The Operational Risk Management and Supplier Service Recovery in Improving Customer Satisfaction

Ichsan Gaffar[1], Ika Agustina[2], Tohiroh[3], Adi Wicaksono[4]
[1234]**Sekolah Tinggi Ilmu Ekonomi Ganesha, Indonesia**
Correspondent: i.gaffar07@gmail.com[1]

ABSTRACT: Currently, many production facilities are very concerned about the sustainability of their production processes. Generally, ICS users need suppliers to maintain production facilities, especially during the operation period. Therefore, response of supplier is important to recover the critical equipment of production facilities such as ICS in Indonesia. In this study, ORM (Operational Risk Management) was chosen as one of the independent variables along with Supplier Service Recovery to create customer satisfaction who do not have a service contract with the supplier. Strategy of suppliers is needed to find good after sales service. There is a research gap in this study between the expectations of ICS users and their Satisfaction without considering long-terms relationship and long term marketing /business plan. This is conducted using a quantitative approach. Data collection method is done by providing a list of questions and sent to users maintenance managers where are located with in Indonesia.. The 20 questionnaires are developed according to each variable. The 5-point Likert scale is used. The tool of analyze is using the Structural Equation Model with the WarpPLS 7.0. approach. ORM is found to mediate the relationship between supplier service recovery and customer satisfaction but supplier service recovery will not give impact to customer satisfaction directly. The ORM and Supplier Service Recovery are proven to bring satisfaction to ICS customers.

Keywords: ICS, Operational Risk Management, Service Recovery, Customer Satisfaction

INTRODUCTION

Today's dynamic service environment encourages more effective marketing. Service products must be tailored to customer needs, set at realistic prices and actively promoted to customers (Bai et al., 2022; Lovelock & Cristopher H, 2018; K. Yang et al., 2016). In the case of services with a high frequency of contact, customers not only have contact with service personnel but also have contact with other customers. The difference between service businesses often lies in the quality of employees serving customers. With increasingly tight competition in the business world,

companies are encouraged to consider formulating or considering appropriate strategies and methods win the competition, one of which is by establishing the closest relationship between companies and customers by providing a fast service system. Service system with accepted quality encourages customers to devote themselves to products and services, thus having an impact on increasing product market share (Sun et al., 2022).

Organizations of all types and sizes face internal and external conditions and influences that create uncertainty in achieving targets. A risk management process will help organizations to set strategies, achieve targets and make decisions with careful consideration (Pramustia & Suyatno, 2021). Customer satisfaction, which is a strategic target and method especially in services of critical assets, must provide certainty and minimize risk (Kurniawati et al., 2018; Lee & Yew, 2022; Talapatra et al., 2022). There is a method that is often used in financial institutions, namely Operational Risk Management (ORM) which is often applied to deal with market risk, interest rate risk or credit risk. An effective operational system can control operational risks (Mamduh, 2014). Quality management basically want to improve output quality through operational control. This concept has been known in the production sector, but in subsequent developments, the concept of quality management has also been applied to others, such as in the service sector.

Suppliers provide after sales service, not only providing standard services qualities such as system responsiveness, fostering assurance shows physical (tangible) evidence that supports the service, feels a caring attitude (empathy) from people who receive services according to their abilities (reliability) as well carry out all services provided consistently to satisfy users, but systematic preparation is needed so that recovery can be carried out and completed in accordance with customer expectations. What is really needed in terms of recovery at Industrial Control System (ICS) is timely completion. Therefore, other dimensions are needed to prepare for recovery work, such as equipment track records, periodic assessments and investigations reports and data base where those data can be carried out while the ICS is operating. This is not done when the ICS is down for some reason.

ICS is one of the most important and hi-tech equipment for monitoring and controlling processes in production /manufacturing facilities such as power plant, oil/gas processing chemical, pulp/paper and others. Problem arise when the warranty period has expired. After the warranty period, the customer should continue using a service contract or maintenance contract. But in reality, not all ICS users use this service for various reasons. The reasons often given by users are the high price and added value of the service. The policies taken by ICS users are very dangerous because ICS can experience problems that cause disruption to production and production facilities.

The purpose of this study is to investigate and find the best current operation and activity of after-sales service by combining an Operational Risk Management (ORM) and Supplier Services Recovery (SSR) in order to meet Customer Satisfaction. Therefore, the role of supplier is required to support the concept of manufacturing/production facility maintenance (Naik et al., 2019). The factors of service quality, customer satisfaction and loyalty on marketing management especially in providing technical personnel who are able to provide technical support for both unplanned and planned shutdown (Cho & Choi, 2021; Pranowo, 2019; Srivastava, 2015).

