KEY SUCCESS FACTOR ON NEW PRODUCT DEVELOPMENT IN INFORMATION TECHNOLOGY BASED COMPANY IN INDONESIA

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Abstract

Research on New Product Development of IT industry is rarely found in Indonesian research paper. This is a challenging topic since IT industry is one of the fastest growing industries in the world as well as in Indonesia, though IT implementation is less than in other country. This paper is built based on pilot project of qualitative research that is done in 10 IT companies in Indonesia. This paper can be used as a guideline to do further comprehensive research on New Product Development Success in more companies in Indonesia. The result of the research hopefully can bring lot of benefits for any entrepreneur in IT and related industries in Indonesia.

I. Introduction
IT industry is in the centre of development nowadays. Lot of IT products are launched almost everyday. IT companies have done lot of efforts to win the competition on IT industries. One of the important factors to be successful on IT industries is develop a new product. IT products are just like another product, it will be born, raised and then mature and died (Frands:1992)

![Figure 1 Lifecycle of Product](http://www.tutor2u.net)

New product development is a first phase of a product that is identified by a high cost of research to develop good product. This research needs lot of investment when in the other hand they sometime don’t get anything from that product. This research becomes a sinking fund that will not back except the company is able to sell the products to get the money back.

Lot of factors makes product development success. These factors have to be examined so that we can learn to make the new product development success and don’t just waste the
money. Professional and Manager of New Product Development in IT company needs a broad understanding to know what’s the best method to make the new product development success. A successful product development is identified by a cost effective product development and also in the other hand, the product are accepted by the market. Analysis on new product development have less attention for the researcher since lot of companies in Indonesia don’t realize that new product development is the key success for the survival of their companies. This research want to make a general framework on what’s the factors that make the development of New Product Success and how to make the product will be cost effectively until it’s ready to be launched. This research focuses on IT industry in Indonesia that is in the center of the development in nowadays Indonesian business environment. The model that adapted for this research are State Gate Model that Developed by Dr. Robert G. Cooper and Dr. Scott J. Edgett in their Journal State Gate and Critical Success Factors for new Product Development (July 2006). This research uses that model as a reference and comparison for a model of New Product development in Developed country. State Gate Method are viewed by this picture:
II. Original Contribution
This research is done to make a good correlation on internal factors and external factors and others factor linked with Information Technology product Development. So that it can build a good framework on correlation among factors in line with successful of new product development in IT companies. Hopefully this research can bring lot of benefit for the IT Industry professional to make a good roadmap for the company, especially to make a good new product development plan.
This research try to answer any questions from IT professional who want to know what’s the framework to make a successful new product development. This is a question that difficult to be answered even in our condition nowadays.
In the meantime, this research also wants to compare the difference between the model of new product Development in Developed Country based on the State Gate Model with the
model of developing country using a sample of Indonesia as a renowned developing country.

III. Qualitative Methodology
This research used Qualitative methodology because of limited number of the respondents. In the other hand, the problem is a complex problem that the model is not set yet. So it’s important to meet intensely with the respondent so that we can get the essential points of the new product development success factor.

We have to admit that Information Technology in Indonesia is not as developed in India. Indonesia is so limited in creating new product development in IT industry. We have to know that most of Indonesian is not a kind of person that characterize as early adapter.

IV. Research Design
In this research, research is designed like this diagram:
IV. Result from Pilot Project

Pilot project for this research is done with the first 10 respondent from 30 respondents that are planned. From this respondent, we can see general framework of the research before we
know more about the research. This research is done to the IT company in Bandung consist of three kinds of IT companies:

1. Mature Company
2. Drive to Mature Company
3. Start Up Company

To make the research objective, interview are made by 3 interviews for “start up”, 4 interviews for “drive to mature” and 3 interviews for mature companies.

This pilot project can form a general framework that will guide more on the further research.

This research found that there’s 9 important points in New Product Development:

1. Responsibility in Product Development
2. Consideration in Product Development
3. Steps in Product Development
4. Obstacle Factors
5. Ways to handle obstacles
6. Points regulated on Product Development
7. Determination of factors on Points of product development
8. Successful product development Criteria
9. Influence of Successful product development to customer loyalty
These points can be viewed using Figure 3:

![Figure 3: Model of NDP in Indonesian IT Company](image)

V. Finding in Pilot Project

From the pilot project, the IT companies are divided into 3 kinds of different types, Each of those have different characteristics:
1. IT mature Company

Characterizes With:

