Effectiveness of Cash Management System (CMS) in Improving the Performance of Expenditure Treasurers

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Abstract:

Digitalization has brought transformation in financial transactions. The presence of CMS as a government non-cash payment system also plays a role. Expenditure treasurers must adapt quickly to improve performance, especially in cash management. However, the realization of its implementation until 2023 is still low. Findings regarding cash management at the expenditure treasurer also continue to be repeated. Therefore, this research was conducted to see how effective CMS is in improving treasurer performance. The aspects evaluated include human resources, procedures and instructions, IT infrastructure and systems, data and security controls. This concept is explained through the Technology of Acceptance Model (TAM) and Accounting Information System (AIS). Analysis using SmartPLS concluded that all components, procedures and instructions still need to be improved, even though all components are working well overall. The effectiveness of CMS has a positive effect on the performance of the expenditure treasurer. Expenditure treasurers must be motivated to be consistent in their use so that cash management becomes transparent and accountable. Providers of goods and services also need to be encouraged to provide non-cash payment modes.

Keywords: *Cash Management System, Accounting Information System, Treasurer Performance*

1. Introduction

The use of fintech in non-cash transactions continues to grow. More and more providers of goods and services are providing them, ranging from large, medium, and small businesses to micro. Even in big cities, MSME traders serve non-cash payments. This development is not only in the private sector, but the government sector has also begun implementing fintech in transactions. However, the development is not as fast as in the private sector.

Non-cash payment modes are believed to increase transparency and accountability in using state money (Sahadu et al., 2021). These two elements are the mandate to implement good governance in the government. As a user of people's money, the government must be able to account for it and ensure openness in its use. The non-

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cash payment system has proven to be able to reduce the level of corruption in several countries (Ismail et al., 2023; Jayakody et al., 2023; Kakkar & Li, 2022; Depositor et al., 2021; Sun et al., 2023).

Payers in the government, in this case, the expenditure treasurer, are also required to improve their performance to be more open and accountable in managing finances. The expenditure treasurer has the authority and responsibility to manage the cash under his control. By the mandate of Law Number 1 of 2004 concerning State Finance, the duties of the expenditure treasurer begin from "receiving, storing, paying or handing, administering, and accounting for money and securities under its management".

Every government employee, including the expenditure treasurer, has performance indicators to achieve organizational goals (Mahmudi, 2015). Performance is achieving a predetermined performance measure (Prawirosentono, 2008). The performance of the expenditure treasurer refers to the indicators that have been regulated in the regulations and are used as evaluation materials. The activity is contained in PermenPAN RB Number 54 of 2018 concerning the Functional Position of the State Revenue and Expenditure Budget Financial Institution. Each indicator has outputs/work results, such as the completion of cash administration, payment of spending bills, tax remittances to the state treasury, and the preparation of accountability reports correctly and on time.

Other aspects that are also an assessment of the performance of the expenditure treasurer are having an orientation towards service, working accountably, being competent in completing tasks and being harmonious, loyal, adaptive, and collaborative in their duties. The mandate given to the expenditure treasurer shows the importance of the role and function of the expenditure treasurer in the organization in facilitating the achievement of the vision and mission.

Cash in the expenditure treasurer generally comes from Supply Money (UP). In addition, under certain conditions, it can also be sourced from payments by the Direct (LS) method through the treasurer's account and from payment deductions related to its function as a tax collector. Cash management is influenced by the speed of budget realization (revolved) and is the motive for holding cash in the expenditure treasury (Jiang & Wu, 2022).

Government operations are highly dependent on cash in the expenditure treasury, but there are cash management problems that are often found by the Audit Board (BPK). BPK's findings on the Financial Statements of Ministries/Institutions (LKKL) are the indiscipline of the expenditure treasurer in managing cash. There is still late cash, or has not been deposited into the state treasury at the end of the year, and the cash balance recorded on the balance sheet does not reflect the actual physical cash. This finding is also recurring in the Central Government Financial Statements (LKPP). It even raises indications of fraud in cash management in the expenditure treasurer.

Problems related to cash management in the expenditure treasury have made the BPK issue recommendations to the Minister of Finance to prepare mitigation measures for

the risk of irregularities in cash management and potentially state losses. One is to improve the cash management mechanism in the expenditure treasury. The performance of the expenditure treasurer must be immediately improved so that the findings are not repeated.

