IT Audit with ITIL on Business Process, Application and IT Infrastructure in Bali Rattan Bag

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Abstract - This study discusses information technology audits using the Information Technology Infrastructure Library framework. The case study used in this research is the Bali Rattan Bag, namely the Bali Rattan Bag which is a business engaged in the production and sale of rattan-based bag products. Bali Rattan Bags was founded in 2019. The research was carried out in accordance with the business processes carried out in Bali Rattan Bags. In this study, researchers used survey data collection methods, interviews and literature study. The survey was conducted by distributing questionnaires. The questionnaire was chosen because it can represent the voices of several people about something and later the results of the questionnaire can be calculated to get the desired results. This study uses an audit with the Information Technology Infrastructure Library (ITIL) framework. The use of ITIL will improve information technology services and improve operational performance. The focus of this research is on the operational domain of services, business processes, applications and infrastructure in IT services in the Bali Rattan Bag. The purpose of this study was to determine the performance of information technology services in Bali Rattan Bags and provide suggestions based on the analysis results according to ITIL standards for improvement and improvement of information technology services.

***Index Terms*—** Audit**,** Information Technology Infrastructure Library, ITIL Framework

I. INTRODUCTION[1]

Bali Rattan Bag is a business engaged in the production and sale of bag products made from rattan as a base material. Bali Rattan Bag has been established since 2019. The rattan bags produced have been sent to various regions throughout Indonesia and even to several other countries such as Singapore and Malaysia

Currently, Bali Rattan Bag has a company profile website that is used as an introduction to media products and businesses, and is used as one of the brand identities owned by Bali Rattan Bag to make consumers more familiar with and remember their products. On the website, things related to their business, display the types of products provided and can display promos that are right. The website user which is now owned by Bali Rattan Bags is still not able to significantly help sales because the website is a company profile and not for ordering.

The Bali Rattan Bag ordering system currently uses conventional methods. Namely, after customers see product details on the website, they can place an order by contacting the contact available on the website. Then all orders will be recorded and recorded in the order book. This sometimes causes logging problems such as logging errors or gaps in logs being created. In addition, the current website cannot be used for ordering, so it is less helpful in terms of ordering and recording. In the application of IT, there are still fundamental errors such as financial management, management of goods, buying and selling systems, inventory and so on.

Data management has not been organized so that it is a major concern in the company in order to achieve company goals where IT is a very important supporting factor in the company's business processes.

To find out the extent of information technology services in Bali Rattan Bag, an information technology service audit process is required. This study uses an audit with the Information Technology Infrastructure Library (ITIL) framework. The use of ITIL will improve information technology services and improve operational performance. The focus of this research is on the domain of service operations, business processes, applications, and infrastructure in IT services in Bali Rattan Bag. The purpose of this study is to determine the performance of information technology services on the Bali Rattan Bag and provide suggestions based on the analysis results according to ITIL standards to improve and improve information technology services.

Information technology / information systems audit is essentially a form of operational audit, but now information technology audits are known as a separate type of audit, whose main purpose is to improve IT governance [1].

The purpose of the audit is to assess whether the information system control has been able to provide

adequate assurance on several factors, such as time, accuracy, correctness, availability, reliability, compliance, effectiveness, effectiveness, data integrity, and asset security [2][3].

II. RESEARCH METHODS

A. Survey

Surveys are the process of recording systematic behavior patterns of subjects (people), objects (objects), or events without questions or communication with the individual studied. The author has observed or seen directly at the Denpasar City Information and Communication Office which is the object of research, so that the author gets a complete and clear picture.

B. Interview

An interview is a type of data collection that is carried out by means of question and answer, or by having direct conversations with data sources needed for certain purposes. This is a two-way conversation, namely interviewer and respondent. The purpose of the interviews conducted in this study is to construct about people, events, organizations, feelings, motivation, and concerns, verify, change and expand information obtained from other people or sources[4][5].

C. Literature Study

Methods of data collection is done by studying the journals and books of literature related to the problem ITIL V3 framework [6].

D. Information Technology Infrastructure Library (ITIL)

The Information Technology Infrastructure Library (ITIL) is a general framework that describes best practices in IT service management[7]. ITIL provides a framework for IT governance that encloses a service, and focuses on continuous measurement and improvement of the quality of IT services provided, from both a business and a customer perspective [8][9].

