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THE EVALUATION OF LOGISTIC INFORMATION SYSTEM PERFORMANCE AT UNIVERSITY USE FRAMEWORK COBIT 4.1 DOMAIN MONITORING AND EVALUATE (STUDY CASE: SATYA WACANA CHRISTIAN UNIVERSITY)

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ABSTRACT

Information technology develops rapidly. It makes all the existing business processes in an organization cannot be separated from the use of computers. One of the existing business processes in an organization that use the benefits of IT is logistic department. Logistics system of an organization is always related to the inventory management process. One of the organizations that use logistics system is Satya Wacana Christian University Salatiga. The use of Logistics Information System still found many obstacles such as; management of transaction data that is not on the time and discrepancy information data items that are shown in the Information System. One of the standards in evaluating the InformationSystem's performance is using the COBIT framework as one of the major frameworks with the goal of providing clear policies and best practices to assist the organization in achieving its business objectives. Performance evaluation of LogisticsInformation System in Satya Wacana Christian University(SWCU) is to use one of the domains in COBIT 4.1, domains about Monitoring and Evaluate. The achievement of the research can be used as a reference for Logistics Department in SWCU to improve the performance of the organization so that it can compete with other universities that can improve competitive advantage of SWCU Salatiga.

Keywords: *Logistics Information Systems, Performance, COBIT 4.1, Monitoring and Evaluate, Competitive Advantage.*

1. INTRODUCTION

The development of Information Technology (IT) is quickly, making all business processes in the organization cannot be separated from the use of computers. Nowadays, the application of information technology to support the business process has been found in a variety of organizations. Technological capabilities in helping people work to support managerial decision-making process to face the global competition [1]. Implementation of IT in the organization aims to support the implementation of business processes effectively and efficiently in order to achieve organizational goals.

One of the existing business processes in an organization with the help of IT is logistics department. Logistics system of an organization is always related to the inventory management process. One of the organizations that use logistics system is Satya Wacana Christian University (SWCU) Salatiga. Information System (IS) in SWCU Logistics is one of the supporting media to support the work processes in managing inventory systems or inventory that exist in the organization. Logistics IS in SWCU is expected to be a real solution to improve the performance in the Logistics department to be more effective and efficient.

Logistics Department in SWCU is as parties that have anauthority where the unit or faculty in SWCU as the operator of the IS Logistics can utilize the information system in order to do a job

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well through the system due to the integration of logistics data such as: data items, the request and purchase data items without doing the manual process that have done before.

Based on the observations and interviews to the Logistics Department in SWCU that in the Logistics Information System usage still found many obstacles such as: management of transaction data that is not on time and the discrepancy information data items that are shown in that Information System. On the other hand there are also some findings such as; some operators in each unit/ faculty in SWCU still doing the process manually in making the demand for goods to the Logistics Section. Moreover, there is no professionalism in work by doing the transaction process without through the existing systems also affect the performance of the system becomes inconsistent with the purpose of the construction of the system, so the use of SI logistics that has been built cannot be said to be optimal yet [2].

Based on the background that have been raised , it is necessary to evaluate the performance of the Logistics IS in SWCU order to support the goals SWCU Logistics department in managing existing inventory in the organization effectively and efficiently. One way to evaluate the performance is by reviewing the information systems that is used by organizations using the gauge's international standard. One standard way in evaluating the performance of the IS is to use the COBIT framework as one of the major frameworks with the goal of providing clear policies and best practices to assist the organization in achieving its business objectives. Evaluation of the performance of the Logistics IS in SWCU is to use one of the domains in COBIT 4.1, the domain of Monitoring and Evaluate (ME). The purposes of ME domains are to measure and assess the performance of an information system to reach the organization's goals. The evaluation of Logistics IS SWCU is by using Capability Maturity Model (CMM),it is a method to measure the level of maturity (maturity) an SI to determine the position of the maturity of information systems with a fast and accurate assessment on each IT process within the organization.

The results that will be achieved in this study is a recommendation for SWCU Top Level Management as Logistics IS stakeholders in improving the performance of IT-based organization that will achieve organizational alignment between business and IT goals in achieving IT governance in SWCU effectively and efficiently.

