

Improving Innovation Management Implementation as Part of the Consistent Application of the Strategic for Business Growth

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Abstract — *The sales strategy has not been supported by effective facilities. This can be seen from the income statement of related area. Sales or revenue conditions varies widely every month, especially when compared to last year. Likewise, with the cost of support or production. Costs in the income statement consist of Capital Expense and Operational Expense. While operational expense is divided into 2 parts, namely fix cost and variable cost. This research focuses on the ratio between the variable cost in each item compared to the revenue in the monthly income statement. There are several areas that show a decrease in the ratio in general when compared to last year. And in Pareto, there are 2 items that are dominant in variable cost, namely: Freight and Warehouse shipping. This area is used as a role model for any innovations that are related to the two GL accounts. To quickly multiply the benefits, these innovations are distributed to other areas. The implementation process is carried out regularly and monitored until it provides benefits to the company in the form of an income statement. Within 3 months it can be felt that the cost reduction was Rp. 15,673.45 Mio.*

Keywords: *innovation management, cost reduction, reimplementation, income statement.*

I. INTRODUCTION

Manufacture business certainly have customers. This research defines customers as the user of manufacture products that will be used as material working capital. The business model is often called B2B. Customer gets easier information and becomes smarter with the existence of faster data development. The impact is an increased demand for the best product of manufacture.

Competition in this line of business is very fierce. Competitors never stays silent, always looking and following what has been done by the market leader.

Sometimes they even try to go beyond it. All power and effort can be pursued in competition.

Regardless, what is inevitable is the necessity to continuously improve and adapt for a business to survive. **Value Innovation** as the foundation to make culture in the company. Starting from the top management as a role model of leadership to the individual level. Even subcontractors also contribute to the way of the innovation movement.

II. LITERATURE REVIEW

A. Business Model

Customer value proposition focuses on the target customers and how to create value for them by understanding the multi-dimensional complex problems of customers and finding a solution to fulfill their needs which is supposed to be better and lower in price compared to the existing alternative solutions. Profit formula is the financial foundation of the business model that defines the ways a firm makes profits and creates value for itself through the process in which it provides value to customers. Key resources are assets and capacities such as products, technology, people, channels, partnerships, and brand required to deliver the value proposition to customers, focusing on the key components that create value and the way how they interact with each other. Key processes component accommodates how the business is operated and managed under repetitive tasks and processes which can be repeatedly leveraged to increase the scale firms deliver value to customers. Fig. 1 is showing four important elements: customer value proposition, profit formula, key resources, key processes form a foundation of any business.

While the first two components define value for the customer and the firm respectively, the latter, which consist of path-dependent routines and experiences that form the codes and mindsets to instruct the practice and values of the business model, help to describe how the value will be delivered to the customer and the firm.

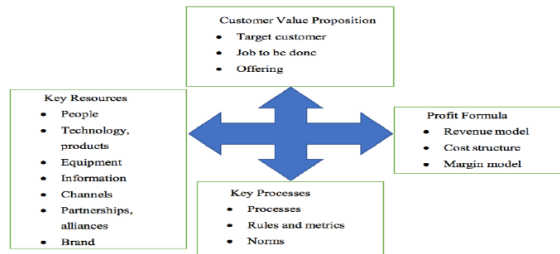


Fig. 1. Components of a business model

B. Managing Innovation Processes

The innovation process is triggered by a primary initiating factor - typically a need or an opportunity to innovate as shown in Fig. 2. The output from the process is usually a new solution to meet the need, providing outcome (s)/effect (s) on certain parameters. This process description is considered sufficiently detailed to distinguish the types of activities in each phase, as there is no intention to explore in detail the activities and methods applied in the process.

