

Business Development Strategy for Rolling Bearing Product and Related Services in Food and Beverage Industry

R. Yulianto Hidayat Santoso¹, Resmana Lim²

¹Program Profesi Insinyur, Universitas Kristen Petra,
yuliantom44@gmail.com

²Prodi Teknik Elektro dan Prodi Pendidikan Profesi Insinyur, Universitas Kristen Petra
Jl. Siwalankerto 121 – 131, Surabaya
resmana@petra.ac.id

Abstract— *In running the business, every company has objective to grow and develop. Each company has different objective and development strategy, but identical in final goal, that is to gain profitable growth. Correct strategy is mandatory in developing business, where each company has its own unique character in term of product and penetrated market. Therefore, proper analysis is required in order to determine the correct business development strategy. Starts from market & customer intelligence, to decide whether the targeted market is potential or not. Continue with competitive position analysis, to evaluate whether the company is competitive or not and define what is needed to improve competitiveness in the market. Bearing X as one of market leader in bearing industry and related service, is developing their business to F&B sector. Writer is assigned as sector manager in the respective sector. Writer is doing market potential and competitive position analysis, to be reference in developing proper strategy development, based on Ansoff Matrix market and product development. Defined strategy also closely related with Bearing X's Unique Selling Proposition (USP) as well as Total Cost of Ownership (TCO) which is proposed to each customer in F&B sector. Using Fishbone Diagram, Bearing X defines business development strategy and put it in to a roadmap, also plans the required investment in order to achieve the target of this business development.*

Keywords— business development, bearing, food and beverage, ansoff matrix, fishbone

I. INTRODUCTION

To be able to survive and grow company need to develop their business and achieve profitable growth. And to achieve it each company has their own objective and strategy, depend on their product range and targeted market. Development strategy to consider integrating market condition, product development and supply chain. [1] Different market sector and different product will lead to different development as well as the result. This paper will describe business development strategy from a bearing manufacturer (herein after will be referred as Bearing X) in food and beverage (F&B) industry or market. Bearing X is doing expansion to F&B market in order to increase their sales and profit, using their existing and new product line.

F&B as human's primary need is considered as a sustainable market. It is not only affected by the number of population, but also by changes in lifestyle and trend. Other consideration is bearing also one of primary need in manufacturing industry, including F&B. The reliability of this part will impact to reliability of production machinery, and in the end it will affect the continuity of production process. Different machine in different production process will require different part, depend on the operating condition.

Considering above conditions, Bearing X is doing market and product analysis prior defining the development strategy. With correct analysis they will be able to define the correct customer, targeting the correct production process, developing and selling the correct product as solution for customer. In the end, they will be able to do a proper stock planning to get reliable lead time.

II. LITERATURE STUDY

A. Product Lines in Rolling Bearing Business

Bearing is a machine element which limits the relative movement between two or more machine component in order to move in the desired direction and raceway. The term rolling bearing includes all form of bearings that utilize the rolling action of rolling element, in shape of balls or rollers, to allow the minimum friction from the constrained motion of one body to another.[2] Bearing will maintain shaft to rotate in the center axis and to maintain a component which has linear movement to keep on the track. Bearing also used to support force in radial or axial direction. Main parts of bearings are inner ring, outer ring, cage, rolling element and seal (found in selected type only).

Bearings are named based on the type of rolling element. Bearing X refers each bearing type to Product Line number in their development strategy. Several bearing types including the application example and Product Line number are described as follow.

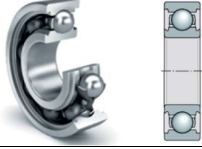
Bearing type	Application	Product Line (PL) No.
Deep Groove Ball Bearing 	Pump, conveyor, packaging, etc	PL14
Cylindrical Roller Bearing	Crusher, railway industry, gearbox, etc	PL12
Spherical Roller Bearing	Wind turbine, gearbox, rolling mill, etc	PL37
Radial Insert Ball Bearing	Agricultural machinery, conveyor, etc	PL72

Table 1. Common bearing types (courtesy of Schaeffler)

B. Industrial Services for Rotating Equipment

Other product line to be considered in the development strategy is industrial services. Bearing X providing after sales service to customer, from the free of charge service which included in the order package, to the chargeable service which separated from order. This service includes bearing mounting dismounting, root cause and failure analysis, training, and condition monitoring. Industrial service is one of the unique selling point/preposition from Bearing X.