What generally applies to ICS users when a failure occurs in the ICS system, they do not need compensation as a recovery measure as happens in BtoC sector. Some research suggests that one

of the Service Recovery actions is to offer compensation such as a refund or discount on a future purchase, make temporary repairs and do it in a timely manner. What they neeed is a technical support immediately. Technical support that must be available and can be utilized according to user expectations (Sciarelli et al., 2017). Even though recovery assistance has been carried out, sometimes a negative impression is still left in the minds of ICS users (Chiosa & Anastasiei, 2017) especially when suppliers provide poor technical assistance, customers have lost of time and productivity which can be impacted to users financial side. Communication of service recovery process is part of supplier responsibility, in which customers are informed of the adoption of way out to address the cause of the failure, so as to avoid the same problem happening again (Vázquez-Casielles et al., 2017).

The key to recovery from a malfunctioning ICS is time. Time means how quickly supplier can help their customers so that their production facilities can operate normally again. Factor such as (Ali et al., 2023; Subandi et al., 2023) have been sufficient so far to help restore the situation. However, the expectations of users is that recovery can be carried out relatively quickly. In this study, the author tried to propose a new variable that will be combined so that the execution of recovery can run faster. The variable is operational risk management (ORM). Operational risk management encompasses the mechanisms, tools, policies, procedures and processes, including management oversight, to identify, assess, monitor, report and control operational risks (Giannone, 2018; Z. Yang et al., 2023; Yin et al., 2018).

ICS systems are often targeted by malicious actors (Line et al., 2014) . Regarding the cyber attack, there are many other cases that occur on the hardware and software side which can cause ICS operations to be disrupted and affect to the operations of other facilities in manufacturing . One of the concerns is contingency planning, which are policies and procedures for maintaining business operations when emergencies such as system failure occur (Bourne et al., 2018).

Implementing the service recovery concept for critical equipment is an important strategy and needs more attention to retain existing customers and attract new customers (Chang et al., 2014). Suppliers must provide technical support at any time and it can be utilized according to user expectations (Sciarelli et al., 2017). One of the service failures is the inability to meet customer expectations according to the service supplier's standard. Service failure as defined by Varenbergh and Orsingher (Van Vaerenbergh & Orsingher, 2016). Sometime a negative impression is still left in the minds of ICS users (Chiosa & Anastasiei, 2017). That is why customers are considering to another dimension that should be fully understood by the supplier is to act quickly, explain honestly, treat customers fairly (Gaffar et al., 2022), be flexible and act safely.

The readiness of operation data such as system configuration, alarm management and current processes are important. In ICS, there are functions such as alarm management which configurationally plays an important role and will act a crucial role in maintaining operational efficiency and safety in industrial processes (Hu et al., 2017). Sometimes manufacturing facilities cannot be stopped and many considerations before doing work on the ICS side. For these reasons, it is necessary to prepare data before doing work through ORM.

Customer Satisfaction is kind of feeling happy, things that are satisfied, pleasure, relief and so on . Costomer satisfaction is a person's feeling of happiness or disappointment that arises after comparing their perception/impression of a product/service and their expectations(Tjiptono, 2017). They stated that customer satisfaction is an evaluation of choices caused by certain purchasing decisions and experiences in using or consuming goods or services. Meanwhile, Tjiptono (2017) conceptualizes customer satisfaction as feelings that emerge as an output assessment of the experience of using a product or service.

On the other side as a supplier, Company PT. X, which is the subject of this study, has around 110 engineers with various competencies, ready to help their ICS customers. Currently they have lost 47 customers out of 240 who had an install base. The data provided shows that only 115 contracted with PT. X, but there are 78 ICS users who have not entered into a service contract.

Industrial Control System (ICS)

ICS is equipment used to regulate quantities that arise in production facilities such as in industries of oil/gas, chemical, pulp/paper, water treatment, power generation, pharmaceuticals and several industries that require control and monitor both for the input, process and up to output stage.In general ICS has a configuration (Figure 1) and consists of HMI (Human Machine Interface), DCS (Distributed Control System), SIS (Safety Instrumented System) and PLC (Programmable Logic Controller), where the control equipment is connected to the sensors and actuators located in their respective production facilities using control network. According to Maglarasa et al. (2018) specific reliability performance requirements and using operating systems, applications and procedures such as those of information technology. This requirement is a top priority including process management which, if not implemented properly, will pose a risk to production facilities, risks to human health and safety including environmental damage. ICS users always avoid things like this, because they not only cause losses as explained, but also have the potential to tarnish the company's reputation.

Good and bad customer company reputation is an important indicator of success. Suppliers in providing services need to pay attention to the inherent value of their customers. Generally, ICS suppliers who always consider long-term business have prepared services in the form of service contracts or maintenance contracts. The contract contains service activities for assets and facilities using appropriate maintenance service technology to be used for both planned and unplanned maintenance. In general, this contract is made annually or for a certain period to guarantee continuous service and maintenance throughout the year (Pranowo, 2019).

