Transaction Monitoring System Amongst Agents of Indonesian Post Office

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Abstract

Monitoring is carried out to take measurements that show movement towards the destination. It promises to provide information on the status and trends of measurements and evaluations which are completed repeatedly over time. Indonesian Post Office is striving to continue to innovate, among others, by having partners so that the public will be easier and closer if they want to conduct transactions through the post office. Along with increasing number of cuatomers, the postal agent has problems in the process of making financial transaction reports. Current system did not served its justice since the process of making reports that are not detailed causes problems if transaction errors occur. For this reason, a financial transaction monitoring information system is needed to provide financial information easily, quickly and in detail to all interested parties. The output of this system is a system that can record money in and out of financial statements in detail and delete transaction information so that if a transaction error occurs, it can be immediately resolved. Our acceptance test shows that all functions work well and have a high overall acceptance rate of 74.66%,

Keywords:

transaction monitoring, agent monitoring systems, post office Indonesia

1. Introduction

Monitoring is a monitoring process that can be explained as an awareness of what you want to know. Monitoring is carried out to be able to make measurements through time that show movement toward the goal or move away from it(Aris et al. 2016). Monitoring Information Systems can be used by companies in several fields, especially in the financial sector (Zaenal 2015). Especially in the financial sector, monitoring is carried out to ensure that activities related to finance such as recording transactions, cash flow, and reporting can be carried out properly. As in the Minister of Finance Regulation Regarding Financial Changes Number 213 / Pmk.05 / 2013 Regarding Central Government Accounting and Financial Reporting Systems (K. Keuangan 2016)

A business certainly needs funds to keep it running. These funds are used to finance the business for purposes such as funding employee salaries, production needs, and others. When managing finances make sure all records are matched with purchase receipts, transaction notes, or other proof of expenditure. And do regular and periodic monitoring. (Niko 2020) Regular financial transaction records play an important role in completing financial statements that can be utilized as business interests. This is because every financial transaction carried out by the company will be the initial information that must be recorded and processed so that later it will produce an appropriate and fast financial report.(novia, widya 2018) Along with the times, monitoring based on information technology has been used in government agencies in monitoring work unit(Asti, Rasyid, and muhammad 2016). Spreads that used to tend to be done manually and are relatively slow now can be done and accessed quickly and efficiently. Proven information system for monitoring sales and stock of goods, making it easier for businesses to monitor or know the sales and stock of goods from each branch, making it more efficient in improving all access in the organization. (Tajudin, Muhammad, and abdul 2016) (Abbas and irfan 2019), Transportation (Novianta and muhammad 2015) UMKM (Al-amin, Husni, and Ardhianto 2014) Education(Neforawati et al. 2015) , and many more but to date, no one has mentioned the financial monitoring process in detail and quickly.

PT Pos Indonesia (Persero) is one of the State-Owned Enterprises (SOEs) that provides postal, financial, logistical, and e-business services with a range of operations in almost all of Indonesia. As time goes by the post office

makes innovations, that is by partnering with the wider community so that post agent services are maximized. This makes it possible for people who are far from the post office to not have to come to the post office enough to come to the post agent there to make bill payments, send and withdraw money, and package delivery services.

The Indonesian post office initially only had 1 post agent, until finally there are currently 20 post agents and there are some that already have a post agent branch. As time goes by, post agents have problems in the financial transaction process due to the increase in customers and products. As a result, the financial transaction process is not controlled and the process of entering and leaving money is not well monitored.

To overcome this problem, it is necessary to create a financial transaction monitoring information system so that each financial transaction can be recorded in real-time, making it easier for postal agents to make reports and monitor financial transactions so that post agent financial data will be recorded in real-time and quickly. This research was conducted to help resolve the issue with the Post Agent Financial Transaction Monitoring Information System at the Indonesian Post Office.

