

THE IMPLEMENTATION OF RAMIT TECH ROBOT ACCOUNTANT TO IMPROVE THE EFFICIENCY OF BOOKKEEPING AND FINANCIAL REPORTING IN BANYUMANIK HOSPITAL

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ABSTRACT

This research aims to analyze the implementation of RAMIT Tech Robot Accountant, which is a digital robot originally programmed by the author, whether it improves the efficiency of bookkeeping and financial reporting, and how the efficiency is improved. The digital robot is meant to be implemented on accounting information system of Banyumanik Hospital in Semarang, Indonesia. It has the capability of doing the bookkeeping and financial reporting by itself, including journalizing transactions, producing balance Sheet, income Statement, cash flow, and changes on equity. All of those thing can be achieved by the robot with minimum or without human intervention. The result of the research conducted would likely help the author to know whether the RAMIT Tech Robot Accountant improves the efficiency of bookkeeping and financial reporting or not and discover how the efficiency is improved. The result will help the development of the author's digital robot in the future.

The research is an action research. The steps of the research can be summarized into 4 steps, which are Planning (situational analysis), Implementation of Action (acting), Observing (acting), and Evaluation (reflecting). The author used the qualitative approach by descriptive analysis, and perform the analysis technique with PIECES Analysis, system analysis, weakness analysis and needs analysis. Data has been collected through action (intervention), interview, discussion, observation, documentation, and evaluation. The research was conducted in 1 year.

The result has shown that RAMIT Tech Robot Accountant improves the efficiency of Bookkeeping and Financial Reporting in the hospital. The digital robot improves the efficiency by giving more performance with more results and less effort, eliminating cost or expense of human accountant, giving better information system management and increasing consistency and accuracy. However, the RAMIT Tech Robot Accountant in current development still has some limitation in processing the transaction data. The digital robot is only capable of processing digital data and not capable of processing analog data. Although the digital robot still has some limitation, the robot can improve the efficiency of bookkeeping and financial reporting in Banyumanik Hospital and is able to take some role of accounting staff in Banyumanik Hospital.

Keywords: RAMIT TECH ROBOT ACCOUNTANT, ROBOTIC PROCESS AUTOMATION, DIGITAL ROBOT, ACTION RESEARCH

INTRODUCTION

Technologies take important role in the development of all areas of business systems in the companies or enterprises, including accounting. One of the technologies is called "digital robot" or "Robotic Process Automation". This technology comes with an assortment of custom programs that can be custom fitted to current business operations

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(Lacity and Willcocks, 2015). Boulton (2018), stated that Robotic Process Automation (RPA) is the utilization of technology that empowers representatives in a company to arrange computer program or robots to capture and decipher existing applications to handle exchanges, control information, and communicate with other advanced frame works.

The needs of RPA is obvious, remembering that the world keeps evolving and business always needs innovations. Business needs automation in order to make their business efficient. Therefore, it turns out that RPA is the right solution to provide benefits for the business or entities. RPA gives benefit of automation in all or some part of business process, allowing the elimination of cost and effort while giving more results.

RPA or digital robot comes to this era and is supposed to help human to do their job, or even can replace some human roles in certain task. RPA can do the tasks by automating repetitive process with attended or unattended automation, which means that the robot only needs a little human intervention or no human intervention. RPA done the task by running the command that has been programmed to do the specific task, the robot will do anything as to be told or programmed, the programming is done in programming language. Any task can be done automatically by the robot as long as the workflow can be determined and written in line of code.

RPA has close relationship with Artificial Intelligence (AI). AI is intelligence that demonstrated by machines, unlike the natural intelligence displayed by humans, which involves consciousness and emotionality (Russel, Norvig, 2013). AI enables computers and machines to mimic the perception, learning, problem-solving, and decision-making capabilities of the human mind. RPA and AI add tandem to expand automation into all kinds of new areas which allowing to automate more and sophisticated tasks. The implementation of RPA and AI are still new.

