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Analysis of the Application of Accounting Information Systems in the Revenue and Cash Receipts Cycle (Case Study of the Company PT. ASM)

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A B S T R A C T

PT. ASM is a research, development and consulting services company that has the main objective of assisting in the implementation of Domestic Component Level (TKDN) certification for a product. This study aims to determine how the application of accounting information systems related to the revenue and cash receipt cycle before and after PT ASM uses web-based applications in order processing, and measuring the effectiveness. This study uses a descriptive qualitative approach with a case study research type. The results of the study indicate that web-based applications as one of the improvements to accounting information systems that have been effectively implemented to minimize obstacles in order processing, but have not been fully effective in reducing the overall order completion time significantly.

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INTRODUCTION

Accounting information systems are defined as a system that collects, records, stores, and processes data to generate information for decision makers. (Romney & Steinbart, 2021). Data is generated from day-to-day business operations and carried out continuously. This cycle describes the turnaround of transactions from the sale of goods or services, then consumers make orders, then the company performs the order processing, until the process is completed, and receiving payment from the consumer. The revenue and cash receipt cycle becomes the main cycle in the company because revenue is one of the important factors to finance the company's operations and determine the survival of the company.

In this research focused on the case study of the company PT. ASM. PT. ASM is a company that is engaged in the field of services related to research and product development as well as consultancy. From the business operations carried out by this company, the main objective is to help the industry to carry out TKDN certification (Level of Domestic Components) and to assist the industry in making modifications of their products as a step to increase the score of TKDN. PT. ASM has been in place since 2020 with the start of the business journey only serves web design and application services. Then over time, PT. ASM has been expanding with a wider range of services, there is product development and consulting as a supporter of the TKDN (Level of Domicile Component) certification for various industries with a variety of different product categories. Starting from serving only one category of telecommunications products is handheld telephone only and can complete 10-20 units of the model product per year, but currently has extensive serving TKDN certification process ranging from the category of electronics products, health devices, battery-based electric vehicles to other common goods, with access to can complete the model of the product 100-130 units per year. As developments occur and the workforce involved also increases, the process of order processing becomes more complicated and takes longer without a clear system. In particular, PT.ASM is as a consultant responsible for keeping the TKDN certification process running properly and on time. Therefore, PT. ASM must make improvements to the accounting information system especially at the stage of order processing. This is a key indicator driving customer confidence in PT. ASM services, because the better the performance or service of a company, the sustainability of the relationship with the client will also be awakened.

One of the improvements made by PT. ASM is to create a web-based application for the order process, which helps in performing assumption calculations of TKDN score. Generally, TKDN calculations only use Excel-based programs, but with the progress and increasing number of product models being certified, it is not possible for PT. ASM to use the old system. Bad possibilities such as formula errors in calculations, as well as other problems can occur and hinder the entire process. The current problems in PT.ASM are closely related to the revenue and cash receipt cycle at the order processing stage. Therefore, this research is important to learn more about the

implementation of an accounting information system focused on the revenue and cash receipt cycle. Analysing how the system application before and after using a web-based application in assisting the execution of orders, as well as measuring whether the application implementation has been effectively carried out. This research presents evidence of the application and updating of accounting information systems in the application of web-based applications in PT. ASM, is expected to help as a reference for companies that have relevant problems or need to develop a new system. And this research fills the gap that the evaluation of a system is not only measured by considering the effectiveness from the perspective of accelerating the time in completing a business process, but is also measured from the perspective of considering the effectiveness of increasing productivity and the ease of positive changes produced by the system.

LITERATURE REVIEW

Accounting Information System

According to (Mulyadi, 2017), Accounting Information System is an organization that coordinates forms, records, and other documents to provide financial information needed by management to facilitate business or financial transactions in a company. Another theory states that Accounting Information System (AIS) is a system that collects, records, stores, and processes accounting data to produce information for decision makers.

Accounting Information System Components

Accounting information systems have six components according to (Romney & Steinbart, 2021), such as : (i) People who use the system, (ii) Procedures and instructions used to collect, process, and store data, (iii) Data about the organization and its business activities, (iv) Software used to process data, (v) Information technology infrastructure, which includes computers and communication network devices used in the accounting information system, and (vi) Internal controls and security measures that store accounting information system data. These six components are very important and must be well integrated to build a good information system.

