TR	0.944	0.807	0.829	0.694	0.817	0.792	0.786	0.771
WEB	0.908	0.768	0.804	0.697	0.773	0.795	0.781	0.739

Table 7. Fornell-larcker criterion-2 for discriminant validity

	CR	AVE	PI	PR	PV	SI	TR	UB
BI	0.951	0.866						
EE	0.921	0.744						
FC	0.909	0.589						
HB	0.955	0.841						
HM	0.93	0.815						
PE	0.954	0.838						
PI	0.882	0.715	**0.846**					
PR	0.912	0.616	0.109	**0.785**				
PV	0.903	0.823	0.619	0.221	**0.907**			
SI	0.916	0.785	0.588	0.239	0.720	**0.886**		
TR	0.944	0.807	0.671	0.276	0.757	0.766	**0.899**	
UB	0.908	0.768	0.624	0.279	0.736	0.755	0.806	**0.876**

The R-square value based on the equation is determined as the initial step in testing the inner model (2.14). This number determines the model's independent variable's ability to predict the dependent variable.

According to PLS-SEM, the dependent variable Behavior Intention (BI) has an R-Square test value of 0.857. it demonstrates that 85.7 per cent of the research model can account for behavior intention, with the remaining 14.3 per cent being explained by factors not included in the study. The dependent variable, Use Behavior (BI), has an R-square test score of 0.721. It demonstrates that 72.1% of the research model can account for Use Behavior, with the remaining 27.9% being explained by factors other than the one under study. It explains why the independent variables SI, SIN, HM, PV, TR, and PR account for a significant 85.7 percent variance affecting the dependent variable BI. The variance impacting the UB dependent variable is significantly explained by FC, HB, and BI, accounting for 72.1%.

The next step is to test the hypotheses using the statistical values and p-values (Table 8) in light of the path coefficient testing that has been completed. This test is used to ascertain whether or not the predetermined hypotheses is true. Table 8 displays the findings of the study's test of the hypotheses.

Table 8. Hypotheses result

Hypotheses	Statement	Path	T	P	Note
H1	Performance Expectancy -> Behavior Intention	0.149	2.095	0.036	Accept
H2	Effort Expectancy -> Behavior Intention	0.019	0.430	0.667	Reject
H3	Social Influence -> Behavior Intention	0.165	2.290	0.022	Accept
H4	Hedonic Motivation -> Behavior Intention	0.275	3.038	0.002	Accept
H5	Price Value -> Behavior Intention	0.163	3.015	0.003	Accept
H6	Habit -> Use Behavior	0.355	4.377	0.000	Accept
H7	Facilitating Conditions -> Use Behavior	0.304	4.218	0.000	Accept
H8	Perceived risk -> Behavior Intention	0.010	0.437	0.662	Reject
H9	Trust -> Behavio Intention	0.155	2.779	0.006	Accept
H10	Personal Innovativeness -> Behavior Intention	0.115	2.893	0.004	Accept
H11	Behavior Intention -> Use Behavior	0.254	2.563	0.010	Accept

3.2. Qualitative analysis

Response surveys, in-person and online interviews, and group discussion forums (FGD) with practitioners were all used to gather qualitative data for this study. Total descriptive data collection with interviews is conducted on 5 people from the ship's division from the center of Surabaya. Each ship's person was interviewed with a duration of +- 30 minutes. The results of the interviews are stored in the form of audio recordings. Meanwhile, group discussion forums (FGD) were conducted with the Pontianak and Batam branches, each attended by 3-4 users and the branches. FGD is conducted online with Google Meet with a forum duration of 60 minutes. The results of online forums are stored as meeting minutes and video recordings. This qualitative data is addressed to loading and unloading activities. This data collection technique uses customer journey mapping based on 4 stages: user expectancy & feel, user activity, pain/emotional and potential improvement.

The stage of actor identification is carried out to find out who the targets or objects of this research are. Pocket office mobile application for the operational division consists of the depot and port activities. In this study, the focus will be on port activities, namely the loading and unloading process. Users who use the application for loading and unloading ships are the ships (ship operational) division. From this, the actors chosen by the researchers to carry out the interview and discussion process were the foreman, supervisors and the branch operational team from ships (Table 9).

Table 9. Informant profile

Name	Division	Method	Branch
Informant 1	Assistant Supervisor	Interview	Surabaya
Informant 2	Foreman	Forum Group Discussion	Surabaya
Informant 3	Foreman	Forum Group Discussion	Surabaya
Informant 4	Foreman	Forum Group Discussion	Surabaya
Informant 5	Supervisor	Interview	Surabaya
Informant 6-10	Branch head and operational team	Forum Group Discussion	Batam
Informants 11-14	Branch head and operational team	Forum Group Discussion	Pontianak

In this step, information is processed as descriptive data gathered from informants about the user's journey while utilizing the application, particularly loading and unloading operations performed in the field. The template used to process information is the customer journey mapping template which consists of user expectancy and feel, user activity, pain/emotions and potential improvement. While the touchpoints of each stage of loading and unloading activities are application login, main menu, loading and unloading menu, data download, data input, and synchronize data.

