

**THE INNOVATIVE BUSINESS MODEL CONCEPT
GENERATION FOR PT. LEN INDUSTRI:
BUSINESS MODEL SOLUTIONS IN ACHIEVING
THE EXPECTED NET PROFIT MARGIN**

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Abstract—As a state owned company, PT. Len Industri (Persero), an electronic industry and infrastructure company, has passed three transformation phases throughout its effort in improving the company performance in the passed 20 years. In the final state of the third transformation phase, despite its significant sales growth (averaging to 30 percent per year from 2006), PT. Len is unable to achieve the expected KPI (key performance Indicator) for NPM (net profit margin) of 5% set by the stake holder. In order to achieve the requested NPM, PT. Len has to carefully select projects with low COGS only (80% to 85%). This can only be done through a high value project content which means using an innovative product that has a high selling value or by developing an innovative business model which can give significantly higher return. In this case study, the latter choice is chosen. Business model initiative is not new to PT. Len, but a comprehensive way of creating the business model that involves details steps has never been generated. Business Model Generation using a 9 blocks building concept is introduced here. The designing concept uses the “Unbundling” business model pattern that suit business at PT. Len. The designing take example one of the business lines in the integrated PV (photovoltaic) system supply. This business is then recast into the standardized format of business model canvas and unbundled to get a new core business. This new core business will improve the NPM of PT. Len Industri.

Keywords: NPM, Business Model, COGS, KPI, Unbundling business pattern

I. INTRODUCTION

Since working as the Director of Technology and Production at PT. Len Industri (Persero), many problems come and go. One of the interesting problems that come into mind was the effort to fulfill the requirement of company performances set by the stake holders. These requirements were set into the performance criteria which is called the Key Performance Indicator (KPI). This issue is considered interesting to be discussed because in the past 5 years, PT. Len Industri (PT. Len) has never been able to achieve one of the KPI parameters, i.e. the Net Profit

Margin (NPM). The value achieved was always just slightly lower than expected.

There are 6 main business lines covered by PT. Len, Railway Transportation, Renewable Energy, Telecommunication, Defense Electronics, Navigation system and Control System. PT. Len focus itself as an EPC (engineering, procurement and constructions) company where most of the project are customized to the need of the customer and in limited amount. Manufacturing, assembly and testing facilities at PT. Len are used to support those projects.

The main issue that is going to be discussed in details is the Net Profit Margin (NPM). By looking at the trend of achievement from 2006 to 2011, both sales and profit are increasing quite dramatically, but not the case for the NPM. The value for NPM are 2006 (2.04%), 2007 (2.35%), 2008 (2.40%), 2009 (1.8%), 2010 (2.87%) and 2011 (2.84%). The significant increase in sales is not followed by the significant increase in NPM.

II. BUSINESS ISSUE EXPLORATION

From the four main issues considered to be part of the possible root cause, one by one will be discussed and analyzed within the conceptual framework. All data and method used related to the factors considered will be presented in each analysis.

There are four main issues which are taken into account as the key criteria causing these NPM problem:

- 1) Selections of projects based only on sales value
- 2) Project with local and innovative product content/business content are limited
- 3) Project Competition and Cost Control
- 4) External conditions that are directly related

A. Conceptual Framework

As PT. Len business area is concerned with running a turnkey projects through EPC process (engineering,

procurement and constructions), therefore, the framework explored will be focus on projects model.

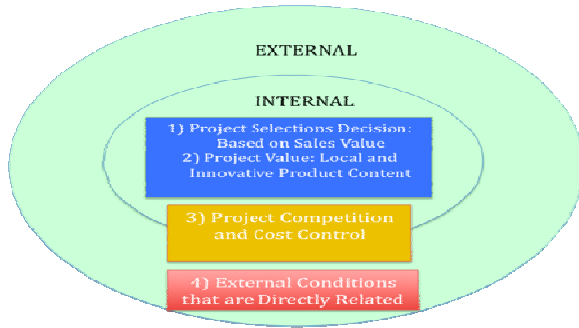


Figure 1. Conceptual Framework Layout

B. Method of Data Collection and Analysis

Issue 1: Project Selections Decision: Based on Sales Value

In running Business Unit (UB), every account in the UB has its own target of achieving a set of criteria, and the most are usually sales value. The account person will not be concerned as to the size of the project. The bigger the better! Further to this, UB is also set to achieve the required target sales (some sort of internal KPI) and target COGS which causes them to select whichever projects suit. In this part, author develops conceptual framework that may assist them to find root of issues. Good criteria of conceptual framework is to have balance rigor and relevance, it means that it has to have sufficient foundation or concept, and it has to be relevant with the business context.