In the era of Industry 4.0, Bearing X also developing several new products I the market, and most of the products are based on condition monitoring. Various types of condition monitoring sensors are being introduced to the market, as well as lubrication technology.

C. Trend and Behavior in Food and Beverage Industry

This paper is focusing on Bearing X development strategy in F&B industry, mostly for downstream product, such as dairy, flour mill, confectionery, baked good and beverage. Exclusion for F&B industry for feed mill, plantation and tobacco product. But trend in F&B industry is closely related with plantation as the upstream or main material for downstream industry.

Research by Nielsen Indonesia since 2002 explains that F&B business is having a positive trend. In term of stock price, the value of F&B company registered in Indonesia Stock Exchange or BEI is relatively stable and also increasing for some companies.[4] Global consumption and production growth also showing positive trends, especially for wheat, instant noodle and dairy product.

In term of production process, F&B demands high quality and efficiency which is defined by short cycle time and 24 hours operation per day. It requires high production rate, high machine speed and good reliability. Main production lines in F&B include:

1. Processing; cleaning, grinding, mixing, extrudes, etc.
2. Heating and or cooling; involves high or low temperature, depend on product.
3. Packaging; filling, capping, weighing, sealing, etc.

D. Market Growth in Ansoff Matrix and Cause Effect with Fishbone

Growth is an essential factor in doing business to gain profit. To learn and plan the development strategy, one of the common method is Ansoff Matrix, also known as Product/Market Expansion Grid, developed by H. Igor Ansoff (published in Harvard Business Review, 1957). As shown in Figure 3, it defines 4 strategy based on product and market, to analyze the risk when considering the growth strategy using existing product or new, in the existing or new market.

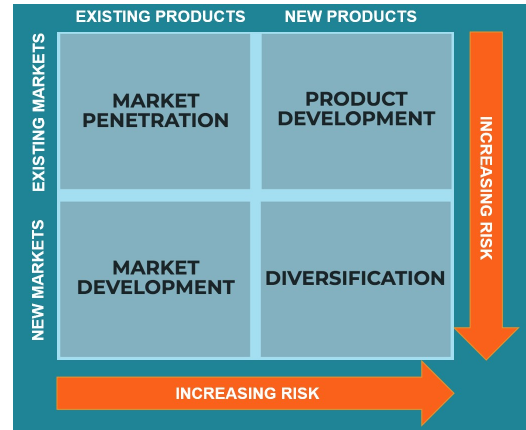


Figure 1. Ansoff Matrix (courtesy of corporatefinanceinstitute.com)

Implementation of each matrix in the strategy has both business potential and risk. Each strategy needs to consider the cause and effect. One of the method to do Cause and Effect analysis is Fishbone Diagram, or Ishikawa Diagram. It identifies several potential cause from a defined problem or category, and analyze it thru brainstorming session.[5] Categories can be man, method, machine, etc. Or can be implemented in process improvement as well, including business growth strategy. By identifying AS-IS for the current condition, and TO-BE, as the improvement to be achieved.[6]

III. METHODOLOGY

Steps in preparing business development strategy, from initial analysis to conclusion which includes the strategies and implementations, are described in flowchart, as shown in Figure 7 as follow.