2. LITERATUR RIVIEW

Researches on performance evaluation of SI in an organization have been carried out. One of them is the study, titled " Maturity Level Measurement Information Technology Implementation In Domain Monitor And Evaluate using COBIT 4.1 In Erajaya Swasembada PT , Tbk. " , in this study the main priority is given to the IT internal and external controlling. This is done to ensure good decision making, based on an audit of the organization's systems. Research object is the Erajaya Swasembada, Tbk. Business processes that was studied, including sales, purchasing, finance, and warehouses. The system is studied by using COBIT 4.1 Monitor and Evaluatethat consists of Monitor and Evaluate of IT performance, Monitor and Evaluate Internal Control, Ensure Compliance with External Requirements and Provide IT Governance. Method of data collection was by conducting interviews with PT Erajaya Swasembada, Tbk. The result get 48 audit findings on the Monitor and Evaluate domain, that are 13 findings in ME2 subdomains, nine findings in ME3 subdomain, and 13 findings on a ME4 subdomain. The formulation result of the maturity model is knownthe maturity of Monitor and Evaluate IT process on second level [3].

Another study entitled "Performance Audit Management Information System Maintenance of Electricity Power GeneratorUnit Based COBIT Domain ", which described about Management ISMaintenance Planning Generating Units is one of the supporting tools to maximize system management maintenance planning document generating unit in which the results of evaluation of past maintenance can used as a frame of reference for subsequent maintenance planning later. Few years later, of course is possibly happened a few adjustments as along with the growing and increasing of the lifespan of the electricity power generator and the IT developments and also the changes of policy in the PT PJB as a consequence that must be accepted. In this change the IS measurement using COBIT framework of reference, namely the Monitor and Evaluate (ME) [4].

The fundamental difference of two previous studies that in the two previous studies addressed the measurement of the level of maturity of the ERP system in an organization where the recommendations given to support decision making and research focused on the examination of both the SI management changes or the development of systems that need to be guaranteed the performance

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of the system is to support the organization's goals. The current research is focused on the problems that arise with the implementation of SI in SWCU Logistics. In this study, the findings are the basis for performance evaluation systems need such information. The results obtained from the performance evaluation process is in the form of recommendations to be acted upon by the stakeholders SI Logistics to align an organization's business goals and IT goals in SWCU in order to achieve IT governance .

IT governance according to Weill and Ross is "IT Governance as the decisions taken, to ensure the allocations of the use of IT in organizational strategies are concerned ". IT Governance reflects the application of the principles of the organization with a focus on management activities and the use of IT for the achievement of the organization [5].

IT governance includes planning, implementation, and evaluation of the implementation of IT in organizations where one of the IT governance process to assess how the alignment between business goals and IT goals are organizational audit process. Audits by Alvin A. Arens and James K. Loebbecke is "Auditing is the accumulation and evaluation of evidence about information to Determine and report on the degree of correspondence between the information and established criteria. Auditing should be done by a competent independent person". According to Mulyadi, the audit is "A systematic process for obtaining and evaluating evidence objectively regarding statements about events and economic events, with the aim to establish the degree of concordance between these statements with pre-defined criteria, and delivery of results to the user concerned". Generally, the definition above can be interpreted that the audit is a systematic process that is carried out by a competent and independent people by gathering and evaluating the evidence and aims to provide a fairness opinion regarding the financial statements [6].

SI logistics are often referred to as the inventory information system is a mechanism on how to manage the inputs into outputs associated with inventory, where to do this necessary feedback so that the output meets certain standards. The mechanism of this inventory system is a set of policy -making to monitor inventory levels, determine the inventory that must be maintained, when supplies are required, and how much the purchase order should be made. This inventory system aims to establish and ensure the availability of goods optimally, and at the optimal time. Optimal criteria are minimizing the total cost associated with the supply, i.e. storage costs, ordering costs and costs of inventory shortages [7].

In a copy of the Decree of the Minister of National Education of the Republic of Indonesia Number 232/U/2000 on Guidelines for Higher Education Curriculum Development and Assessment of Student Learning Outcomes Chapter 1 General Provisions , Article 1 , Paragraph 1 states that higher education is a continuation of Secondary Education is organized to prepare students become members of the community who have the academic ability and / or professionals who can implement, develop and / or creating science, technology and / or art. Later in verse 2 is mentioned college education unit which organizes higher education that can form colleges, polytechnics, colleges, institutes or universities [8].