Issue 2 : Project Value: Local and Innovative Product Content

One way of reducing the COGS is by increasing the value content within one specific product or system product. Is there any existing project based on this type of product value content? The answer is yes there is, but in very limited numbers to choose from. If there is one, the value of the project will be very small even though the type is in division A and B (see figure 3). This type of project is usually in the category of prototyping, development or trial phase which causes the project value to be minimum in size. When the innovated product is successfully implemented and upgraded to a bigger size project value, the supporting component will be that great which causes the COGS become once again big (division C and D).

Issue 3: Project Competition and Cost Control

As mentioned at the beginning of the discussion, NPM is used as the indication of how effective a company is at cost control. Therefore, even though the expected project is obtained in the division A, B or C type, but if the project is badly executed and no cost control is implemented, the NPM will still be very small as if the project is in D or E division. The main idea of this is to give general picture of the cost involved in both fixed and variable cost (Jacobs,

Chase and Aquilo, 2009). There are still other cost involved besides the COGS which could give significant effect to the project fixed cost. Some of these costs could be the cost of money (interest) in financing any specific project.

Issue 4 : External Conditions That are Directly Related

The final issue which must be taken considerably serious is the external condition such as regulation on business practices, pricing strategy, taxes and supply chain condition. All of these conditions have got to do with the government regulation in law and order. In business practices, some of the common issue will be cartel practice. A monopoly of supply by a group of players to set certain prices into the market. This certainly can cause negative effect to the cost control and competitiveness. As for the pricing strategy, in most cases, for certain vital component or product/services, the government has to set standard formula or based price so as to keep the competition fair and advantageous.

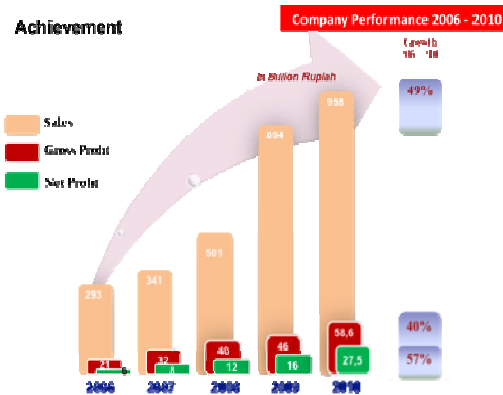


Figure 2. PT.Len Performance 2006-2010(writer: RJPP 2012-2016)

No	Kontrak	HPP	%	Criteria	Komposisi	Kontrak	Criteria	
1	279.210.226	215.891.027	77.32	< 80%	2191	279.210.226	< 80%	
2	4.679.051	3.917.931	83.73	80% - 85%	0.7	4.679.051	80% - 85%	
3	61.471.973	53.089.394	86.36	85% - 90%	4.2	61.471.973	85% - 90%	
4	557.224.165	517.866.670	92.94	90% - 95%	4373	557.224.165	90% - 95%	
5	371.575.075	354.864.920	95.53	> 95%	2816	371.575.075	> 95%	
		1.274.160.490	1.146.730.751	89.82%	85% - 90%	1000	1.274.160.490	85% - 90%
			0.1034000	13.429.738				

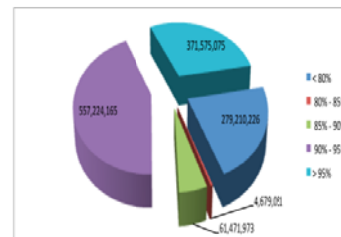


Figure 3. Project Sales and COGS for 2011 (writer: RKAP 2011, audited PT. Len)

NPM is calculated as the percentage of Net Profit divided by Net revenues (internet link: http://www.investorwords.com/3260/net_profit_margin.html).

