

AN IMPROVEMENT OF OPERATIONAL DECISION MAKING QUALITY AMONG
FIELD OPERATION PERSONNEL AT SERI YAKIN SDN BHD (SYSB)

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DEDICATION

I dedicate this project to God Almighty, my creator, pillar, source of inspiration, wisdom, and knowledge. He has been the ultimate source of my strength throughout the project's

completion. I also dedicate this work to my wife, Jusriz Norzie, who has encouraged me all the way and whose encouragement has made sure that I give it all it takes to finish that which

I have started. Furthermore, my children, Irfan, Insyirah, Adelia, and Amni, have significantly been affected in every way possible by this quest. Finally, the project will not be completed without my supervisor's guidance and wisdom, Dr Shathees Baskaran. His input and guidance have always steered me to the correct path and new insight.

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Lastly, my appreciation for my wife and children provide me with emotional encouragement along the way. Finally, my gratitude to my classmates is that I can call my brothers and sisters who assist me and encourage me whenever required.

ABSTRACT

In the operation and maintenance environment, decision-making is the utmost crucial element to resolve any issues and be a catalyst for further improvement in daily operation. Any improvement in decision-making time will significantly benefit the overall organization's performance. The organizations believe that knowledge and information sharing with all employees will play an essential role in improving the organizations' decision-making time.

This research identified factors determining Seri Yakin Sdn Bhd (SYSB). The research provides insight into creating knowledge and information sharing platforms as an intervention for the issues identified. In addition, the research evaluated the sharing platform's effectiveness to improve the decision-making time for Field operation personnel at SYSB.

SECI theory of Knowledge Creation and Knowledge sharing Conceptual Framework will be the current study's based model framework. A mixed-method approach was applied in this research using interviews, surveys, and observation, with 11 respondents taking part in this study. In addition, thematic Analysis and Statistical Package for Social Sciences (SPSS) were utilized to analyze the data.

Keywords: Quality Decision-making, Information Sharing, Knowledge Sharing, Performance, Information Technology, SECI Theory,

ABSTRAK

Dalam lingkungan operasi dan penyelenggaraan, pengambilan keputusan adalah elemen terpenting untuk menyelesaikan setiap masalah dan menjadi pemangkin untuk peningkatan selanjutnya dalam operasi harian. Sebarang penambahbaikan dalam masa membuat keputusan akan memberi manfaat yang besar kepada keseluruhan prestasi organisasi. Organisasi percaya bahawa pengetahuan dan perkongsian maklumat dengan semua pekerja akan memainkan peranan penting dalam meningkatkan masa membuat keputusan organisasi.

Penyelidikan ini mengenal pasti faktor-faktor yang menentukan kualiti pengambilan keputusan di Seri Yakin Sdn Bhd (SYSB). Penyelidikan ini memberikan wawasan untuk mewujudkan platform perkongsian pengetahuan dan maklumat sebagai intervensi untuk masalah yang dikenal pasti. Di samping itu, penyelidikan menilai keberkesanan platform perkongsian untuk meningkatkan masa membuat keputusan untuk kakitangan operasi Lapangan di SYSB.

SECI teori mengenai Penciptaan Pengetahuan dan Kerangka Konseptual perkongsian Pengetahuan akan menjadi kerangka model berdasarkan kajian semasa. Pendekatan kaedah campuran diterapkan dalam penyelidikan ini dengan menggunakan wawancara, tinjauan, dan pemerhatian, dengan 11 responden mengambil bahagian dalam kajian ini. Sebagai tambahan, Analisis tematik dan Pakej Statistik untuk Ilmu Sosial (SPSS) digunakan untuk menganalisis data.

