

PAPER • OPEN ACCESS

Service Desk Implementation with Information Technology Infrastructure Library Framework (Study Case Financial Company)

To cite this article: Dwi Handoko and Abba Suganda Girsang 2018 *J. Phys.: Conf. Ser.* **1090** 012059

View the [article online](#) for updates and enhancements.

You may also like

- [Physics Props Development based on Personal Desk Laboratory System to Improve Creative Thinking Ability and Students' Scientific Attitude](#)
Hari Sri Wahyuni and Dadan Rosana
- [Integration of design for environment principles and guidelines into study desk design](#)
N Hartono, Laurence and J Ardian
- [Computer Simulation Research of Desk Design Based on ABC Attitude Theory](#)
Jin Zhang and Liqun Zhang



ECS
The
Electrochemical
Society
Advancing solid state &
electrochemical science & technology

DISCOVER
how sustainability
intersects with
electrochemistry & solid
state science research

Service Desk Implementation with Information Technology Infrastructure Library Framework (Study Case Financial Company)

Dwi Handoko¹ and Abba Suganda Girsang²

¹ Computer Science Department, BINUS Graduate Program-Master of Computer Science, Bina Nusantara University, Jakarta, Indonesia 11480, Email: dokodwi@gmail.com

² Computer Science Department, BINUS Graduate Program-Master of Computer Science, Bina Nusantara University, Jakarta, Indonesia 11480, Email : agirsang@binus.edu

Abstract. This paper proposes a service desk to handle two important issues in financial company using the Information Technology Infrastructure Library (ITIL) Framework, i.e. Single Point of Contact (SPOC) and Service Level Agreement (SLA) issues. SPOC is a gateway to information needs of both users and company staff, particularly the IT staff, while SLA defines the responsibilities of the parties where such services work and provides coverage for services provided to the client to achieve client satisfaction. The service desk is built by focusing in service operation. A service desk has been successfully built in this study to make user's problem controllable. The result also shows that the user's problem can be solved faster in many cases.

Keywords: Information Technology Infrastructure Library (ITIL), Single Point of Contact, Service Level Agreement, Service Desk

1. Introduction

As IT Division and organization are shifting from technology-based to service-based management models, investing in a credible best practice framework such as ITIL (Information Technology Infrastructure Library) becomes more important for a Service Desk [1][2]. According to ITIL, Service Desk is "The single point of contact between users and IT Service Management". ITIL tasks include handling incidents and requests, as well as providing an interface for other ITIL processes while the primary functions of the Service Desk are incident control, life cycle management of all service requests, and communication with users.

There are many challenges that relate directly to ITIL implementations. Chen and Chou [3] noted in their study on information technology service management that there are ten top challenges. These are: culture shift, integration with current process, ITIL/ITSM-related knowledge, appropriate management tool, clear measurement target, project within budget, insufficient internal professional staff, project on time, managing consultants, and incapable or inexperienced consultants. These are considered challenges due to their connection with reasons for failure. Zhu [4] pointed out that the top ten reasons for failure in ITIL implementations are ITIL is rigid, ITIL is frequently hijacked by management, ITIL takes too long, change management fails, too much IT focus/not enough business focus, ITIL is not an end itself, misunderstanding that ITIL is not mandatory, staff takes the implementation too seriously, ITIL cost too much, and ITIL drags the enterprise improvement process down. Thus, overcoming the challenges and understanding the top reasons why failure occurs will be helpful in generating strategies to minimize the risks around these challenges. Looking at the top five challenges above, culture shift, appropriate management tool, and clear measurement



target are all directly related to Service Desk. Service desk as the single point of contact will be very useful for culture shift.

ITIL (The IT Infrastructure Library) is essentially a series of documents that are used to support the implementation of a framework for an IT Service Management. This custom is able to define how Service Management is applied within an organization. ITIL is organized into five core publications that revolve around the service lifecycle. These provide best practice guidance for an integrated approach to IT service management. The five core titles are Service Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement.

2. Proposed Method

A Service Desk is a functional unit made up of a dedicated number of staff responsible for dealing with a variety of service activities, usually made via telephone calls, web interface or automatically reported infrastructure events.

