Analysis Of Information Technology Services Management Using ITIL V3 Domain Service Operation
(Case Study: Hotel Sinar Sidoarjo)

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Abstract—**Information system is one of the most rapid developments of information technology in its development. This information system itself aims to help human work to be more efficient and effective. The quality of technology has many aspects that must be measured to evaluate in order to continue to develop. Service is an important aspect that needs to be improved in order to support the applied Information Technology. ITIL as a framework that focuses on the assessment of information technology services was chosen as the method to be applied in this research. The problem that often occurs in this Sinar Hotel is the existence of obstacles in customer data in the Front Office department. Customer data is often not inputted into the system so that customers have to re-enter data and this is time consuming and less efficient. The incoming data also sometimes does not match the customer's personal data which also results in the customer needing to re-enter the data. The Service Operation domain was chosen to assess the extent to which the problem management and incident management processes were implemented properly. The results of this study will produce a recommendation to overcome problems and incidents that often occur in order to facilitate the operational activities of Hotel Sinar.**

Keywords—Managament;ITILV3;Service;Sinar Hotel

I. Introduction

The development of Information Technology (IT) is currently very stressful which is useful for helping human work so that it becomes easier and more efficient. Business aspects, assets or resources owned by a company are very important for an agency or company. Mastery and application of appropriate technology is very important for an agency or company in today's era [1].

A business organization needs to adapt to the current development of information technology. Information technology is now a new aspect which in itself is one of the success factors or success of a company or agency. A company that can provide a technology well, must also think about how to manage the information technology in supporting business processes that exist in the company or agency. The information technology applied must also continue to be evaluated, where the information technology applied must be able to meet user demands and help existing business processes become more efficient and effective [2].

The information system audit itself is a method of assessing the object, in this case the information system. The audit itself is used to evaluate and find evidence objectively to provide improvements to existing business processes [3]. Auditing in the current era is very important because current information technology (IT) greatly affects the performance of a company or agency and does not rule out the possibility that the quality of service to IT and the suitability of information technology applied must be able to support the goals of the company or agency.

In the field of information systems auditing, many frameworks are often used, including COBIT, ISO and ITIL. The Information Technology Infrastructure Library (ITIL) V3 framework is one of the most widely used frameworks so far [4]. ITIL V3 is a framework that contains concepts and management techniques that can be carried out related to infrastructure, management, and also continuous improvement so that maximum results are obtained in accordance with the goals of the company or agency to be achieved. Many large organizations or companies have used the ITIL framework to be used as best-practice in assessing the use of IT in it [5].

Sinar Hotel Sidoarjo is an agency engaged in room lodging services. The process that is often carried out in the business process is where consumers will make a reservation for a room before making a transaction. Hotel Sinar Sidoarjo has applied Information Technology for years which is intended for users to be able to book or make reservations for rooms booked online which are located in the Front Office Department. However, in its application there are often

problems that occur from the application of information technology which indirectly has a negative impact on the company. The problems faced also keep repeating where the problems faced are always the same and no good solution has been found in overcoming these problems. From these problems, it is necessary to do an audit of the object, namely the information system that is applied in which the focus of the information system used is as a support in the service side [6].

This study will analyze service management on information technology using the ITIL V3 Framework. The application of this framework is considered appropriate because the focus of the problem is regarding services to Information Technology. This research will focus on the existing domain in ITIL V3, namely the Service Operation domain in 2 (two) processes, namely Incident management and Problem Management [7].

In the process, data collection methods will be carried out previously to obtain valid and correct data before being processed and adapted to the framework of ITIL V3 in the Service Operation domain so as to produce appropriate findings. The purpose of the analysis carried out is to provide guidelines for managing IT services, including operational activities for managing IT services. An audit activity that will result in finding facts, finding risks, and recommending solutions that can be applied for improvement and evaluation that can be applied.

II. THEORITICAL BACKROUND

This research will focus on the ITIL V3 framework with the Service Operation domain in 2 processes, namely Incident Management and Problem Management. ITIL V3 is considered appropriate because the focus of ITIL is on IT services.

A. ITIL

ITIL or IT Infrastructure Library (ITIL) is a general framework that describes Best Practices in IT service management (ITSM). is a registered trademark of the United Kingdom Office of Government Commerce (OGC). ITIL provides an IT governance, Management and control framework that focuses on continuous measurement and improvement of the quality of IT services provided. ITIL can clearly describe in detail the processes, procedures, tasks and activities in building integration between IT and organizational strategy in providing appropriate value.

The ITIL concept began in 1989, but it wasn't until 2001 that ITIL version 2 was officially released. ITIL version 3 was released in 2007. And then in 2011 several processes were added to ITIL version 3. So that in 2019 ITIL version 4 was officially released [8].

Fig. 1. ITIL lifecycle

B. Domain Service Operation

Domain Service Operation is one of the lifetimes in ITIL V3. This domain focuses on the application of services that are implemented where the value provided by the service manager can be conveyed properly, accurately, and according to the agreement to all users [9].

C. Incident Management

Incident Management is a process within the Service Operation domain. In this process the focus will be on managing incidents (minor problems) and how these incidents can be addressed quickly in order to reduce the resulting impact [4].