The purpose of this ITIL framework is to improve IT operational efficiency and customer service quality because it only focuses on customer service and in no way includes the process of aligning company strategy with the IT strategy being developed[10].

The benefits provided by ITIL are as follows:

- Increase user and customer satisfaction with IT services.
- Increase the availability of services, directly leads to increase business profits and income.
- Financial savings through reduced rework, time lost, increased use of resource management.
- Increase the time to market for new products and services.
- Improve decision making and optimized risk[11].

The components in the ITIL Service Lifecycle are described as follows that is :

1). Service Strategy (SS)

Is a strategy service that includes planning strategic, the capabilities of service management and the alignment between service and business strategy. In addition, this cycle provides guidance on value creation, market and supply strategy, service structure, types of service providers, organizational development, sourcing, and financial management. There are three main processes, namely Demand Management, Service Portfolio Management and IT Financial Management [12].

2). Service Design

Provide guidance to IT organizations in a systematic and best practice in designing and building IT services and implementing ITSM itself. Service Design contains design principles and methods for converting strategic goals of IT and business organizations into a portfolio / collection of IT services and service assets such as servers, storage and so on. The scope of Service Design is not only designing new IT services, but also processes of change and improvement of service quality, service continuity and service performance.

3). Service Transition

Provide guidance to IT organizations to be able to develop the ability to change the results of good IT service designs new IT services, or IT services whose specifications are changed into a new environment, or IT services whose specifications are changed into the operational environment. This lifecycle stage provides an overview of how a need is defined in Service Strategy then formed in Service Design for effectively realized in Service Operation.

4). Service Operation (SO)

Is a lifecycle stage that includes all daily operational activities for managing IT services. Inside there are various guides on how to manage IT services efficiently and effectively and ensure the level of performance that has been promised with previous violations. These guides cover how to maintain a stable operational service IT and management of changes in the design, scale, scope and performance targets of IT services.

5). Continual Service Improvement (CSI)

Contains important guidance in develop and maintain the service quality of the design, transition and operation process. CSI combines various principles and methods of quality management [13][14].

E. GAP Analysis

Gap Analysis is a method for finding the suitability of the company's actual conditions and situation with the conditions described in certain standards. Its purpose is to assess what the company has done in comparison to the form of a particular application condition pattern against the objective system.

III. SIMULATION RESULT AND DISCUSSION

The data in this study were obtained from the results of questionnaires, interviews and observations in the IT field. The questionnaire in this study was used as a data collection tool, which was given to three respondents from the IT field. The collected questionnaire data was then analyzed to identify the results of the respondent's questionnaire. The results of the information technology service audit on the Bali Rattan Bag using the ITIL framework are as follows:

A. Process management

1) Current condition

Table 1 displays the TAG table of the management process.

Table 1 RAG of Current Condition

ITIL V3	Audit Scope		
	Business process	Aplication	Infrastructure
Sevice Strategy			
Sevice Design			
Sevice Transition			
Sevice Operation			
C.S. Improvement			

	45 x 1 = 45 / 78 = 0.57	Total = 0.85 (1)
	26 x 2 = 52 / 78 = 0.02	
	7 x 3 = 21 / 78 = 0.26	

This indicates that the management perspective is red (R), which means that the management perspective is at a low level based on the scope of the audit using the ITIL V.3 framework.

2) Information Technology Ideal

Table 2 displays the TAG table of the information technology ideal.

Table 2 RAG of Information Technology Ideal

ITIL V3	Audit Scope		
	Business process	Aplication	Infrastructure
Sevice Strategy			
Sevice Design			
Sevice Transition			
Sevice Operation			
C.S. Improvement			

	0 x 1 = 0 / 78 = 0.00	Total = 2.41 (2)
	45 x 2 = 90 / 78 = 1.15	
	33 x 3 = 99 / 78 = 1.26	

This shows that the management perspective is yellow (A) which means the management perspective is at a good level based on the audit scope using the ITIL V.3 framework.