Maintenance has proven to be very helpful for the condition and status of production facilities where suppliers provide references for contacts, costs and frequency of maintenance as well as support from supplier facilities (Etemad-Sajadi & Bohrer, 2019). The ICS is one of very critical equipment because all important parameters/data can be set and monitored through this equipment. Therefore, ICS is placed in a room called CCR (Central Control Room) which can only be accessed by certain officers or engineers. The confidentiality of designs and formulas is one of the main reasons that not all officers or engineers can enter this CCR. The following is an architecture of the ICS (Hu et al., 2017).

Figure 1. Architecture of Industrial Control System
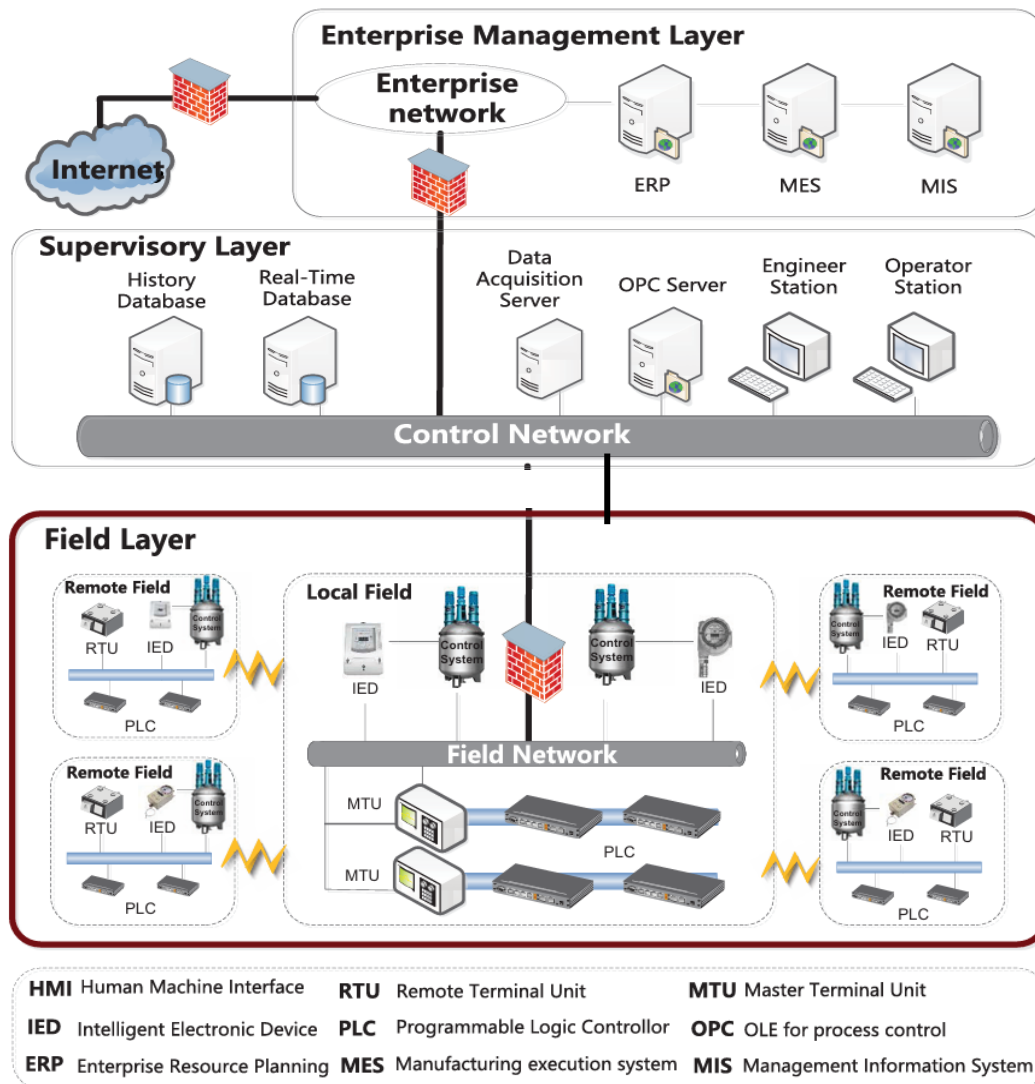
Operational Risk Management (ORM)

Organizations are currently required to be more effective and efficient in every aspect of their operations because business challenges are in an environment that creates tighter competition, market globalization, increasing customer demands and expectations, higher flexibility and the use of high technology. Therefore, organizations must pay more attention to the special concept of risk management which is often called Operational Risk Management (ORM) to reduce the possibility of operational-related risks, and improve operational performance in each business unit. Organizations must be flexible, well organized and able to react to market changes and required regulations (Herdiyanto & Djakman, 2020). Pressure is natural to get the most out of their investments, while maximizing productivity is top priority for most executives. Despite these critical pressures, organizations cannot ignore the impact operational risks have on their business.