Revenue and Cash Receipts Cycle

According to (Romney & Steinbart, 2021) the revenue cycle is a series of business activities that are carried out repeatedly and the information process is related to producing goods and services to consumers and receiving payment for the sale or service. According to (Mulyadi, 2017) cash receipts are cash received by the company, either in the form of cash or securities that can be used which come from company transactions. Cash receipts are interrelated with the revenue cycle, because in the revenue cycle there are four main activities, specifically receiving orders, processing orders, billing, and finally cash receipts.

Domestic Component Level

Domestic Component Level (TKDN) is an important aspect in the procurement of goods or services in Indonesia. The Domestic Component Level (TKDN) is the value of the use of goods or services sourced domestically from an activity/production. The Domestic Component Level is assessed from the manufacturing aspect and the development aspect of a product. This TKDN has several product categories and is regulated in the Regulation of the Minister of Industry, but some products or services that have been successfully completed by PT.ASM are the electronic and telematics product categories, mobile phone, handheld computer, and tablet product categories, medical devices, applications, two-wheeled electric motor vehicles, and other general products.

Web-Based Applications

An application is a program designed to be ready to use with various features that can make it easier to run commands from users. According to (Saputra, 2020) a web-based application is an application that can be accessed using a web browser or web explorer via the internet network, which has the advantage that web-based applications can be easily accessed by users without having to install it.

Effectiveness and Efficiency

According to research (Sinaga, 2018) effectiveness is a condition that states success in carrying out an activity to achieve a predetermined goal. If a company succeeds in achieving the expected goal, then the company is declared to have run effectively. Meanwhile, efficiency according to (Qurniawati, 2013) is the best comparison between an activity and its results. Efficiency itself is when we enter a certain input, it will produce an output whose result is the same as one. With the conclusion that efficiency is a company's activity in achieving a certain goal by using available resources (low input) but the output produced can be optimized. This study will discuss the measurement of the effectiveness of an application developed by PT. ASM.

METHODOLOGY

This study uses a descriptive method with a qualitative approach. The type of research applied in this study is a Case Study research type. The research was conducted at PT. ASM which is a service company engaged in research and development and consulting and is located in Cibubur, East Jakarta City. The research was conducted for approximately 4 months starting from January 2024 to April 2024. Data analysis from this study was obtained through interviews, observations, and documentation which aimed to find out and answer the formulation of problems related to the implementation before and after using web-based applications. In addition, the application will be measured for its effectiveness supported by an analysis using the PIECES analysis method referring to research (Al Fatta, 2007) and using five indicators of effectiveness measurement that refer to the theory according to Campbell J.P (Mutiarin & Zaenudin, 2014). In measuring the effectiveness of using the

application, it cannot be separated from the role of application users, both from internal PT. ASM and external.

RESEARCH RESULT AND DISCUSSIONS

Implementation of Revenue and Cash Receipt Cycle Accounting Information System at PT. ASM before Implementation of Web-Based Applications in the Order Processing

PT. ASM has a working procedure in running the revenue and cash receipt cycle, the working procedure applied from the beginning of the receipt of orders until the receiving of cash can be completed in 100 days. A table of the total time of completion of the orders can be seen in table 1 and if described in the flowchart work procedures can be viewed in figure 1 below :

Table 1. Total Order Completion Time Table of PT. ASM

No.	Work Procedures	Procedure Category	Completion Time With the Old System
1	Client Engagement, Sending Price Quotes	Receipt Order	4 Workdays
2	Down Payment Invoice Issued, Down Payment Received	Billing and Cash Receipts	15 Workdays
3	Agreement of Cooperation Agreement, Creation of Timeline Documents for Reference Dates for Work Completion Process, Issuance of Work Orders to Operational Section, Update of Project Database (Input of New Projects), Request for TKDN Documents to Clients, and Receipt of Samples and Documents Required for TKDN	Processing Order	10 Workdays
4	Product Modification Work Process Begins	Processing Order	18 Workdays
5	Manufacturing Aspect Document Completeness Check	Processing Order	5 Workdays
6	Assumption TKDN Score Calculation	Processing Order	4 Workdays

7	Final Examination of Audit Documents & Coordination of Audit Schedule to Surveyor Institution, and Audit Process	Processing Order	5 Workdays
8	Advanced Verification Process By Surveyor and Ministry, Certificate Issuance Process By Ministry	Processing Order	21 Workdays
9	Preparation of Work Completion Reports, Submission of Work Reports and TKDN Certificates	Processing Order	3 Workdays
10	Payment Settlement Invoice Issuance, Payment Settlement Received	Billing and Cash Receipts	15 Workdays
	TOTAL ORDER COMPLETION TIME		**100 Workdays**

Source : Data Processed From Interview Result (2024)