3) Gaps in the Management Process

In the current condition, the result is 0.85 red, while the ideal condition is 2.41 is yellow. From these results the gap or GAP can be calculated as follows:

Gap (G)
= Ideal Conditions - Current Conditions
= 2.41 - 0.85
= 1.56

From the results of the calculations carried out, there is a gap of 1.56, which means that there is a significant difference between the current conditions and the expected ideal conditions.

B. Maturity Level

Maturity level is a system for measuring the organizational maturity process [15].

1) Current condition

Pada gambar 1 dapat dilihat kondisi sekarang pada maturity level yang digambarkan pada radar chart.

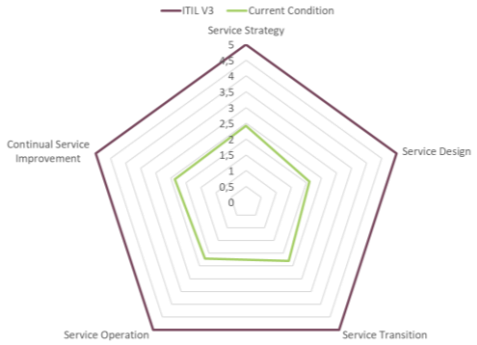

Figure 1 Radar Chart of Current Condition

The value obtained from the results of the questionnaire calculation is 2.27 where the results of the information technology governance audit based on current conditions are at Level 2: Repeatable where this process has been recognized and allocated. Generally associated with uncoordinated and irregular processes.

2) Information Technology Ideal

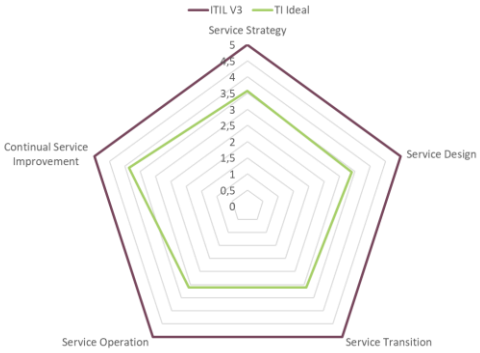

Figure 2 Radar Chart of Information Technology Ideal

The value of the questionnaire calculation result is 3.41 where the results of the audit of information technology governance based on current conditions are at Level 3: It is defined where this process has been recognized and

documented but there is no official regulation, acceptance or recognition of its role in IT operations as a whole.

3) Gaps in the Maturity Level

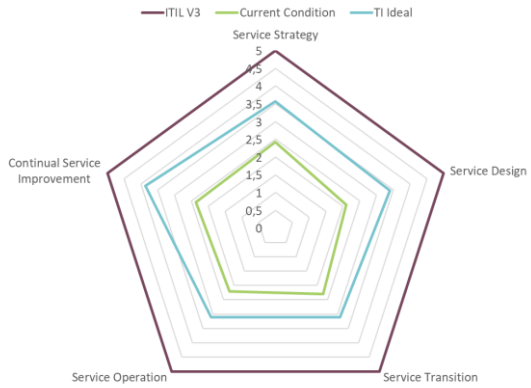

Figure 3 Radar Chart of Gaps Maturity Level

From these results the gap or GAP can be calculated as follows:

Gap (G)
= Ideal Conditions - Current Conditions
= 3.41 - 2.27
= 1.14

G <0, then the IT governance findings obtained from direct observations in the field are higher than the IT governance findings put forward by the respondents.

This shows that the current IT governance conditions still need to be addressed so that it is more directed at the company's business goals so that with better IT governance than now the company's goals will be achieved.

C. Rekomendations

Based on the results of the audit that has been carried out, there are several recommendations that can be given, namely as follows:

- Make improvements in all aspects of IT
- Developing existing IT applications so that they can be used more optimally
- Prioritization in implementing IT planning in line with business objectives
- Conduct regular training for employees to minimize errors that will occur in processing and maintaining data and information.

IV. CONCLUSION

An information technology audit has been carried out on the Bali Rattan Bag which focuses on the Business Process, Application and IT Infrastructure sections using the Information Technology Infrastructure Library framework. The data search process was carried out by distributing questionnaires which were later described in the RAG table and radar chart. The results showed that the ongoing IT governance conditions still need to be addressed so that it is more directed at the company's business goals so that with better IT governance than now, the company's goals will be achieved.

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