The Service Desk is a vitally important part of an IT organization and should be the Single Point of Contact (SPOC) for IT users on a day-to-day basis. The primary aim of the Service Desk is to provide a single point of contact between the services being provided and the users.

The exact nature, type, size and location of a service desk will differ, depending upon the type of business, number of users, geography, and complexity of calls, scope of services and many other factors. There are many ways of structuring service desks and locating them. The correct solution will vary for different organizations.

The new service functions of IT Service Desk are: BMC [5-8]

- a. The Service desk is the central point of contact for all clients and users of IT services. People call the service desk if an outage occurs, if they have a request for something new (such as a printer installation), or if a change is needed. The service desk resolves and fulfills incidents and requests as much as possible and coordinates and routes those requiring escalation. Figure 1 shows the new service function of IT Service Desk [9]



Figure 1 New Service Desk Function

- b. Technical management knows what resources the IT organization has at its disposal. Getting the right people involved in serving the users, testing, and improving the IT services makes the service operation stage easier for the IT staff. To obtain staff with

good skill in IT service desk, the value of each IT Service Desk person was identified. There some IT services values : respect, value, trust, engage, grow and team [9].

- c. Operation management includes scheduling all activities and managing all resources. Operations are responsible for routine IT tasks, such as system administration and preventive and monitoring activities, categorization, and prioritization. Figure 2 shows the categorization and prioritization.



Figure 2 Categorization and Prioritization

In the operation management, the IT Service desk also maintains customer satisfaction. Figure 3 presents the example of customer satisfaction.

- d. Application management maintains applications and provides technical support, as well as subject matter expertise, throughout the application lifecycle.



Figure 3 Customer Satisfaction

3. Analysis Result

a. Single Point of Contact

New IT service desk functional organization at ITSO Division is a part of the enhancement of the existing service to users, Figure 4 reflects the new function of service desk under the Data Processing and Recovery Center Department.

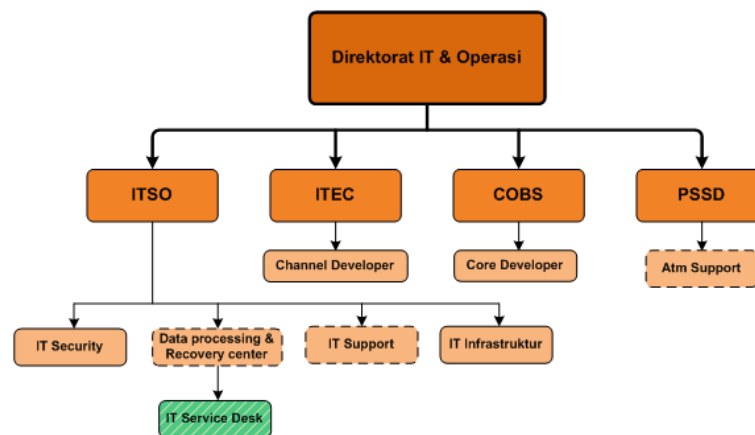


Figure 4 New Functional IT Service Desk at Financial Institution

The user of the bank contacts the IT Service Desk as the single point of contact and the other organization acts as a second level of support. With the new IT Service Desk function, the Financial institution can achieve the SLA to the user. Figure 5 presents the achievement of 100% for the availability of the 21 critical system including the core system, transactional system and support system

The availability of the critical system increasing after the Q3 are below 99.99% (Credit Card (Ascend), Treasury System (Spectrum), Internet Banking and Interface Treasury to Fast (EMX), but 3 month later the average availability achieve the SLA Target (99.99%). This achievement makes the user more comfortable because the system always on.