The Operational Risk Management (ORM) concept is generally used in financial institutions such as banks where operational risk is inherent in every bank activity, including credit, treasury,

investment, operations and services, trade financing, funding, debt instruments and financial services. other. Risk is seen from several factors such as internal processes, people, systems and external factors. Operational risk identification is carried out for each existing product, activity, process and system. The results of this identification are then used to improve the quality of the work process, reduce losses caused by the work process, change the work culture and provide a supporting system to provide early warning of disruption to a system or management (Ikatan Bankir Indonesia, 2015). In other words, the concept of Operational Risk Management (ORM) is to form a framework that will help factory executives, employees including maintenance officers so that they understand and are able to see the risks in their organization, then create policies and procedures according to the risks and implement them for action. corrective and preventive.

According to Pearson (Pearson, 2023), ORM is defined as a methodology for organizations that want to carry out monitoring and strategies to manage risk. This means that every business has the possibility of facing circumstances or changes fundamental that causes the risk of getting into it, from minor inconveniences to major forms that can endanger business existence. Pearson also said that the main benefits of ORM are:

1) Increase the reliability of business operations.
2) Increase the influence of risk management operations.
3) Strengthen decision-making processes where risk is involved.
4) Minimize losses caused by risks
5) Initial identification of activities and processes.
6) Minimize operational costs.
7) Minimize potential damage to future risks.

Operational Risk Management is part of business/operational risk management relating to activities carried out within an entity, which arise from structures, systems, people, products or processes. Meanwhile, ORM is a work discipline that provides professionals with a framework and tools to identify, evaluate, monitor and control operational risks. The Risk Management Association defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems, or caused by external events. Examples of operational risks include catastrophic events, cyber attacks, fraud, and non-compliance (Emake et al., 2020).

Service Recovery (SR)

An important strategy in increasingly fierce competition is retaining existing customers and attracting new customers (Chang et al., 2014). Therefore, service suppliers must have a plan to carry out fast and effective Service Recovery in dealing with any failures. The term of Service Recovery for the situation when the supplier company attempts to respond to the situation after a service failure or defines it as action by the supplier to return the customer to a satisfied state after receiving failed service (Van Vaerenbergh & Orsingher, 2016). One of the service failures is the inability to meet customer expectations according to the service supplier's standards. Service failure is occurs when the service provided does not match what the customer expects . It means that Service Recovery is an effort made to overcome customer disappointment after using services/products from an organization. (Ashraf & Manzoor, n.d.) define Service Recovery as

special actions taken to ensure that customers receive appropriate service after problems occur in normal service.

According to (Ozuem et al., 2017), the Service Recovery concept included in the action process is to overcome the problems and negative attitudes of dissatisfied customers so that they can retain customers again. Gaffar et al. (2021) defines Service Recovery as action taken by a service provider company regarding customer complaints due to service failures perceived by the customer. Therefore, every service provider, especially in the service industry, must have a plan to implement the right system for recovery, especially minimizing customer dissatisfaction (Liat et al., 2017).

In today's highly competitive environment, customers are becoming more demanding and expect excellence from any service provider. Having multiple options become available to customers raise their expectations. Customer service is about the expectations and expectations that customers currently have shaped by their previous experiences so businesses must meet or exceed customer expectations. Moreover, customers always demand more in terms of recovery. The most important strategy in a highly competitive industry is retaining existing customers and attract new customers. Therefore service providers must have an effective and immediate service recovery plan to deal with any service failure. One of the service failures is the inability to meet customer expectations according to the standards of each service provider.

Customer Satisfaction (CS)

Customer satisfaction is a very important and key factor in the success of a business. Those who are satisfied tend to return to buy the product or service provided, recommend it to others, and provide positive feedback about the business. Customer satisfaction is a measure of the extent of satisfaction felt by customers with the services or products they have received. Satisfied customers tend to have positive perceptions of a brand or company, increase customer loyalty, and may provide recommendations to others (Tjiptono, 2017). So it is not only an indicator of the operational success of a business, but also the key to building long-term relationships with customers, creating opportunities for business growth through customer retention and positive marketing. Therefore, it is important for businesses to understand this and develop effective strategies to meet customer needs and expectations.