Kata kunci: Kualiti Keputusan Dibuat, Perkongsian Pengetahuan, Prestasi, Teknologi Maklumat, Teori SECI,

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LIST OF ABBREVIATIONS

SYSB	-	Seri Yakin Sdn Bhd
FOP	-	Field Operation Personnel
YTLC	-	YTL Communication Sdn Bhd
TT	-	Trouble Ticket
PNOC	-	Proactive Network Operation Center
O&M	-	Operation and Maintenance
SLA	-	Service Level Agreements between SYSB and YTLC
SPPS	-	Statistical Package for the Social Sciences

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Knowledge is a precious commodity for an organisation. Knowledge is construed as a competitive advantage for the preservation and retention of the organisation in the market. Knowledge is, in principle, associated with a knowledge worker. They are people with knowledge, high competence, calibre and elevated skill in the organisation. Knowledge worker positions in the organisation enable decision-making, business orientation strategies, and competitiveness among other businesses (Razak et al., 2016). Therefore, the organisation must advocate knowledge sharing among the employees to gain knowledge sharing, especially decision-making.

This chapter will consist of the six subchapters: case company information, Fishbone analysis, problematic situation, SWOT analysis, research questions, research role, and importance of the proposed research from a theoretical and practical perspective. Lastly, a summary of the chapter layout and conclusion will be included in chapter 1.

1.1 Information about the case company

1.1.1 Organisation Background

Seri Yakin Sdn Bhd (SYSB) was established on 6th August 1976. Its core business is in construction that is currently involved in Gemas-Johor Baru electrified double-track project. In early 2020, Seri Yakin Sdn Bhd has diversified its business by providing Field Operation services for the YES network (Powered by YTL Communication Sdn Bhd (YTLC)). The service provided spans ten sub-regions across Malaysia, including East Malaysia.

SYSB is responsible for providing 190 workforces to provide Operation and Maintenance and related service to 5350 Base stations nationwide. Accordingly, YTLC will provide a Service Order assigned to SYSB every time the YTLC Monitoring centre monitors an outage. The service order is identified as Trouble Ticket, and it is complete with its Service Level Agreement based on the severity of its outage.

The base station's maintenance includes Corrective maintenance and Preventive maintenance. Related services to support the Field Operation include Administration, WorkForce Management, Contract, Procurement, Logistics, and Spare Management. In addition, SYSB always strives to recover any outages efficiently and improve the sites to prevent future outages that are helped by performing preventive maintenance.