2. Research Method

(Buchner, Brown, and Corfee-morlot 2010) This study uses data collection and consists of interviews and observations. The interview process took place at the postal agency office in the Griya Asri housing complex in Chavi District, Cianjur Regency, West Java Province. then arrange the time for the party to be interviewed. Interviews were conducted on February 2, 2020, then on February 5, 2020. Each interview takes 1 hour. At each meeting asking various topics such as business processes, organizational profiles and organizational structure, vision and mission, problems that exist in the company, the activities of actors, and defining the flow of activities in the production department. In addition to interviews also conducted observations that took place at the post office agent CV. Harmoni from 16 to 18 February 2020. These observations received additional phenomena and information not mentioned by the interviewees previously. The results of observations are recorded and summarized and validated to informants who have been interviewed before.

2.1 Business Process Identification and System Objective

(Ramadhan, Edi, and Sulistyo 2017) Identification of the post agent's business processes in conducting financial transactions. Before proceeding with the transaction, the post agent provides a balance to each branch of the post agent and the KPRK balance is used for the needs of the post agent and KPRK in conducting the transaction process. Postal agents only have 3 (three) product services including WU (Western Union), Pos Pay, Express Mail. WU (Western Union) is a product that serves the process of sending and withdrawing money at home and abroad, Pos Pay is a product that serves bills or payments such as. Internet, telephone, PDAM, motorcycle installments, insurance, etc. Every day KPRK postal and branch agents make financial transaction reports and give them to post agents and post agents combining financial transaction reports from each KPRK branch and branch office and then make reports and give them to the post office where they will be used as evaluation material by the post office . Postal agents have difficulties in the process of making financial transaction reports, where reports are only improvised in a self-made format, this makes it difficult for post agents to be asked to report financial transactions by the post office, in addition if there is a transaction error the post agent has difficulty in finding transaction data because the financial transaction reports are not recorded in detail and quickly the financial statements only display the results of all transaction income.

Table 1. Problems Foud during Business Process Identification

No	Problems Found	Description
1.	financial statements do not match	financial statements are not following the format that should be made only improvised, not recorded in detail, and quickly.
2.	recording errors in transactions	transaction errors often occur, especially in the WU service, because it is not well recorded as a result, postal and branch agents have difficulty in finding the transaction data.

The problems found during the identification of business processes are determined to help focus efforts to create a good system and increase opportunities to achieve that goal can be seen in **Table 2** below.

Table 2. Objectives of the Integrated inventory information system

No	Objective Description	Solving Problem No-
1	web-based system that can make financial reports quickly and precisely and can be accessed anytime	1, 2,
2	the purpose of this system is to provide information when an error occurs in a transaction and the recording or monitoring of transactions in detail	2,
3	the financial flow process used and the recording of financial in and out can be achieved	1, 2

2.2 System Design

(Ependi 2018)System design to determine the needs of users in the company of the system to be built that is useful for the interaction of interrelated elements working together to achieve goals. By using the design system translation process from the needs of the data that has been analyzed in a form that is easily understood by the user. Design database table design used.

The user table is used to store user data that can access the system. Following the user database design in table 3

Table 3. User managed database design

No	Attribute	Data Type	Length	Index	Information
1	User_id	Int	20	PK	Not Null, Bigint
2	name	String	255		Not Null, varchar
3	username	String	255		Not Null,Varchar
4	password	String	255		Not NullVarchar
5	role				enum
6	email	string	255		Not Null Varchar

The post agent branch manage table is used to store post agent branch data following its attributes. Following is the database design of managing postal agent branches in table 4

Table 4. Database Design managing post agent branches

No	Attribute	Data Type	Length	Index	Information
1	Id	Int	20	PK	Not Null,BigInt
2	Name	String	255		Not Null,Varchar
3	Address	String	255		Not Null,Varchar
4	Description	String	255		Not Null,Varchar

The balance management table is used to store balance data according to its attributes. The following is a draft of managing database balances in table 5