Prior research has been conducted regarding the Robotic Process Automation (RPA). One of the research is Cooper, Holderness, Sorensen, and Wood (2019)'s, which focus on the implementation and usage of RPA technologies in Public Accounting industry, using the RPA software programmed by other RPA Company, such as Automation Anywhere, Blue Prism, UI Path, and Winautomation. The result showed that RPA has increased quality and brought about staggering increases in efficiency, improving processing times by 70 to 80 percent and diminishments of over one million human work hours. Therefore, it shows that most RPA software can improve the efficiency of the business process.

Fernandez and Aman (2019) conducted the research to examine the RPA impacts on Global Accounting Service (GAS) industry. The result of the study appeared that RPA gives critical impacts on individual and organization resulted within the change and diminishment of work, thus reducing the number of employees. The research also showed that RPA is able to provide better work quality and accuracy, and consequently save the accountant's time. Fernandez and Aman (2019) suggest future research to discover challenge in implementing RPA.

Jędrzejka (2019)'s did the research in order to explain the concept of RPA, and the way it impacts on accounting. The result gives insight of the nature of accounting transformation using RPA. Robots are anticipated to replace accountants for some portion of their tasks or roles in accounting process. It may lead to the vanishing of entry-level bookkeeping positions and, at the same time, the creation of new accountant roles. However, the limits and barriers of the RPA need to be explored, as well. The

consequences of human-machine collaboration also should be examined to develop methods to counter the potential negative effects.

There are difference between prior research and this research. This research has the purpose of seeking out efficiency outcome from implementing the author's very own original RPA, RAMIT Tech Robot Accountant, which is a digital robot or RPA programmed by the author himself. However, the gap from the previous research can be fulfilled through this research, because this research is also including the implementation of RPA. This research can fulfill the previous research gap by discovering not only the efficiency outcome from RPA implementation, but also the barrier or limitation, challenge, and other impacts of implementing the RPA, including the human-machine collaboration.

The RPA technologies will make a big help especially in this era, where now is the era of the Covid-19 pandemic, and the new pandemic will force technologies to create new solution. The author has given a thought and decided to bring innovation in accounting field, and the author has an intention to bring easiness and more efficiency for the people in all field of business, start from the accounting. The author has programmed a digital Robot or RPA called "RAMIT Tech Robot Accountant" to do accounting task, which are bookkeeping and financial reporting.

RAMIT Tech Robot Accountant is a digital robot or RPA that is programmed by the author, using AHK or Autohotkey programming language, which is a language similar to VB or Visual Basic language. This programming language can be considered as high level programming language such as C, Python, Ruby, etc. The name of "RAMIT" comes from the first three letters of the author's name, which is "Ram", and the "IT" which stands for "Information Technology". The author intended to program this robot to help human doing their professions works, starting from accounting.

Needles and Powers (2013) stated that accounting is the process of recording transactions to be reported in financial report. The accounting cycle can be summarized into two parts, which are bookkeeping and financial reporting. Not everyone can do accounting tasks, it needs some perks like accounting skills, attention to detail and perfection. However, the author thought that accounting process, which includes bookkeeping and financial reporting can be done by the robot.