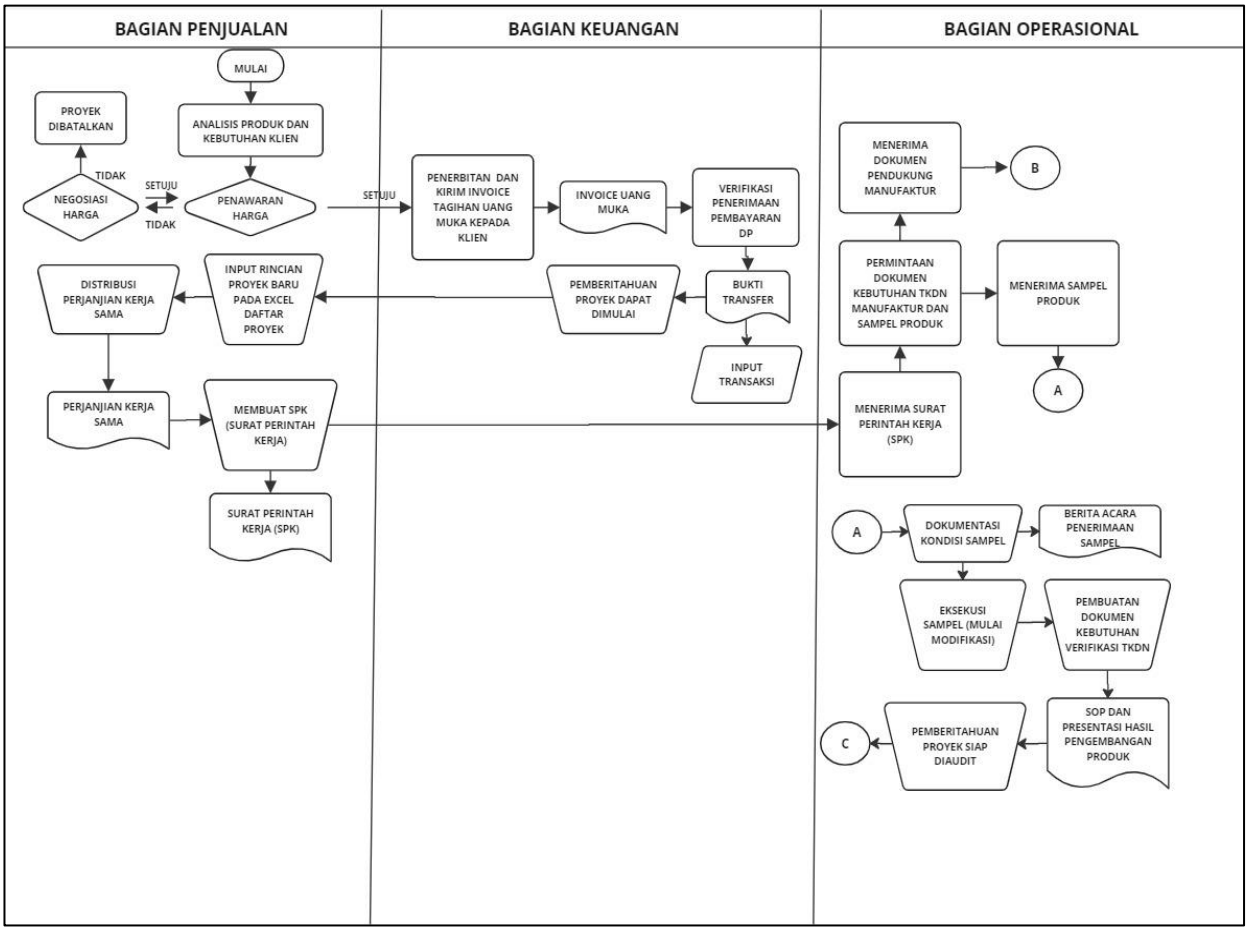

Figure 1. Flowchart of Revenue and Cash Receipt Cycle of PT. ASM

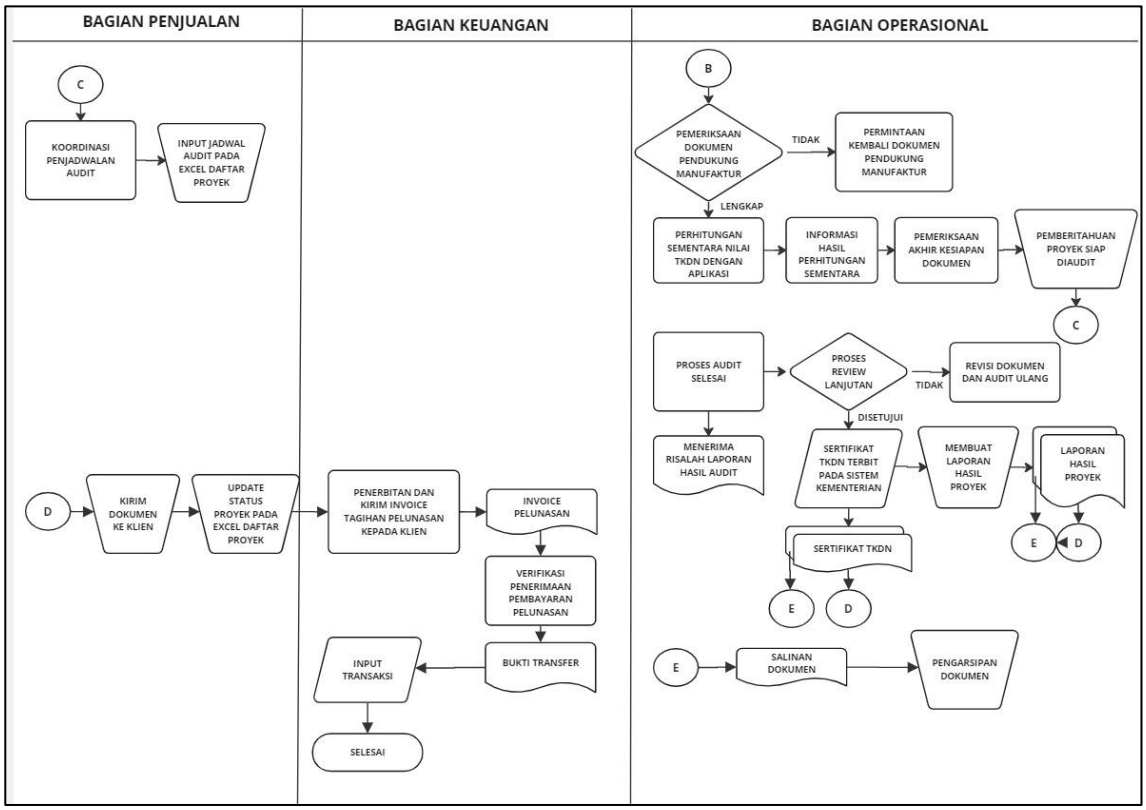

Figure 2. Flowchart of Revenue and Cash Receipt Cycle of PT. ASM

Before the implementation of web-based applications at PT. ASM, this company still uses a simple computerized system and only uses Microsoft Office programs such as Microsoft Word, Excel Power Point in running work procedures. Several weaknesses have been found in the current system, spesifically; (i) In the process of requesting TKDN requirement documents, the guidelines used are only a form in the form of a TKDN requirement document checklist in the form of an excel document and must be marked manually when checking the document. This risks that the completed documents will not be detected and potentially missed, and must be checked it repeatedly. (ii) Another weakness occurs in the process of collecting TKDN documents which are highly confidential documents, in this procedure the documents are only stored via storage media on Google Drive, there is no additional document backup procedure, this risks the documents not being stored properly and there is a risk of losing the documents, apart from the shortcomings in terms of data security, Google Drive is easily accessed by other work unit sections. (iii) The third weakness in the implementation of the revenue and cash receipt cycle at PT. ASM in the order processing procedure is calculating the assumption of TKDN score. The TKDN calculation applied by PT. ASM currently still uses Microsoft Excel software only. An overview of the Excel document for calculating TKDN score can be seen in Figure 3 below :