Table 5. designing a balance database

No	Attribute	Data Type	Length	Index	Information
1	Id	int	20	PK	Not null,BigInt
2	Description	string	255		Not Null Varchar
3	Amount	int	11		Not Null, Int
4	User_id	int	20	FK	Not Null,BigInt
5	Status				Not Null,enum

2.2.1 Actor's Identification.

(Hanif and Fitriani 2016) Identification of activities that support the running of the system being analysed. Based on user analysis it can be concluded that the actors involved in this system are the head of the posting agent, operational manager, post agent branch, KPRK, admin, each actor has their respective jobs. Of the 5 actors involved in the running system, all actors can use and access the system. There is the addition of an admin actor to manage user data that is making access rights so that users can access the system.

Table 6. *Actor's Identification*

No	User	description	Mentioned in
1.	Head of Postal Agency	The head of the postal agent can see the final report of the postal agent's financial transactions from the branch and KPRK	W1JQ1
2.	Operational manager	The part of the operational manager who makes the final report and confirms the balance request from the postal agent branch and the KPRK receives transaction returns and grants the system access rights to the postal agent branch	W2DQ1
3.	Postal Agent Branch	The branch office of the postal agent that makes a report of each product used in its branch and submits a balance to the postal agent and can receive transaction returns	W1JQ8
4.	KPRK	KPRK section that makes a report of each product used in its branches and submits balances to post agents and can receive transaction returns	W2YQ1

Note: W [x] [name] q [y] means that the actor was mentioned in the interview number [x] by interviewee [name] which explicitly mentioned in question number [y].

The main actor of the system created is the operational manager. This actor is very important in financial management and preparing financial reports and recording all transactions.

2.2.2 Functional Analysis.

(Sani, Pradana, and Rusdianto 2018)The system will be built to support the important points of the results of interviews that show conflict Based on functional analysis, it can be concluded that the functions used in the current system are the postal agent branch management module, Manage reports, Manage products, Manage transaction returns, Manage balances and Manage users.

Table 7. functional analysis

No	Functional Analysis	Deskription	Solving objective no
1	Manage Branches	Manage post agent branch data, Add post agent branches, Delete post agent branches, Edit post agent branches	1,2
2	Manage Employees	Manage postal employee branch employee data, Add Employees, Edit employees, Delete Employees	2
3	Manage Reports	Manage Reports from each service product, See Reports, Print reports	1

4	Manage Transactions	Manage Transactions of each product, View, Print, Verify, Receive	1,2
5.	Manage WU Returns	Manage transaction returns, add transaction returns	2
6.	Manage Balance	Manage balance data provided to each branch postal agent, Submission, Receipt	1
7.	Manage users	Manage users who access the financial transaction monitoring system of postal agents, Add users, View users, Edit users, Delete users	1,2
8.	Manage customers	Manage customers who will conduct transactions, Add customers, Edit customers, Delete customers	1,2

2.3. System Development

(Purnomo 2017) The software that has been built will be implemented and tested. Before running the software some things must be considered first, namely the software requirements. Software requirements are needed to support and facilitate the testing of software built. The software is built based on the web using the PHP programming language with Visual Studio Code tools and using the MySQL database and Apache Web Server in the Laragon application, google chrome as a media Web browser, Laravel Framework for PHP and the CSS Foundation Framework

3. Results and Discussions

Software testing is very necessary in an information system, where by doing a test will be found errors or errors that arise from the software system (Rouf n.d.)The design and manufacture of systems in this study were completed in the last 3 months wherein the testing phase using 2 techniques, namely by using system testing and user acceptance testing where this test is to determine the category of success in testing, design quality testing, implementation of tests and conclusions from the results quality testing

3.1. Information system monitoring financial transactions

On the balance management page, there is a balance transfer process that starts when postal and branch agents will start operating or when funds are needed. After submitting the balance, the operational manager will approve or not submit the application, after seeing the conditions of the postal agent and branch office can be seen in Figure 1.