“NPM is used as the indication of how effective a company is at cost control. The higher the net profit margin is, the more effective the company is at converting revenue into actual profit. It is also a good way of comparing companies in the same industry, since such companies are generally subject to similar business condition. Furthermore, it can also become a tools in gauging which industries are relatively more profitable.”

To get more insight into the real problem where could this lead to, a pie chart is made with selected project sales and Cost of Goods sold (COGS) as part of the cost comparison. These project variations in sales value and COGS is divided into 5 divisions; A = COGS of <80, B = 80 < COGS <85, C = 85 < COGS < 90, D = 90 < COGS < 95, and E = COGS > 95.

C. Analysis of Business Situation

Referring again to the real meaning of the NPM. NPM is used as the indication of how effective a company is at cost control. The higher the net profit margin is, the more effective the company is at converting revenue into actual profit. The underline word is what is to be focused here in getting the root cause. PT. Len has to maximize its effort in transforming the revenues/sales into actual profit. So many ways of maximizing this converting process, and one of this which will be chosen here is maximizing the value proposed to the customer so that the customer are willing to pay extra. This bring us to the second steps, whereby from the four issues discussed, the first two will be taken into consideration as the possible root cause.

From the above two possible main root causes, both are considered the root cause. Both are internal conditions that can be changed by PT. Len internally without outside parties involvement directly. However, from these two, the first one is considered easier than the second one as it is just a matter of making extra ground rule internally in each UB (Business Unit). The rule can be made for every tender review where decision will only give green light for project in division A, B and C only with no tolerance. Outside these, will be rejected.

What will be discussed further is the second root cause. This is chosen also based on the fact that this is where PT. Len can make change and decide, and not based on other outside factors affecting the decision. One of the solution is the business model concept. A nine (9) building block for business model generation method will be used as the tool used to obtained the exact solution for the root cause already identified for the purpose of this Paper.

III. BUSINESS SOLUTION

In order to achieve the requested NPM, PT. Len has to carefully select projects with low COGS only (80% to 85%) i.e. in the A and B division type. One way of obtaining this (related to the issue discussion in previous section) is through a high value project content which means using an innovative product that has a high selling value or by developing an innovative business model which can give significantly higher return. In this Paper, the latter choice is chosen.

Business model initiative is not new to PT. Len, but a comprehensive way of creating the business model that involves details steps has never been generated. A detailed design of an Innovative business model using the concepts, techniques and tools presented in the Business Model Generation book (Osterwalder, A., & Pigneur, Y., 2010) will be used. Technique covered in the book is so comprehensive especially in designing the business model that only one concept will be chosen.

This concept offer a nine building block approaches that cover four main areas of a business: customer, offer, infrastructure, and financial viability.

The nine (9) building blocks are:

- 1) Customer Segments (CS)
An organization or different groups of people, as enterprise, aims to reach or serves one or several customer segments.
- 2) Value Propositions (VP)
Value propositions can solve customer problems and satisfy customer needs. The value proposition building block creates value for a specific customer segment through products and services offerings.
- 3) Channels (CH)
It describes how a company deliver a value proposition to customer through communication media.
- 4) Customer Relationship (CR)
Customer relationship are established for each customer segment and will influence the overall customer experience.
- 5) Revenue Streams (R\$)
As the value propositions is successfully offered to customer, cash will be flowing as revenue from customers.
- 6) Key Resources (KR)
The key resources building block describes the most important assets necessary to make a business model work.
- 7) Key Activities (KA)
The key activities describe the most important things that must be done to make its business model work.
- 8) Key Partnerships (KP)
The key partnerships describes the network of suppliers and partners that make the business model work where some activities

are outsourced and some resources are acquired outside the enterprise.

- 9) Cost Structure (C\$)

The business model elements results in the cost structure. The cost structure (all cost as a result of executing the business model) describes all costs incurred to operate a business model.

A. Alternative of Business Solution

Before start designing the business model for PT. Len, it is compulsory to firstly understand in what category business in PT. Len is segmented to. This call for the so called “Business Model Pattern”. This separate business model with similar characteristic, similar arrangements of business model building block or similar behaviors. After defining the right business model pattern, then it is possible to design the suitable business model using the 9 building block concept.