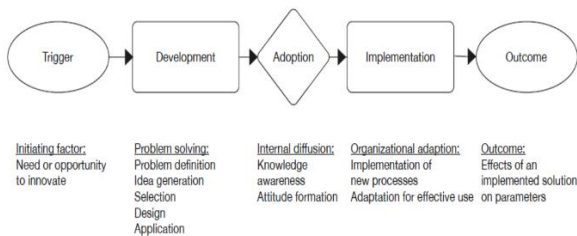


Fig. 2. Innovation process phases linked to categories of activities

III. RESEARCH METHODS

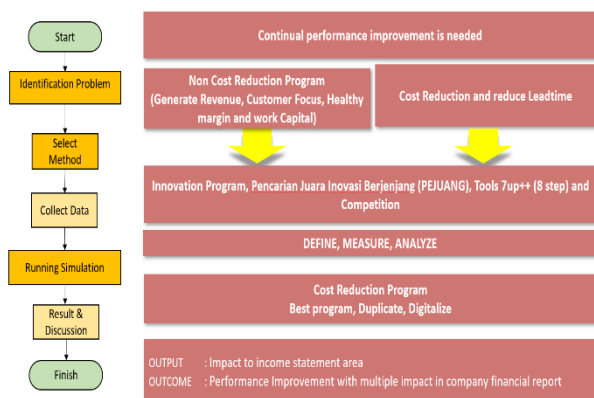


Fig. 3. Flow chart research

Referring to Fig. 3, continuous improvement is a must in the way of sustainability of the company's business. With the aim to improve the company's performance and

compete with competitors. Aspects or sub themes consist of: Generate Revenue, Customer Focus, Healthy Margin, Working Capital, and Cost Reduction. In this research focus on initiative cost reduction that significant impact benefit of the company. Data sourced from operational excellence of each area developed, measured, analyzed, distributed, and reviewed financially in the form of income statements. And the benefits can be felt not only in one area, even in several different areas (reimplementation).

From the overall coverage consisting of 10 divisions, 20 branches and 20 sites, the resulting number of innovations are 9000 papers, which 34% are focused on the sub-theme, Cost Reduction. The results of the project are verified in the form of income statements in the respective areas.

In the income statement, there is a part on revenue consisting of Units, Parts, Service and Remanufacture. Cost as an expense consists of 2 parts, namely: Capex (Capital Expense) and Operational Expense. In operational expense there are also 2 parts, namely: fixed cost and variable cost. The focus in this research is the comparison of revenue with variable costs, which is called the ratio. Where the ratio is a result of comparison between last year's and this year. The ratio will be the overall average and a part of each GL Account. This analysis is conducted because every year the rate of sales is always changing in correlation with moving costs. The costs that appear are related to the revenue unit, parts, service, remanufacture, or can be also all parts of the revenue. All these GL accounts contribute to the income statement. Some are within the positive and some are negative. This is especially apparent when you compare the ratio between last year and this year. This research is looking for a cost reduction program that results in a decrease in the previous year year-to-date ratio, compared to the year-to-date ratio of the current year.

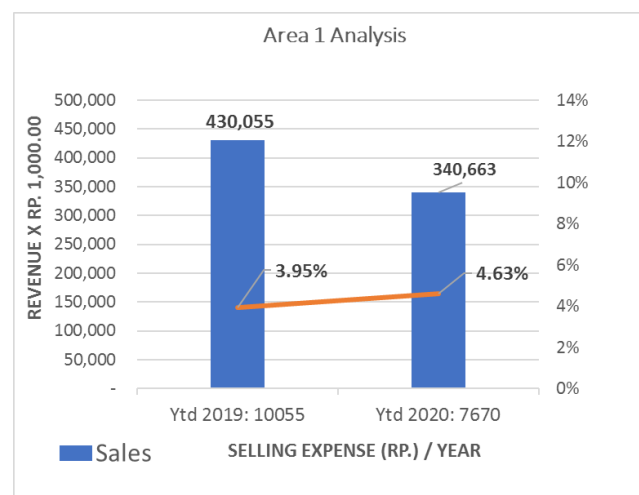


Fig. 4. Area 1 analysis

In Fig. 4, year-to-date sales of 2019 is as such: Rp. 430 million with cost: Rp.10 million and a combined ratio of: 3.95%. Year-to-date sales of 2020: Rp. 340 million with

cost: Rp.7.6 million and a combined ratio: 4.63%. Sales and costs decreased compared to last year, but in a combined ratio, it increases. This needs to be corrected for the contribution of the higher costs compared to last year.

IV. RESULTS AND DISCUSSIONS

There are several aspects that can be implemented for innovations related to cost reduction on several GL accounts, including:

- Freight;

Deliveries in large quantities / volumes would be better if left to broker (shipping agent), delivery in moderation can be submitted to forwarding company

- Warehouse Shipping;

The process of moving goods is carried out by one warehouse to another warehouse within the same company, this process is carried out so that each warehouse in a company can support each other when the stock of goods in one warehouse is empty/lacking.

There are many continuous improvement initiatives related to GL accounts Warehouse shipping and Freight. In this research, examples of 3 programs in the XXX area were given that had the most impact on the income statement, especially on variable costs. These can be monitored monthly and combined in a year-to-date form.