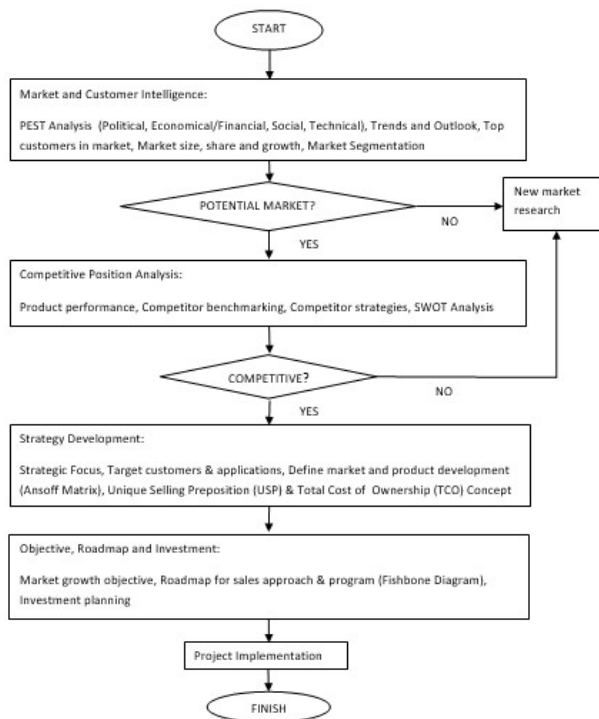


Figure 2. Flow Chart

Reference data for Market and Customer Intelligence and Competitive Position are from the related business association, news and from discussion with customers during meeting, training and site survey at their production facility. Bearing X also doing mapping at some machines (with customer's permission) to get population of each product line (PL).

IV. ANALYSIS AND RESULTS

A. Market and Customer Intelligence

This section is to determine whether F&B market is a potential market to be developed, based on collected data from Market and Customer Intelligence.

1. *PEST Analysis*
 - a. Analyze from Political, Economical/Financial, Social and Technical aspect.
 - b. There are no condition which will gives negative impact to market demand.
 - c. There are some investment which has been made in F&B market, and will increase the market size of F&B.
2. *Trends and outlook*
 - a. Analyze from the demand of raw material, such as palm oil and wheat.
 - b. As a country with large population, Indonesia is a potential F&B market
3. *Top customers in market*
 - a. Define the top 10 (ten) customers based on their share in market.
 - b. Market share (in percentage) of these top customers combined, already covered 50% of market size. Development to be focused on these top customers.

- c. The percentage of remaining market. The share is still high (up to 50%). Means that there are many other customers which can be developed as alternative.
4. *Market size, share and growth*
 - a. Forecast for F&B market growth. It will stable on approximately 3% per year, during 2020-2025.
 - b. Determine current market share. As per analysis, Bearing X has maximum 10-11% market share before year 2019. Means that there are many areas which can be penetrated.
 - c. Determine the main application or production process, which has high bearing usage. Main applications in F&B are Processing, Heating/Cooling, and Conveying & Packaging. These 3 (three) applications will be main focus in market and product development.
 - d. Determine the top 3 (three) product line with highest demand. In F&B market, the most popular product lines are PL14, PL37 and PL72. Bearing X needs to focus the development as well as stock program for reliable lead time on these 3 (three) PLs.
5. *Market segmentation*
 - a. Bearing segmentation is defined to 3 (three) segment, premium, mid end and low end. Bearing X is focusing in premium segment.
 - b. To analyze which segment is the most popular one in the market. And what are the preference from customers for each segment.
 - c. The most popular segment in F&B market is premium segment. Customers prefer to use premium bearing to be installed in their critical equipment, to maintain and or improve their machine reliability.
 - d. Market share for premium segment, as per analysis from Bearing X in customer side, is around 70%. Bearing X is categorized as premium segment brand.

Conclusion from these analysis is, that F&B market is highly potential to be included in business development strategy.

B. Competitive Position Analysis

To determine their competitiveness in F&B market, as well as the current competition, Bearing X is doing analysis as follow:

1. *Product Performance.*
 - a. Analyze Bearing X positioning in customer side against competitors for 3 (three) most popular product line (PL), PL37, PL14 and PL72, in term of cost, product and service.
 - b. For customer satisfaction in product and service, Bearing X is considered in top 3 (three) position, for these popular PL.
 - c. In term of price, competition comes from medium segment brand in particular application only. Bearing X is also placed in top 3.
2. *Competitor Benchmarking*
 - a. Using scoring system (see Figure 3), Bearing X analyzed their position against competitor in Price, Quality, Engineering Support, Delivery

Performance, Relationship Management and Reaction Time.