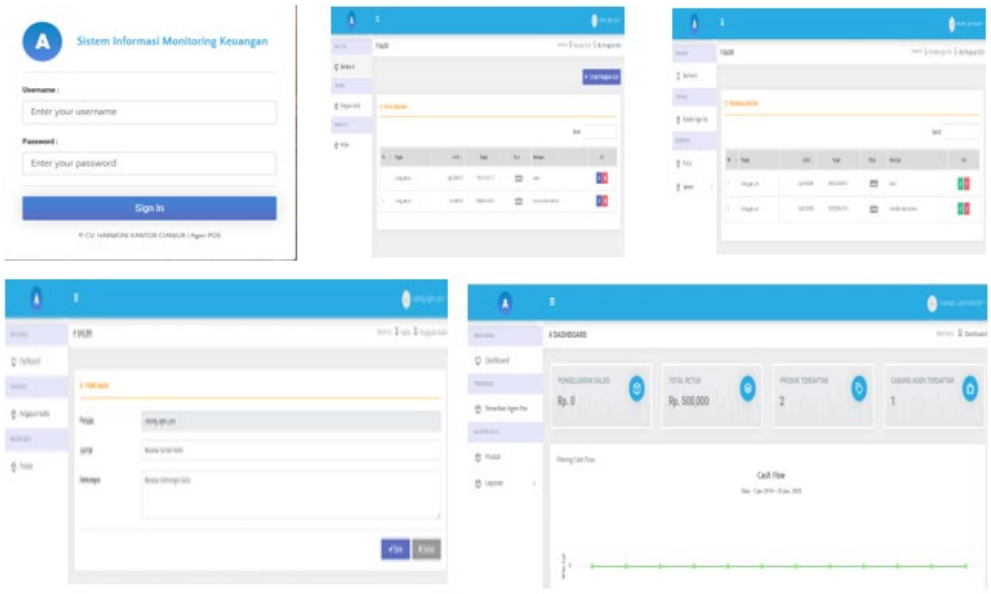
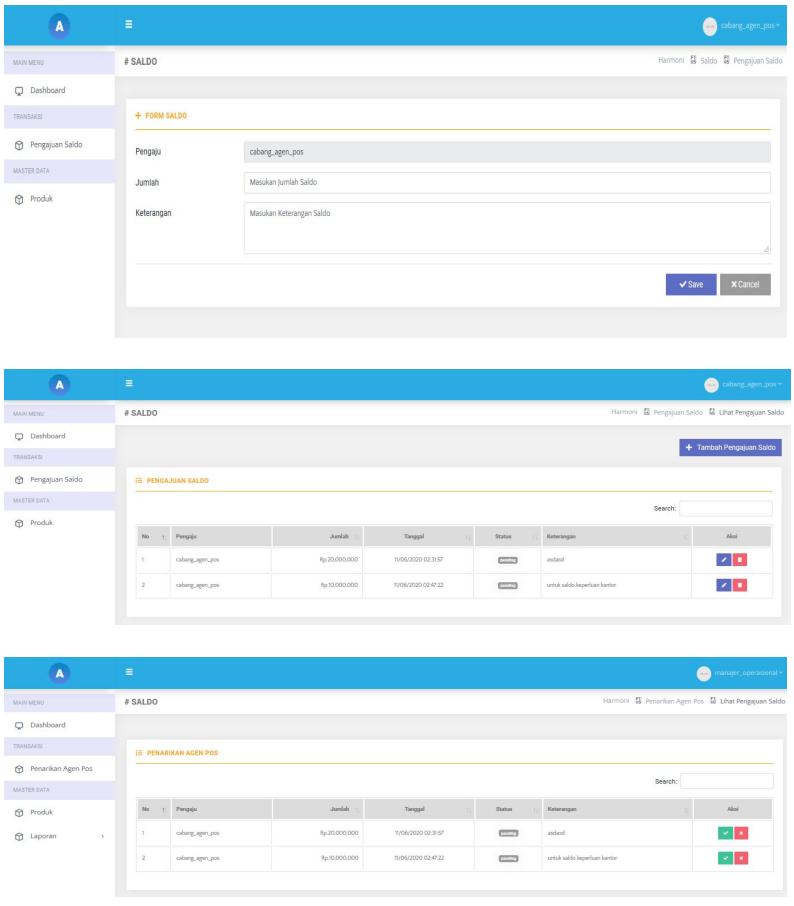