Lovelock and Wright(2018) defined, Customer Satisfaction a consumer's response to fulfillment which is an assessment of a product or service or ability that can provide a pleasant level of fulfillment resulting from consuming a product or service. It means that satisfaction is the result of hope, while hope partly comes from previous experience. Expectations come from experience, which can be tailored to customer benefits. Tjiptono (2017) argues that Satisfaction is a kind of customer cognitive assessment process that compares actual product performance and expectations. Customer Satisfaction is basically a customer's assessment of the extent to which a product or service meets expectations or fails (Gaffar et al., 2021).

In case of Service Recovery process, Satisfaction is an important element. In particular, satisfaction with service recovery can not only drive behavior toward loyalty, but also become a specific process that links service recovery efforts with the desired results for all. Tjiptono (2017) suggest that

Customer Satisfaction means an emotional state of pleasure or disappointment. This is felt by a person or organization because of the comparison between perceptions and expectations regarding the performance of a product or services.

Appropriate recovery tends to resolve customer problems while ensuring their satisfaction during the recovery process, including complaint handling, speed of action, compensation in response to service failures, and competency of staff handling recovery (Hassan et al., 2014). Hope in customer recovery is the customer's belief about the appropriate level of repair after a service failure. Failure can upset the balance between the ratio of customer expectations and service provider performance. The thing to remember is that the Customer Satisfaction process is one of the processes of Customer Loyalty (Griffin, 2016).

METHOD

This study is motivated and encouraged to raise a new variable to form a research model that has never existed before. This proposed model makes a distinctive feature of this research, namely by adding a variable, namely ORM (Operational Risk Management). ORM, which has only been used for research in financial institutions or institutions, is also an element of novelty, including the relationship between ORM and Service Recovery which will make it easier for ICS users and suppliers to carry out mitigation and execution during the recovery process. Operational risk can refer to both the risk in operating an organization and the processes management uses when implementing, training, and enforcing policies (Vicente, 2024). The ORM concept is very compatible with the maintenance concept in several manufacturing facilities. Therefore, in this study, ORM is used as one of the variables that will be presented in the research methodology.

This study is created to find explanations and answers to ICS existing problems in marketing. Therefore, in this research, a set of knowledge about systematic and logical steps, such as discussing research methods which include research approaches, research populations and samples, research variables, operational definitions, location and schedule of research, data sources, collection methods data and data analysis. To verify the hypotheses and achieve the objectives, a survey shall be conducted to the users in several industrial companies in Indonesia.

This study is conducted using a quantitative approach and focus is to build and test the relationship between ORM (operational Risk Management), SSR (Supplier Service Recovery) and CS (Customer Satisfaction) related to customers who use ICS with saturated sampling where the number of ICS users is 78.

Research will be carried out in several provinces mainly Jawa, Sumatera, Kalimantan, Papua and Sulawesi. Schedule shall be started by October 2023 and it will be ended by March 2004.

Currently, the number of users who have been operating ICS without service contract was 78 users and they are located in several provinces/islands of Indonesia.

The sample and analysis units for this research are ICS user institutions represented by maintenance managers/heads of maintenance or individuals responsible for ICS performance and have been operating for a minimum of 2 (two) years and without having a service contract.

A total of 20 questionnaires have been developed and adapted to the circumstances of ICS users. The questionnaires touch the activities with attention to factors such as ORM, Recovery and Satisfaction, support for critical equipment owned and pay attention to customer values. Perceptions and experiences serving customers, escalation of problems, and quality of work are included in consideration. The unit of analysis in this research was the maintenance manager who knows the condition and performance of the ICS. Likert scale was used where the number 1 represents strongly disagree and 5 represents strongly agree.

In this research, SEM (Structural Equation Modeling) is used with the WarpPls 7.0 approach. SEM is a multivariate statistical analysis method. In SEM there are 3 activities simultaneously, namely checking the validity and reliability of the instrument (confirmatory factor analysis), testing the relationship model between variables (path analysis), and obtaining a suitable model for prediction (structural model analysis and regression analysis). The measurement model is carried out to produce assessments regarding validity and discriminant validity, while the structural model is modeling that describes the hypothesized relationships.

The conceptual framework (figure 2) below is constructed as follows

- Independent variables were ORM and Supplier Service Recovery (SSR).
- Dependent variable was Customer Satisfaction (CS).