The government seeks to minimize findings in cash management by encouraging a cashless culture by applying the Cash Management System (CMS) and increasing non-cash transactions, including using the Digital Payment marketplace (Digipay). This step is also an effort to make the National Non-Cash Movement (GNNT) by Bank Indonesia successful since 2014. In addition, the cost of printing currency can be reduced by implementing CMS. The implementation of CMS in the government includes revenue, expenditure on procurement of goods and services, and expenditure (payroll), which simultaneously affects the improvement of government performance and economic growth (Sari, 2020). Based on the Technology of Acceptance Model (TAM) concept, an application must be reliable in terms of convenience and benefits so that it can be accepted by users and improve performance.

The CMS implementation policy in the central government will be effective at the end of 2020, ahead of the simultaneous cut-off from the current account of the treasurer to the Virtual Account (VA). However, it has been previously regulated through the Regulation of the Minister of Finance Number 230/PMK.05/2016, amendments to the Regulation of the Minister of Finance Number 162/PMK.05/2013 concerning the Position and Responsibilities of the Treasurer in the State Budget Management Work Unit. The PMK states that the expenditure treasurer must prioritize means of payment through electronic banking services (internet banking and debit cards) and checks/billet giro. Then, it was reaffirmed through the Minister of Finance Regulation Number 183/PMK.05/2019 concerning the Management of Expenditure Accounts Owned by Ministries/Institutions. The regulation states that the task force expenditure account is in the form of a virtual form opened at a commercial bank and intended as a reservoir for money that will be used in government operational activities.

The CMS application is an Internet banking task force designed to make transactions more effective and efficient than manual transactions through cash. However, until now, the implementation of CMS in government transactions is still very low, such as for office operational expenditure payments, official trips, and honorarium payments. The implementation of non-cash transactions among the public in the current digital era is minimal. Of course, many factors are considered. BPS data noted that in 2021 there was 32.23 per cent of business actors who implemented eCommerce, but of all transactions, only 16.89 per cent of consumers made non-cash payments, and the remaining 83.11 per cent paid in cash (BPS, 2022).

The work unit's enthusiasm for using CMS as a non-cash transaction system has not been optimal. The Ministry of Finance reported that as of the fourth quarter of 2023, of the 22,055 virtual accounts of ministries/institutions opened and used by the expenditure treasurer, only 56 per cent have used CMS in non-cash transactions. The BPS survey also stated that of all business actors who did not do eCommerce in 2021,

71% reasoned that it was more convenient to conduct offline transactions due to a lack of knowledge and expertise and concerns about data security (BPS, 2022).

The non-cash payment system through CMS is the government's Accounting Information System (SIA). (Romney & Steinbart, 2018) It mentions that five components of SIA affect the effectiveness of financial transactions: people, procedures and instructions, information technology infrastructure and systems, and data and security controls. Lutfi (2023) also said that the quality of service, information and internal control positively affect the effectiveness of SIA.

Digital developments have made the work of treasurers more flexible so that they can improve the performance of treasurers (Sahadu et al., 2021; Sandyasmoro, 2021). This must be supported by the readiness of the treasurer to make changes in work patterns for the better. The opposite condition is stated (Fan & Pan, 2023), which states that the interaction of human resources with information technology hurts the performance of government services. Observing the gap in the phenomenon and previous research encouraged this study to find out how effective the implementation of the Cash Management System is in improving the treasurer's performance. This study aims to analyze the factors that affect the implementation of CMS to improve the treasurer's performance.

This research was conducted on the expenditure treasurer of the Central Statistics Agency (BPS), who has a CMS, both those who have used it for non-cash transactions and those who have not. This is done to capture existing problems related to its implementation as a mode of government transactions.

2. Theoretical Background

Treasurer Performance Concept

The organization sets indicators for achieving the goals. Each member carries out their duties to realize the achievement of these indicators. The results achieved from the completion of this responsibility are called performance. According to Dessler (2006), employee performance goals must be aligned with achieving organizational goals. This means that the organization's performance depends on its employees' performance. Performance is defined as a comparison between the achievement of work results and the setting of targets. According to Moeheriono (in Abdullah, 2014), performance seeks to achieve organizational goals according to the game's rules, not deviating from laws and ethical norms based on authority and responsibility to individuals. In line with that, Prawirosentono (2008) also states that performance is the output that a person has achieved in an organization. Employee performance is also inseparable from technological advances when facing competition from globalization.