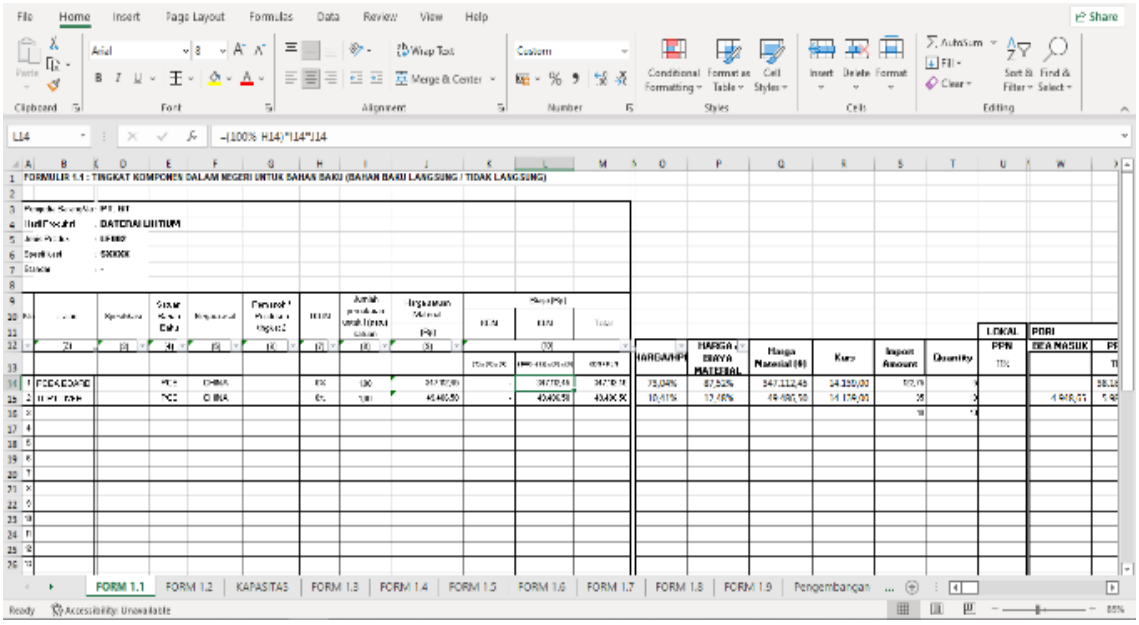

Figure 3. Overview of TKDN Calculation Using Excel Program

Looking at the current conditions with many products and having different categories and levels of calculation difficulty. In addition, there are 8 TKDN components that must be calculated for 1 product. The calculation process for 1 product can take 4 workdays, This causes a lack of productivity and the longer the income will be received. In addition, there are other obstacles in the implementation of the current system, such as the threat of lost calculation documents, incorrect calculations due to missed calculation formula parts and formula errors and must be reset. Therefore, the current system cannot be used further and must be repaired.

Implementation of Revenue and Cash Receipt Cycle Accounting Information System at PT. ASM after Implementing Web-Based Applications in the Order Processing

PT. ASM has developed a web-based application, namely E-Learning TKDN Self-Assessment, which is useful for calculating TKDN. This application has been developed since November 2023 and has been implemented since January 2024. The web-based application is here with the hope of bringing improvements and helping PT. ASM is work procedures to be more effective with the advantages of the application it has.