No	Service	SLA/Target (% Uptime)	Achievement		
			Avg. Q1'16 (Jan-Mar)	Avg. Q2'16 (Apr-Jun)	Q3'16 (Jul)
I. AVAILABILITY CRITICAL SYSTEM					
A. CORE SYSTEM					
1	Core Banking (silver Lake)	99.95%	100.00%	100.00%	100.00%
2	Credit card (ascend)	99.95%	99.94%	100.00%	100.00%
3	Treasury System (Spectrum)	99.95%	99.93%	100.00%	100.00%
4	Joint Financing (MOIF)	99.95%	100.00%	100.00%	100.00%
B. TRANSACTIONAL SYSTEM					
5	ATM Card Management	99.95%	100.00%	100.00%	100.00%
6	Proswitching Production	99.95%	100.00%	100.00%	100.00%
7	Call Center	99.95%	100.00%	100.00%	100.00%
8	Internet Banking	99.95%	99.42%	100.00%	100.00%
9	Prepaid system (OE)	99.95%	100.00%	100.00%	100.00%
10	Switching System (PCE)	99.95%	100.00%	100.00%	100.00%
11	Mobile Banking	99.95%	100.00%	99.20%	100.00%
12	SKN_GEN2	99.95%	100.00%	100.00%	100.00%
13	RTGS	99.95%	99.97%	100.00%	100.00%
14	Swift	99.95%	100.00%	100.00%	100.00%
C. SUPPORT SYSTEM					
15	Collection System (CWX)	99.95%	99.98%	100.00%	100.00%
16	Loan Origination System (CC)	99.95%	100.00%	100.00%	100.00%
17	Loan Origination System (Consumer)	99.95%	100.00%	100.00%	100.00%
18	CIS	99.95%	100.00%	100.00%	100.00%
19	Custody System (CIPS)	99.95%	100.00%	100.00%	100.00%
20	PSAK	99.95%	100.00%	100.00%	100.00%
21	Interface Treasury to fast (EMX)	99.95%	99.80%	100.00%	100.00%
Green Performance Availability System			17/21 81.00%	20/21 95.24% (21/21) 100.00%	

Note of Red Performance:

- No. 11: down 1 jam 10 menit (Apr'16)
down 1 jam 48 menit (Mei'16)
down 16 jam 40 menit (Jun'16)

Performance Level per Service:

● Meet SLA

● Un-Meet SLA

Green Performance Level Criteria:

● ≥ 90%

● ≥ 80%

● < 80%

Figure 5 SLA Achievement during Q3

- b. The prioritization and categorization in Operation Management will support the second level support to analyze the root cause of the problem in an in-depth manner. The information on the table enable us to focus on the critical issue to solve. Figure 6 depicts the most frequently faced problems in a specific time. This type of table can be generated monthly.

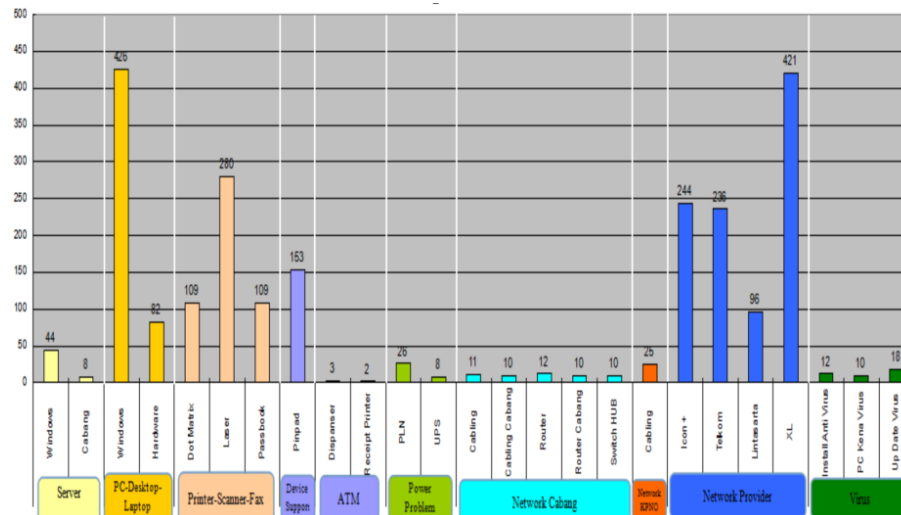


Figure 6 Incident Categorization

With the incident report generated by monitoring the IT Service Desk engine, the business users can focus their efforts towards increasing the customer transaction. The report that IT service desk produces weekly is shown in Figure 7. This report is produced by the IT service desk to help the business users speed up the fee-based income for the financial institution