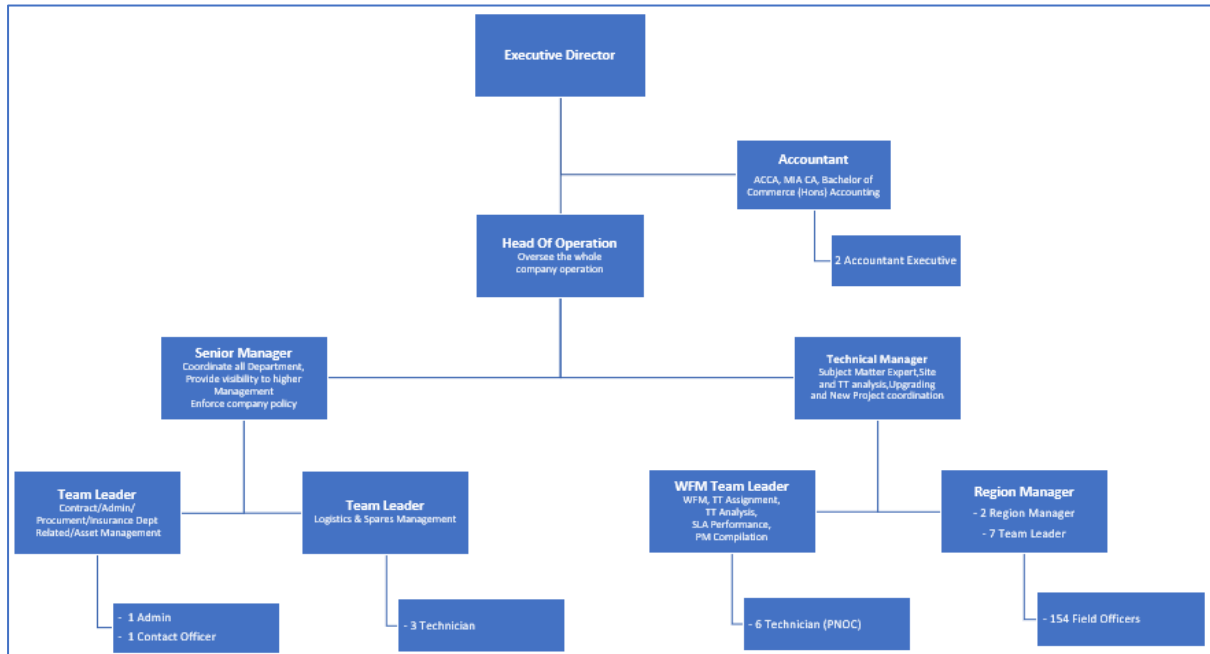


Figure 1: SYSB Organization Chart

1.2 Problem Statement

The problematic situation is for making quality decision making in SYSB. Therefore, it is essential to understand the problem to find accurate intervention in quality decision-making. Therefore, the strategy in understanding the problem was taken in 3 steps:

1.2.1 Problematic situation understanding

The approach was made by conducting interviews with the key management to understand the problematic situation and other observations to identify the problem.

1.2.2 Problematic formulation

The second step is understanding the problems by analysing and studying previous studies on the issues faced and planning for the most suitable intervention applicable to the problem.

1.2.3 Problematic diagnosis

Fishbone diagram analysis will be carried out to understand the root of the problem by identifying each segment's problems. The input will be gathered from feedback and observation.

1.2.4 Problematic situation

An interview was held with SYSB senior management in the organisation with complete knowledge of Field Operation personnel's daily operation to achieve a consistent and detailed interpretation of its quality decision-making situation. Before that, an observation of the organisation was carried out. Finally, a series of questions were generated and posed during a zoom meeting to clarify daily operations, the work assignment system performed today, and recognise the problem's root cause.

There is 152 FOP nationwide responsible for responding and making time-critical decisions to resolve any outages per job assignment by Proactive Network Operation Control (PNOC) handled by YTLC. YTLC as the client will assign any network outages detected by YTLC real-time monitoring system to SYSB as a job order or Trouble Ticket (TT) for SYSB FOP restoration. All the TT has its Service Level Agreement (SLA) and must be resolved within the stipulated SLA. The SLA performance will be summarised and analysed by YTLC, and YTLC will penalise any SLA breaches. There is more than 5000 base station being monitored and under SYSB care. There will be at least 50 no's of network elements at a single base station. There is an excess of 250,000 network elements active and passive under 152 field operations nationwide in total.

The environment that the FOP is operating is pragmatic. FOP must understand and apply any changes in their job; thus, making decisions is quite challenging. Changing technology, updated client instruction, and Management direction have to be broadcasted and fully understood by FOP to provide quality decision making. The SYSB FOP is continuously updated with information through various sources. Despite the inflow of information, the frequency of the information and collation of information for reference is not in place, making their decision-making rather strenuous. While there is no common platform for information compilation, somewhat scattered across different communication platforms, multiple reference points must be referred to before arriving at an appropriate decision, ultimately causing delays in the decision-making process.

Dec 2020, 50 Disciplinary Warning has been issued by the management, consisting of 26 warning letters and 24 Verbal Warning. Out of 50 disciplinary warnings, 4 of the staff have tendered their resignation for various reasons. Their inability to make quality decision-making leads to inappropriate action and behaviour, leading to disciplinary action taken against them.

The interview has provided an insight into the weakness and issues faced by the FOs in dispensing their duty towards resolving TT within the SLA. FOP's need to receive updated information, fully digest it, and interpret it correctly as per Management direction. The information and direction are very pragmatic and will change according to the client's needs. The information sharing is being shared in many forms and might not reach the intended target. There is no proper feedback and response required from the FOP to update the information.

Based on the previous data on disciplinary action data, there has been an increase in recent years. As a result, the miscommunication frequency has increased, and the standard understanding gap is more expansive.