The data collection process for informants was carried out based on the experience they felt when using the application from the beginning to the end of use. So, the next step is to map the interview summary data based on the customer journey mapping (CJM) template.

This stage is to process mapping into a CJM template based on the summary customer journey data and coding survey responses. This CJM represents the overall steps of the user's journey when using the application. CJM also helps companies gain broader insights regarding activities, achievements, and goals from using mobile pocket office applications (Fig. 3). Several insights are generated from several touchpoints that can be used as input for improvement.

3.3. Discussion

The present study can analyze the user behavior on logistic company mobile pocket software using quantitative structural equation modelling. The study is also able to see the qualitative perspective throughout the usage. Hence, the present study provides the advantage of seeing user behavior from a broader perspective rather than a single point of quantitative or qualitative. Although the disadvantages are research effort and resources, the results must be shown to other academicians and similar industries to understand user behavior better and take the necessary improvement actions.

This study can answer the research objectives of measuring user behavior on logistic company mobile pocket software. Future research is to enrich the analysis using different methodologies, which can contribute to different perspectives in understanding user behavior better. The managerial implications are projected in Table 10 based on the results.

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Table 10. Managerial Implications

Analysis	Findings	Implications
Performance Expectancy has a significant positive effect on Behavioral Intention.	SEM PLS	Improving the performance of mobile pocket office applications, such as performing query efficiency so that data downloads become faster
Social Influence has a significant positive effect on Behavioral Intention	SEM PLS	Companies must always provide motivation and training to their employees so that the application can be carried out thoroughly and completely.
Hedonic Motivation has a significant positive effect on Behavioral Intention.	SEM PLS	Companies must prepare gadgets, especially for pocket office mobile application users who will work in the field, to motivate them to work even harder.
Price Value has a significant positive effect on Behavioral Intention	SEM PLS	Adding other features to the mobile pocket office application to support the overall operational activities
Habit has a significant positive effect on Use Behavior	SEM PLS	Companies must remain consistent to maintain quality and consistently improve the performance of applications. So that the user will always use the application at work
Facilitating Conditions has a significant positive effect on Use Behavior	SEM PLS	Companies must provide internet quota to mobile pocket office application employees.
Trust has a significant positive effect on Behavioral Intention	SEM PLS	They added a loading and unloading history feature. It is used so that users can continually monitor how many containers they have processed in the field. So that confidence in application performance is always maintained.
Personal Innovativeness has a significant positive effect on Behavioral Intention.	SEM PLS	Implement weekly discussions with field foreman regarding what they face while working. It is a form of management concern for field users, as input to management, which needs improvement.
Behavioral Intention has a significant effect on Use Behavior	SEM PLS	They are adding performance KPIs related to app usage. So this can increase their motivation to work using the mobile pocket office application.
Writing text that is too small makes the user enter the wrong data	CJM	Applying auto layout so that the text can adjust to the screen size of the gadget
Many jobs are in the field, especially when more than one ship is docked while personnel are limited.	CJM	Additional personnel or outsourcing based on the density of terminals in the field.
Unfavorable weather conditions hampered inputting data through gadgets	CJM	Provision of waterproof casing on each gadget when it is brought in spaciousness
Too much data input makes the process take a long time, while the truck must continue to run if it has received a container travel document.	CJM	Implementing a host-to-host system in collaboration with terminal parties to exchange loading and unloading data so that the user input process is reduced
The discharge container location selection takes a long time because it has to scroll down many data.	CJM	Added search layout feature to location selection
Signals that are often down in the field make users unable to upload	CJM	Providing signal boosters and cooperating with communication network providers so that lost signals can be repaired immediately, especially at loading and unloading terminals
The user must return to the office to check whether the work in the field has been carried out correctly.	CJM	Added the unloading and container loading history feature on the gadget so that users can immediately check in the field without having to return to the office