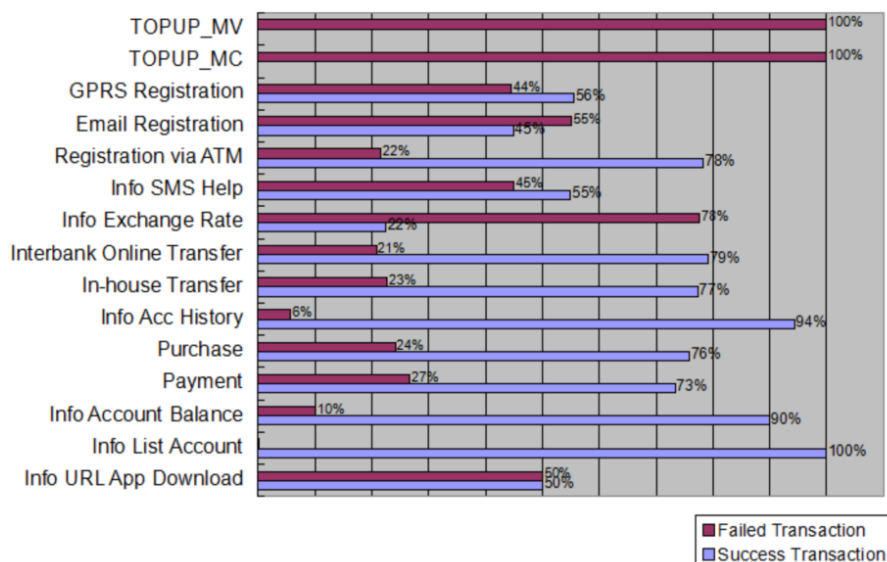


Figure 7 Internet Banking transaction monitored by IT Service Desk

Process Software Development Life Cycle for the release management is also monitored by the IT Service Desk to make sure that the application deployed in the production environment will operate smoothly without any disruption. Figure 8 presents the Service Level Agreement for the SDLC performance.

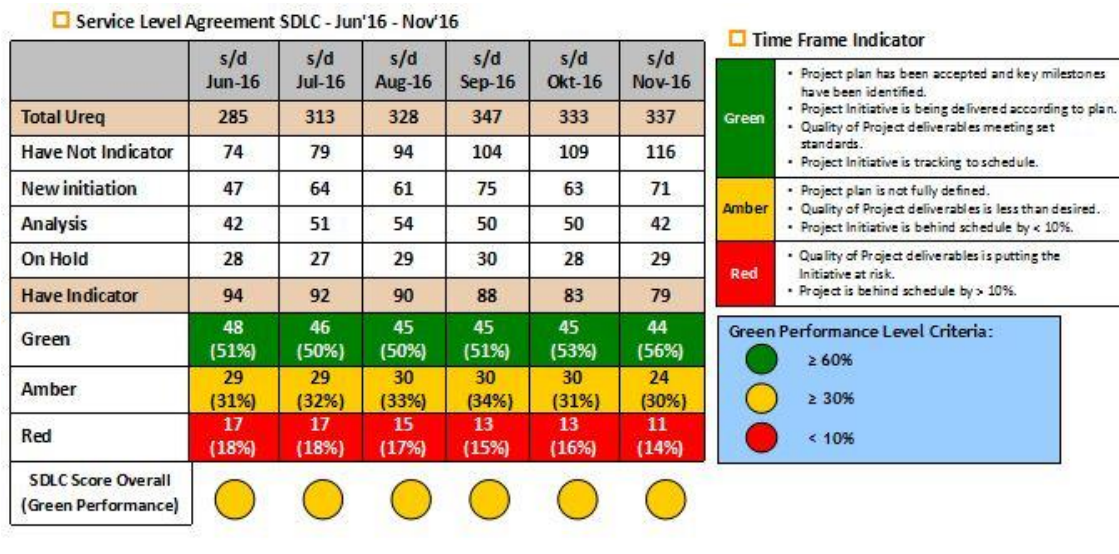


Figure 8 SDLC Service Level Agreement

Internet Banking and mobile banking transaction are also monitored by the IT Service Desk and reported regularly in the Division meeting with the Board of Director. Figure 9 depicts the financial and non-financial internet banking transactions