D. Problem Management

Problem Management or problem management is one of the processes in the Service Operation domain. In this process, the focus will be on problem management, diagnosing problems, and providing solutions to the problems encountered and ensuring that the solutions obtained can be applied [4].

III. METHOD

The method in this research consists of several five main phases, namely: Problem Formulation, Literature Study, Data Collection, Data Analysis, Recommendations. The description of each phase will be described as follows.

A. Problem Formulation

This stage is the stage where a problem is identified. Problems need to be identified to determine the right method and steps that need to be taken in order to get appropriate, precise and maximum results.

B. Study Literature

Literature study is one step or method in finding a method that is suitable for the problems obtained. Literature studies are carried out by reading or reviewing several libraries to be

studied and producing a method that is in accordance with the problems obtained [10].

C. Data Coellection

Data collection is a way that can be done to obtain data which will then be processed in order to obtain appropriate and appropriate results. In its implementation, data collection in this research is divided into 2 ways, namely by means of observation and interviews. Interview is a method of collecting data by asking questions to sources who understand or are competent in their field. Questions and answers are carried out orally and face to face with the resource person [11]. Observasi merupkan salah satu Metode pengumpulan data yang dengan cara melakukan pengamatan langsung terhadap objek yang akan dilakukan penelitian. Objek yang dimaksud disini ialah Sinar Hotel Sidoarjo terhadap Manajemen Layanan TI [11].

D. Data Analysis

The data analysis stage is the method used to sort the data to be processed. This analysis is carried out so that the data that is processed is truly in accordance with the needs and according to the data can produce the appropriate output.

E. Reccommendation

Recommendations are outputs obtained from the data analysis process carried out. Recommendations aim to provide solutions related to the problems encountered in order to provide appropriate solutions and make improvements.

IV. RESULT AND DISCUSSIONS

In this study, the RACI Charts were used to determine the informants who would be questioned or to obtain data. From the RACI Charts mapping carried out, the results obtained can be seen in table 1.

TABLE I.   RACI CHARTS

Position	Role in RACI
Chief or Owner	A dan I
Department Front Office	R
Teknisi	C

From the method used, the results of interviews conducted by parties or resource persons have been determined through RACI Chart mapping. The first interview was conducted with informants who were in the front office department. Information system used, where the system is intended for consumers who will make reservations or hotel room reservations. On the other hand, the system is also used to process operational transactions within the Sinar Hotel. From the results obtained, the system currently implemented can help make business processes easier and more efficient, but in practice the system is still considered to have many unresolved problems. Problems that are often experienced are starting from systems that often have errors, hardware or hardware that is not qualified and also there is still data that is not inputted or read properly and appropriately.

From these problems, the thing that is most felt is when the data entered is not inputted or read properly, the front office department must of course have to process reservations or transactions manually which of course results in additional time and energy. From the order that is done manually then hrus input data back into the system. As for minor problems or incidents that often occur, namely when there is a power outage, where the generator (genset) which often takes a long time to be used as a substitute for electricity, of course this affects operational activities.

The second interview was conducted with the technician or resource person. Here the technician has the authority as a party to be consulted from the front office department when a problem occurs. From the results of interviews conducted, the technicians here only repair or repair problems related to hardware or hardware and networks. If the problems that occur are on the system or application, then it may be done by a third party. The next interview is carried out by the owner or leader who will be the party that will make the approval related to the policy and the party who will be given information regarding the reporting of operational activities. From the results of interviews conducted, it was found that from the application of the system carried out, there were no significant results that could be felt on the desired results from the application of the information system. Activity reporting may be more efficient because it can already be accumulated digitally.

From the observations made, it was found that in terms of the existing organizational structure, Hotel Sinar Sidoarjo has not clearly explained the documented duties, sections and authorities of each existing section. From the application of the system, it is also often ignored and prefers to do it manually because there are still problems that are often faced from the application of the information system.

TABLE II.   MAPPING PROBLEM

Problem	Process Category in Domain
The system that still often occurs errors	Incident Management
Data that is not entered into the system	Incident Management
Inadequate hardware	Problem Management
Human resources who are less competent in their fields	Problem Management
There is no procedure applied regarding the problem	Problem Management
There is no documented organizational structure	Problem Management
There are no regular evaluations	Problem Management

V. CONCLUSIONS

Based on the results of data collection carried out by interview and observation methods, it can be concluded that the management of IT services has not been carried out properly and appropriately. The management of existing problems has not been resolved and a definite solution has been given so that the problem continues to repeat itself which has a negative effect on the implementation of operational activities at the Sinar Sidoarjo Hotel. If it is associated with the ITIL V3 Framework, Domain Service Operation is

considered the most appropriate for the application of 2 processes, namely Incident Management and Problem Management. Hotel Sinar Sidoarjo has not been able to properly manage the incidents and problems encountered which can be seen from the slow handling of problems, the absence of competent HR in their fields in providing solutions and overcoming the problems encountered and the absence of SOPs or policies that have been set related procedures for IT-related management. From the results obtained, the researcher can provide suggestions that can be done for evaluation and improvement of IT Service Management which focuses on the ITIL V3 Framework on the Service Operation Domain, which is in accordance with the understanding of the domain, namely to provide clear, precise, and describe clearly exactly how services are provided and received by users which is focused on 2 processes, namely Incident Management and Problem Management [9]. The recommendations given are:

1. Conduct Regulator evaluations of problem and incident that are often encountered.
2. There is documantations that is carried out on existing problems and incident, so that they can be taken into consideration regarding priority problems.
3. Conducting training for Human Resources so that existing problem can be resolved properly and appropriately.
4. Make SOP or procedures for each activity carried out. SOPs can also be used as strong evidence or the basis when something is not appropriate or a problem occurs.

