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Integrated Management System Based on Risk Process Implementation in Start-Up Company (Superspring) To Maximize the Cost Efficiency

Arcindy Iswanty[1], Milind Gadre[2]
[1,2] SBM ITB

ABSTRACT: Risk and opportunity always come like two sides of a coin. The greater the risk, the higher the possibility of return obtained, or even the possibility of failure if it is not anticipated from the start. So the risk must be managed so as to minimize the impact that will be experienced. This research aims to explore the implementation of risk management in start-up company cost efficiency. Start from the business processes identification, risk and opportunity identification, risk analysis, and risk treatment. The risk and opportunity for improvement will be converted into financial conversion or calculated by the financial impact (on value). And finally, the cost comparison of existing costs with the implementation of risk control and implementation of improvement opportunities will be carried out. Using the process approach ISO 9001, risk approach ISO 31000, and FMEA, the company is ideal to implement risk management to make it cost-efficient. Based on the calculation done from the core process (the sales process, the IT process, the technical process, the warehouse and logistic process, and the customer service process) analysis, is shown that all over the risk decrease is about 65.54% (from inherent risk to residual risk) and the cost efficiency is about 315%.

KEYWORDS: Cost Efficiency, Process Approach, Risk Management, Start-Up Company.

INTRODUCTION

In running a business, risk and opportunity are two things that go hand in hand. Including the startup world, several risk factors can arise from individual demographic, human capital, motivation, process, financial environment, network, ecological, to the intended organization.

PT. Superspring (Superspring) as one of the startup companies in Indonesia, of course, also faces many possible risks. With the early stages of process innovation and brilliant product innovation, Superspring must be able to maximize the resources they have to turn the wheels of the company so that it can eventually become an established company. On the other hand, with limited funding, Superspring must be able to reduce costs very efficiently with environmental challenges that are agile and minimal bureaucracy. Therefore, determining efficient actions in managing risks that exist in business processes is important to ensure good corporate and process governance. However, often good risk management and cost efficiency are two opposite things and if they are carried out together, they will become the implementation of a dual strategy. How these two things can coexist so that cost efficiency can be achieved by managing risk is a big challenge, the most applicable method is needed to be able to carry out risk assessments so that financial conversion can be suppressed.

BUSINESS ISSUE EXPLORATION

Conceptual Framework

According to the framework, primary data will be collected by conducting the interview session to review overall business processes in the company and will be focused on the core processes (end to end process in providing the product and services to Customer); this breakdown session will adopt the process approach by exploration of ISO 9001 Quality Management System. Each process will be dragged into specific activities that must be assessed in risk. But before that the risk assessment framework must be identified first, the exploration will use ISO 31000 Risk Management and FMEA. Then the risk identification, risk analysis, risk evaluation and determining risk control will be in place. Also the identification of improvement opportunities in the form of process modification, process automation or process elimination will be carried out in conjunction with this risk assessment process. The secondary data will be collected in this process including the historical data of occurrence or possibility, severity or impact and detection based on the FMEA risk approach.

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Analysis of Business Situation

New Venture Creation Stage

Superspring is still in the process of finding its identity by plugging its business line in the transportation management system. From selling goods to a device selling scheme, which has developed, it now provides a transportation management system as its core business. Superspring is still in the stage of developing itself internally in strengthening human resources and systems even though it has been providing services and products with a new business model since 2018.

The Lifecycle of Startups

Superspring is in the creation stage, Superspring already has a business model and is driven by a dedicated team. For now, it is strengthening the organizational role of internal arrangements and has not yet touched on corporate finance, high investment or venture capital.

Tri-level Cycle Business Ecosystem or Start-up Life Cycle (SLC) Stage

With the development of a web-based transportation management system service as a business base, Superspring is transforming to optimize technology in its industry. Over time, adjustments to the features that are owned continue to be made. Until now, there has been no IP that has been claimed for a patent by Superspring from the web based system or its own device. In procuring and optimizing this technology, Superspring still relies on its net profits from daily sales to new and existing customers. So it can be concluded that Superspring is still in the technology optimization (R&D) stage.

Startup Company in Number and Value

With this provision, Superspring has not been able to hang up from a uniform startup because it has not yet touched the average revenue, employee and valuation figures for the hatching of startup companies in general.

Startup Company in Financial

Superspring is currently funding its business transformation relying on monthly operating profits that come from personal capital as well as an injection of individual funds that invest in Superspring's finances.