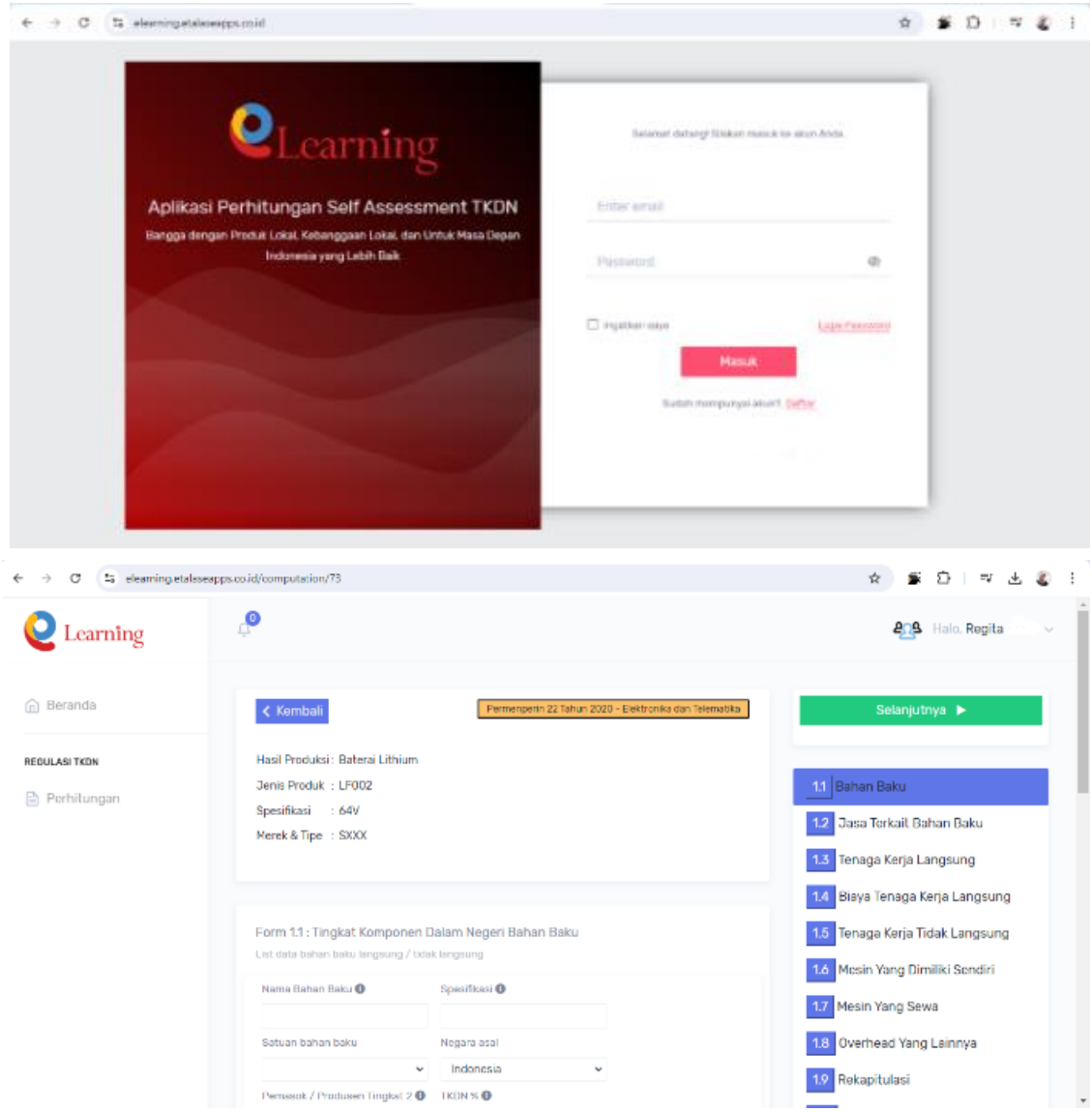

Figure 4. TKDN Self-Assessment E-Learning Web-Based Application Overview

Based on the implementation of this web-based application at PT. ASM, the changes and benefits felt by the application users, especially the sales department who are directly responsible for calculating the assumption TKDN score according to the interview results include:

a. This web-based application makes it easier to calculate TKDN, the TKDN calculation process for various types of product categories can be done in 1 (one) application and 1 (one) account. prevent TKDN calculation documents from being lost, calculation formulas experiencing errors, no need to search for documents one by one and group the types of calculation documents according to product categories.
b. Formula automation.
c. Calculation results can be downloaded and converted into pdf documents or excel formats.

d. Order processing becomes faster and increases productivity. Previously, the TKDN calculation process with the old system took up to 4 days for 1 product. By using this web-based application, the process can be completed in 1 day for 2 products.

The comparative measurement of the system before and after implementing the following web-based application refers to the PIECES analysis method with 6 (six) indicators according to research (Al Fatta, 2007) which is presented in the form of a table as follows :

Table 2. System Comparison

Indicator	Old System (Before Use Web-Based Application)	New System (After Use Web-Based Application)
Performance	The TKDN score calculation process is carried out using Microsoft Excel and takes 4 days to complete 1 product.	The process of calculating the TKDN score is carried out using a web-based application, requiring 1 day to complete 1 product and increasing productivity because it can complete the calculation of 2 products at once in 1 day.
Information	(i) Data storage is still processed manually, and only uses Google Drive storage media as a backup. Documents have the potential to be lost and forgotten where they are stored. (ii) In the old system using Excel, formulas in calculations were entered manually, prone to errors and the information presented was inaccurate.	(i) Storage of calculation data directly on the web-based application database. (ii) In web-based applications, the calculation formula is integrated into the system, which can provide more accurate data.
Economic	There is an additional charge for additional storage space on Google Drive.	Storage already uses a database, no need to spend additional costs to add document storage space.
Control	Lack of data security on Google Drive, data is vulnerable to being accessed by others, deleted and lost.	There is special access with a password to enter the application, it is not easily accessible to others.
Efficiency	Prone to forgetting where to store calculation data, takes time to search for data with a wide variety of products for which TKDN calculations are carried out.	Documents are organized by the system with differentiated according to product category. Easier to search data and faster.
Service	It takes quite a long time from the old system that was implemented, causing delays in the process and reporting of calculation results.	Increased productivity in TKDN calculations can accelerate the reporting of calculation results to clients and have an impact on increasing client satisfaction with the speed of PT.ASM is services.