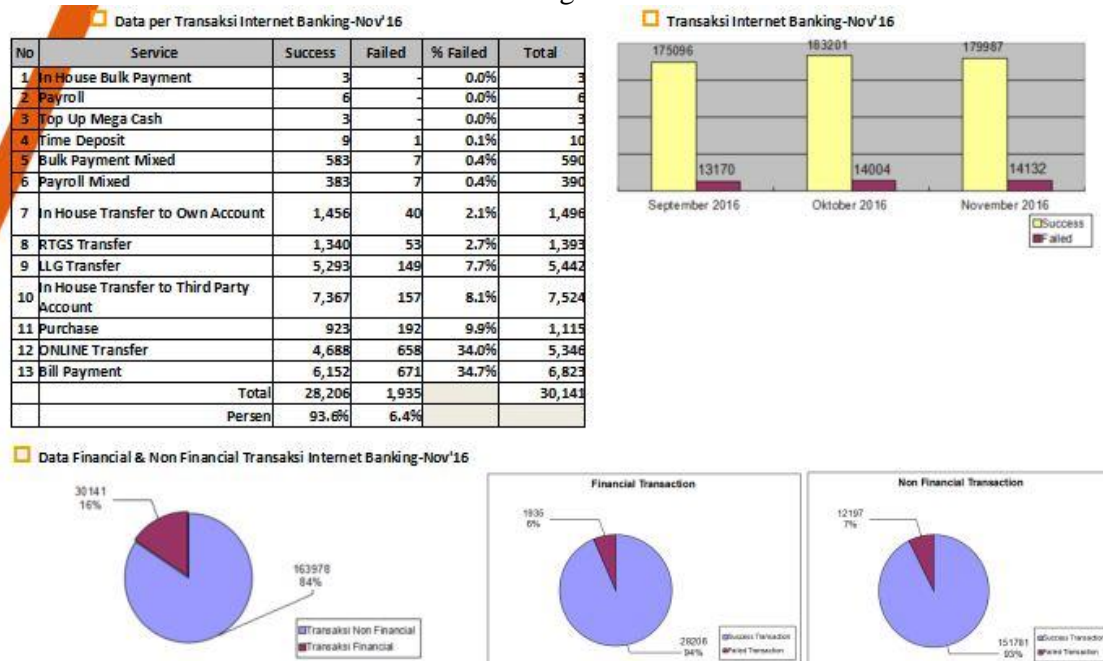


Figure 9 Financial & Non Financial Success Rate Transaction

4. Conclusions

A good IT Service Desk allows a Financial Institution to easily connect to its business goals. Good IT Service Desk will improve user satisfaction effectively and efficiently for all stake holders of the company. The success factors that influence the successful implementation of IT Service Desk here are the commitment from the top management and also from the staff and their manager to implement ITIL Framework.

The challenge faced by this Financial Institution regarding service its users has been managed by implementing a Single Point of Contact of IT Service Desk. This service level agreement is regularly updated to better serve the users. The limitation of implementing of IT Service Desk is about the time limit and the socialization to all user of the company need more attention.

References

- [1] C. Zhao, H. H. Gan and F. Gao, "A Study on the Process Model for IT Service Management," *Proceedings of Finite Element Analysis and CAD*, Peking University Press, Beijing, 1994
- [2] Ekanata, A., & Girsang, A. S, "Assessment of capability level and IT governance improvement based on COBIT and ITIL framework at communication center ministry of foreign affairs, " *Proceeding of ICT For Smart Society (ICISS)*", 2017
- [3] Chen, A. & Chou, S, "Issues in implementing information technology service management. *Service Science*, 1(2), pp 13-17, 2010
- [4] Zhu, P. , *ITIL framework: Value added or out-of-date*. Retrieved from: <http://futureofcio.blogspot.com/2012/11/itil-framework-value-added-or-out-of.html>, 2012
- [5] BMC. (2011). *ITIL Best Management Practice - 02 ITIL Service Strategy*.
- [6] BMC. (2011). *ITIL Best Management Practice - 02 ITIL Service Design*.
- [7] BMC. (2011). *ITIL Best Management Practice - 03 ITIL Service Transition*.
- [8] BMC. (2011). *ITIL Best Management Practice - 04 ITIL Service Operation*
- [9] BMC. (2011). *ITIL Best Management Practice - 05 ITIL Continual Service Improvement*.