Process Approach

Superspring core processes that have been identified and breakdown in sub-processes are as follows:

1. Sales Process: Presentation and Web Training, Order Review, and Reward Point
2. IT Process: System Creation and Improvement and Preventive and Corrective Maintenance
3. Technical Process: Installation Scheduling, GPS Tracker Installation and IP Camera, GPS Tracker Installation, GPS Tracker Re-Installation, Unit Maintenance
4. Warehouse and Logistic Process: Inbound, Inventory and Outbound
5. Customer Care Process: Complaint, Inquiries and Request Handling

The Implementation of Quality Management System in Superspring

Superspring achieve the quality management system ISO 9001:2015 certification at 2018 from TÜV Rheinland. With the audit from certification body the quality management system monitored and evaluated annually. From the latest management review, there is no issue in implementation of non-conformance report and corrective action request; also in quality goals achievement, customer satisfaction result, performance supplier report, the resource, no change in quality policy.

The Implementation of Risk Management in Superspring

Risk Management Standards provide a specific set of strategic processes that begin with an organization's overarching aspirations and objectives and aim to assist in identifying risks and promoting risk reduction through best practices. Superspring use the risk matrix below:

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	IMPACT					RISK LEVEL	RISK ASSESSMENT CRITERIA	
PROBABILITY	1	2	3	4	5		PROBABILITY	IMPACT
A	H	H	E	E	E	E= EGREGIOUS/ CRITICAL	A= MOST CERTAIN	1= HAS NO IMPACT ON THE PROCESS, LOW MATERIAL LOST
B	M	H	H	E	E	H= HIGH	B= LIKELY	2= HAS LOW IMPACT ON THE PROCESS, MEDIUM MATERIAL LOST
C	L	M	H	E	E	M= MEDIUM	C= MAYBE	3= HAS A MEDIUM IMPACT ON THE PROCESS, ENOUGH HIGH MATERIAL LOST
D	L	L	M	H	E	L= LOW	D= UNLIKELY	4= HAS IMPACT ON THE PROCESS, HIGH MATERIAL LOST

Although Superspring has been able to map its risks with a process approach, the results of this risk mapping are limited to risk reduction actions with several actions taken. Superspring does not discuss how this risk can be interpreted as a tool to reduce costs that may arise from the occurrence of this risk itself. So the use of the risk function is still limited. Also there is no the residual risk calculation after the implementation of action to the inherent risk.

BUSINESS SOLUTION

Analysis of Business Solution

Using the process approach ISO 9001, risk approach ISO 31000, and FMEA. The qualitative examination of these data encompasses the processes of risk detection, evaluation, and treatment, as well as the level of risk appetite and maturity in risk in the Superspring. The following structure is offered for this topic:

1. Confirmation of top executives' identification of risk and the companies' risk management maturity level (Potential Failure Mode/ Risk/ Opportunity, Potential Cause(s)/ Mechanism(s) of Failure, Risk/ Opportunity, Risk Category, Risk Source, Potential Effects of Failure/ Risk)
2. Appraisal of risk (Severity, Occurrence, Detection and Financial Conversion – Cost per Incident, Risk Priority Number)
3. Comments on the risks, appetites, responsible, and agents involved, as well as the subsequent treatments offered to risk (Current Process Controls, Risk Response, Severity Rating, Recommended action to the RPN, Financial Conversion (Cost of Initiative) and the value to residual risk). The severity level formulated and adopted as below:

	Severity (Measure Keys)	**Financial Impact (IDR)**	**Risk Severity Description**
1	**No impact**	0	Risk causes no disruption and has no impact on system
2	**Imperceptible defect**	1k - 100k	Risk causes no disruption and customer is unaware
3	**Minimum defect**	101k - 200k	Risk causes very minor or no disruption but annoys customer
4	**Very little impact**	201k - 500k	Risk causes very minor or no disruption but annoys customer
5	**Little impact**	501k - 1 Mio	Risk causes minor disruption with some customer dissatisfaction
6	**Medium impact**	1 .1 Mio - 10 Mio	Risk causes minor disruption with some customer dissatisfaction
7	**Big impact**	11 Mio - 20 Mio	Risk causes minor to moderate disruption with a high degree of customer dissatisfaction
8	**Very big impact**	21 Mio - 30 Mio	Risk causes minor to moderate disruption with a high degree of customer dissatisfaction

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9	**Warning for hazard or violation of the established standard**	31 Mio - 40 Mio	Risk could cause major or permanent disruption
10	**Risk or violation of the established standard occurs immediately**	> 40 Mio	Risk could cause loss of customer