Logistics performance evaluation process in SWCU SI is to use the COBIT framework is a way to implement IT Governance. COBIT is a framework that should be used by an organization in conjunction with other resources to establish a common standard to guide more specific environments. COBIT consists of a set of control objectives for IT, is designed to allow for the audit stage. COBIT is a collection of documentation and guidelines that lead to IT governance helps the auditor, management, and user to bridge the separation (gap) between business risks, control needs and technical issues. COBIT was developed by the IT Governance Institute (ITGI), which is part of the Information Systems Audit and Control Association (ISACA) [9].

COBIT framework is based on the principle of providing information to achieve the objectives of the company, then the company made investment in IT as well as manages and control IT resources to provide the information needed by the company. To achieve the goals of the organization are satisfactory, the information must meet several criteria. COBIT has set the criteria by reference to the information needs of the organization or company. Seven information criteria are: a). Effectiveness, deals with information being relevant and pertinent to the business processes as well as being delivered on time with the correct, consistent and usable manner; b). Efficiency, concerns the provision of information through the optimal use of resources (more productive and economical); c). Confidentiality, regarding the protection of sensitive information from unauthorized disclosure; d). Integrity, related to the accuracy and completeness of information the validity also in line with expectation and business value;e). Availability, relating to the information available to

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the business processes required by current and future, also about the need to secure resources and related capabilities;f) . Compliance, outlining compliance with laws, regulations and contractual agreements where the business process is subject,i.e. business criteria imposed from outside;g). Reliability of Information, relates to the provision of adequate information for management to execute and implement the overall financial and compliance reporting responsibilities.

The overall COBIT framework consists of directives such as:a) Control objectives which consist of four high-level control objectives are reflected in the four domains; b) Auditguidelines, contains 318 detailed control objectives are;c) Management guidelines,directs, both in general and specifically on matters related to management needs.

COBIT framework also includes sections such as: a). Maturity Models: used to assess the stage of IT maturity in the scale of 0-5; b). Critical Success Factors (CSFs) contains directives for the implementation of management to control over IT processes; c). Key Goal Indicators (KGIs) contains directives regarding the performance of IT processes with respect to business needs; d). Key Performance Indicators (KPIs) performance refers to several IT processes with respect to the target / destination process (process goals):.
1) Level 0 (non - existent); the company does not know at all processes in the organization of information technology.
2) Level 1 (Initial Level); at this level, the organization generally does not provide a stable environment for developing a new product. When an organization seems to have a shortage of management experience, the advantages of integrating product development cannot be determined with ineffective planning, response systems. The process of development is unpredictable and unstable, because the process of regularly changed or modified during execution runs some form of one project to another. Performance depends on the ability of an individual or a term and varies with its expertise.
3) Level 2 (Repeatable Level). At this level, a policy to regulate the development of a project and procedures to implement the policy set. The effective rate in developing a project management process is institutionalized, by allowing organizations to repeat successful experience in developing previous projects, although there are some specific processes are not the same. The effective rate of a process has the characteristics such as; practiced, documented, enforced, trained, measured, and can be improved. Product requirements and design documentation be maintained in order to prevent unwanted changes.
4) Level 3 (Defined Level); at this level, a standard process in the development of a new product documented, this process is based on the development of products that have been integrated. Process - This process is used to help managers, team leaders and members of the development team to work more effectively. A process has been well defined characteristics; readiness criteria, inputs, standards and procedure in doing a project, verification mechanisms, outputs and project completion criteria. Rules and responsibilities clearly defined and understood. Because software processes are clearly defined, management has good knowledge about the progress of the project. Cost, schedule and project needs in supervision and quality controlled products.
5) Level 4 (Managed Level); At this level, the organization makes a matrix to a product, process and measurement results. Projects have control over products and processes to reduce variation in the performance of the process so that there is an acceptable limit. Risk transfer product technology, manufacturing process, and the market should be identified and dealt with the heart - the heart. The development process can be defined as the process is measured and executed with a limit that can be measured.
6) Level 5 (Optimized Level); at this level, the entire organization is focused on the process of continuous improvement. Information technology has been used for the integrated automation of work processes within the company; improve the quality, effectiveness, and the ability to adapt the company. Product development is a team to analyze faults and defects that determine the cause of the fault. Development of an evaluation is a process to prevent errors and defects that have been known to not happen again.

COBIT version 4.1 in the basic audit organization split into four main domains: Plan and Organize (PO), Acquire and Implement (AI), Deliver and Support (DS), and Monitor and Evaluate (ME) [10].