1.2.5 Problem formulation

A series of studies have been conducted to determine the origin of the issue and improve quality decision-making. Initially, there were some correlations between the numerous studies to determine the similarities in the case, and the intervention plans to address the circumstances.

1.2.6 Problematic Diagnosis

1.2.6.1 Fishbone Diagram

The problem has been analysed with a Fishbone diagram to identify the root cause. The fishbone diagram is an analytical solution that comprehensively observes the effects and triggers that induce or lead to these effects. Therefore, the purpose of the fishbone diagram can be pointed to as the cause and effect diagram (Ishikawa, 1985).

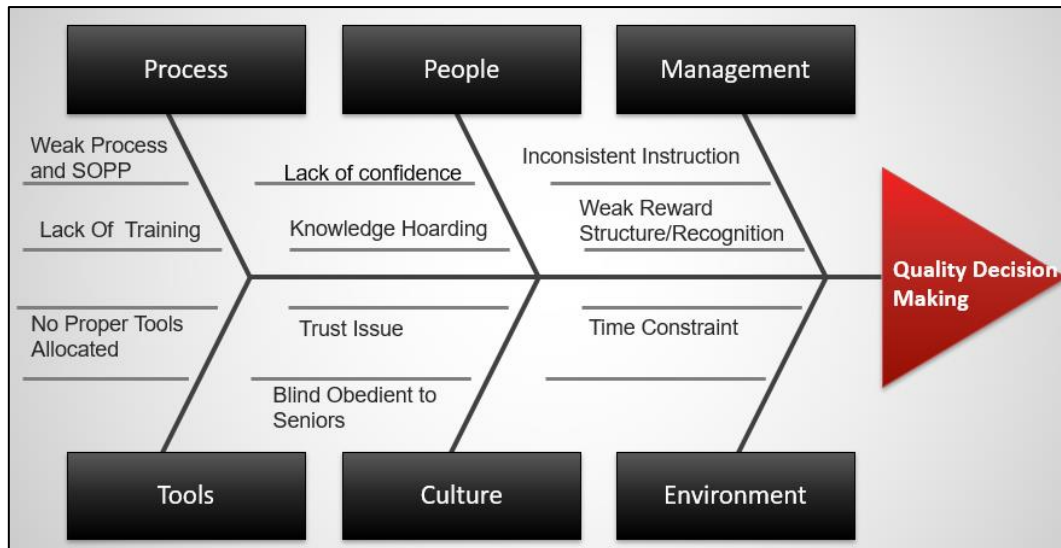


Figure 2 Ishikawa (Fishbone) Diagram

Table 1: Description of the finding of the Fishbone technique

Possible Root Cause	Discussion	Root Cause Y/N
<i>Management</i>		
Inconsistent Instruction	Field Operation Personnel (FOP) has conflicted instruction due to the inability to grasp management's latest information and direction.	Y
Weak Reward Structure/ Recognition	FOP believes that management did not appraise and recognise their progress and effort in fulfilling their daily task due to a vague reward structure.	N
<i>People</i>		
Lack of confidence	FOP is undecided and does not have enough confidence due to the lack of information in their hands to guide them.	Y
Knowledge Hoarding	Senior FOP's will have some aspects of knowledge that are only accessible to them. Junior staff will have the challenge to obtain the same information.	Y
<i>Process</i>		

Weak Process and SOPP	Process and SOPP are not well documented and accessed. As a result, FOP's will have to obtain information manually, which will cost them time.	Y
Lack Of Training/ Information	Even though refresher training is provided, the result and feedback are not accessible to everybody.	Y
<i>Environment</i>		
Multi-Tasking Requirement	FOP's nature of jobs requires them to perform several tasks in the same period. As a result, it can lead to mistakes and a rush to decision making before having enough time for the necessary calculation.	N
Time Constraint	Every task has been defined with a very rigid Service Level Agreement (SLA); thus, FOP's is under pressure to decide before having enough time to refer to necessary information.	Y
<i>Culture</i>		
Blind Obedient to Seniors	Every junior Fo's will be trained on jobs by the senior FOP's. The information passed down might not be the latest and accurate, making decision-making very hard.	Y
Trust Issue	Fo's perceives that they are not being trusted to decide due to the amount of information accessible.	Y
<i>Tools</i>		
No Proper Tools Allocated	Every Fo's is equipped with a good broadband connection and optimum Smartphone, but they have never had the tools to access information on a common platform.	N