The occurrence level used and adopted as below:

	Label	**Description**
1	Remote probability	Risk almost never occurs no one remembers last risk occurrence
2	Low probability	Risk occurs rarely or risk occurs about once per year
3	Moderate probability	Risk occurs occasionally or risk occurs once every 3 months
4	Moderate probability	Risk occurs occasionally or risk occurs once every 2 months
	Label	**Description**
5	Moderately high probability	Risk occurs about once per month
6	Moderately high probability	Risk occurs about twice per month
7	Very high probability	Risk occurs frequently; or risk occurs about once per week
8	Very high probability	Risk occurs frequently; or risk occurs about twice per week
9	Risk is almost inevitable	Risk occurs predictably or risk occurs every 3 or 4 days
10	Certain probability	Risk occurs at least once a day or risk occurs almost every time

The detection level used and adopted as below:

	Label	**Detection Description**
1	Extremely easy to detect	Extremely easy to detect the cause or failure in the control process/ the process automatically detects failure
2	Very high probability of detection	The control process is very high probability to detect the cause or failure
3	High probability of detection	High probability to detect the cause or failure in the control process
4	Sufficiently high probability of detection	Sufficiently high probability to detect the cause or failure in control process
5	Medium probability of detection	Medium probability to detect the cause or failure of in control process
6	Little probability of detection	Little probability to detect the cause or failure in control process
7	Very little probability of detection	Very little probability to detect the cause or failure in control process
8	Hard to detect	Potential cause or failure is hard to be detected in the control process
9	Very hard to detect	Potential cause or failure is very hard to be detected in the control process
10	Undetectable	Potential cause or failure cannot be detected in control process or such control is not carried out

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After ranking the severity, occurrence, and detection, the RPN can be calculated by multiplying these three number. RPN = S x O x D. The failure modes with the highest RPN should have the highest priority for corrective action.

The matrix used and adopted as below:

	Rating / Level / Label	Description
1-80	Low	Largely acceptable, subject to reviews periodically, or after significant change
81-320	Medium	Should only be tolerated for short-term and then only whilst further control measures to mitigate the risk are being planned and introduced, within a defined time period
321-640	High	Should be ceased immediately until further control measures to mitigate the risk are introduced
641-1000	Extreme	Immediate action required with detailed bulletproof mitigation plan, resources allocation & regular monitoring before the process can run

Although the level of "risk criticity" was not direct questioned to the interviewees, it was found by multiplying the level of "possibility" of the risk occurring by the level of the "impact" caused if it occurs and the level of "detection" in the process control. Comments from the interviewees on the risks, appetite, responsible, agents involved and the consequent treatments given to the risks.

In this item, the main perceptions of the respondents are described. It was asked them to classify the treatments given to the risks among the risk treatment types such as avoid, reduce, share, accept and control.

The data used is collected as part of administrative purpose that gathered from the relevant stakeholders; the discussion is covering details of incidents and operational loss report. During the discussion, the participants, including the author, cluster the issues into several risk categories. It is categorized into severity and it converted into the financial conversion.

Risk assessment result:

1. In total there are 18 risks rises from the Sales Process. After doing the risk treatment, the average RPN decrease is 59.72%. The customer that not interested in buying the product after the presentation become the highest risk in Sales Process based on calculation, but with creating multiple product bundling scenarios with other marketing strategies, the risk become decreased.
2. In total there are 15 risks rises from the IT Process. After doing the risk treatment, the average RPN decrease is 62.62%. System creation or improvement introduces the inevitable risk of new processes become the highest risk in IT Process based on calculation, but with conduct a risk assessment before every project of creation or repair is carried out, the risk become decreased.
3. In total there are 21 risks rises from the Technical Process. After doing the risk treatment, the average RPN decrease is 61.69%. The test results of the GPS function feature do not work or fail become the highest risk in Technical Process based on calculation, but with perform preventive IT maintenance on web based systems, the risk become decreased.
4. In total there are 11 risks rises from the Technical Process. After doing the risk treatment, the average RPN decrease is 67.22%. The passed not good product, become the highest risk in Warehouse and Logistic Process based on calculation, but with sorting the outer packaging and testing the device by sampling, the risk become decreased.
5. In total there are 16 risks rises from the Technical Process. After doing the risk treatment, the average RPN decrease is 73.59%. Tickets are not distributed to agents and backlog height, become the highest risk in Customer Service Process based on calculation, but with perform preventive maintenance on IT systems, the risk become decreased.