The ME domains in COBIT 4.1 discuss the four sub- domains or IT processes as follows:
a. ME1 - Monitor and Evaluate IT Performance

Effective IT performance management requires a monitoring process. This process includes defining relevant performance indicators, systematic and timely reporting of performance and prompt acting upon deviations. Monitoring is necessary to ensure that the right things are done

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and in line with the policy direction that has been set.

b. ME2 - Monitor and Evaluate Internal Control

Establish an effective internal control program for IT requires clear monitoring process. This process includes monitoring and reporting controls, review of the results of self-assessment and third party reviews. The main benefit of internal control monitoring is to provide assurance related to the effective and efficient operations and compliance with applicable laws and regulations.

c. ME3 - Ensure compliance with external requirements

Effective oversight of compliance requires the establishment of a review process to ensure compliance with laws and regulatory requirements of the contract. This process includes identifying compliance requirements, optimizing and evaluating the response, obtaining assurance that the requirements have been complied and finally, integrating IT compliance reporting with the remaining business.

d. ME4 - Provide IT governance

Establish an effective governance framework includes defining organizational structure, processes, leadership, roles and responsibilities. The goal is to ensure that the alignment of IT Investment Company delivered in accordance with the company's strategies and objectives.

3. METHODOLOGY

3.1. RESEARCH STAGES

Stages of Research in this study, there are some steps being taken as in Figure 1.

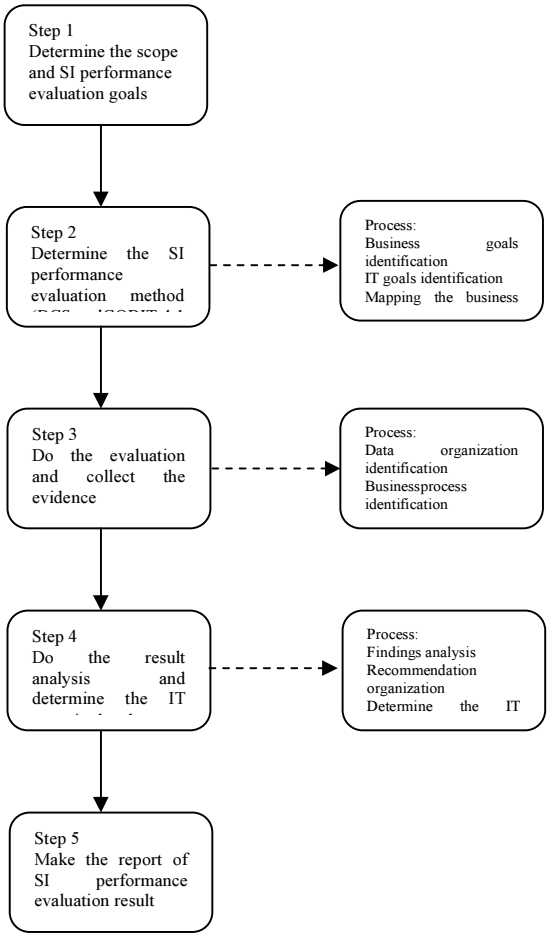

Figure 1: Stages of SI Performance Evaluation Researc Logistics SWCU

Based on Figure 1, the first stage in this research is to determine the scope of research in which the object under study is SI Logistics institution. As part of managing logistics SWCU SI is Vice Rector II, Campus Management Bureau (BMK), The Asset and Logistics Section institution. Through several parties mentioned above, obtained the data associated with the SI Logistics. Having obtained these data then we will perform an evaluation of the performance of the SI Logistics institution.

The next stage is to determine a method to evaluate the performance of the SI. This study uses COBIT 4.1 framework domain Monitor and Evaluate (ME). Before conducting performance evaluations, performed the alignment between an organization's business goals with IT goals SWCU SWCU. The process of alignment is to use the Balanced Scorecard (BSC) is a tool for mapping the organization's internal business process perspective. The internal business process perspective by BSC

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organizations, namely: (1) Financial Perspective, (2) Customer Perspective, (3) Internal Business Process Perspective, and (4) Learning and Growth Perspective. The next step is to map the organization's business objectives use BSC. The purpose of the organization must be aligned by business IT goals that the organization is able to achieve the objectives with its IT support. The purpose of IT must be implemented by the IT processes that exist in the organization so as to create good governance.