Every organization has a goal to achieve the title of Fair Without Exception (WTP) for financial reporting and management. This achievement requires transparency and accountability, including cash management in the expenditure treasurer. The duties of the expenditure treasurer in Law Number 1 of 2004 are "receiving, storing, paying or

handing over, administering, and accounting for money and securities under its management". Further details related to implementing these duties are contained in the Regulation of the Minister of Finance Number 162/PMK.05/2013 concerning the Position and Responsibilities of the Treasurer in the State Budget Management Work Unit. According to the law's mandate, the treasurer is a functional official with an Individual Performance Indicator (IKI) according to his authority. These performance indicators are regulated in PermenPAN RB Number 54 of 2018 concerning Functional Positions of the State Revenue and Expenditure Budget Financial Institutions:

"1) Receiving and storing supply money; 2) Carry out testing of bills that will be paid through supply money; 3) Carry out payments whose funds come from supply money based on the order of the Budget User's Power of Attorney; 4) Reject the payment order if the bill does not meet the requirements to be paid; 5) Carry out deductions/collections from payments made on obligations to the State; 6) Depositing withholding/collection of obligations to the State to the State General Cash Account; 7) Managing inventory money transactions; 8) Organizing the bookkeeping of inventory money transactions; 9) Managing the account where the supply money is stored; and 10) Submit a report on the accountability of the treasurer to the Financial Audit Agency and the Acting General Treasurer of the State."

Four factors must be seen from the expenditure treasurer's performance: efficiency and effectiveness, authority/authority and responsibility, discipline, and initiative (Prawirosentono, 2008).

1. Efficiency and Effectiveness
Efficient performance is a cooperative relationship between individuals based on the efforts chosen by each individual to achieve a common goal. Efficient also describes the minimal use of resources to produce optimal output. Efficient cash management involves minimizing costs, starting with withdrawals, storage, payments, and reporting.

2. Authority and Responsibility
The expenditure treasurer is responsible for carrying out his duties to facilitate the work. Authority or authority is a formal order received by the expenditure treasurer to perform a job related to the limits of what can and cannot be done. At the same time, responsibility is an integral part or a result of the possession of authority.

3. Discipline
Discipline is generally defined as behaviour obeying the applicable rules and laws. A disciplined employee is an employee who respects and carries out the mandate of the employment agreement from his superior. Violations of discipline can lower performance levels and subject employees to sanctions. One of the findings of the BPK stated the expenditure treasurer's lack of discipline regarding depositing the remaining cash at the end of the year.

4. Initiative
Employees with initiative will complete work by empowering their minds and are always creative in generating ideas to design something to achieve the organization's

vision and mission. This state brings a person out of their comfort zone by getting used to things that are not usually done. The support of the boss greatly influences the initiative of its employees.

Technology Acceptance Model

Information technology will help complete and exceed the work target well. The Accounting Information System (SIA) is used to complete its tasks, including non-cash payment applications through CMS. Based on the Technology of Acceptance Model (TAM) introduced by Davis in 1986, technology adoption is determined by the convenience and benefits received from CMS applications. Some reasons that encourage employees to use information technology include:

1. Perceived Usefulness
Employees feel confident they will benefit from adopting information technology to improve performance. The benefits of information technology are working faster, having high performance, increasing productivity, being practical, and doing documentation regularly (Simanjuntak & Sukresna, 2020). This perception is closely related to the implementation of CMS by the expenditure treasurer in the implementation of cash management tasks. The benefits of using a CMS, such as making transactions, monitoring payments, and preparing reports quickly and accurately, will increase the confidence of the expenditure treasurer to apply this method and abandon the old way of transactions.

2. Perceived Ease of Use
Information technology that offers convenience for its users will be well received. These conveniences are easy to learn, controllable, transparent, flexible, and easy to navigate (Simanjuntak & Sukresna, 2020). Web-based CMS applications can be used anywhere and anytime. The expense treasurer does not take long to understand its operation, especially in today's digital age.

Cash Management System (CMS)

The digital era makes it easier for humans to do work, including the task of the expenditure treasurer as a payer. *Cash Management System* (CMS) is *"an application and information system that provides information on balances, transfers between accounts, payments for state revenues and utilities, as well as other facilities in the implementation of banking transactions in real-time online"* (djpb.kemenkeu.go.id, 2020).