Competitor					Competitive Criteria						Score	Main Products / Services	
Details		acc. to Market Share (Color) (Score)	Market Share (%) Sector	Sales in Sector (MELUR)	Price	Quality	Engineering Support	Delivery	Performance	Relationship Management			Reaction Time
Logo	Name	Top	2019	2019	5	5	4	5	5	5			
					Weight								
	BRAND X	2	20%	0,29	2	2	2	2	2	2	58	Comprehensive products range and services	
Y	Brand Y	1	40%	0,64	1	2	4	3	2	2	66	Leading in service and comprehensive products range	
W	Brand W	6	5%	0,08	3	1	1	0	2	2	44	Use penetration PL37 & PL36	
P	Brand P	3	15%	0,24	3	2	0	2	2	2	55	Comprehensive production range and competitive price	
Z	Brand Z	4	10%	0,16	3	1	0	2	2	2	50	Comprehensive production range and competitive price	
Q	Brand Q	5	10%	0,16	3	1	0	2	2	2	50	Competitive price	
Others											0		
Others		0%	0,00										
Total (100%)		100%		1,6									
Key Message		Brand Y, W and P are the key competitors											
Legend		4 much better than Bearing X 3 better than Bearing X 2 equal to Bearing X 1 worse than Bearing X 0 not competitive with Bearing X											

Figure 3. Competitor Analysis

- b. Bearing X is in number 2 (two) position, with Brand Y,P and Z as the major competitors.
 - c. Bearing X strength point is comprehensive range of product and service.
3. *Competitor strategies*
- a. Evaluating competitor’s current strategy in the market as well as their capabilities.
 - b. Some competitors have strength in the inventory. One of the competitor also has a good competence in service support.
 - c. As countermeasure, Bearing X needs to strengthen their inventory, focus on developing the distribution network and improve service support.

Conclusion from above analysis, that Bearing X has competitiveness in F&B market. Highlight in some aspects which requires improvement in order to be more competitive, will be included in Strategy Development. In addition, SWOT analysis has been done as well, as shown in Table 2 below.

Strengths	Weaknesses
<ul style="list-style-type: none"> ➤ Comprehensive range of products and services ➤ Premium quality brand name ➤ Local set up to be closer to customers ➤ New product range in Industry 4.0 	<ul style="list-style-type: none"> ➤ Less customer base and customer awareness ➤ Multibrand distributors who may choose profit over brand loyalty ➤ Minimum information regarding application and demand ➤ Competitiveness in lead time
Opportunities	Threats
<ul style="list-style-type: none"> ➤ Mills strive to improve efficiency and reduce operating cost ➤ Increase bearing demand with new installation and stretched output by mills ➤ Customers prefer supplier who offer quality products and services ➤ F&B is one of priority sector in Indonesia for industry 4.0 	<ul style="list-style-type: none"> ➤ Aggressive movement of medium segment brand to penetrate market ➤ Brand W aggressive pricing ➤ OES enter the market to compete for MRO bearing business

Table 2. SWOT Analysis

C. *Strategy Development*

Based on market size data, Bearing X is targeting to gain at least 20% market share for F&B market (current position is 10-11% maximum). Development focuses, as per analysis from previous paragraph are:

- 1. Popular product lines, PL37, PL14 and PL72 are the main focus.

- 2. Boost the strength point of each PL above with Unique Selling Proposition (USP).
- 3. Total Cost of Ownership as countermeasure of price sensitive market.
- 4. Strengthen the inventory, distribution network and service support.

Using Ansoff Matrix, Bearing X develops the strategy based on product and market, for both new and existing, as shown in Table 3 below.

	Existing Product	New Product
Existing Market	<ul style="list-style-type: none"> - Price competitiveness - Maintain stock availability - Continuous after sales support - TCO concept 	<ul style="list-style-type: none"> - Product trial proposal - Engineering support - USP concept
New Market	<ul style="list-style-type: none"> - Project benchmark from existing market - USP concept - Supply and service proposal using TCO - Improve stock availability 	<ul style="list-style-type: none"> - Product promotion (exhibition, media, etc) - Engineering support - Product trial proposal - USP concept

Table 3. Ansoff Matrix

In F&B industry, some machines have specific operating condition, and require specific bearing. Bearing X boosts the USP of some product lines to this industry, as shown in Table 4.

Application	Operating Condition	Product Line
Packaging	High speed & temperature, low load.	PL14; free maintenance with special lubricant
Processing	Typical machine model, high load,	PL37; high load rating, easy installation
Oven	Corrosive, high temperature, low load	PL72; easy maintenance, special coating
General	Predictive maintenance, real time monitoring,	PL80; online condition monitoring, Industry 4.0 ready

Table 4. USP concept

Total cost of ownership (TCO) is being used to educate customer regarding the overall benefit inside the price they pay for Bearing X product. Sample of format in TCO proposal is shown in Table 5 below.