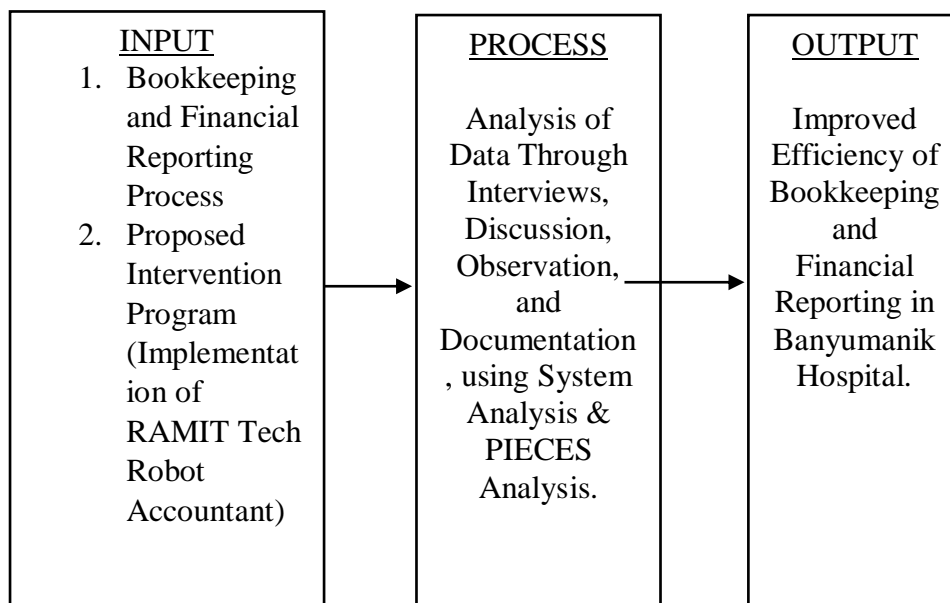
It is possible for robot do those things because bookkeeping and financial reporting are entry level process and considered as repetitive tasks. Robot can be programmed to follow the accounting system and procedure. Therefore, the author decided to create a digital robot accountant and conducted a research for its efficiency. The author wanted to do this research in order to find out whether the digital robot or RPA which is programmed by himself called "RAMIT Tech Robot Accountant), can improve the efficiency of existing business process, which in this occasion is accounting, that focusing on bookkeeping and financial reporting, and learn how the robot improves the efficiency of the bookkeeping and financial reporting.

RAMIT Tech Robot Accountant was implemented by the author in Banyumanik Hospital, in Indonesia. Banyumanik Hospital is a Class D type of Hospital in Semarang City. The author implemented and programmed robot to follow the workflow of accounting information system in Banyumanik Hospital. During the implementation, the robot supposed to do the entry level work of bookkeeping and financial reporting in Banyumanik Hospital.

CONCEPTUAL FRAMEWORK

The conceptual framework is a diagrammatic presentation of the study to visually summarize the entire research. It is the results of a clearer understanding of the theoretical or conceptual framework. It is comprised of symbols and figures like lines, shapes, and arrows (Cristobal, 2016). The author used the Input-Process-Output (IPO) paradigm model. This framework is used to seek the phenomenon or transformation within the subject by an element or a serious variable which in this research is addressed as the intervention or proposed intervention program. The conceptual framework can be seen in the picture below:

Picture 1 The Conceptual Framework of The Research



RESEARCH METHODOLOGY

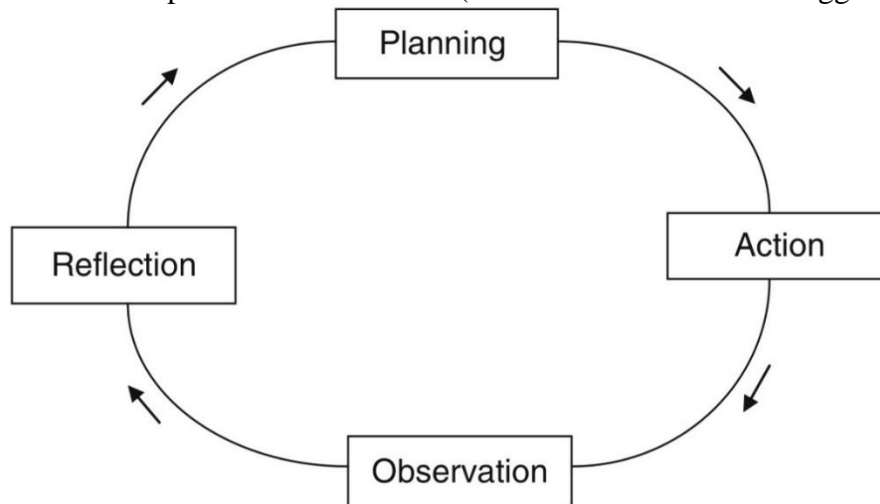
The method of the research conducted during this opportunity is Action Research. Action research is usually mentioned as a strategy for social and cultural change and improvement. (McNiff and Whitehead, 2009). The point of action research is to optimize the practitioners' way for better understanding of their practices, improve the practice, also provide innovation and advancement or development of social practice. Action research is about improving practice through improving learning, and articulating potential significance of the research within the interests of helping to seek out better ways of cohabitation successfully.