Non-cash transactions must be processed effectively in the Accounting Information System (SIA) to achieve the purpose of creating the system. According to the Great Dictionary of the Indonesian Language (KBBI), effectiveness is a success characterized by the work of all components in the system to achieve goals. Several components of SIA affect its effectiveness: people, procedures and instructions, information technology infrastructure and systems, data, and security controls (Romney & Steinbart, 2018).

1. Human Resources (HR)

Some factors that support improving HR management are empowerment, career satisfaction, compensation, and a conducive work environment (Demirkaya et al., 2011). Innovative technology requires human resources, not relying only on formal education, but requires participation in non-formal skills such as courses and training (Tripon, 2014). Gender factors can also affect the use of information technology. The improvement of male employees' performance towards the use of technology is higher than that of women (Alnemer, 2022; Hendy, 2021). Men are more daring to take risks to adapt to new technologies than women. Another fact shows that women tend to hold more cash in cash. This is done in urgent need (Jilani et al., 2023).

2. Procedures and Instructions

Chain and multi-party instructions require effective communication so that the intent of the instruction can be well received. The bank's service to customers, which explains the procedures and benefits of using CMS, is the key to successful implementation in work units. The completeness of the procedural features and instructions in the application is also the primary key. The era of digitalization has led humans to think more critically, including in receiving instructions (Santos-Meneses & Drugova, 2023). Instruction is more straightforward to accept if accompanied by intense communication, hands-on practice, and analysis to conclude that the instruction benefits the recipient. Because inquiry instructions provide better results than direct instructions (de Jong et al., 2023). Instructions with simulations arouse more interest and passion than instructions delivered in writing or video (Lei et al., 2022).

3. Information Technology Infrastructure and Systems

Infrastructure plays a vital role in the era of digitalization. Digital infrastructure positively affects business development in the service sector, including financial services such as banking (Ndubuisi et al., 2021). Therefore, as CMS product providers, banks must improve the quality of infrastructure services and systems, such as virtual account websites or ATMs. This dramatically affects consumer satisfaction as a user of non-cash transaction services. The procurement and maintenance of information technology infrastructure and systems is an investment that requires considerable costs (Chung et al., 2023). Government support in terms of infrastructure is indispensable to achieve digital transformation. The procurement of internet networks and electricity supply guarantees the smooth implementation of CMS in all regions. The negative effect of ICT use on exports is positive with access to electricity (Kere & Zongo, 2023).

4. Data

Data is a fact that is collected, recorded, stored, and processed by an information system (Romney & Steinbart, 2018). Data positively affects the success of the non-cash payment system (Lutfi, 2023; Nurhayati et al., 2023). Transaction data executed on a system must be reliable in business processes, i.e. describe a set of related, coordinated, and structured activities and tasks performed by a person, computer, or machine that help achieve a specific organizational goal. Therefore, the data to be processed in the financial system must be relevant, reliable, complete, timely,

understandable, verifiable, and accessible. This result can be achieved if internal control over transactions has been implemented. The division of duties and functions and understanding and implementing business processes correctly play a significant role in making this happen. It is also essential to restrict access to transaction media and maintain authorization. Data quality must be improved by checking and balancing operators, validators, and approvers to produce valid and accountable transaction data.

5. Security Controls

Digital-based transactions require strong information system management to detect fraud (Wu et al., 2023). This will also increase the confidence of customers who are worried about the increasing prevalence of cyberattacks on essential data, one related to financial transaction data. Song et al. (2021) stated that there are many ways to detect fraud in the cyber era, but they are still heuristic (finding) and transductive (from case to case), so it still needs exploration to be able to overcome cybercrime. The more sophisticated the technology, the more crime modes are also developing. One of the digital technologies developed in the private sector is blockchain technology, which can be used for reservation, payment, and travel expense management to improve service quality, reduce costs, and improve security and privacy. The technology also effectively reduces fraud in the tourism industry, increasing trust among travellers (Xia et al., 2023).

Research Hypothesis

Previous research on the effect of non-cash payments on the treasurer's performance and fraud in the Magetan Regency Government proved that there was a positive relationship between the implementation of non-cash on the treasurer's performance (Sandyasmoro, 2021). The research was conducted on 84 expenditure treasurers by looking at the policy aspects, but it is not specific to the transaction mode using CMS. The sample is also still within the scope of the same district with almost similar natural characteristics and the same bank provider.