Financial conversion result:

Cost efficiency is the act of saving money by changing products or processes to work in a better way. This is done to increase the organization's profit by reducing procurement costs and improving efficiency across all lines. Cost efficiency is a kind of business efficiency strategy. In simple terms, it is the act of saving money by making products or doing activities in a better way. Businesses measure cost efficiency by monitoring the ratio of the output generated to the costs incurred.

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Efficiency = $\frac{Any\ Expression\ of\ Created\ Value}{Any\ Expression\ of\ Experienced\ Cost} = \frac{Production}{Cost}$

1. In Sales Process, the cost efficiency that can be maximized is in the order review sub-process (up to 2364%) by doing one of mitigating risk that is freezing services to customers for a certain period of time and making goods insurance mechanisms.
2. In IT Process, the cost efficiency that can be maximized is in the IT System Creation and Improvement sub-process (up to 346%) by doing one of mitigating risk that is also conduct a risk assessment before every project of creation or repair is carried out.
3. In Technical Process, The cost efficiency that can be maximized is in the GPS Tracker Installation and IP Camera Installation sub-process (up to253%) by doing one of mitigating risk that creating product manuals and updating regularly, communicating them with a checklist and applying product guarantees to third parties. But also, there is one process that is GPS Tracker Re-Installation that cost the initiative higher than the risk raised.
4. In Warehouse and Logistic Process, the cost efficiency that can be maximized is in the Inappropriate product handling subprocess (up to 667%) by doing one of mitigating risk that Perform engineering process by holding a conveyor in the receiving dock. But also, there is one risk that is error information on the location of goods placement that cost the initiative higher than the risk raised.
5. In Customer Care Process, the cost efficiency that can be maximized is also in tickets are not distributed to agents and backlog height (up to 600%). There are several risk such as the customer made a double complaint, customer questions unanswered and ticket that tot followed-up by Customer Service, which cost the initiative higher than the risk raised.
6. The calculation in all over opportunity in all core process in Superspring can make the cost efficiency up to 995%. Even tough Warehouse and Logistic process get the highest cost efficiency in percent but the process in Customer Service resulting the highest cost to save.

CONCLUSION AND RECOMENDATION

Conclusion

Based on the business analysis in the previous chapter, the research questions in this final project can be answered as follows:

1. A startup company is ideal to implement risk management to make it cost efficiency. Based on the calculation done, it is shows that allover the risk decrease is about 65.54% and the cost efficiency obtained Rp746.901.170 or about 315%.
2. The Applicability of Method for Managing Risk - By using the ISO 9001, ISO 31000 and FMEA approach, the risks and opportunities possessed by Superspring in the core process have been identified, mapped and calculated properly, as well as the determination of actions against emerging risks. It is evident from the decrease in the number of inherent risk to residual risk, it can be said that the risk assessment carried out has been able to cover the improvement process in Superspring. Likewise with the combination of financial conversion, it is sufficient to give an idea of how much cost efficiency is finally obtained from the risk assessment implementation process.
3. The implementation of a dual strategy in managing risk versus cost efficiency can be applied in start-up companies such as Superspring, as evidenced by a risk reduction of approximately 65.54% and the cost efficiency obtained Rp746.901.170 or about 315%. However, with the addition of action against risk in a lean and anti-rigid environment it is not immediately applicable. There are some actions that are actually easy and basic to do but are not carried out on the basis of ignorance of best practice, but with the convenience of technology, this should be simplified but with a large enough investment.

Recommendation

It is suggested that risk management is best integrated into operational processes in the Superspring whole company lifecycle through continuously evaluating risks as the company progresses. This continuous process of evaluating risks as they emerge or change in severity and dealing with them effectively can improve the company performance outcome. This would mean that each operational process as described in the company lifecycle, would have a rigorous risk and uncertainty assessment.

The most common obstacle faced in Superspring particularly in IT Implementation, Customer Care, Warehouse and Logistic Process, technical issues in design and procurement as well as the lack of adequate skill set. Risk management should essentially strategize through the creation of systems for robust information gathering, allocating project resources in-line with technical,

customer care as IT Implementation. This information gathering could be essential for risk planning and addressing the lack of skills and knowledge management in projects.

More research needs to be done in risk management techniques with a focus on the supporting process and management process. There is limited literature on relationships between risk techniques and financial conversion due to the confidential, hence more studies could be done on their outcomes. Future studies could also focus on risk management process using other approach to get the best risk management system.

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