Source : Data Processed From Interview Result (2024)

In addition, there is a comparison of the total time for completing orders in the revenue and cash receipt cycle at PT. ASM before and after the implementation of the web-based application which is presented in the following table :

Table 3. Total Order Completion Time Comparison

No.	Work Procedures	Procedure Category	Completion Time With the Old System	Completion Time With the New System
1	Client Engagement, Sending Price Quotes	Receipt Order	4 Workdays	4 Workdays
2	Down Payment Invoice Issued, Down Payment Received	Billing and Cash Receipts	15 Workdays	15 Workdays
3	Agreement of Cooperation Agreement, Creation of Timeline Documents for Reference Dates for Work Completion Process, Issuance of Work Orders to Operational Section, Update of Project Database (Input of New Projects), Request for TKDN Documents to Clients, and Receipt of Samples and Documents Required for TKDN	Processing Order	10 Workdays	10 Workdays
4	Product Modification Work Process Begins	Processing Order	18 Workdays	18 Workdays
5	Manufacturing Aspect Document Completeness Check	Processing Order	5 Workdays	5 Workdays
6	Assumption TKDN Score Calculation	Processing Order	4 Workdays	1 Workdays
7	Final Examination of	Processing	5 Workdays	5 Workdays

	Audit Documents & Coordination of Audit Schedule to Surveyor Institution, and Audit Process	Order		
8	Advanced Verification Process By Surveyor and Ministry, Certificate Issuance Process By Ministry	Processing Order	21 Workdays	21 Workdays
9	Preparation of Work Completion Reports, Submission of Work Reports and TKDN Certificates	Processing Order	3 Workdays	3 Workdays
10	Payment Settlement Invoice Issuance, Payment Settlement Received	Billing and Cash Receipts	15 Workdays	15 Workdays
TOTAL ORDER COMPLETION TIME			**100 Workdays**	**97 Workdays**

Source : Data Processed (2024)

From the comparison results with PIECES analysis, the web-based application that has been implemented is said to be effective with positive changes and has succeeded in minimizing obstacles that occur when using the old system. However, if the implementation of the web-based application is seen from the comparison of the total time in completing orders at PT. ASM, the web-based application that has been implemented has not been effective because its influence is not too significant, only reducing 3% of the total process compared to before the implementation of the web-based application, which is 100 days. This happened because there was only one procedure that was changed to automation, there is the process of calculating the TKDN score with a web-based application, while the other procedures remained the same. Therefore, PT. ASM needs to carry out further restructuring of other procedures to reduce the order completion time to more faster.

Effectiveness Measurement of Using Web-Based Applications in the Order Process

To prove the effectiveness of the implementation of the web-based application at PT. ASM, a measurement study has been conducted that the web-based application has been effectively implemented at PT. ASM using 5 (five) measurement indicators based on the theory according to Campbell J.P (in Mutiarin & Zaenudin, 2014), including :

a. Program Accomplishment

The success of the program in question is the achievement of the objectives of developing this web-based application. From the ease of implementing the web-based application that has been felt by users of the web-based application, the sales department at PT. ASM to calculate TKDN, that the application has run well, assessed from the obstacles that have been overcome, namely the calculation process is faster and increases productivity, the calculation process and data storage can be accessed through just one account, no longer worries about documents being lost and difficult to find. In addition, PT. ASM has also conducted socialization to introduce this web-based application on a virtual training agenda with industry players on February 27, 2024 with the topic of general goods category product training and May 22, 2024 with the topic of electronic and telematics product training. The web-based application created by PT. ASM received a positive response from industry players who had the same obstacles, difficulties in calculating TKDN with the old system. This TKDN Self-Assessment E-Learning Application can be accessed for free by industry players who want to calculate TKDN independently for their products. From the information that the web-based application has met the first measurement indicator, the program accomplishment. This application is actively used until today and based on information from the results of interviews with the general manager of PT. ASM, this application will continue to be developed by PT. ASM to make more calculations for other product categories.

b. Target Accomplishment

The target accomplishment is the measurement of the effectiveness of application use seen from how far the target level is in achieving the objectives of developing this web-based application. In the implementation of this web-based application, its main objective has been achieved, that is facilitating the calculation of TKDN for internal units of PT. ASM, increasing productivity and accelerating the order completion process. In addition, this application can be accessed by other industry players for free. So, in addition to facilitating the organization of PT. ASM itself, this application has also had a positive impact on other business players. Therefore, it has been answered that the web-based application has met the second measurement indicator, target accomplishment. PT. ASM plans to conduct further socialization so that more users can be helped by this application, and it is hoped that in the future this application can help to facilitate the surveyor team in calculating TKDN score.