Sahadu et al. (2021) also researched BPKAD employees of Tojo Una-Una Regency, finding that non-cash transactions, independently or together with transparency and accountability, positively affect the expenditure treasurer's performance. Implementing non-cash transactions is based on government commitment, human resource readiness, cooperation, and efficiency. However, sometimes, digital implementation is rejected due to many factors, such as the unprepared facilities and infrastructure, the security of transaction data, and the reluctance to be supervised by the sophistication of technological tools (Fan & Pan, 2023). This condition was found when researching the relationship between IT and HR interaction to improve e-government performance from panel data of cities in China.

The focus of this research is more specific on non-cash payment methods through CMS. The aspects considered are the components that make up the CMS, which consist of human resources, procedures and instructions, IT infrastructure and systems, data, and security controls. If all components run well, then the CMS will run effectively, improving the treasurer's performance. The research sample was also expanded to the expenditure treasurer spread across all districts/cities throughout

Indonesia. So far, research that specifically discusses the application of CMS is still limited to qualitative analysis (Anindita & Santoso, 2022; Jamain & Yusuf, 2022; Sari, 2020; Yadnya, 2022), this time it will be analyzed quantitatively to get a comprehensive conclusion. The hypotheses in this study are:

Ha: Does the effectiveness of the CMS (human resources, procedures and instructions, IT infrastructure and systems, data, and security controls) on non-cash transactions affect the treasurer's performance?

3. Methodology

This study uses a quantitative approach by collecting data through a survey. The questionnaire was filled out by the treasurer of the selected Central Statistics Agency (BPS), who was active at the time of data collection. BPS was chosen because it ranked second (86%) after the Ministry of Finance implemented CMS in 2023, with>500 accounts. In addition, BPS has representative offices in all provinces and districts/cities to represent the characteristics of regions in Indonesia. The total treasurer of BPS expenditure in the 2023 Financial Statements of the Ministry of Institutions (LKKL) is 517 people, and as many as 365 people have filled out this survey. The sampling method uses a saturated sample technique, which involves sending questionnaires to the entire population, and the response rate is 71%. The questionnaire uses the Likert Scale to collect respondents' perceptions through Google form links shared via e-mail and WhatsApp groups. The scale used is from 1 to 5: strongly disagree = 1, disagree = 2, neutral = 3, agree = 4 and strongly agree = 5. The data analysis in this study uses the Structure Equal Modelling Partial Least Square (SEM-PLS) technique with the SmartPLS 3.2.9 analysis tool. The variables used include exogenous variables, namely the effectiveness of CMS, a multidimensional construct built from five dimensions with Second Order Confirmatory Analysis Factor (2nd CFA) analysis. The endogenous variable is the treasurer's performance, which is a unidimensional construct.

4. Empirical Findings/Result

The first analysis evaluated the descriptive statistical value of the incoming responses. Descriptive statistics analyze data by describing or describing data collected from respondents (Sugiyono, 2008:206). The explanation of each variable/dimension is as follows:

1. CMS Effectiveness Variable (X)
In the 2nd order model, the latent variable construct can consist of several dimensions or components (multidimensional), and each dimension is measured by several indicators (Sholihin & Ratmono, 2020:171). Variable X consists of 5 constituent elements according to the concept of Romney & Steinbart (2018). These dimensions are human resources, procedures and instructions, IT infrastructure and systems, data, and security controls.

a. HR Dimensions (X1)

The HR dimension is reflected in commitment, knowledge, and understanding as many as 5 question items. The results in Table 1 show an average value of this dimension of 4.533 with a good category. This means that respondents have a commitment, knowledge, and understanding of their responsibilities related to the CMS implementation policy from the local KPPN.

b. Procedure and Instruction Dimensions (X2)

The dimensions of procedures and instructions are reflected in completeness, clarity, and ease of understanding of as many as 4 question items. The results in Table 1 show an average value of this dimension of 4.184 with a good category. Although this value is in the good category, this average value is the lowest among other dimensions. Some respondents still find it challenging to understand the procedures and instructions given by the bank. This is a note for the bank to improve further services related to non-cash transactions through CMS.

c. IT Infrastructure and Systems Dimensions (X3)