The following are programs that are distributed to other areas so that they can be replicated, or where the results can be used not only for one group. They are as follows:

1. Reduce shipping cost from Transportation Modeling
2. Pending job reports (dashboard of pending jobs every morning, break and evening)
3. Educating the nation's children (the Parts team is still much dependent on guidance; thus, an Operation Instructions Video should be made that can be opened and studied at any time)

From the implementation of 20 areas with cost reduction initiatives on the GL accounts Warehouse shipping and Freight, it was discovered that there was an impact on the income statement after implementing this innovation in a period of three months. There are 6 areas that resulted in a reduction in costs of more than 1% in ratio compared to last year. There are even areas that generate savings in GL accounts other than the two that are distributed, namely warehouse shipping, handling, and sales promotion. In addition to the components of the GL account item, these six areas also show a reduction in global costs in the overall income statement. However, there is still potential for improvement, because it has not reached the target, namely selling expense of 5%.

This research will show examples of the three best areas according to the result post-implementation of innovations programs related to cost reduction:

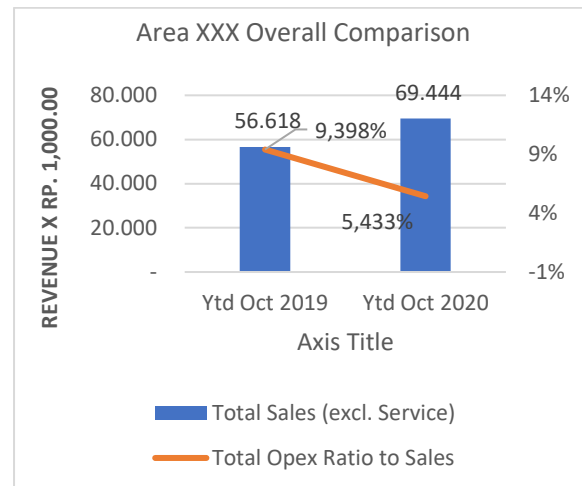


Fig. 5. Area XXX overall comparison

In Fig. 5, year to date 2019 sales is as follow: Rp. 56,618 million with a cost combined ratio of: 9.4%. Year to date 2020 sales is as follow: Rp. 69,444 million at a cost combined ratio of: 5.4%. Sales increased whereas costs decreased compared to last year, additionally as seen through combined ratio there is also a decrease. This is good in the cost-efficient program for the area XXX. However, the combined ratio is still above 5%. There is still room for improvement in reducing costs.

The following is a detail from the Table 1 that shows the saving, or cost reduction in the income statement in the area XXX:

TABLE I
REPORT SELLING EXPENSE AREA XXX

Selling Expense GL Acc ratio to sales	YTD 2020	YTD 2019	Delta (2019-2020)	Amount savings (x Rp.1Mio)
Freight	2.00%	3.38%	1.38%	449.57
Warehouse & Shipping	1.83%	2.85%	1.02%	376.26
Employee Compensation	0.83%	1.36%	0.53%	369.74
Warehouse & Shipping Handling	0.59%	1.26%	0.68%	249.74
Transportation & Travel (UPD)	0.03%	0.14%	0.11%	72.21
Employee Welfare	0.04%	0.12%	0.08%	55.77
Transportation & Travel (Ticket)	0.02%	0.10%	0.08%	52.29
Entertainment	0.02%	0.07%	0.05%	32.76
Sales Promotion	0.00%	0.03%	0.03%	11.06
Selling Expense ratio to sales	5.43%	9.40%	3.97%	
		Total	Savings	1,669.41

After it was implemented in 20 areas (including improvements in the origin area) there were several that had a positive impact on the income statement. Progress is monitored for 3 months after the initiatives have been commenced to all areas with varying results.

Thus, it can be concluded that there are 4 segments seen from the point of view of the results as shown in Table 2. The best impact areas are Segment A, in specifications:

- The cost reduction is in the form of a ratio between variable cost and revenue compared to last year in

general. This is influenced by one or both GL accounts (Freight and Warehouse Shipping) that are distributed.

- The number of areas in this segment are: 5. Total percentage: 25%.
- In pareto terms, savings are dominated by Freight and Warehouse Shipping. For other GL accounts, improvement needs to be a focus.

