

Perceived Usefulness, Perceived Easy of Use and Actual Usage of Online Payment and Transaction Data Reconciliation Process

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ABSTRACT

The research objective is to analyze the influence of perceived usefulness (PU) and perceived ease of use (POEU) on the actual usage (AU) of online multi-platform payments on e-commerce and digital data transaction reconciliation processes. Respondents are business actors who have used e-commerce and fulfilled export legality. Quantitative research methods and analysis using partial least square through a simple model with reflective indicators. The results show that the stronger influence on the reconciliation process is PU followed by POEU and AU as moderation variable, and positive statements on the simplicity, completeness, and accuracy of the data, cost efficiency, and processing time of the digital receipt provided by financial services shows the benefits felt by the user. Manual processing in recording, reconciling, and reporting are still obstacles and gaps for MSEs on automatic accounting processing.

Keywords: E-commerce, Digital data transaction, Online multi-platform payments, Reconciliation processes.

1. INTRODUCTION

The online sales model in e-commerce with collaborative consumption (CC) is part of a collaborative economy (CE) involving many parties as actors and providers [1], including payment methods and delivery systems. Business models in e-commerce have phenomena in blockchain technology and collaborative economy [2] that impact collaboration connectivity between business actors such as multiplying peer-to-peer, peer-to-organization, and organization-to-peer exchanges [1]. Electronic Payment System (EPS) with data sharing is generally used through the application programming interface (API) by banks or fintech companies [3] and has been widely provided in line with e-commerce services [4], [5], [6].

Indonesia has experienced e-commerce usage with 49% annual growth and predicted in 2025 will have a transaction value of 130-150 billion USD and will be an integral part of the global digital business supply chain [7]. The use of mobile payment in Indonesia with 47% users ranked 5th in Vietnam, and Middle East indicate

that mobile payment system in Indonesia has emerged as a popular method to facilitate their transactions [8], as happened in Malaysia [9] and India [10]. Every transaction from various payment providers is usually completed by the receipt of transactions sent automatically by the system to customers or merchants as collaboration partners. Digital transaction receipts resulted from system automation with the digital format that requires some advanced process stages to prepare financial statements from business actors with multi-tier data processing to suit their individual needs. The process of transforming data processing & control as well as reporting & distribution from electronic to digital-based accompanied by an increasing of data sharing & collaboration system in business today are challenges for the accounting infrastructure [4], [11]. The billing system must be integrated with the payment module [12], server database that record users transaction & history [13] and other accounting modules [14]. The significant problem is that offline and online data collected are often generated by different ways of handling internally and externally from partners and

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using data storing with different systems, making it incompatible for users [15]. Some Fintechs are now providing more relevant data to aid transaction reconciliation and analysis in a more straightforward way [16]. It could also educate the users (merchants and customers) will be more aware of the benefits of transacting digitally with convenience, safety, low transactions costs, ease of reconciliation, and awareness of digital footprints values for formalization and subsequent credit or other benefits, including increasing of transactions [17].

There have been many studies related to the increase in the use of mobile payments, including those related to customer intention in adopting mobile payments [9], [10,][18], [19], [20] and related to the primary consideration factors in the information technology adoption, which assumes that one of the crucial factors is the technology acceptance [21], [22].

The implementation of mobile payments as a frontline for digital services should ideally encourage improvements in the back-line process for business actors, including accounting and financial reporting, which are impacted by digital transformation and accounting automation are predicted to be realized in 2030 [23]. The accounting function impacts changing methods and techniques for handling transaction data so that it will also affect changes in the management of the accounting information system components. The fundamental change is in physical and human resources, which provide the final result on the level of accuracy and quality of information generated by the accounting information system (AIS) [24]-[27]. Multi-platform in e-commerce has obstacles in data integration, including the reconciliation process's difficulty due to the various subsystems involved in it having the design and implementation of systems with different interfaces [28]. Many transaction data require calculation processes related to payments and settlements from different sources, reconciliation is carried out to confirm every settlement of transactions [14].

In 2017, the number of small and medium enterprises (MSEs) in Indonesia was around 26 million businesses or 98.68% of total businesses in Indonesia [29], with e-commerce users of 4.7 million MSEs and an increase in 2018 to 9.61 million MSEs [30]. Meanwhile, in 2017 MSEs which already had financial reports amounted to 7.52% [29] and MSEs that can access financial institutions and get additional business capital of 19.93% while those who need credit but fail to get it are 80.07% [29] shows that there are gaps in MSEs to get access capital. This is confirmed by previous research regarding the prudence of financial institutions and the unpreparedness of MSEs to gain access to capital [31]. The causes of MSE unpreparedness include the ability of human resources, which have constraints and limitations in accounting

and financial reports, which have been confirmed by previous research related to the lack of consultants or the guidance process for preparing financial statements [32].