IT infrastructure and systems dimensions are reflected in IT facilities and application systems in as many as 4 question items. The results in Table 1 show an average value of this dimension of 4.441 with a good category. This figure shows that the facilities, infrastructure, and infrastructure to support the application of CMS are pretty good, consisting of hardware, electricity, and the internet. Respondents also have high expectations for an application system with advantages in non-cash transactions.

d. Data Dimensions (x4)

The control measures reflect the data dimension when performing data inputs, processes, and outputs in transactions. These steps consist of separating tasks, restriction of transaction access, authorization, accuracy, and transaction documentation to produce quality transaction data. The results in Table 1 show the average value of this dimension of 4.507 with a good category. This means the respondents have taken steps to control the data processed in non-cash transactions using the CMS.

e. Security Control Dimensions (x5)

The security control dimension is reflected in the control measures for CMS financial applications, consisting of maintaining the confidentiality of customer data and providing an application security system so that it ultimately generates customer trust to use it. The results in Table 1 show an average value of this dimension of 4.442 with a good category. This means respondents agree that the bank has taken security measures to prevent cybercrime.

Table 1. Descriptive Statistical Results

Variables/ Dimensions	Question Item	Mean	Category
HR (X1)	X11	4,734	Good
	X12	4,800	Good
	X13	4,170	Good
	X14	4,455	Good
	X15	4,507	Good
	X1	**4,533**	Good
Procedures and Instructions (X2)	X21	4,068	Good
	X22	4,121	Good
	X23	4,227	Good
	X24	4,321	Good
	X2	**4,184**	Good
IT Infrastructure and Systems (x3)	X31	4,411	Good
	X32	4,419	Good
	X33	4,573	Good
	X34	4,362	Good
	X3	**4,441**	Good
Data (X4)	X41	4,307	Good
	X42	4,540	Good
	X43	4,597	Good
	X44	4,482	Good
	X45	4,608	Good
	X4	**4,507**	Good
Security Controls (x5)	X51	4,477	Good
	X52	4,485	Good
	X53	4,238	Good
	X54	4,570	Good
	X5	**4,442**	Good
CMS Effectiveness (X)	**X**	**4,421**	Good
Treasurer Performance (Y)	Y11	4,622	Good
	Y12	4,611	Good
	Y13	4,608	Good
	Y14	4,559	Good
	Y15	4,636	Good
	Y16	4,627	Good
	Y17	4,515	Good
	Y18	4,584	Good
	Y	**4,595**	Good

Source: Research Data, 2024
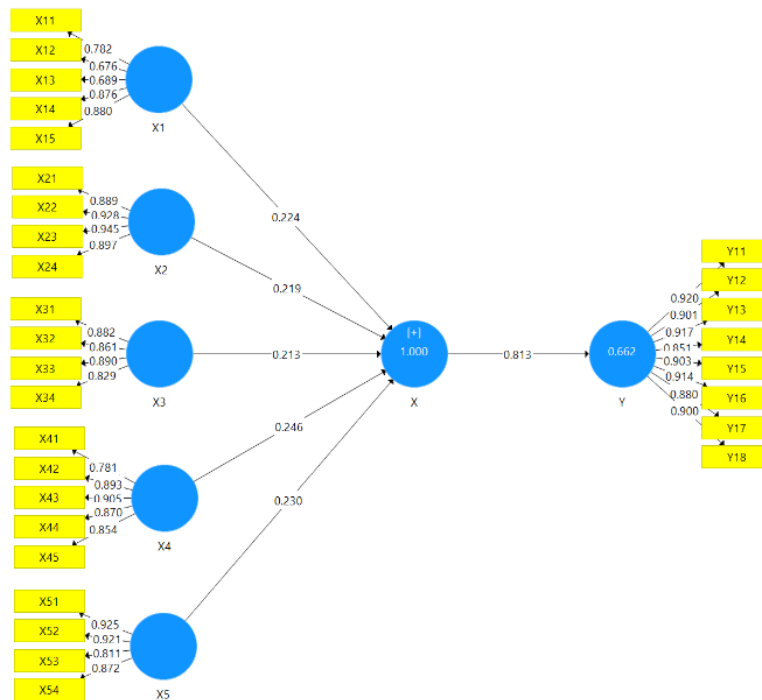
Figure 1. Output SmartPLS
Source: Research Data, 2024