The five business model patterns are:

- 1) Unbundling Business Model

There are fundamentally three different type of business in this pattern: Customer Relationship businesses, product innovation businesses, and infrastructure businesses. The three types could co-exist within a single corporation. Ideally these are “unbundled” into separate entities in order to avoid conflicts or undesirable trade-offs, and this process is called “unbundling” process.
- 2) The Long Tail

A shift in the media business from selling a small number of “hit” items in large volumes toward selling a very large number of niche items, each in relatively small quantities.
- 3) Multi Sided Platforms

Is a network effect where it grows in value as it attracts more users. It brings together two or more distinct but independent groups of customers.
- 4) Free as a Business Model

Free of charge offer where non paying customers are basically finance by another part of the business model or by another customer segment (cross – subsidy).
- 5) Open Business Model

A concept of collaborating with outside partners. The main pattern here is focus on ideas and innovation process where the “outside – in” (absorbing outside ideas internally) scenario or “inside –out” (exporting internal ideas) instead.

Based on previous discussion, the business lines of PT. Len and the future plan to be implemented in the next 5 years, the suitable business model pattern is the “Unbundling” pattern. The three business units existed in PT. Len organization structure are all implementing the three core business types and can be grouped together into the unbundling business model pattern.

B. Analysis of Business Solution

After selecting the suitable business pattern, the process is then continued by selecting one of the business lines from the three business lines at PT. Len. This is the PV System business. As this is related to the improvement of the NPM, and referring to Figure 2 where one of the business needed attention is the Renewable Energy Business. PV (Photovoltaic) system is one of the Renewable Energy sources. To show how the PV system business is part of the main concern that causes low NPM is by evaluating the list of projects at PLN in Table 1.

Figure 3 showshow the process of implementing The Business Model Canvas (internet links: www.businessmodelgeneration.com/canvas) into the process

of unbundling through 9 building blocks of business model generation concept. The existing business is thoroughly explained into 9 blocks covering all nine area i.e. KP, KA, KR, VP, CR, CH, CS and C\$ and R\$. Then, the three value disciplines: Operational

Table 1. Project with High COGS (RKAP 2011, PT. SEI)

LIST OF PROJECTS FROM PLN 2011					
No.	Project Name	Customer	Contract Value	Contract Value	COGS
			(incl PPN)	(Netto)	
1	PLN Lembang	PLN Wilayah NTT	7,527,147,000	6,842,860,909	89.92%
2	PLN Klaten	PLN Wilayah Galim	11,330,000,000	10,300,000,000	90.96%
3	PLN Mangas	PLN Wilayah Suluttenngo	5,525,737,800	5,023,398,000	91.53%
4	PLN Makasar Karanrang	PLN Wilayah Sulawesi	9,790,000,000	8,900,000,000	91.77%
5	PLN Maluku Kisar	PLN Wilayah Ambon	5,539,467,090	5,035,879,173	90.69%
6	PLN Maluku Tiozor	PLN Wilayah Ambon	5,170,000,000	4,700,000,000	90.83%
7	PLN Kabeam Dongkula	PLN Wilayah Sulawesi	21,336,700,000	19,397,000,000	89.78%
8	PLN NTB	PLN Wilayah NTB	17,224,000,000	15,658,181,818	90.39%
9	PLN Banyu	PT. Jaya Teknik	2,346,405,272	2,133,095,702	92.07%
TOTAL			85,789,457,162	77,990,415,602	

Excellence (Infrastructure management), Product Leaderships (Product innovation) and Customer Intimacy (Customer relationships) are separated and unbundled into a new innovative business model. These new business models are then one by one elaborated into a new business model canvas for Main Product Manufacturing, Independent Power Producer (IPP) and New Product Development.