c. User-Satisfaction of Program

Satisfaction with the program is the success of the application in meeting the needs of its users and is felt based on the quality of the application received. Looking at the information from the interview results with one of the active users of the web-based application that is the sales department at PT. ASM, her complaints about the use of the old system and need to complete orders faster have been met with the presence of this web-based application, With the

benefits felt by the application users, answering that the web-based application has met the third measurement indicator, satisfaction with the program, currently PT. ASM is still continuing to improve and update the application to add more features so that more needs can be met and make it easier to use.

d. Input and Output Levels

One of the important indicators in measuring the effectiveness of application use is the level of input and output. It is said to be effective if the level of output must be greater than the input. As in the use of this web-based application, previously with the old system, the process of calculating the TKDN score could be done in 4 (four) days for 1 (one) product only. However, by using this application, the process of completing the TKDN calculation can be done within 1 (one) working day and can complete the calculation for 2 (two) products on the same day. In the implementation of this application, it is an increase in productivity in the process of working on orders, this has represented that this web-based application has met the fourth measurement indicator, that is the level of input and output.

e. Overall Goal Achievement

The last indicator in measuring the effectiveness of using web-based applications at PT. ASM is the achievement of overall goals. Seeing from the initial goal of developing this web-based application, it is not only for the benefit of the company alone, but PT. ASM pays attention to the needs of other industrial company, and the current condition of this goal has been successfully achieved, the application has been actively used by the internal party of PT. ASM and has had positive changes to be able to complete orders faster. In addition, an introduction of the application to external parties has been carried out, that is the socialization of virtual training with industry players on February 27th, 2024 and May 22nd, 2024. This proves that this application has met the fifth measurement indicator, the achievement of overall goals. From measuring the effectiveness of using the application based on the five indicators, it can be concluded that this TKDN Self-Assessment E-Learning application has been effectively implemented but is inseparable from continuing to make improvements and updates to make it even better.

CONCLUSIONS AND RECOMMENDATIONS

Based on the entire research process that has been carried out on the implementation of the revenue and cash receipt cycle accounting information system at PT. ASM, it can be concluded:

1. Before the implementation of the web-based application in the order processing process at PT. ASM, the implementation of work procedures still used a simple computerized program using the Microsoft Office program. In completing all orders with the old system, PT. ASM took 100 days, and during the implementation of the work procedure at PT. ASM, several weaknesses were found, one of which was the process of collecting documents and calculating TKDN which was not yet effective because it still used Excel as the media.

2. After the implementation of the web-based application in the order processing process at PT. ASM, based on a comparison of the system before and after the implementation of the web-based application in processing orders using the PIECES method, the implementation of this web-based application has been effective at PT. ASM with positive changes that have occurred and have succeeded in minimizing the weaknesses found when using the old system. However, when viewed from the comparison of the total time in completing orders at PT. ASM, it is not yet effective because its influence is not too significant, only reducing 3% of the total process compared to the process time before the implementation of the web-based application. This is because there is only one procedure that has undergone automation changes, that is the process of calculating the TKDN score with a web-based application, while the other procedures remain the same.
3. The effectiveness of implementing web-based applications at PT. ASM has also been proven by measuring effectiveness using five measurement indicators. Based on these measurements, the web-based application implemented by PT. ASM is said to be effective.

Based on the conclusions that have been explained, suggestions that can be given to the company and for further research are :

1. Regarding the significance of the total order completion time at PT. ASM has not been effective with the implementation of web-based applications, it is recommended that further restructuring actions are needed such as system development or system automation for other procedures at PT. ASM to reduce order completion time to make it even faster.
2. Other goals that PT. ASM wants to achieve in the future, the web-based application that has been developed can also be implemented by the independent surveyor institution in the future. It is recommended that the application can be evaluated immediately for further development such as adding features for calculating other product categories and can hold further discussions with the independent surveyor institution regarding calculations in the web-based application if there are changes in regulations.
3. Recommendations for improving the existing web-based application, it is recommended that further development planning can be carried out to become a One Stop Solution TKDN application to add features that will be useful in collecting TKDN documents and the documents can also be directly stored in the database.

ADVANCED RESEARCH

This study has limitations, only focusing the discussion related to the implementation of web-based applications as a step to improve the system in the process of processing orders at PT. ASM. It is expected that further research can develop what was found in this study referring to the recommendations that have been given including the implementation of web-based applications that have not run optimally in reducing the overall time for processing orders. Further research can be done to examine how the system construction steps are related to processing orders, in addition to examining the design of a new

system that can be used in other work procedures at PT. ASM.

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