Based on the description above, this study was conducted to analyze the influence of online payment usage behavior or actual usage in the reconciliation process as a fundamental part of ensuring the accuracy and accountability of data in the financial reporting process of MSEs.

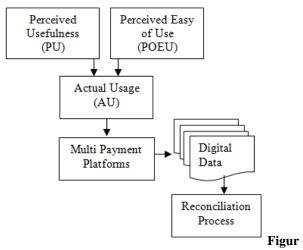
The difference with previous research with the trend in analyzing behavior that causes interest or intention to use online payment methods and separately, other research related to the constraints faced by MSEs in the field of accounting and finance as well as the preparation of financial reports or the implementation of accounting in accounting and management information systems. This research connects the actual use (AU) behavior of multi-platform online payments by MSEs as merchants or users of payment method, through on perceived ease of use (PEOU) and the perceived usefulness (PU) provided by financial service providers and linked to the reconciliation process as preparation for MSE financial reports which is an obstacle for MSEs. This study was conducted of a front-line online transaction with a multi-platform online payment method to the back-line processing with reconciliation processing as technically bridging to financial statement preparation.

The expected contribution is in the form of facts regarding the actual usage of online payment methods and their use by MSEs in the reconciliation process to show technical obstacles in preparing financial reports, which in turn are expected to be part of finding solutions to address these gaps.

2. METHODS

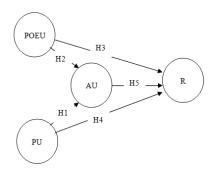
This study uses quantitative methods to get an overview of the influence of the behavioral POEU and PU with AU and its relationship with the reconciliation process. The research process was carried out on participants in the coaching export program organized by the West Java, Indonesia Office of Industry and Trade (Disperindag) in 2019 with a population of around 90 participants and a sample size of 60 respondents from MSEs owners. The study used primary data with an instrument in the form of a questionnaire distributed online and continued with observations and interviews with several random MSEs owners. Conceptual arrangement of instruments using reflective variables from POEU, PU, AU, and reconciliation. The conceptual design used in this study is shown in Figure 1.





e 1 Conceptual Framework

The research model (Figure 2) was developed by establishing latent variables perceived usefulness (PU) and perceived ease of use (POEU) as exogenous variables, actual usage (AU), and reconciliation Process (R) as endogenous variables. AU is a mediator in the reconciliation process, with PU and POEU as an indirect



effect in the reconciliation process [33].

Figure 2 Model Design

The measurement scale uses semantic differential that can be used to measure personality dimensions [33]-[35] with reflective indicators [36]. Data analysis using Partial Least Square Semantic Equation Model (PLS-SEM) by smartPLS software version 3.3.2. The measurement model tested with an outer model, and the structural model was tested by the inner model bootstrapping or resampling method.

Based on a conceptual framework and model designed, hypotheses are :

Ha1 = PU has a direct influence on AU.

Ha2 = POEU has a direct influence on AU

Ha3 = POEU has an indirect influence on R

Ha4 = PU has an indirect influence on R

Ha5 = AU has a direct influence on R

3. RESULTS AND DISCUSSION

3.1 Outer Model - Measurement Model

All indicators are tested using the outer model algorithm by referring to the criteria of the validity results above 0.7 for each construct and the average variance extracted (AVE) 0.5 or more [36]. Some indicators are less equal compared to the value of results on the overall indicator so that reductions are made to achieve covary [33], [37]. From the results of measurements of the reflective indicators in Figure 3. the covary results obtained exceeding 0.7 are in the range of 0.8 and 0.9, with most indicators at 0.9 so that all manifest variables include valid categories. The results of testing the reliability and validity of each construct in Figure 3. Showing the Average Variance Extracted (AVE) is above 0.5 [36] and the reliability with Cronbach's Alpha above 0.6 and Composite Reliability in above 0.6 [38]. All of the constructs are valid and reliable, as shown in table 1.

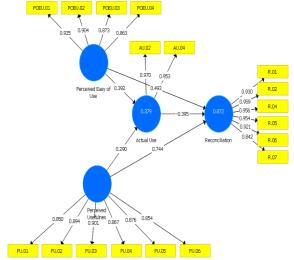


Figure 3Outer Model Algorithm

Table 1. Construct Reliability & Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Actual Usage	0.920	0.952	0.961	0.925
Perceived Easy of Use	0.918	0.938	0.941	0.800
Perceived Usefulness	0.938	0.940	0.951	0.764
Reconciliation	0.967	0.972	0.974	0.861

SmartPLS Outer Model Algorithm result

Discriminant Validity in Table 2. Showing off the conditions comparing each construct with other constructs through the minimum AVE can show cross-correlations between the constructs concerned with other latent variables that must be smaller (Budhiasa,



2016, pp. 29–31) so that each cross-correlation latent variables can be expressed as a valid discriminant.