No.	Benefit of Service - FREE OF CHARGE	Mandays	Plants
1	Training 1 day course. Max 15mandays/year.	15	All plants
2	Provide 4 man-days for 1 years of Condition Monitoring	4	Selected plants
3	Bearing Mounting Supervision	3	Selected plants
4	Bearings Failure analysis for critical equipment as required	6	Selected plants
5	Technical Consultancy for troubleshooting	2	Selected plants
Total		30 Man-days equals to SGD 18,000	

Table 5. TCO Proposal

D. Business Development Objective and Strategy

Setting their business development objective to 20% market share and 3% annual growth, Bearing X defines the development strategy in Fishbone Diagram below.



Figure 4. Fishbone Diagram for Business Development

Development strategies in Figure 4 are to be converted into a roadmap with specific timeline, and to be monitored in regular basis. To anticipate the dynamic situation in the market, effectiveness of each strategy will be evaluated, and to be updated based on current situation.

V. CONCLUSION

Starting a business development, knowledge on the targeted market is mandatory. From the political, economy, social, technical and legal condition related with market, top customers in respective market, to the business process in market and each customers. For business process, it is necessary to map the process which is related with our product. In case of bearing product, the requirement is detail mapping of the process or application, machine type in each application, and bearing types installed in each application or furthermore in each machine. Some measurements to be taken into consideration in developing business are, whether the market is potential to be developed, and the competencies of our organization and the product to compete in the market.

Our products must have Unique Selling Proposition (USP), to make it stand out among the others. And with Total Cost of Ownership (TCO) concept, customer will be educated and understand that there are more benefits given behind the products, and it is already included in the price they pay.

VI. REFERENCES

- [1] Hussain, S., Khattak, J., Rizwan, A., Latif, M.A., (2013, January), ANSOFF matrix, environment, and growth-an interactive triangle, Riphah International University and Muhammad Ali Jinnah University, Pakistan, Academy of Business & Scientific Research.
- [2] <https://www.researchgate.net/publication/3117734>.
- [3] Harris, Tedric A., & Kotzalas, Michael N. (2007), Essential Concepts of Bearing Technology (5th ed.). Taylor & Francis Group.
- [4] Schaeffler Technologies AG & Co. KG., (2018, Juni), Rolling Bearings Technical Principles and Product Data for the Design of Rolling Bearing Arrangements. Printed in Germany by mohn. <https://www.schaeffler.de/std/1D65>.
- [5] Setiadi, N.J, Cahyaningsih, N.N., Lestari, D.T., (2012, Desember), Bisnis Makanan dan Minuman Masih Memikat: Analisa Harga Saham Industri Food and Beverages di Bursa Efek Indonesia, Fakultas Bisnis dan Manajemen, Universitas Widyatama. CBAM-FE UNISSULA.
- [6] Kusnadi, Eris (2011, December), Fishbone Diagram dan Langkah-Langkah Pembuatannya. <https://eriskusnadi.com/2011/12/24/fishbone-diagram-dan-langkah-langkah-pembuatannya/>.
- [7] Monteleone, Mark A., (2010), Structuring AS-IS and TO-BE Process Improvement Discussions using the Fishbone Diagram. Modern Analyst Media <https://www.modernanalyst.com/Resources/Articles/ta-bid/115/ID/1562/Structuring-AS-IS-and-TO-BE-Process-Improvement-Discussions-using-the-Fishbone-Diagram.aspx>
- [8] <https://www.modernanalyst.com/Resources/Articles/ta-bid/115/ID/1562/Structuring-AS-IS-and-TO-BE-Process-Improvement-Discussions-using-the-Fishbone-Diagram.aspx>
- [9] Sharifi, H., Ismail, H.S., Jun Qiu, Tavani, S.N., (2013, Mei), Supply chain strategy and its impacts on product and market growth strategies: A case study of SMEs. Int. J. Production Economics.
- [10] Fishbone Diagram. CIToolKit. <https://citoolkit.com/articles/fishbone-diagram/>