Figure 1 Information system monitoring financial transactions

There is also a management of post agent branches where all branches of postal agents are recorded in full and detail. Also, there is managing transaction returns where transaction returns are used when a mistake or error occurs in a

customer's transaction coming to the post agent's office or post agent's branch office and then notifying transaction errors and by bringing proof of his transaction after that the postal agent or postal agent branch will check the transaction is true there is an error or not if something goes wrong then the operational manager will notify the head of the postal agent

Table 8. Scenarios for the test case for the added balance function

Use Case ID	SAL-01
Use Case Name	Add Balance
Test Scenario	Test the use case manage balances in the added balance function
Test Case	Enter data in the correct and complete format
Pre-Condition	Balance data is empty
Test Steps	1. Press the add balance button
	2. Fill in balance data
	3. Click "save"
Test Data	4. Fill in the submitter <"branch 01">
	5. 1. Fill in the amount <"1,000.,000">
	6. Fill in the description <operational needs>
Expected Result	"Submission sent" notification appears
Post Condition	"Submission submitted"
Status (Pass/Fail)	PASS
Actual Result	

Furthermore, all users of this system are handled by the admin and operational manager. Each user is given a username and password to be able to access this system on the admin page and the operational manager-managed by the user. Admin and operational managers can add users, delete users, change, and view users.

3.2. The Acceptance Test

Lack of user acceptance has long been an impediment to the success of new information systems. The present research addresses why users accept or reject information systems and how user acceptance is affected by system design features (Davis 1993). For user testing this test is carried out with 22 test scenarios for 6 types of users: (1) the leader of the postal agency; (2) operational manager; (3) postal agent branches; (4) Customer, (5) receiver and (6) Admin. UAT results can be seen in Table 9

Table 9. UAT results

No	User/Tester	Acceptance Rate	Notable comments
1.	Customer	(1 out of 2) 50 %	"it would be better if printed transactions could be done at home not having to be branched off by post agents"
2.	Head of the postal agency	(2 out of 2) 100%	
3.	Operational manager	(9 out of 10) 90%	"better if you deactivate the postal agent branch"
4.	Postal agent branch	(5 out of 6) 83%	"verification will be better if asked directly to the person"
5.	Receiver	(1 out of 2) 50 %	
6.	Admin	(3 out of 4) 75%	"it would be better if you deactivate the user"
Average Acceptance		**74,66%**	

Based on **Table 9**, the acceptance test results obtained produced some of the highest percentage acceptance rates, namely at operational managers and 90,% of these results indicate this section was greatly helped by the existence of information about recording financial transactions. Although some users still experience difficulties in adjusting to the new system, especially on returning transactions. Some suggestions were also made during the test. Operational managers make better recommendations if you deactivate the postal agent branch

7. Conclusions

Based on the purpose of this study, the system has been able to assist in the process of monitoring financial transactions. So that the process of making financial (Purwati, Suryani, and Hamzah 2020) statement quickly and in detail can be done as it should and do not have to look for financial statements data beforehand, and the head of the Post Office can evaluate several branches of post agents and monitor transactions in real time, in addition the post office can get financial reports quickly. Based on table 7, the acceptance test results obtained in the percentage of acceptance rates of 74.66%, from these results indicate that Indonesian postal agents and post offices are helped by the existence of a financial transaction monitoring system. think about detailed financial statements.

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