Action research is an intervention in individual practice to energize enhancement for oneself and another. The thought of action research must involve an improvement. The action research focuses on investigating how the action has contributed to improvement, which is becoming a process of knowledge creation, offering explanations for a way and why this went in order to become a process of theory generation.

Kemmis and McTaggart (2014) described action research as to plan, act, observe and reflect more carefully, more systematically, and more rigorously than one usually does

in everyday life, and to use the relationships between these moments in the process as a source of both improvement and knowledge. A framework of action research can be developed comprising four major cycles of activity as below:

Picture 2 The Steps of Action Research (cited in Kemmis and McTaggart 2014)



The relationship between these four elements is the main uniqueness of action research. Therefore, the action research is should be done in cycles, not only one cycles or intervention. The details of elements of the action research can be described as follow:

1) Planning (Situational Analysis)

This may be a pre-stage of the research process, that specialize in the establishment of the research context for the required. The varied internal and external factors to the researched community are identified and analyzed to suggest that a change is important. The analysis and diagnosis of problems and wishes must be wiped out a collaborative nature, in order that the method commences with a shared understanding of the vision and mission of the research. The design for the idea of the action to be taken is formed during this stage.

2) Implementing the Action (Intervention)

Implementation of Action or Intervention is the process of taking action on the strategies and activities that are planned during the design stage of the primary cycle. Intervention is additionally called the implementation of the activities as prescribed by the varied groups involved within the action research.

3) Observation (Intervention)

It is the time of obtaining the evidences, which is the result of the action implementation or solution performed is successful or not. The observation is done by the observer.

4) Reflecting (Evaluation)

Reflecting is the step that gives the chance to reflect in the outcomes of the intervention. Outcomes are evaluated in terms of whether the specified results are achieved, the diagnosis is correct, and therefore the action taken is acceptable. It's worth noting here that in every cycle of the action research there's a process called "meta learning" occurring to the participants and therefore the researchers. Meta learning is an experiential learning cycle consisting of activities like understanding, planning, acting, observing, reflecting and interpreting, of the activities that one

acts on. These processes are literally the core components of learning in any action research. Researchers got to develop skills at each activity. Similarly, they have to be ready to experience, stand back and ask questions, be ready to conceptualize answers to questions, and be ready to take risks.

The author also infused the System Development Life Cycle (SDLC) into this Action Research method. SDLC is a project management model that defines the stages involved in bringing a project from inception to completion. The system development life cycle is the overall process of developing, implementing, and retiring information systems through a multistep process from initiation, analysis, design, implementation, and maintenance to disposal (Radack, n.d.). Romney and Steinbart (2018) stated that there are 5 phases of SDLC, which are :

1. System Analysis

This is the step where businesses will work on the source of their problem or the necessity for a change. Within the event of a drag, possible solutions are submitted and analyzed to spot the simplest fit the last word goal of the project. This is often where teams consider the functional requirements of the project or solution. It is also where system analysis takes place or analyzing the requirements of the top users to make sure the new system can meet their expectations. analysis is significant in determining what a business"s needs are, also as how they will be met, who are going to be liable for individual pieces of the project, and what kind of timeline should be expected. There are several tools businesses can use that are specific to the second phase, includes CASE (Computer Aided Systems/Software Engineering), Requirements gathering, and Structured analysis.