2. Treasurer Performance Variable (Y)

The dependent variable (Y), namely the treasurer's performance, is measured according to performance indicators (Prawirosentono, 2008). These indicators include efficiency and effectiveness, orientation and responsibility, discipline and initiative. The indicator is asked into 8 question items. Based on the average score in Table 1, a score of 4.595 was obtained with a good category. In general, respondents agree that effective CMS implementation can improve their performance. Transactions through CMS make work efficient and can save time, effort and costs. The expenditure treasurer can also complete the treasurer's work quickly, thereby improving the quality of performance output achievement in terms of bill payment, transaction monitoring and submission of treasurer reporting every month. It can reduce late bill payments and result in accurate and accountable reporting. Non-cash transactions through CMS, as the government recommends, are a form of the treasurer's discipline in complying with regulations. The application of CMS also shows the level of adaptation of the expenditure treasurer to the advancement of information technology, as well as an indicator of ASN's performance in AKHLAK.

Table 2. Cronbach Alpha and AVE results

Variables/ Dimensions	Cronbach Alpha	Composite Reliability	AVE
X	0,964	0,967	0,574
X1	0,841	0,888	0,617
X2	0,935	0,954	0,837
X3	0,889	0,923	0,750
X4	0,913	0,935	0,743
X5	0,906	0,934	0,781
Y	0,966	0,971	0,807

Source: Research Data, 2024

The following analysis involves inferential statistics preceded by validity, reliability, and collinearity tests. Table 2 shows that all variables and dimensions have an AVE>0.50 value, which indicates convergently valid data. The outer loading value of each indicator can be seen in Figure 2, which shows a value of >0.70, so the data is said to be valid (Hair et al., 2022). The validity test of discrimination using the Cretion Fornell_Lecker Table showed that the root of the variable's AVE was higher than that of other variables, so the model passed the validity test of discrimination. The Cronbach Alpha and Composite Reliability values also produced >0.70, indicating reliable data (Hair et al., 2022).

Table 3. Table Fornell_Lecker Creation

Variables/ Dimensions	X1	X2	X3	X4	X5	Y
X1	0,785					
X2	0,750	0,915				
X3	0,713	0,743	0,866			
X4	0,664	0,596	0,713	0,862		
X5	0,777	0,761	0,781	0,757	0,884	
Y	0,770	0,666	0,727	0,664	0,763	0,898

Source: Research Data, 2024

The relationship of dimensions (X1, X2, X3, X4, and X5) to the X indicator is formative. For formative testing, it is seen from its significance <0.05 or t-statistics >1.96 (Ghozali, 2021). Table 6 shows that these values have been qualified to maintain the model. In addition, in the formative test, the value of VIF<5.0, which shows no collinearity problem, can be seen in Table 4 (Hair et al., 2022:147). In addition, it is also necessary to pay attention to the value of the path coefficient of each dimension >0.10 (Guinaliu-Blasco et al., 2019). This value can be seen from the original sample in Table 6, which shows that the model is adequate.

Table 4. Variance Inflation Factor (VIF) Value

Variables/ Dimensions	X	Information
X1	3,101	No multicollinearity occurs
X2	3,110	No multicollinearity occurs
X3	3,297	No multicollinearity occurs
X4	2,644	No multicollinearity occurs
X5	4,294	No multicollinearity occurs

Source: Research Data, 2024

The magnitude of the influence or contribution of the independent variable (X) to the dependent variable (Y) can be seen from the R-squared value. Table 5 shows the R-Square value of 0.662, meaning that variable X affects variable Y by 66.20 per cent. Other factors outside the model influence the rest.

Table 5. R-Square Value

	R Square	R Square Adjusted
Y	0,662	0,661

Source: Research Data, 2024

Hypothesis testing was carried out by paying attention to t-statistics >1.96 with a significance of <0.05 (Ghozali, 2021). Table 6 shows a t-statistics value of 38,394>1.96 with a significance value of 0.000<0.05. This number provides a conclusion to reject H0 and accept Ha (Ghozali, 2021). This means that the effectiveness of CMS on non-cash transactions positively influences the treasurer's performance. The positive relationship is seen from the value of the original sample, which has a positive value.