After mapping the business goals, IT goals and IT processes then the next stage is to do the evaluation of the performance of the SI Logistics SWCU using COBIT 4.1 framework ME domain. Performance evaluation process conducted by interview, observation and questionnaire to obtain COBIT findings related to performance of SI Logistics.

Logistics SI performance evaluation results will be analyzed to obtain: identification of findings, preparation of recommendations on the findings and reporting the results of the evaluation which included a level of maturity (maturity level) IT in Logistics SI institution. The evaluation results are provided to stakeholders Logistics SWCU SI must be followed in order to optimally use the SI Logistics.

3.2. RESEARCH METHODS

Method that is used in this case is to combine the qualitative description and quantitative description, or better known as the mix method. The data relating to maturity will be qualitative analysis obtained from interviews and direct observation. However, there are also data quantitative questionnaire based on COBIT 4.1 ME domain. Therefore, the method of data collection is done byusing in-depth interviews, direct observation, and questionnaires.

Interviews were conducted to management and logistics SWCU SI users with in-depth interview method in which respondents will be interviewed in a short time. Interviews were conducted in an informal atmosphere with questions related to the SI logistics such as: policies, procedures, business processes, and operation of SI to determine and identify the findings that exist in the use of SI Logistics institution. Interviews were conducted to obtain information regarding the control objectives of the existing IT in Logistics SI SWCU to support the outcome of the process of direct observation and questionnaires were conducted in this study.

Collecting data on the level of maturity (maturity level) IT is by using a questionnaire that was designed with the aim to determine the maturity level of IT in the organization based on COBIT 4.1 framework ME domain. Information obtained from the questionnaire illustrates the comparison between the current states of the desired expectations by stakeholders SI Logistics SWCU future. Questionnaires will be made to all relevant stakeholders and has six levels with a value of zero to five according to the standard COBIT 4.1 framework. The respondents were selected to fill out a questionnaire that respondents representing table RACI (Responsibility, Accountability, Consult, Inform). Distribution of respondents is in accordance with the role (role) in the SI data processing SWCU Logistics can be seen in Table 1.

Table 1. RACI Chart based on Respondent

RACI	Roles
Chief Executive Officer	Vice Rector 2
Business Executives	Bureau Campus Management
Chief Information Officer	Logistic Department
Business Process Owner	Logistic and Unit/ Faculty Department
Head Operations	Head of Logistic Department
Chief Architect	Bureau Technology and System Information (BTSI)
Head Development	BTSI Manager
Head IT Administration	BTSI Manager
The Project Management Office	Vice Rector 2
Compliance, Risk, Audit, and Security	Accountant Department

4. RESULTS AND DISCUSSION

Satya Wacana Christian University has a unit that is responsible for managing all logistics data within an organization that is sub-part Logistics and Asset Administration Bureau under Campus Management (LGA). The duties and responsibilities of the LGA were: (1) Assist the Vice Rector II in developing, implementing and overseeing the strategies, policies, programs and development work in the field of management of the campus. (2) Responsible for realizing service units within the university that provides the satisfaction of internal and external users. (3). Budgeting and spending which it is responsible. (4) Complete the task - other duties assigned by the leadership. BMK organizational structure is shown in Figure 2.

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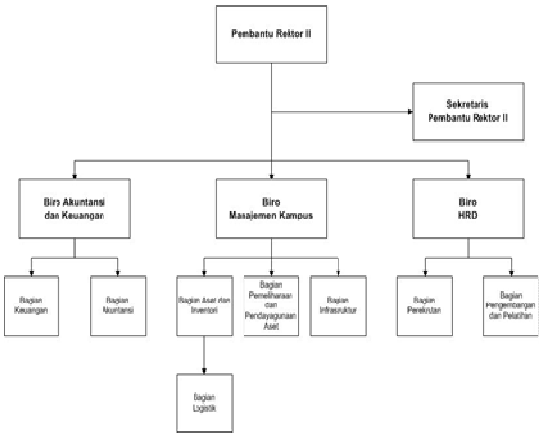

Figure 2: Organizational Structure of the Office of the Vice Rector II SWCU Salatiga