2. Conceptual Design

This phase describes in detail, the required specifications, features and operations which will satisfy the functional requirements of the proposed system which can be in situation. This is often the step for end users to debate and determine their specific business information needs for the proposed system. It is during this phase that they are going to consider the essential components (hardware and/or software) structure (networking capabilities), processing and procedures for the system to accomplish its objectives.

3. Phsyical Design

This is the stage when the important work begins. In particular, when a programmer, network engineer and database developer are brought on to try to the main work on the project. This work includes employing a flow chart to make sure that the method of the system is correctly organized. The event phase marks the top of the initial section of the method. Additionally, this phase signifies the beginning of production. the event stage is additionally characterized by instillation and alter that specialize in training are often an enormous benefit during this phase.

4. Implementation and Conversion

This phase involves systems integration and system testing (of programs and procedures)—normally administered by a top quality Assurance (QA) professional—to determine if the proposed design meets the initial set of

business goals. Testing could also be repeated, specifically to see for errors, bugs and interoperability. This testing are going to be performed until the top user finds it acceptable. Another a part of this phase is verification and validation, both of which can help make sure the program"s successful completion. Additionally, this phase involves the particular installation of the newly-developed system. This step puts the project into production by moving the info and components from the old system and placing them within the new system via an immediate cutover. While this will be a risky (and complicated) move, the cutover typically happens during off-peak hours, thus minimizing the danger. Both system analysts and end-users should now see the belief of the project that has implemented changes.

5. Operations and Maintenance

The seventh and final phase involves maintenance and regular required updates. This step is when end users can fine-tune the system, if they want, to spice up performance, add new capabilities or meet additional user requirements.

Procedure of Action Research

The author takes the procedure with these stages, which are:

1. Identifying problem
2. Analyzing The System Analysis, Weakness Analysis and Needs Analysis
3. Planning action
4. Offer RAMIT Tech Robot Accountant Implementation
5. Implementing the action (Intervention)
6. Run and Test the Robot
7. Observing
8. Analyzing The Implementation Outcome Using PIECES Analysis
9. Reflecting (Evaluation)

Type and Source of Data

The type of data in this research is qualitative data. The source of the data in this research is primary data. The datum is collected directly through interview, discussion, observation, and documentation. The qualitative data used in this research is related to the workflow or process of bookkeeping and financial reporting in Banyumanik Hospital, including the time, cost, and effort performed as the element of efficiency in the process of bookkeeping and financial reporting, before and after the implementation of RAMIT Tech Robot Accountant.

Data Collection Method

The data collecting technique that will be used in this research are:

1. Interviews
The interview is conducted as information assortment strategy with pose a few inquiries or inquiry and answer verbally against the subject under investigation. Inquiries questions are exercises identified with the organization's bookkeeping exercises.
2. Discussion

The focus groups discussion is conducted as a discussion but also including semi-structured with a list of pre-designed questions, but they can also be more open-ended and flexible.

3. Observation

Observation is conducted by observing the beginning analysis phase and after action implementation or intervention phase.

4. Documentation

A documentation of events is conducted to document all the data needed for the research.

Data Analysis Method

The author did the data analysis technique by using the technique of System Analysis, including identifying old system, Weakness Analysis, and Needs Analysis for analyzing current system and problems, after that followed up by offering the intervention of RAMIT Tech Robot Accountant for the result to be later analyzed using PIECES Analysis. Mulyadi (2001), explained that system analysis is understanding and identifying in detail what the system should do. In addition, systems analysis can also be defined as a complex organizational process where this analysis acts as a process of defining problems in information systems. According to Al Fatta (2007), system needs analysis are statements about what the system must do and what characteristics the system must have to meet the needs of its users. Besides, Al Fatta (2007) stated that system weakness analysis is an analysis of problems that must be resolved with an information system and what is the cause of the problem. Al Fatta (2007) also described that the PIECES method is a method of analysis as a basis for obtaining more specific issues. In analyzing a system, it will usually be done on several aspects, including performance, information, economy, control, efficiency and customer service.