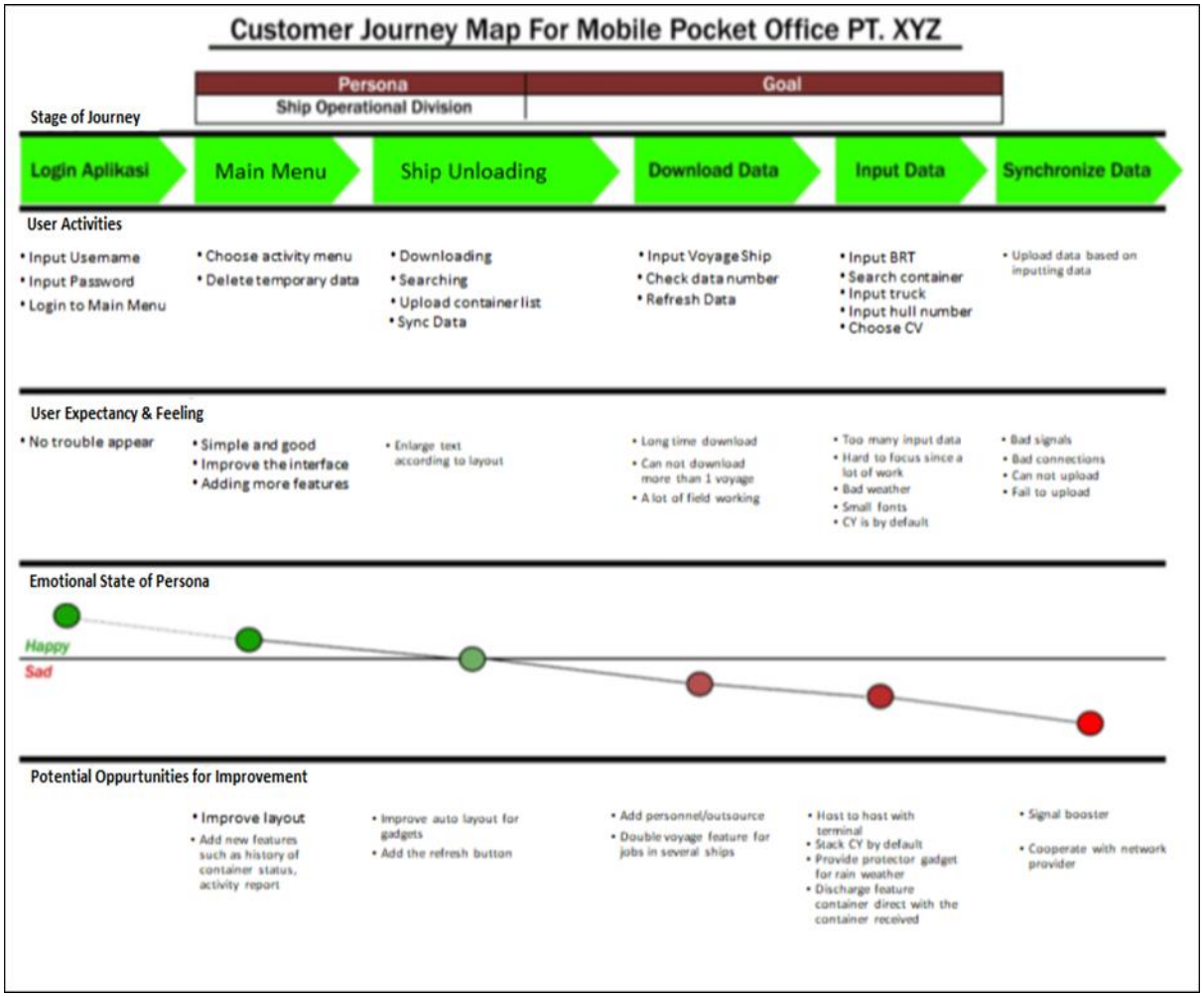

Fig. 3. CJM analysis

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4. CONCLUSION

Based on the explanation of the analysis that has been carried out, suggestions that can be used for further research are in this study using a technology acceptance model using the UTAUT 2 development, which is carried out by adding the constructs of perceived risk, personal Innovativeness, and trust, with the analysis model being PLS-SEM. This model manages to explain 85.7%, so there is still room for further development by adding other constructs that significantly affect technology acceptance, especially new technologies or technologies that are still in the development stage.

The results of a qualitative analysis using customer journey mapping provide quite surprising results regarding the reasons for fluctuations in application usage. The main point is that field users have a lot of work other than using the application, so the focus cannot be on only one side. It is reinforced by the large amount of data input that must be carried out by the user for loading and unloading activities so that the user is not able to keep up with the fast flow of loading and unloading activities because this will have an impact on congestion that occurs in the field. A bad signal is also the reason for an inability to upload data quickly. This emotional accumulation is the main reason users still switch to old technology, namely web-based, even though this impacts status changes and data that is not real-time.

Future researchers can also use other models, such as the TAM acceptance model or robust analyses with a broader target audience. The qualitative recommendation is related to the design thinking approach in solving the potential improvement in the following prototyping process.

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