- Responsibility for this kind of company is in the IT manager, some event NPD manager
- Can see market trend clearly, so can see the need for product in the future not just a temporary trend
- Company already make process from design, implementation and action effectively with intensive frequent
- Main obstacle is Human Resource, not limited budget
- Design aspects until marketing aspect are done by different groups.
- Mechanism used is a global view from the director and will be detailed by meeting of the sub ordinates
- The goods sold are not the only parameter. Keep the customer is another parameter should be considered. They don’t want the customer switch to another company service.
- The Model of this kind of company is like this:
2. Drive To Mature IT Company

Characterizes with:

- Director still hold control on the process of New Product Development in the future.
- Company sees the market needs and tries to fill in the needs as soon as possible and the specific quota. Sense to see the future is not the main concern.
- Company try to fill all the process from design, implementation to action but still just to fill the standard NPD well.
- Budget still an issues, Human Resources starting to be another issues.
- Start to divide the function too some parts but some still overlapped.
• Decision made most of by meeting in the span of control that is not big.
• Product sold is still being a successful main criterias.
• The model of this kind of company is like this:

![Drive to Mature IT Company Model](image)

**Figure 5: Drive to Mature IT Company Model**

3. Start Up Company
Characterized by
• Director that is also the owner have the strong hold on the company New Product Development
- Company wants to fill all the needs in the market even with low resources, so it's difficult to move fast.
- Company makes all NPD activities from design, implementing, and also action with the same person as the personnel are limited in number.
- Limited budget, in the other hand, lots of personnel who is also the owner have a great talent.
- Design to Marketing is held by the same person.
- Meeting mechanism is used because small groups will be small in span of control.
- Product sold in the market is the main concern of the business.
- The model of this kind of company is like this:

![Diagram showing the process of new product development IT industry with various nodes and connections describing the process from product definition and designing to manufacturing, marketing, and sales.](image-url)
Figure 6: Model of Start Up Company

From the specified research question, other findings in this pilot project are:

1. To make a successful New Product Development, the first things have to be done is solve the problem. In the start up and drive to mature company all the problem is budget. It has to be solved first so that there’s adequate money to make the product run well. For mature company and in some drive to mature company, the good researcher and new product development professional are rare. This is because lots of employees don’t find any good chance to have bigger amount of money in the position of R&D.

2. Other factors considered are:
   a. Integration process from design until marketing, if the activity is not integrated the chance to be a successful NPD is less than if the process are integrated. So in a mature company integration process have to be good so that the integration will make New Product Development process going success.
   b. In the mature company, market research is possible to be done. But in the start up company it’s not effective to throw the money away for market research. So the start up to drive to mature company have to find a way to
see the needs of the customer not just by market research, have to find another creative way to find the needs of the customer.

c. Another factor that is not influenced directly but significant is customer loyalty. With loyal customer, a company will be easier to make the product successful in the market because the customers are always loyal to company product.

d. We can see from the state Gate and the Indonesian Model of NPD that in developing country lot of components of NPD are still from external factors.

VI. Conclusions:

1. Information Technology Industry in its new product Development activities are depends on the type of the maturity of the company. More mature means better but also mean will be bureaucratic, this have to be solved so that the company can do New Product Development fluently.

2. We can divide IT company based on its maturity into 3 kinds of companies:
   a. Mature IT company
   b. Drive to mature IT company
   c. Start Up IT Company

3. Non Mature companies have difficulties in the budget for product development. In the other hand, in mature company it’s difficult to find right person as a staff of researcher in R&D division.
4. This research has to be continued in all the IT companies and also other technology companies in Indonesia. So that the company can see what’s the best way to invest in new product development. Instead of wasting hundreds thousand of dollars in New Product Development.

5. From the State-Gate Method, We also can derive some specific method that can be implemented in specific kind of Industry. And From the comparison of the model by state gate and by the finding in this research We can see the difference between New Product Development activity in developing and developed country.

VII. Suggestion

1. This is an ongoing research. This paper is a general framework to work on the final research. So any suggestion from the reader are welcome.

2. Final Research will be done by the framework of this paper. This paper will also be re-published after the research is done.

3. There must be regulation from the Government of Indonesia to regulate Product Development in Indonesia as well as regulation about innovation and also Intellectual Property Right. It has to be done because this can make people in general and technological company especially, to make more innovation because they will get any protection from the government.
4. Entrepreneurs have to see the trend of NPD for their companies. What companies are they and they have to implement NPD like the trend of NPD stated in the frameworks.

5. More specific research on specific NPD in Developing country are needed to make a good framework on how a company have to behave in developing country or in developed country. So multinational company can do a good NPD whether in developing or developed country.

Reference