Table 6. Hypothesis Test Results

Relationship	Original Sample	Standard Deviation	t-stat	p-values
X -> Y	0,813	0,021	38,394	0,000
X1 -> X	0,224	0,011	21,192	0,000
X2 -> X	0,219	0,010	21,351	0,000
X3 -> X	0,213	0,012	18,436	0,000
X4 -> X	0,246	0,013	18,879	0,000
X5 -> X	0,230	0,012	19,629	0,000

Source: Research Data, 2024

5. Discussion

The results of the analysis of respondent data prove that an effective Cash Management System (CMS) as a non-cash transaction mode can improve the expenditure treasurer's performance. These findings provide empirical evidence that

adopting CMS-based technology can speed up financial administration processes and reduce the risk of errors in non-cash transactions. In addition, these results support the research of Sandyasmoro (2021) and Sahadu et al. (2021), which show that the application of modern financial technology systems can increase work efficiency and accuracy in the financial management of government institutions.

The results of this study provide a new perspective on the findings of Fan & Pan (2023), which states that the interaction of human resources with information technology can hurt government service performance. The results of this analysis show that with the proper training and the application of appropriate technology, the interaction between human resources and information technology can have a positive effect, especially in financial management. Thus, this study not only answers previous doubts but also emphasizes the importance of integrated technology planning and implementation to support the performance of government apparatus.

The Cash Management System (CMS) application, designed with a high level of ease of use and usefulness, has been proven to increase the efficiency and effectiveness of the work of the expenditure treasurer. Implementing a CMS allows the treasurer to manage non-cash transactions more quickly and accurately, reducing the time required for the financial administration process. In addition, a user-friendly CMS encourages treasurers to be more proactive in carrying out their duties, increasing their authority and responsibility in cash management. Discipline in the system is also growing, as CMS provides a transparent and reliable monitoring mechanism.

The positive relationship between the use of CMS and the improvement of the performance of the expenditure treasurer can be explained through the Technology of Acceptance Model (TAM). This model emphasizes that perceived ease of use and usefulness are the main factors affecting users' acceptance of technology. With a CMS that offers an intuitive interface and relevant features, the treasurer feels more comfortable and confident in operating the system. This allows them to achieve performance targets better, as the CMS helps monitor and manage cash flow in real time, making cash management more transparent and accountable.

The components in the CMS system, which include human resources (HR), procedures and instructions, information technology (IT) infrastructure and systems, data, and security controls, have been running well overall. Competent and well-trained human resources ensure that the CMS can be operated optimally. At the same time, transparent procedures and instructions guide the treasurer in his duties. A solid IT infrastructure supports the stability and reliability of the system, ensuring that the CMS is always available and functioning correctly. In addition, efficient data management and strict security controls protect financial information from potential threats, maintaining data integrity and confidentiality. Each component or dimension in a CMS system is essential in creating an effective and efficient system. Good integration between HR, procedures, IT infrastructure, data, and security controls ensures that all aspects of cash management run harmoniously. These components increase the convenience and usefulness of a CMS and are the main foundation of a cashless payment system through a CMS. Thus, the successful implementation of a

CMS depends on the technology itself and the synergy between the various components that support it.

6. Conclusions

The non-cash transaction mode through the Cash Management System (CMS) has been empirically proven to improve the expenditure treasurer's performance. CMS provides convenience in completing financial transactions more efficiently and effectively while encouraging increased authority, responsibility, discipline, and work initiatives of treasurers. The effectiveness of a CMS is influenced by several essential components, namely human resources (HR), procedures and instructions, information technology (IT) infrastructure and systems, data, and security controls. However, there are still obstacles for some users who find it difficult to obtain services related to procedures and instructions from the bank. Therefore, increasing support from banks as service providers is the key to successful CMS implementation in the future. In addition to the system's internal components, external aspects are also a concern, especially the availability of digital payment systems among providers of goods and services, especially in the regions.

In many cases, the limitations of digital infrastructure and the low adoption of cashless payment technology at the local level are still obstacles. Suppose this digital payment infrastructure can be expanded. In that case, non-cash transactions through CMS have the potential to become the primary mode of payment that supports efficiency and transparency in government financial management. This strategic step also aligns with efforts to encourage economic digitalization in various sectors. This research has limitations because the data is still based on user perception without the support of more objective secondary data. Future research can enrich the analysis by integrating secondary data, such as operational reports from banks as CMS service providers. Thus, the study results will be more comprehensive and provide more strategic recommendations for developing a non-cash payment system through CMS.

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