Based on Figure 2, the Sub-Part Logistics and Asset Administration is directly responsible to the Asset and Inventory section. The duties and responsibilities of the Asset and Inventory Section are as follows: (1). With the assistance of the Investment Committee and the Procurement of Goods, formulate, implement and oversee the system, procedure and regulatory procurement and storage of goods and services. (2). Together - the same as the unit calculates and manages the procurement of various requirements (3). Designing and implementing systems that exist in making supplies of goods. (4). Periodically report the number and proportion of the stock of goods in the warehouse supplies. (5). Designing and implementing inventory and asset codification system in all units. (6). Periodically prepare reports and asset inventory of all the units that exist both quantitatively and qualitatively. (7). Recorded additional inventory and assets and mutations that exist in all units. (8). Budgeting and expenditure which it is responsible. (9). Complete the task - other duties assigned by the leadership.

While the duties and responsibilities of the Logistics Section and the Asset Administration are as follows: (1). Coordinate, prepare, implement, and oversee the procurement and storage of goods. (2). Together - equal to the unit, section, or faculty calculate and manage the procurement of various goods need to work or PBM. (3). Periodically prepare reports inventory and assets that exist in all faculties and units quantitatively willing-even qualitatively. (4). Procurement of goods - goods, stationery and daily needs - today and other goods at the request of the unit (5). Designing and implementing a system of taking the goods by faculty or units of unit supplies. (6). Periodically report the number and proportion of the stock of goods in the stores. (7). Responsible for the course of the administrative work according to SOP and ISO standards. (8). Complete the task - other duties assigned by the leadership.

In this study, analysis of the data obtained by using the guidelines of COBIT 4.1 and generates findings. The initial step in the monitoring and evaluation in the Logistics Information System SWCU is the mapping between Business Goals and IT Goals. The Business Goals logistics SWCU by COBIT 4.1 is based on the perspective of the Balanced Scorecard as in Table 2.

Table 2. According to Business Objectives COBIT 4.1 based on the Balanced Scorecard

Perspective Performance	No	Business Goals
Finance perspective	1	Provide a good return on investment of information technology-enabled business investment.
	2	Manage information technology-related business risk.
	3	Improve corporate governance and transparency.
Customer Perspective	4	Improve service and customer orientation.
	5	Offer competitive products and services.
	6	Establish of the availability and continuity of service.
	7	Create agility to respond to changing business requirements.
	8	Achieving cost optimization of service delivery.
	9	Obtain useful and reliable information for strategic decision making.
Business Process / Internal perspective	10	Improvement and maintenance of business process functionality.
	11	Lower process costs.
	12	Provide compliance with external laws, regulations and contracts.
	13	Provide compliance with internal policies.
	14	The business change management.
	15	Increase productivity and operational management and staff.
Learning & Growth Perspective	16	Manage product and business innovation.
	17	Acquire and maintain skilled and motivated people.

As for knowing the relationship between Business Goals and Objectives of IT , need to know first IT Objectives of the list which refers to the practice frameworks such as COBIT 4.1 in Table 3.

Table 3. According to COBIT 4.1 IT Goals

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No	The purpose of IT
1	Respond to business requirements in aligned with business strategy.
2	Respond to governance requirements in line with board direction.
3	Ensure satisfaction of end users with service offerings and service levels.
4	Optimize the use of information.
5	Create IT Agility.
6	Define how business functional and control requirements are translated in effective and efficient automated solutions.
7	Acquire and maintain integrated and standardized application systems.
8	Acquire and maintain an integrated and standardized IT infrastructure.
9	Acquire and maintain IT skills that respond to the IT strategy.
10	Ensure mutual satisfaction of third-party relationships.
11	Ensure seamless integration of application into business processes.
12	Ensure transparency and understanding of IT cost, benefits, strategy, policies, and service levels.
13	Ensure proper use and performance of the application and technology solutions.
14	Account for and protect all IT assets.
15	Optimize the IT infrastructure, resources and capabilities.
16	Reduce solution and service delivery defects and rework.
17	Protect the achievement of information technology objectives.
18	Establish clarity of business impact of risks to IT objectives and resources.
19	Ensure that critical and confidential information is withheld from those who should not have access to it.
20	Ensure that automated business transactions and information exchanges can be trusted.
21	Ensure that IT services and infrastructure can properly resist and recover from failures due to error, deliberate attack or natural disaster.
22	Ensure minimum business impact in the event of an IT service disruption or change.
23	Make sure that IT services are available as required.
24	Improve IT cost-efficiency and its contribution to business profitability.
25	Deliver projects on time and on budget, meeting quality standards.
26	Maintain the integrity of information and processing infrastructure.
27	Ensure IT compliance with laws, regulations, and contracts.
28	Ensure that information technology demonstrates cost-efficient service quality, continuous improvement and readiness for future change.