Table 2. Discriminant Validity Fornell Larscker Criteria - Cross Correlations

	Actual Usage	Perceived Ease of Use	Perceived Usefulness	Recon- ciliation
Actual Usage	0.962			
Perceived				
Easy of Use	0.572	0.894		
Perceived				
Usefulness	0.534	0.622	0.874	
Reconciliation	0.284	0.730	0.840	0.928

SmartPLS Outer Model Algorithm result

Another result discriminant validity measurement with Heterotrait Monotrait (HTMT) in Table 3.

 Table
 3. Discriminant
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	Actual Usage	Perceived Ease of Use	Perceived Usefulness	Recon- ciliation
Actual Usage				
Perceived				
Easy of Use	0.615			
Perceived				
Usefulness	0.572	0.643		
Reconciliation	0.291	0.744	0.877	

SmartPLS Outer Model Algorithm result

HTMT reached result Discriminant Validity criteria below 0.85 [38] or below 0.9 (smartPLS.org).

3.2 Inner Model – Structural Model

It evaluates the strength of the relationship between constructs by using the inner model test to look at the path coefficient (t-test) through bootstrapping or resampling method with a criterion of t value > 1.65 for significance (one-tailed) 0.05 and t > 1.96 for significance (two-tailed) 0.1 with the top-value < 0.05 and value of the path coefficient between -1 and 1 with a value close to -1 as the more decisive negative significance and closer to 1 as stronger positive significance [36]. Test results from the inner model shown in table 4 and figure 4.

Table 4. Result of Inner Model Hypothetical

	Path Coefficient	t	P Values	Hypothesis
$PU \rightarrow AU$	0.290	0.936	0.353	Ha1 Rejected
PEOU→ AU	0.392	1.384	0.172	Ha2 Rejected
PEOU → R	0.493	3.649	0.001	Ha3 Accepted
$PU \rightarrow R$	0.744	5.579	0.000	Ha4 Accepted
$AU \rightarrow R$	-0.395	3.588	0.001	Ha5 Accepted

Source: SmartPLS Inner Model Bootstrapping result, modified.

$$\label{eq:automorphism} \begin{split} AU &= Actual\ Usage,\ PEOU = Perceived\ Ease\ of\ Use,\ PU = Perceived\ of\ Usefulness,\ R = Reconciliation \end{split}$$

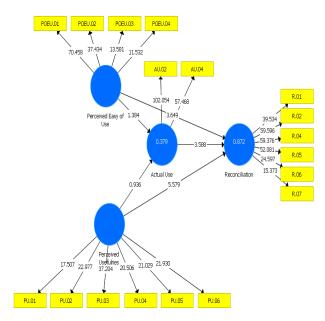


Figure 4 Result of Inner Model Bootstrapping Resample Method

Table 4. shows that the correlation with the negative significance of Actual Use to Reconciliation is -0.395 and the positive significance of the strongest Perceived Usefulness is 0.744, and the Perceived Ease of Use is 0.493 lower than PU against Reconciliation. Overall hypothesis H1 and H2 Rejected, H3, H4, and H5 Accepted.

Value coefficient determination (R2) 0.67 potential, 0.33 average, 0.19 weak (Chin, 1998) with the results in table 5. Actual Usage 0.379 means that the latent variable ability of PU and POEU can explain AU of 0.379 in the medium category. Reconciliation 0.872 means that the ability to explain latent variables of PU, POEU, and AU indicates substantial determination or strong. While testing with f2 (f square), the construct's effect with criteria 0.02 indicates a small size effect, 0.15 as a medium-size effect, and 0.32 as a large size effect [39].

Table 5. Result of Inner Model R Square Determination

	R ² (R Square)	Determination
Actual Usage	0.379	Average Determination
Reconciliation	0.872	Potential Determination

Source: SmartPLS Inner Model Bootstrapping result, modified.

As shown in Table 6, the results indicate that the large effect in a sequence of perceived usefulness, perceived ease of use, and actual use of reconciliation, while perceived ease of use gives a medium effect on actual use and perceived usefulness gives a small effect on actual use. The moderation effect of actual use is one of large effect. However, it is the smallest value compared to perceived usefulness and ease of use with reflective indicators reflecting the frequency and



duration from actual use, meaning that the frequency of multi-payment usage gives an enormous influence on reconciliation. However, the most potent influence is shown by perceived of usefulness and perceived ease of use. The usability and ease dimension are the most potent factor in influencing the transaction data reconciliation process.