1.2.6.2 SWOT Analysis

SWOT Analysis is a technique used in organisations for strategic planning and strategic management to develop a corporate strategy and strategic strategy, and it can be used efficiently. Organisations are in contact with their surroundings and comprise separate sub-systems in conjunction with the System Approach. In this way, in two worlds, an organisation lives, one being an Internal factor and another being an external factor (Gurel, 2017). As a method, SWOT analysis is highly respected for its flexibility and effectiveness in concentrating on crucial issues concerning market development and progress. It can become an effective instrument in determining the most likely factors to impact an organisation's approach and performance (Pickton & Wright, 1998).

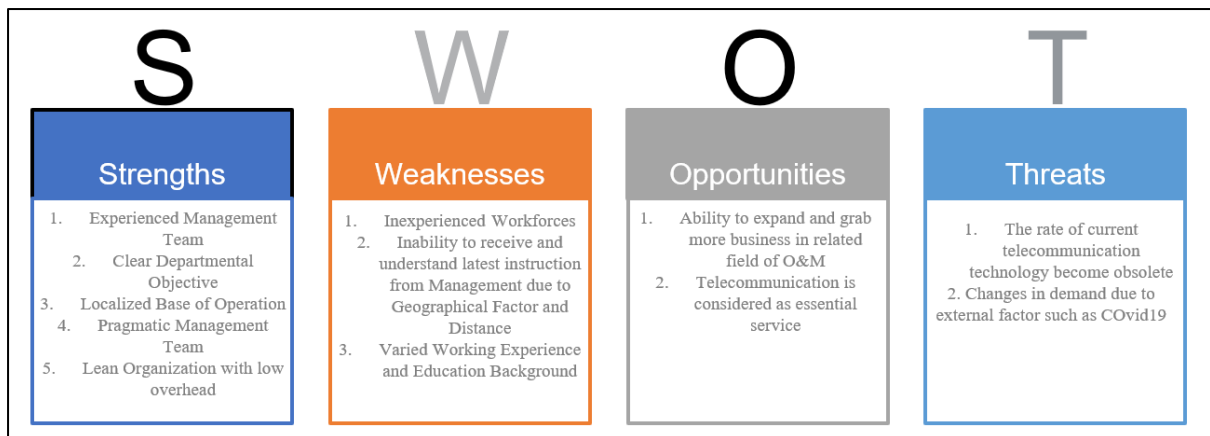


Figure 3: SWOT analysis

1.2.6.2.1 Strength of SYSB

SYSB has a seasoned management team which different backgrounds and diversity, which accumulated 100 years of experience. The management team has vast experience in operation and maintenance concepts and can align the department's state with the overall direction. The management team has a firm grip on the situation and can resolve any issue and conflict with accumulated experience and knowledge.

The department has a clear objective and direct drive and is guided by the senior management team. The personnel can differentiate between tasks and prioritise based on the management team's guidance. The management team can draw a precise direction based on the strict contract interpretation, which the client has agreed upon.

SYSB has set up a localised base of operation in 15 sub-regional stores operated by adequate Field Operation Personnel proportionate to the number of the base station under their

care. It provides advantages to shorten time travel to the base station and efficiently serve as the respective sub region's spare collection centre.

The management team has a pragmatic approach based on the client's requirements. Numerous scenarios have been handled, and issues resolved through the approach. However, it becomes more critical due to the current year's changes that Covid19 has changed how it operates.

The department has a very lean management team and almost horizontal reporting. The executive director and senior management can be reached and consulted by anyone in the department to resolve or discuss new ideas. The lean organisation leads to low overhead; thus, it brings low impact for any financial changes.