COBIT 4.1 provides an easy to understand linkages between Business Goals and IT Goals. Mapping of these two objectives is readily available and can be used as a reference for translating Parts Logistics in the Business Goals into IT Goals. The focus of this research is to do the monitoring and evaluation of the Logistics Information System SWCU, so the mapping between Business Goals and IT Goals focused on IT processes involving monitoring and evaluation activities in the COBIT 4.1 framework. The mapping can be seen in Table 4.

Table 4. Mapping IT Processes, IT Objectives and Business Objectives COBIT 4.1 Domain Monitoring and Evaluate

IT Process	IT Goals	Business Goals
ME1	2 , 1 , 28	2 , 3.4 , 7 , 9 , 12 , 13 , 14 , 16
ME2	14 , 17 , 27	2 , 12 , 2
ME3	27	12
ME4	2 , 12 , 27 , 28	2 , 3 , 4 , 9 , 12 , 13 , 14 , 16

An organization can be considered a success in the information technology to build a framework of a complete information system if it fulfills the criteria of size information [11]. Information according to size criteria COBIT framework can be seen in Table 5.

Table 5. Criteria for Information Size According to COBIT 4.1

Effectiveness	If information system appropriate to user needs.
Efficiency	If the resourcescan use optimally.
Confidentiality	Focus on protection to important information from people who do not have the right authority.
Integrity	Related to the accuracy and integrity of information

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	completeness.
Availability	Related to the available information at the required time in the business process.
Compliance	According to the fulfillment organizational policies, laws and regulations.
Reliability	Linked with the provisions suitability information to operate the organization, reporting and responsibility.

Logistics Information Systems SWCU into use in the year 2010 in which the application of this system is to support the process in the goods management institution. SWCU goods in process management include: (1) Managing the demand for goods of the unit / office to Part Logistics (2) Managing the use of goods transactions. (3) Managing the transaction report. SWCU Logistics Information System is used by: Vice Rector II, Bureau of Campus Management, Logistics Section, Bureau of Information Technology and Systems (BTSI), and Operator. Based on the results of the study using the technique of collecting data through observation, interviews, and questionnaires obtained some findings that indicate that SWCU Logistics Information System cannot meet the size criteria of information an information system according to COBIT 4.1. Some of the findings obtained are as follows in Table 6.

Table 6. Findings in SWCU Logistics Information System

No.	Finding
1	Often occurs when the condition in which the incoming log loading process is too long because the first server serves all units / faculties that are in the neighborhood institution.
2	There is still a manual process of making goods so that exist systems such as negligible.
3	Between the user and admin are not professionals in managing the logistics information system.
4	The process of updating the goods cannot be done directly because of having to go through a manual process.
5	The system cannot accommodate a lot of new stuff id manufacture therefore logistic unwilling to process the new id. Therefore, making process id -making has provided a new module, but the officer did not want to make additions directly having to do it manually
	recording process.
6	The system can analyze the needs conducted in each period.

After the data collection process then calculate the level of maturity (maturity level) showing the Logistics Information Systems IT Process SWCU that have not contributed to the achievement of a Business Goals and Objectives of IT in Logistics Section institution. Table 7 shows the level of maturity of each IT process in Logistics Information Systems SWCU on Domain Monitoring and Evaluate.

Table 7. Levels in SI Logistics IT Maturity SWCU Based Monitoring and Evaluate Domain

IT Process	Respondent					
	PR2	BMK	OPR	LOG	BTSI	Average
ME1	2,00	1,17	0,66	0,83	0,83	1,10
ME2	0,86	0,86	0,71	0,71	0,71	0,77
ME3	1,80	0,40	0,80	0,60	0,80	0,88
ME4	1,20	0,80	1,40	1,00	0,80	1,04
ME Average	1,46	0,81	0,89	0,79	0,79	0,95

Description : PR2: Vice Rector 2; BMK: Campus Management Bureau; OPR: Operator Faculty / Unit; LOG: Logistics Section; BTSI: Bureau of Information Technology and Systems.