REFERENCES

[1] L. Magdalena, "Analisis Problem Management pada IT Helpdesk dengan implementasi ITSM dan SLA (Studi Kasus : Citigroup Indonesia)," *J. Digit*, vol. 1, no. 2, pp. 97–112, 2011.

[2] Y. Rahardja, "Audit Sistem Informasi dengan ITIL Version 3 Sub Domain Service Desk , Incident Management , dan Problem Management di Bidang Keuangan," *J. Teknol. Informasi-Aiti*, vol. 9, pp. 173–184, 2012.

[3] Karnadi and Armansyah, "AUDIT SISTEM INFORMASI PELAYANAN PDAM (SIPL-PDAM) MENGGUNAKAN ITIL VERSION 3 DOMAIN SERVICE TRANSITION DAN SERVICE OPERATION," *Sustain.*, vol. 4, no. 1, pp. 1–9, 2020, [Online]. Available: https://pesquisa.bvsalud.org/portal/resource/en/mdl-20203177951%0Ahttp://dx.doi.org/10.1038/s41562-020-0887-9%0Ahttp://dx.doi.org/10.1038/s41562-020-0884-z%0Ahttps://doi.org/10.1080/13669877.2020.1758193%0Ahttp://sersc.org/journals/index.php/IJAST/article.

[4] S. M. Suprapto Yusi Tyroni; Anandityo, Athayya Salsabila, "Evaluasi Incident Management Dan Problem Management Sistem Informasi Manajemen Rumah Sakit (Simrs) Pada Rumah Sakit Umum Daerah Kanjuruhan Kabupaten Malang Menggunakan Framework Itil V3," *J. Pengemb. Teknol. Inf. dan Ilmu Komput.*, vol. 3, no. Vol 3 No 10 (2019), pp. 9950–9958, 2019, [Online]. Available: http://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/6557.

[5] R. Huang and I. Ngadijaya, "Analisa Tata kelola teknologi informasi pada PT . BJMS dengan Framework ITIL Versi 3 Domain Service Operation," *Informatics Eng. Res. Technol.*, vol. 1, no. 1, pp. 41–47, 2019.

[6] Y. Rahmawati, S. R. Natasia, I. P. Deny, and A. Sugih, "PERANCANGAN SISTEM MANAJEMEN INSIDEN LAYANAN TI PADA PT . POS INDONESIA KOTA BALIKPAPAN JUSIKOM PRIMA (Junal Sistem Informasi Ilmu Komputer Prima)," *J. Sist. Inf. Ilmu Komput. Prima*, vol. 4, no. 1, pp. 7–14, 2020.

[7] A. M. Arifin, M. Murahartawaty, and R. Hanafi, "Analisis Tata Kelola Dan Perancangan Sop Service Operation Pada Layanan Akademik Institut Pemerintahan Dalam Negeri (Ipdn) Dengan Menggunakan Framework Itil Versi 3," *J. Rekayasa Sist. Ind.*, vol. 2, no. 04, p. 53, 2015, doi: 10.25124/jrsi.v2i04.52.

[8] M. K. Anam, N. Lizarti, and A. N. Ulfah, "Analisa Tingkat Kematangan Sistem Informasi Akademik STMIK Amik Riau Menggunakan ITIL V3 Domain Service Operation," *Fountain Informatics J.*, vol. 4, no. 1, p. 8, 2019, doi: 10.21111/fij.v4i1.2810.

[9] Z. Akbar and H. Mulyono, "Analisis dan Perancangan Sistem Informasi Manajemen Layanan Pelanggan pada PDAM Tirta Mayang Kota Jambi," *J. Manaj. Sist. Inf.*, vol. 2, no. 2, pp. 494–512, 2017.

[10] S. Hanief and I. W. Jefriana, "Framework Itil V3 Domain Service Operation Dalam Analisis Pengelolaan Teknologi Blended Learning," *J. Teknol. Inf. dan Komput.*, vol. 4, no. 1, pp. 59–65, 2018, doi: 10.36002/jutik.v4i1.395.

[11] D. S. Canta, N. Wahyuni, and F. Ardiati, "Analisis Tata Kelola Sistem Informasi Formulir Pendaftaran Kartu Halo Corporate dengan Menggunakan Framework ITIL Versi 3 Domain Service Operation," *Vol*, vol. 2, no. April, pp. 1–12, 2019, [Online]. Available: http://jsim.stmik-borneo.ac.id/index.php/J-SIm/article/view/28.