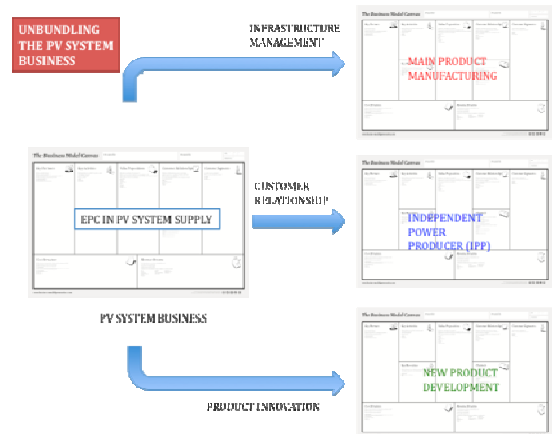


Figure 4. The Modeling Process Steps

IV. CONCLUSION AND IMPLEMENTATION PLAN

If the improvement in sales is depicted into the Product Life Cycle graphs (Cannon, Perreault, McCarthy, 2008) it is shown that the three innovative business model: 1) Manufacturing Main product, 2) Independent Power Producer and 3) New Product Development, have caused the increase in value of the profit significantly as it brings new value and at the same time causing the Revenue Streams (R\$) to climb. This will certainly improve the NPM of PT. Len. Figure 5 shows how this is achieved.

In implementing the three core businesses so that they can be successfully executed in manageable manner, few steps/actions are proposed for each core business:

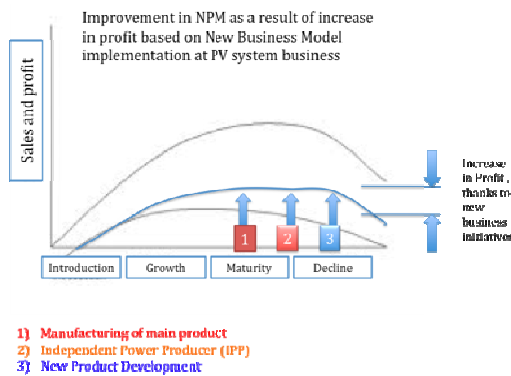


Figure 5. Profit increase by implementing Innovative Business Model

- 1) Main Product Manufacturing
 - a. Investment of new machineries and equipment
 - b. Expansion of existing factory, (existing is for panel assembly process 10 MW/year) specifically for the Wafer to cells process where capacity need to be upgraded to 60 MW/year
 - c. In expanding the capacity, and huge business prospect, PT. Len need to increase its human resources capabilities by new recruitment and training (certified and internationally acknowledged) in PV system
 - d. Expansion schedule: 2012 to 2013 : Building new plant
 - e. Further expansion 2014 : New expansion (Wafer manufacturing, from ingot to solar wafer/cell)

- 2) Independent Power Producer
 - a. Seeking new investor/bank support through co-operations
 - b. Recruitment of finance expert to support business proposal and internal support throughout cooperation's with other finance institution

- c. Training of expert in concept design capabilities
- d. Recruitment of sales persons to increase sales taskforce
- e. Target schedule of selling electricity in 2012 : Minimum 2 PPA
- f. Next target from 2013 to 2016 : Minimum 5 PPA/YEAR

- 3) New Product Development
 - a. Investment in new testing equipment, state of the art
 - b. Recruitment of new graduates for specific core technology and experts in specific technology competence (related to time to market)
 - c. Continuous training to maintain up to date knowledge
 - d. Close cooperation with design houses (outsourcing concept)
 - e. Schedule 2012 : Minimum 2 new products
 - f. Schedule for 2013 to 2016 : Minimum 5 New product

To complete the long term planning of implementation at PT. Len for the PV system which is part of the renewable energy, the company roadmap is elaborated in the following figure which covers product development, investment, human resources and finance:

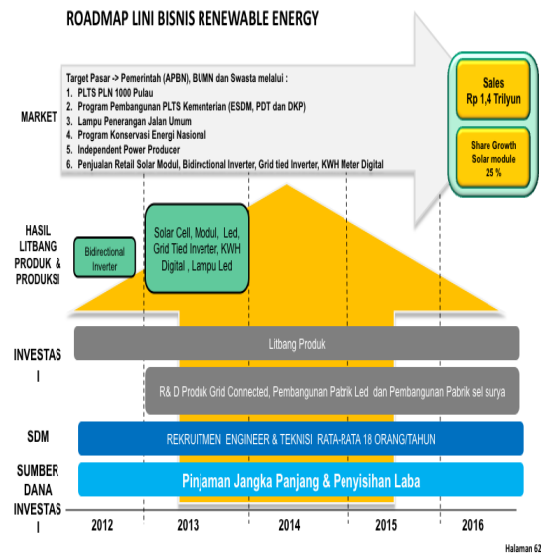


Figure 6. Roadmap PV system (RJPP 2012-2016, PT. Len)

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