1. System Analysis (Analyzing The Old System)

The initial stage carried out by the author is to do system analysis or identification of the system that is running. Identification is carried out by collecting existing data in the company. Collection data aims to find out how the system is running in the company. Data includes the components of the accounting information system, accounting functions, and the accounting information system flowchart in the company, which means the workflow or process of bookkeeping and financial reporting in the Banyumanik Hospital. At the system analysis stage that is running on company, the author will test and perform analysis on components of the accounting information system to improve and increase the capability of the system to be developed. Data will be compiled based on the results of interviews and observations done by the author. Researcher uses some questions as guidelines, which are:

- a. Who are the users of the accounting information system in the company?
- b. What procedures are included in bookkeeping and financial reporting in Banyumanik Hospital?
- c. What data is generated in the company? Are there related accounting documents and records with the accounting information system at Banyumanik Hospital?

- d. Does the company already use the Management Information System or accounting software in its bookkeeping and financial reporting process?
 - e. What technology infrastructure is there in Banyumanik Hospital to support the activities of bookkeeping and financial reporting?
 - f. How many staffs or human resources needed to do the task of bookkeeping and financial reporting?
 - g. How much times required to do the bookkeeping and financial reporting?
2. Conduct a Weakness Analysis.

After analyzing the old system, the author then identifies the weaknesses in the current system that runs in the company. This identification is carried out on the basis of the results of interviews and observations. The purpose of this identification is to find out the weaknesses and causes of problems in the old system. The researcher uses some question as indicators of problems in the running system, which are:

- a. What are the problems that occurred in current system of bookkeeping and financial reporting?
 - b. Are there any obstacles faced by the company on the current system?
3. Perform Needs Analysis

The results of the analysis from the weakness identification stage are used to do a needs analysis. The purpose of analyzing need is to understand what it really is needed by the company to improve its system long. Researchers will develop an accommodating system needs that are necessary and will decide whether the development of a new system is needed. Following is a question that is used by researchers as determinant for system requirements:

- a. What are the tasks that must be done by the current bookkeeping and financial reporting's system?
 - b. What are the characteristics that the current bookkeeping and financial reporting system must have?
4. PIECES Analysis

The author performs analysis of implementation results comparison, after the intervention and observation has been conducted using PIECES analysis. The first stage is to analyze the results of the application or implementation of the robot. The analysis is carried out by describing the Performance, Information, Economy, Control, Efficiency, and Services from implementing the robot. The analysis is performed after intervention and observation in each cycle has been done, in order to compare the difference between old system and new systems, or the previous cycle and new cycle, that has been occurred in the company after implementing the RAMIT TECH Robot Accountant.

The purpose of this analysis is to see the difference before and after implementing the digital robot and see whether the robot programmed by the author can meet needs and improve the efficiency of bookkeeping and financial reporting in Banyumanik Hospital.

RESULT AND ANALYSIS

Interpretation of The Results

1.) Cycle I

In the first Cycle, the RAMIT Tech Robot Accountant can process 250 transactions in 38 minutes. However, the robot still cannot process the credit transactions because the author did not program it to detect the credit transactions. So the financial report including income statement, balance sheet, cash flow and changes on owner's equity cannot be provided yet by the robot in the Cycle 1. Other than that, it still can do the debit transaction processing automatically without the need of the human accounting staff to do the bookkeeping and financial reporting. The author needs to reprogram the robot to be able to process all kind of transactions.