Figure 2: Conceptual Framework
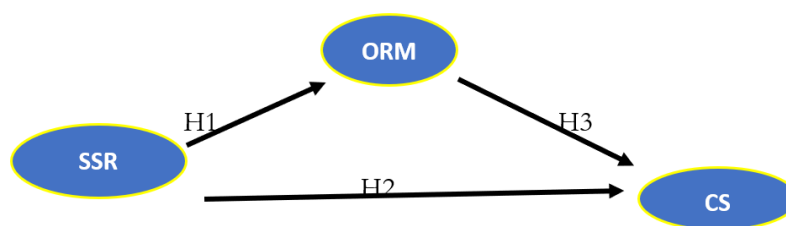
1) H1 - There is a positive relationship between Supplier Service Recovey (SSR) and ORM (Operational Risk Management)
2) H2 - There is a positive relationship between Supplier Service Recovery (SSR) and Customer Satisfaction (CS).
3) H3 - There is a positive relationship between Operational Risk Management (ORM) (SSR) and Customer Satisfaction (CS).

RESULT AND DISCUSSION

Measurement of Validity and Reliability

In this research we conducted experiments using methods of measurement for validity and reliability to ensure accuracy and consistency in research processes and results. It's vital to consider

these elements while planning a research study, developing methods and documenting results to understand if the data from the experiment appears useful.

- Convergen validity. All items in this measurement are statistically significant. Other than that, the value of AVE for all construct is was greater than 0.5 (tabel 1). This was considered sufficient as a criterion for the convergent validity condition (Solimun et al., 2017). That means the validity was achieved the required level.

Tabel 1: Summary for all constructs

Construct	Code	Description	FL	CA	CR	AVE
Supplier Recovery service	SSR1	Solve the problem as first priority	0.719			
	SSR2	Dispath experiences engineer	0.660			
	SSR3	Joint field visit for risk identification	0.804			
	SSR4	Joint field visit for risk assesment	0.766	0.863	0.895	0.550
	SSR5	Prepare mitigation procedure	0.725			
	SSR6	Conduct risk review	0.759			
	SSR7	Involve supplier top management	0.751			
Operational Risk Mgmt	ORM1	Supplier having recording system	0.723			
	ORM2	Supplier agrees to have join assesment	0.723			
	ORM3	Users agreed to provide emergency s	0.689	0.841	0.883	0.558
	ORM4	parts.	0.746			
	ORM5	Supplier agrees to update regularly the	0.793			
	ORM6	status	0.801			
		Investigation based on external and internal				
		Supplier having an escallation system.				
Customer Satisfaction	CS1	Easy to call Supplier engineers	0.854			
	CS2	Supplier provide hot line 7/24	0.804			
	CS3	Polite enough to deal with complaints	0.807			
	CS4	Provide response even though no	0.776	0.869	0.900	0.566
	CS5	contract	0.629			
	CS6	Supplier have good engiineer	0.761			
	CS7	Supplier having sparepart for emergency	0.595			
		All activities based on chargeable basis				

Note: FL= Factor Loading; CA=Cronbach's Alpha; CR= Composite Reliability; AVE=Average variances Extracted.

- Discriminant validity. Furthermore, the latent constructs in the research were also tested for discriminant validity. One method to see discriminant validity is by comparing the correlation between variables with the square root of variance extracted. SSR with a loading of 0.742 and has a cross loading of 0. 535 and 0.458, where 0.742 is greater than all existing cross loadings. So the

SSR can be said to meet discriminant validity. Likewise, ORM and CS also show that they meet the discriminant validity .

Table 2: Discriminant Validity

Construct	SSR	ORM	CS
SSR	**0.742**	0.535	0.458
ORM	0.535	**0.747**	0.642
CS	0.458	0.642	**0.752**

Note: SSR= Supplier Service Recovery; ORM= Operational Risk Management

CS=Customer Satisfaction.

Reliability measurement is a tool used to measure consistency questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable or reliable if someone's answer to a question is consistent or stable over time(Ghozali, 2016) .   A questionnaire is said to have good composite reliability if the value is ≥0.70. From table 1, each dimension composite reliability (CR) is between 0.883 and 0.900, and higher than the standard 0.7 and for Alpha Cronbach (CA) , the values range between 0.841 and 0.869 , all of this were higher than reliability standard 0.7 (Ghozali, 2016) .

The following data was computed by WarpPLS statistical software to collate path coefficient and the corresponding hypothesis and test result as shown by table 3. In this table, below is shown some data such as path coefficients, P-values and the conclusions of each hypothesis. Path coefficients represent the strength and direction of the relationship betweenthe variables.

Table 3 Result of Structural Model

Hypothesis	Relationship	Path Coeff.	p-value	Remarks
H1	SSR → ORM	0.55	<0.001	Accepted
H2	SSR → CS	0.12	0.13	Rejected
H3	ORM → CS	0.68	<0.001	Accepted

Note: : SSR= Supplier Service Recovery; ORM= Operational Risk Management

CS=Customer Satisfaction.

Figure 3 shown that R-squared = 0.56 means that all the independent variables SSR and ORM were predicted the dependent variable (CS) by 56%, while 44% depends on other variables which were not mentioned on this research.