1.2.6.2.2 Weakness of SYSB

SYSB workforce has an average age of below 30 years old, which was recently hired as young as 20 years old. It poses a challenge to the organisation because it will be deemed as an inexperienced workforce. In addition, the job scope will require in-depth knowledge of the network and equipment, which can only be mastered by having more than three years of experience.

The FOP is spread to 2 continents and 15 sub-regions. Information sharing is much more challenging, especially when physical contact is required. Multi diversity of culture and backgrounds amplify the issues and requires an in-depth understanding of the organisation.

FOP is being hired from a broad diversity of educational backgrounds and qualifications. The more significant part of the workforce has some industry background, but many of the workforces are not well-versed in the industry and require major upskilling.

1.2.6.2.3 Opportunities of SYSB

The lean organisation and lower overhead present an opportunity to compete in the industry and other O&M industries. In addition, SYSB has a strategic location and footprint throughout Malaysia. The presence in the major cities will create the opportunity for SYSB to convince any business of their capability to reach and serve any client in the shortest time possible.

The industry that SYSB is currently involved in is considered essential services and industry. Even in the pandemic and emergency period that requires a significant portion of the country to be in lockdown, SYSB is permitted to operate by the authority. Research carried out

by multinational consultant A.T. Kearney concluded that by 2025, 5G technologies could provide operators with up to USD6 billion in annual bonus revenue throughout the ASEAN region. While relative to other more popular new technologies, the media hype surrounding 5G has been somewhat widely subdued, 5G would enable the continued advancement and mainstream use cases of most of the technology, such as AR/VR, advanced robotics, and IoT (Consultancy. Asia, 2019).

1.2.6.2.4 Threats of SYSB

Telecommunication is a fast-paced technology changer with very high capital for every technology evolution. The telecommunication industry has briefly evolved from 1G to the latest 5G. The technology adoption cycle is expected to be ten-year, and every cycle, telecommunication organisations need to spend billions of dollars for infrastructure upgrades. SYSB, as an O&M entity, will have to quickly adapt to technology changes by upskilling and unlearning the previous method of O&M. It appears like the pace of innovative emerging technology is growing. Blockchain, electronic banking, the Internet of Things, cloud infrastructure, automated cars, and future 5G networks have posed new opportunities and threats for telecoms over the past five years. Perhaps because of this, 68.5% of telecoms involved in the 2018 BDO Telecom Risk Factor Survey see the accelerated arrival of new technology as a risk. In 2016, 55% of the telecoms surveyed described it as a possibility, while in 2017, the number had risen to 72% (Jamil, 2020).

Internet use soared 23.5% in the first week of the MCO, according to the Malaysian Communications and Multimedia Commission (MCMC), and rose to 32.1% in the second week, powered mainly through consumers who wished to remain linked with their families and friends, as well as for work, research, and entertainment. However, while the pandemic triggered a surge in internet traffic during the lockout, higher use not just in Malaysia but worldwide did not inherently result in a rise in customer and business spending, as most consumers leveraged their home broadband (Teng, 2020).

1.3 Research Questions and Objectives

1.3.1 Research Questions

- I. What are the issues faced by SYSB to improve quality decision-making when resolving outages?
- II. What realistic intervention can be studied and analysed for SYSB to improve decision-making?

III. What is the intervention's impact on quality decision-making among SYSB FOP?

1.3.2 Research Objectives

- I. To understand the gaps in current information dissemination practices at the SYSB field operation department.
- II. To propose a potential intervention to improve consolidation, validation, and dissemination of information for SYSB FOP.
- III. Evaluate the intervention's impact on quality decision-making among SYSB FOP.

1.4 Researchers Role

The researcher identifies the issue based on action research and seeks an appropriate solution to improving organisational quality decision-making. The researcher must establish consistency in the study's ethical conduct to explicitly or implicitly analyse all the information and inputs. Finally, the researcher plays an implementer's role by finding the most realistic solution to resolve or address its query and problems.

1.5 Research Ethics

The researcher would then consult with the relevant personnel on the project and the research target, interact with the parties as and when it is most acceptable and an ethical standards way to exchange information and pass ideas for the specific purposes of the organisations while retaining the highest sense of fairness and ethics at each stage of the report.