Table 6. Result of Inner Model Construct Effect Size

	\mathbf{f}^2	Effect
Actual Usage → Reconciliation	0.750	Large Effect
Perceived Ease of Use → Actual Usage	0.151	Medium Effect
Perceived Ease of Use → Reconciliation	1.015	Large Effect
Perceived Usefulness → Actual Use	0.083	Small Effect
Perceived Usefulness → Reconciliation	2.458	Large Effect

Descriptive Analysis Reconciliation Processing

To further illustrate the results of the reconciliation process with a descriptive analysis of the reconciliation process was carried out from the reflective manifests variable using the semantic differential scale 1-7 grouped into three categories: negative answers on a scale of 1, 2, and 3, moderate on a scale of 4, 5 and positive on a scale of 6 and 7.

Table 7. Summary of Accuracy, Completeness, Complexity and Time Efficiency

Respons		Summary Process	Summary Process	Summary Process
Classifica tion	Scale	Incomplete /Inacurate - Complete & Accurate	Complex - Simple	Long Time – Short Time
Negative	1, 2, 3	18.33%	15.00%	15.00%
Moderate	4, 5	21.67%	18.33%	30.00%
Positive	6, 7	60.00%	66.67%	55.00%

Source: Reconciliation Data Manifest Process, modified.

The majority of respondents' statements on the data summary process in the reconciliation are positive responses with statements that consider the provider's data as simple as 66.67% completeness and 60% data accuracy, and 55% processing time efficiency.

While the processing costs and the quantity of data processing transactions with customers, banks, and suppliers show a positive statement above 50%, processing data transactions, reconciliation, and preparation of financial statements are done separately without using an integrated accounting information system (AIS) application.

Findings from the data analysis results show that the most significant influence on the reconciliation process

is perceived usefulness followed by perceived ease of use and actual use as moderation. The reflective indicators on the dimensions of frequency and duration of usage have the smallest value than perceived usefulness and ease of use. It can be said that frequency is identical with the quantity of data that must be reconciled does not significantly affect the reconciliation process. Positive statements on the simplicity, completeness, and accuracy of the data, cost efficiency, and processing time in the reconciliation process also show the user's benefits from digital receipts in their reconciliation process.

Table 8. Summary of Cost Processing, Customer, Bank, and Supplier Data Correction

Respons Classificati on Scal		Cost of Processi ng	Custom er Data Correct ions Process	Bank Data Corre ctions Proce ss	Supplier Data Correctio ns Process
on .		Harmful - Beneficial	A lot – A Little	A lot – A Little	A lot – A Little
Negative	1,2, 3	15.00%	20.00%	18.33 %	23.33%
Moderate	4,5	30.00%	30.00%	26.67 %	18.33%
Positive	6,7	55.00%	50.00%	55.00 %	58.33%

Source: Reconciliation Data Manifest Process, modified

On the other hand, a separate transaction recording process makes digital receipts as proof of transactions that are reprocessed through the internal recording, which is carried out using spreadsheet tools or an information system with an internal database so that there is still a re-input process of digital receipts which can provide opportunities for human errors.

Reconciliation is carried out after the recording of the transaction is continued with preparing financial statements. The process of automating transaction recording and reconciliation was not found in this study. However, several companies carry out the process of preparing financial reports using their accounting information systems.

The results of this study confirm the results of previous studies related to constraints on storage patterns and accounting automation processes [11], [15], but not only on the technical constraints of integrating systems with information technology but still is in the clerical activity of recording transactions and reconciliation so that this is a large enough gap to lead to process automation. Manual activities carried out by MSEs confirm the findings of reference [40], which show that the reconciliation process and preparation of financial reports by the majority of SMEs, 76%, are done manually [40].



The positive statements of respondents on digital receipts can be used as a basis for directing MSEs in the learning process by increasing their digital literacy towards digitizing accounting and financial reports, according to the opinion in the bank of India report [17].

4. CONCLUSIONS

The most significant influence on reconciliation is perceived usefulness, and perceived ease of use and the frequency of actual usage has a smaller effect so that it does not become an obstacle to the reconciliation process. There is an adequate level of confidence in the digital receipts provided by multi-platform, but there is a gap in recording transactions and reconciliation with manual processes with automation and gaps in the preparation of financial statements.

The limitations of this study are the number of respondents and the scope of use of technology-based accounting. Further research is still needed at the larger scale of companies that have implemented automation or semi-automation to find out more about the obstacles encountered in digital transaction data processing as an integrated system. Besides, further research is also carried out to address the gap in the use of accounting information technology by MSEs, which can bridge the gap in manual (clerical) processes with automation and increase accounting knowledge and preparation of financial reports.

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