Figure 3 . Research Results (WarpPLS)
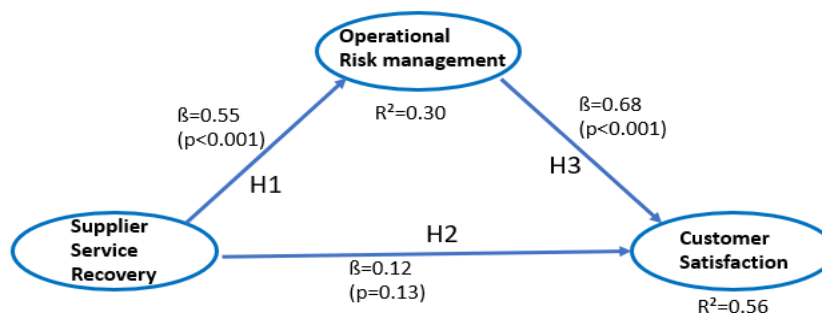
Based on data (table 3), on H1 where β = 0.55 and p<0.001, means there is direct effect of SSR on ORM. The β-value = 0.55 means ORM increased about 55 % when SSR increased 1%. The p-value (<0.001) means there was a positive and direct relationship between SSR and ORM. Thus H1 was accepted. This means that there is the influence of Supplier Service Recovery towards Operational Risk Management significantly when ICS in trouble. H2 had β =0.12 and p-value = 0.13, means did not have a significant d relationship betwwen Supplier Service Recovery and Customer Satisfaction. The reason was p-value = 0.13 morethan 0.05. In this case H2 was rejected. This means that there is no the influence of Supplier Service Recovery towards Customer Satisfaction significantly . Customers wanted that during recovery of ICS, good preparation is expected before recovery was executed. H3 had β-value= 0.68 and p<0.001 means there was direct effect of Operational Risk Management on Customer Satisfaction . The β-value = 0.68 means Customer Satisfaction increased about 68% when Operational Risk Management increased 1%. The p-value <0.001. By considering that p-value less than 0.001, it was said to have a highly significant level. Customer is appreciated to Supplier when preparation is ready before service recovery is executed. Therefore H3 was accepted.

The results of above hypothesis test indicate that two hyphoteses proposed (H1 and H3) in this study are accepted but other one (H2) is rejected. H2 (β =0.12 and p-value = 0.13) which describes service recovery should have a positive impact and make customers feel satisfy. However, this study did not have a positive impact on customer satisfaction. Several studies such as those conducted by Diaz et al (2017), Etemad-Sajadi and Bohrer (2017) and Pradan (2015) show that customers are quite satisfied after receiving service recovery. It is understandable that the three studies above do not include time management as an important element. Even though Etemad-Saadi and Bohrer (2017) said involved flight waiting time, customers received fairly good service during the delay period. The difference here is that airlines provide and offer snacks and drinks.
We cannot find support on other (journal related to this subject) for the relationship between service recovery and operational risk management in other research. Logically, service recovery will have a lot to do with operational risk management, because on the risk management side it really requires things like response and empathy towards customers which having ICS failure, while on the operational risk management side it plays more of a role in preparing assessment and investigation data.

On H3, it is concluded that operational risk management has a positive effect on customer satisfaction. There is still a lack of journals on the relationship between operational risk management and customer satisfaction, making us decide that the journals that support results and can be seen from the relationship between ORM and customer complaints. This means that resolved complaints will provide customer satisfaction (AL-kiyumi et al., 2021) . Therefore, the role of the supplier recovery service is expected to provide customer satisfaction. But in this case it appears that the supplier service recovery is not enough to provide response according to customer expectations. This is understandable because recovery that does not pay attention to customer expectations.

On ICS business, the approach that makes customers satisfied and loyal is through a model built by utilizing the functions of Service with added value such as Operational Risk Management (ORM) and Service Recovery. ORM placement is rational thinking by combining empirical events in an effort to get answers. The management of a production or industrial facility generally does not want the production facility to experience problems that could be financially detrimental. For this reason, a systematic identification and mitigation process is very necessary. Therefore, the role of the supplier recovery service is expected to provide customer satisfaction. But in this case it appears that the supplier service recovery was not enough to provide response according to customer expectations.

This is understandable because recovery that does not pay attention to customer expectations It was caused disappointment for customers. Therefore, with the presence and support of an ORM, preparatory work factors such as identification, assessment, analysis and review were very necessary so that it speed up the resolve of system failures to return to the normal operation and immediately find out the appropriate mitigation for both internal and external problems.