1.6 Significance/Importance of the Proposed Research

The research's importance is to identify the practical intervention to improve the decision-making time in SYSB. Many factors influence the decision-making process. As indicated by Bezrukova et al. (2009), that assumption of information sharing allows the use of all available group cognitive resources and thus increases overall group performance. In addition, information sharing contributes to information, thereby improving the consistency of decisions.

The research explains the information sharing importance to the decision-making process. It will be further elaborate on how it will impact the organisation. The research will provide a new framework for information sharing throughout the organisation. Information sharing will be based on the data's severity and accuracy and how the information dissemination will be controlled.

1.6.1 Theoretical

The study has chosen the SECI theory of knowledge creation as the basis of the study. The theory will work as a basis of a theoretical contribution to the study. Numerous previous studies have presented findings on the relation and effect of information and knowledge sharing on job performance. SECI theory explicitly mentions converting knowledge from tacit to explicit and explicit to tacit, utilised for the intervention creation. Further understanding of the theory and model reveals the factors contributing to quality decision-making.

Information sharing is crucial to business management as it is a business strategy to boost competitiveness and grow intellectual capital through development and creativity. Therefore, the management or senior managers have significantly increased interest to include the services and promote and training staff about information sharing opportunities (Razak et al., 2016).

According to Mesmer-Magnus and DeChurch (2009), Openness indirectly affects efficiency by fostering high-quality interactions and encouraging participants to have higher levels of trust in each other's insightful feedback. In addition, sharing data with greater scope may allow for more in-depth information processing, thereby increasing the quality of team decisions when individuals are more transparent throughout meetings. Thus, the possibility improves the efficiency of information.

Abdelrahman (2013) indicates that any organisation's essence is knowledge, which is also the basis for its survival. Therefore, knowledge will keep growing in significance as a means of strategic advantage. Furthermore, a large corporate business will enhance operational productivity and performance via knowledge sharing. Therefore, knowledge Management will keep growing to promote the exchange of knowledge and the method of decision making.

Throughout the interview and survey session, informative and informative data were obtained from the staff's perspective to know the rationale for quality decision-making. Therefore, structured information dissemination and a common sharing platform are necessary. Ultimately, this study will apply to potential researchers on a related subject as a source.

1.6.2 Practical

Completing the report will help understand how the organisation enhances exchanging knowledge and improves decision-making quality. As a result, productivity and efficiency have since improved. In Chapter 2, a comprehensive analysis will be revealed to establish a framework for the associated article reports.

SYSB will benefit from this research. They will have a more efficient workforce contributed by the standard information-sharing platform intervention and understand the information dissemination gap. SYSB will also have more visibility on future improvements in terms of knowledge sharing. The result of the study will also benefit other entities in the industry of operation and maintenance. The direct benefit to SYSB will be :

- I. Improve decision-making quality for SYSB field operation personnel
- II. Improve knowledge sharing and dissemination for SYSB
- III. Improve SYSB workforce efficiency

The intervention plan suggested in this study is intended to be a management reference, allowing suggestions as a guideline to address a similar issue. The issue should be resolved effectively, and a control measure or initiative could be launched to increase quality decision-making by changing information sharing. Besides, organisations can incorporate the findings or outcomes as a framework for re-evaluating the current policy to enhance its efficiency and competitiveness. The intervention improves the information-sharing approach, and a new technique may also be designed and developed. Thus, improving the efficiency of decision-making in the organisation.

1.7 Definition of Terms

Term	Definition
Knowledge-Sharing	The act through which information is passed from one individual to the other, between individuals and groups, or between groups (Abdelrahman, 2013)
Cloud-based Info board).	A platform for SYSB to manage their knowledge-sharing activities, The platform will be integrated into cloud-based infra
TT	Trouble Ticket that functions as a work order for SYSB
O&M	Operation and Maintenance activities performed by SYSB FOP
SLA	Service Level Agreements between SYSB and YTLC

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