2.) Cycle II

In the second Cycle, the RAMIT Tech Robot Accountant can process 426 transactions in 1 hour and 11 minutes. The digital robot is able to process most transactions into a financial report, including income statement, balance sheet, cash flow, and changes on owner's equity. However, the author realized that the robot cannot differentiate or categorize Cash transaction for Cash On Hand and Cash Bank account, therefore the author has to fix and re-program the robot. The process are terminated fairly, but with notes of the Cash Account problems. Other than that, the digital robot can eliminate the cost of human accounting staff in the entry level. Almost no effort is needed to do the bookkeeping and financial reporting using by using the digital robot, only single click needed to activate the robot. The robot can do the task of bookkeeping and financial reporting automatically with adding more efficiency accuracy.

3.) Cycle III

In the third Cycle 3, the RAMIT Tech Robot Accountant can process 426 transactions in 16 minutes. But now the robot can process all kind of transactions, the Cash on Hand and Cash Bank problems are now fixed. The robot now can categorize and differentiate between Cash on Hand and Cash Bank transactions for the Cash Account. The digital robot can eliminate the cost of human accounting staff in the entry level. Almost no effort is needed to do the bookkeeping and financial reporting using by using the digital robot, only single click needed to activate the robot. The robot can do the task of bookkeeping and financial reporting automatically with adding more efficiency and accuracy.

The overall result can be described using PIECES Analysis as follow:

Table 1 The Analysis of comparison with PIECES Analysis

Types	Old System	After Implementing RAMIT Tech Robot Accountant
Performance	In the old system, the company is still doing the bookkeeping and	After implementing the RAMIT Tech Robot Accountant, 450

	<p>financial reporting manually. The accounting staff needs 45 minutes to process 150 transactions. Recording with this method or manually considered inefficient so there is possibility that there is some missing input or not all transactions are recorded properly.</p>	<p>transactions can be processed and done in 1 Hour and 16 minutes. The process is done automatically without human intervention. The accounting staff does not need more to do the bookkeeping and financial reporting in the entry level by themselves.</p>
Information	<p>The transaction slip, invoices, checks and the transaction documents are kept on separate books or papers. This may give a result in incomplete information about orders and customer lists and cause mismatches in the information required.</p>	<p>The RAMIT Tech robot accountant can detect all kind of the information as long as it is displayed and stated in the digital form. Therefore, as long the data are digitalized, the robot can process and provide accurate and comprehensive information without mismatches.</p>
Economy	<p>With using Human Accounting Staff to do the bookkeeping and financial reporting process, Cost and Expense is needed to pay the salaries of the accounting staff, which makes the cost higher.</p>	<p>After implementing the RAMIT Tech Robot Accountant, no human accounting staff is needed to do the bookkeeping and financial reporting process in the entry level. It can eliminate the cost of human accounting staff or the accounting technician, but not the managerial accounting role.</p>
Control	<p>Financial management of the company is still keeping the data of sales notes, cash receipts records, cash disbursements records</p>	<p>The digital robot detected the data required to be processed which has been digitalized, and requires all data to be digitalized.</p>

	and data customers in the form of paper that is often fragmentary. Therefore it may cause less internal control.	So if the robot finds that there is some missing essential data or information, it will not process the missing data. The robot also keeps all the data digitally without fragmentary, improving internal control.
Efficiency	Manual transaction recording by human accounting staff in entry level is still not very efficient, because it needs more labor cost and could cause errors in the transactions entry or bookkeeping process. This has an impact to the preparation of financial reports, which can lead to errors due to the manual input process.	The implementation of RAMIT Tech Robot Accountant improves the efficiency of bookkeeping and financial reporting in Banyumanik hospital by lowering the cost, effort and give more result, with automatic process, not manually.
Service	Manual data input and management often results in inaccuracy of data.	The data management and processing are done automatically by the robot, and also it has the capability of increasing the accuracy. As long as the robot is programmed correctly, accuracy will always be in perfection.