Based on the analysis on the calculation of the level of IT maturity SWCU Logistics Information System, the data showed that the average Domain Monitoring and Evaluate reached a value of 0.95 which is the category of Initial / Adhoc, meaning that in the Logistics Section SWCU have had a form of application technology solutions System Logistics information but there is no standardization or structure that is clearly working in that section. In detail, each of the IT processes contained in Part Logistics SWCU can be explained as follows:

a. ME1 - IT Performance Monitoring and Evaluation

This objective is used to ensure IT contributes to the business in accordance with the directives and policies that have been defined whether in accordance with the needs of Logistics Section institution. This can be done by looking at the performance of IT in Logistics Information Systems management. Results of IT maturity level of the sub domains of IT Performance Monitoring and Evaluation in the Logistics Section SWCU is at 1.10 which is the value of initial category / Adhoc , which means management does not provide a stable

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environment for monitoring and evaluating the performance of IT .

b. ME2 - Monitoring and Evaluation of Internal Control

This objective is used to determine an effective internal control in accordance with existing laws and regulations. This process includes the monitoring and reporting of control, the results of testing and reviews from third parties. The focus is overseeing the internal control processes in IT-related activities and identifies corrective actions. The results of the maturity level of the sub domains of IT Monitoring and Evaluation of Internal Control in Logistics Section SWCU is at 0.77 which is the value of initial category / Adhoc , which means management does not provide a stable environment to conduct monitoring and evaluation of internal control .

c. ME3 - Getting to the Need for External Security

This objective is used to measure the degree of suitability of Logistics Information System SWCU with applicable regulations. The focus is to identify all the laws and regulations that can be applied and the correlation between IT and optimism process suitability to reduce the risk of mismatch. The results of the maturity level of IT in Logistics Section

SWCU assessed from a sub domain to Get Security with External Requirements are the initial value of 0.88 which category / Adhoc, which means management does not provide a stable environment to gain assurance of the appropriateness of IT with the applicable regulations of external parties.

d. ME4 - Provide IT Governance

This objective is used to ensure IT investments aligned with the strategy and objectives Parts Logistics SWCU good organizational structure, processes, leadership, roles and responsibilities of the Logistics Section institution. The results of the maturity level of IT in Logistics Section of the sub domains assessed SWCU Provide IT Governance is at 1.04 which is the value of initial category/ Adhoc, which means management does not provide a stable environment in providing IT governance in the Logistics Section institution.

Based on the results obtained by the level of IT maturity in the Logistics Section SWCU, hence ideal targets to be achieved in order to improve the performance of IT in the organization is at level 2 which Repeatable, which means that at this level a policy to regulate the development of SI and procedures for implementing the policy has been determined. Figure 3 shows the position of the current maturity level and the expected level of maturity in the Logistics Section institution.

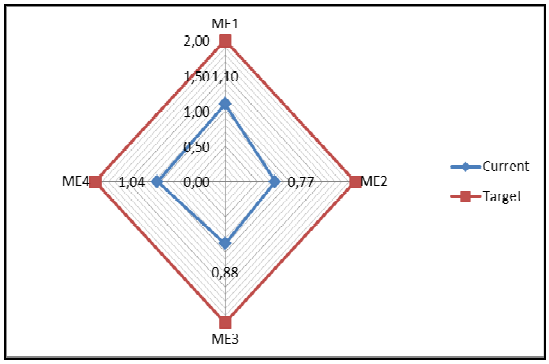

Figure 3: Spider – chart IT Maturity Levels in Part Logistics SWCU

5. CONCLUSION

Research results have been obtained indicate that the level of IT maturity in SWCU Logistics Section at the level of 0.95 which indicates that organizations generally do not provide a stable environment for developing IT performance , especially in developing SI Logistics institution. SI development process is unpredictable and unstable, because the process of regularly changed or modified during the execution of IT projects is still running. IT Performance Parts Logistics SWCU depends on the ability of the individual in accordance with its expertise. Based on the research conducted, the results of this study can be used as a reference for the organization, especially Parts Logistics SWCU as one way to see that according to the international standard COBIT 4.1 framework that will position the system performance is at what level so that the organization can determine the extent of the target system will be developed and at the same time can increase the level of organization in the development of IT. It can affect performance improvement and SWCU Parts Logistics in general to be able to compete with other universities that can improve competitive advantage SWCU Salatiga.

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