TABLE II
BRANCHES REPORT SEGMENT A

Branch	Description	YTD 2020	YTD 2019	% Delta (Ytd 2019-2020)
A-1	Selling Expense ratio to sales	9.034%	11.580%	2.55%
	Warehouse & Shipping	5.12%	6.85%	1.72%
	Freight	1.57%	2.19%	0.62%
	Transportation & Travel (Ticket)	0.03%	0.10%	0.07%
A-2	Selling Expense ratio to sales	5.433%	9.398%	3.97%
	Freight	2.00%	3.38%	1.38%
	Warehouse & Shipping	1.83%	2.85%	1.02%
	Employee Compensation	0.83%	1.36%	0.53%
A-3	Selling Expense ratio to sales	6.360%	8.169%	1.81%
	Warehouse & Shipping	3.07%	4.24%	1.17%
	Warehouse & Shipping Handling	0.67%	1.41%	0.74%
	Sales Promotion	0.04%	0.14%	0.10%
A-4	Selling Expense ratio to sales	6.758%	8.036%	1.28%
	Freight	1.61%	2.88%	1.27%
	Warehouse & Shipping	2.40%	2.84%	0.44%
	Warehouse & Shipping Handling	1.23%	1.41%	0.17%
A-5	Selling Expense ratio to sales	9.787%	12.075%	2.29%
	Warehouse & Shipping	6.31%	8.90%	2.59%
	Sales Promotion	-0.20%	0.21%	0.42%
	Transportation & Travel (Ticket)	0.03%	0.03%	0.01%

V. CONCLUSIONS AND RECOMENDATIONS

The conclusion from this research is that the success of the Cost Reduction Program can be seen in the branch of segment A, where the total of the amount is 6 areas. Data retrieval is the 3rd best savings from each area compared to last year's year to date. The total benefits accumulated are: Rp. 7,676.35 Mio. This segment can be a role model for other areas that implements innovations related to cost reduction. Overall, the benefits felt for the company over the Cost Reduction Program which was run for about 3 months were: Rp. 15,673.45 Mio.

Innovations in the form of cost reduction initiatives must be carried out in a focused and continuous manner. Easy to monitor and fast execution based on the results of checking the data entered in the income statement. So, it is advisable to make an online system. Dashboard is needed to monitor the status of the processes carried out by operational. The alert system can also be used to provide a warning if the achievement is not met from the agreed target.

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REFERENCES

- [1] Innovation Department of Company, *Innovation Data Knowledge*, 2020
- [2] Innovation Department of Company, *Implementation Methodology 7Up++*, 2020
- [3] Innovation Department of Company, *PEJUANG Concept*, 2020
- [4] Innovation Department of Company, *Competition Innovation Process*, 2020
- [5] Finance Department of Company, *Financial Highlight*, 2020
- [6] Finance Department of Company, *Area Income Statement*, 2020
- [7] Warehouse Department of Company, *Shipping Management*, 2019
- [8] M. C. Keshab, *Digitalization Maturity Model Spider Diagram*, Stavenger, 2018
- [9] O. Gassmann, K. Frankenberger, and M. Csik, "The St. Gallen business model navigator," 56 (1), pp. 84-112, 2013.
- [10] J. Gehman, L. K. Trevino, and R. Garud, "Values work: A process study of the emergence and performance of organizational values practices," *Academy of Management Journal*, 2013.
- [11] M. Giordano and F. Wenger, "Organizing for value," *McKinsey on Finance*, 28, pp. 20-25, 2008.
- [12] L. Larsson, *Characteristics of Product Innovation*, Luleå University of Technology, Graphic Production, 2017.
- [13] M. Vielhaber and P. Stoffels, "Product development vs. production development". *Procedia CIRP*, 21, pp. 252-257, 2014.
- [14] M. Bellgran and E. K. Säfsen, *Production Development: Design and Operation of Production Systems*, Springer Science & Business Media, 2009.
- [15] M. Johnsson, *Innovation Enablers and Their Importance for Innovation Team*, Blekinge Institute of Technology Doctoral Dissertation Series No. 2016:07.
- [16] E. A. Adamides and N. Karacapilidis, "Information technology support for the knowledge and social processes of innovation management. *Technovation* 26, pp. 50-59, 2006.
- [17] T. Valminen, "Improving Large and Established Industrial Organizations' Innovation Capability Through Innovation Barrier and Innovation Culture", Aalto University School of Business Information and Service Management, Fall 2019.

- [18] J. F. Hair, E. Rolph, E. Anderson, R. L. Tatham, and W. C. Black, *Multivariate Data Analysis*, 5th ed. Prentice-Hall: New Jersey Chevron2007
- [19] T. P. Van, *Business Model Innovation - Drivers and Outcomes*, Orebro University, 2019.