As known in B2B, it had become a concern that the more supplier companies must pay extra attention to their customers, more open and sustainable the opportunity to continue doing business. ICS users and suppliers were often unable to make decisions due to rigid legality rules. A service contract or commercial agreement was considered as a main requirement before providing urgent services. Here flexibility were needed on the part of the supplier. Another thing that needs attention to business like ICS where had a business cycle of 10 or even 15 years. Therefore, once a supplier loses a customer, the opportunity to do business would be occured in 10 years later.

Supplier and users need to discuss and work closely when an ORM is implemented. Users frequently ask suppliers of critical equipment such ICS about the reliability and maintainability of their equipment. Customer will not satisfy if supplier only providing service menu without having preliminary work such as identification, asessment and review which all of these items are in operational risk management variable. That is why by providing a service to customer, it is necessary to prepare service menu, recovery and risk mitigation steps.

In various professional settings, robust risk management practices have proven crucial in minimizing errors and reducing delays. Tools for response plans enable proactive identification

and resolution of challenges, enhancing operational efficiency. This approach positively impacts customer satisfaction by ensuring timely, error-free delivery, contributing to a strong organizational reputation. A proactive risk management strategy, with effective tools, safeguards operations and directly influences customer satisfaction, defining organizational success across scenarios.

Finally, Generally in Asian countries or particularry in Indonesia, it is very easy to find engineers. Therefore, attention to the condition of industrial facilities must be prioritized because these facilities use high tech equipment and currently have been switched to digital technology. Therefore, a service contract is very important and necessary, but if the customer refuses to use it for some reason, the supplier must not just give up but must propose several alternatives until the customer can fulfill agreed with certain conditions. This year they are your customers, but 5, 10 or 15 years later there is no guarantee that they will use our products again.

Marketing is a very dynamic science, which always follows and adapts to economic developments. This is can be seen from the American Marketing Association (AMA) that marketing is the performance of business activities that direct the flow of goods and services from producers to consumers. This concept was changed in 1985, 2004 and 2007 where the AMA re-defined marketing as an organizational function and processes for creating, communicating and delivering value to customers and suppliers as well as stakeholders so that they feel the benefits.

This research approach is to utilize the function of ORM (Operational Risk Management) variable which usually used in financial institutions and bank operations. The ORM placement is based on rational thinking by combining empirical events in order to get an answer. Operational risks refer to the risks that arise from the internal processes, people, and systems that support the manufacturing/production facility process. These risks can include equipment breakdowns, supply chain disruptions, quality control issues, cyber-attacks, and natural disasters. Operational risks can have a significant impact on a manufacturer's reputation, profitability, and overall business continuity. Identifying and managing these risks is critical to the long-term success of a manufacturing/production facility business. To effectively manage operational risks, manufacturers need to develop a comprehensive understanding of their internal processes and systems including involvement of ICS supplies. This requires a deep understanding of the manufacturing process, including inputs, processes, and outputs. It also requires an understanding of the potential risks associated with each stage of the process. Once these risks have been identified, manufacturers can develop strategies to mitigate them and ensure that their operations remain resilient in the face of potential disruptions.

Generally, management does not want the facility having problems that could be loss financially .For this reason, a systematic identification and mitigation process is really necessary. This approach is also used in relationship marketing, which can be interpreted as an effort to get answers to the proposed hypotheses.

CONCLUSION

Based on the results obtained in this study, it can be concluded that, first, there is a relationship between supplier service recovery and operational risk management in the industry where using critical equipment such as ICS which to control and monitor the production process. Second, there is an insignificant relationship between operational risk management and customer satisfaction. But third, there is not an insignificant relationship between supplier and customer satisfaction. In this study, we find that customers not only want recovery, but also reveals that customers want recovery to be accompanied by a specified completion time. Even if the customer does not have a service contract, the supplier must still provide good technical support and response. Contract service cost can not be compared with production losses. A good response will provide positive feedback from customers so that the next time they will enter into to the contract. from the supplier's side, if they don't respond well, the supplier will lose customers. That is why supplier need change the marketing strategy to make their customer happy and satisfy.

This study certainly has limitations that refer to several weaknesses in it. Some of the limitations include this research only discusses the limited variables of supplier service recovery, operational risk management and customer satisfaction. Suggestions for further research can add other variables that are considered to affect customer satisfaction such as Service Quality, Intention to Buy, Word of Mouth and loyalty. Another variables that can be added for further research is the Word of Mouth (WOM) and Customer Relationship Management (CRM) variables.

Beside that, ICS users are only limited to the islands of Java, Sumatra, Kalimantan and Sulawesi. This kind of study would be better if it involved users on islands other than the four islands above. Further study can be more focused on certain industries, for example only conducting research for the oil/gas industry, where this industry uses a lot of equipment such as ICS. By choosing specific industries, it is hoped that the results will be much better. It will be easier also for suppliers to determine marketing strategies for each industry.

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