CONCLUSION

Conclusion

1. How to Implement RAMIT Tech Robot Accountant in the Hospital?

To implement the RAMIT Tech Robot Accountant in the hospital, the author has to do the first cycle of the action research, by starting from the identification of the old system first, including system analysis, weakness analysis, and the needs analysis from the old system. After that, the author the planning for the making and programming of the robot, including the design and algorithm needed for the hospital's system. Once the planning has been done, intervention is conducted in order to test and implement the robot, which gives the author opportunity to observe the outcome from testing and implementing the robot. And

then, when the observation is done, the author evaluates and reflects the result based on what author found in the observation.

If the author found that there are still problems or errors, and if some fixes or updates should be made for the robot after doing the reflection, the author has to conduct next cycle with the same step again, until the robot can do the job perfectly. After conducting the process of Planning, Intervention, Observation and Evaluation, the author found that the efficiency of Bookkeeping and Financial Reporting in Banyumanik Hospital is improved after implementing the RAMIT Tech Robot Accountant, and the robot can be implemented in the hospital. The author conducted at least 3 cycles in order to successfully implement the robot.

2. How The Efficiency is Improved?

The RAMIT Tech Robot Accountant implementation improved the efficiency of Bookkeeping and Financial Reporting in Banyumanik Hospital by increasing the ability to process more transaction in a less time, and provide more results. The author did 3 cycles of intervention. In the Cycle I, the robot is able to process 250 transactions in 38 minutes, it is quicker and gives more result compared to the entry-level human accountant, which is only able to process 150 transactions in 45 minutes. In the Cycle 2, the robot is able to process 426 transactions in 1 hour and 11 minutes, which brings more improvement, although there are still some issues. Finally, in the Cycle III, the robot is able to properly process all 426 transactions in 1 hour and 16 minutes.

The robot also eliminated the cost of human accounting staff in the entry level with not involving the human accounting in the bookkeeping and transaction process in the entry level, only single click to activate the robot before the bookkeeping and financial reporting begin to be processed. The robot also increased the accuracy of the process.

Limitation of The Research

The limitation of the research is that the burden exists in testing the RAMIT Tech Robot Accountant, because there is inconsistency in the process of bookkeeping and financial reporting in Banyumanik Hospital. The accounting staff didn't always fully input the required information for the transaction so it makes difficult for the robot to properly process the data digitally, such the information in the "description" or "uraian" section, where it supposed to indicate cash account or payable account. There is also inconsistency in the input of the account number, and dates of transaction. Besides, the author also found some "N#/A" cells in the journal entry field workbook in excel after the implementation of the robot, which supposed to be filled automatically by the robot with the placement of accounts, it was happened because the hospital's accounting staff did not consistently input the formulas to the specified cells in the excel file yet. Therefore, it affects the performance of the robot, remembering that the limitation of the robot is only can process digital data.

Suggestion

After finding the result of the implementation of RAMIT Tech Robot Accountant to the efficiency of Bookkeeping and Financial Reporting, which is in this occasion in Banyumanik Hospital, the author would like to provide suggestion. The suggestions are as follows:

a. To Future Research

To know more about the accuracy of the RAMIT Tech Robot Accountant to improve the efficiency of Bookkeeping and financial reporting in detail, the author suggested that the future research should include and provide more insight from the practice of implementing RAMIT Tech Robot Accountant, because the research conducted by the author has the lack of the insight from the practice of the robot implementation. Also, it is suggested choose workplace that implement fully the digital data processing for accounting. For example, the company or workplace who uses digital invoice, digital transaction slip, etc. Because in this research conducted in Banyumanik Hospital, the hospital is not fully implemented the digital process for accounting.

b. To Creator of RAMIT Tech Robot Accountant (The Author Himself)

After knowing the result of RAMIT Tech Robot Accountant implementation, it is recommended and suggested for the creator (the author himself) to start developing physical or humanoid robot for accounting that can process analog data, not only digital data, and perform physical activity that can transform analog data into digital data.

c. To Future Client

Future client should be convinced to use RAMIT Tech Robot Accountant as the solution for their business automation, especially if their business and accounting process is already fully in digital mode.

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