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STRATEGY FOR NEW TECHNOLOGY RELEASE BY INTEGRATING CONSUMER DEMAND TO PRODUCT ROADMAP

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Abstract— *Broadband, mobility and the cloud connect people and places, as well as applications and devices. Due to rapid demand in the Information and Telecommunication technology Industry, the technology lifecycle management has to be defined optimally. This final project will try to answer what is the optimal product release strategy should be applied to accommodate the customer requirement in RASO (Regional South East Asia and Oceania). This final project also answer how to define and apply optimized product release strategy based on the customer requirement and Roger's theory. Survey for the customer demand is conducted to answer those requirements. Based on Roger's bell curve from Diffusion of Innovation theory, the alternative strategy to introduce new technology to the customer will be defined. Effective product releases should be applied for the customer requirement in RASO is defined by Provide one official release in a year; still maintained minor release to as the backup release; customization and adaptation for the customer requirement and the competitor capability. The strategy for the product release are defined and applied with first of application sponsorship, pay as you use and licensing, revenue sharing, and or reference of the business model by business model canvas. This project also recommended, Customer in RASO is positioning their company as the innovator or early adopter of the new technology. Alternative solution is needed to support implementation of the new technology. It convinces customer to acquire new technology in the very first phase. By using the alternative solution, customer requirement will be fulfilled to support business growth and customer business objective.*

Keywords: new technology introduction strategy, product lifecycle roadmap, product release strategy

1. Introduction

In the last few years there have been major changes to the ways we communicate, work and are entertained. Broadband, mobility and the cloud connect people and places, as well as applications and devices. By 2020 we envisage a world with more than 50 billion connected devices. Due to rapid demand in the Information and Telecommunication technology Industry, the technology lifecycle management has to be defined optimally. With the optimal product release strategy, the owner and customer can match and optimize the usage of the product.From above concern, this report would like to answer the problems of (1) What is the optimal product release strategy should be applied to accommodate the customer requirement in RASO (Regional South East Asia and Oceania)? (2) How should we define and apply optimized product release strategy based on the customer requirement and diffusion of innovation theory?

This report will present how Roger's Diffusion of Innovation theory could be applied in the telecommunication infrastructure technology. The main activity will be done as the methodologies are pointed as below point. (1) Data capturing from the Roadmap in Circuit Core and Packet Core. Data from the existing Roadmap will be captured as the main input of the analysis. The existing product roadmap is released as information of the upcoming product time plan release. (2) Questionnaire. To define further analysis of the product release strategy will be delivered, a questionnaire is sent to the respondents. Respondent is the user of the technology. More specifically

customer who is involved in deciding equipment will be used by the firm. This customer is based on the regional South East Asia and Oceania. It consists of Indonesia, Australia, Philippine, Singapore, and Thailand. The main outcome of the survey is to cater user perspective on the technology preference. (3)Define Product Release Strategy. New product release strategy is defined by adjusting the existing Product Roadmap with the result of the questionnaire. (4) New Product Release Strategy Analysis. Based on the product release defined, it will define the campaign strategy as the impact of the new product release strategy.

The demand of coal in the last 20 years showed an encouraging progress, both for the domestic market and overseas. Recently, coal has once more become a favorite in energy industry. Therefore coal mining companies have to cope with the increasing demand by developing their logistics system capacity. This paper revisits an unpublished study conducted in 2000 in developing a decision support system that was expected to help a company in making decision on investing for increasing its logistics system capacity.

2. Business Issue Exploration

Some business theories will be used to analyze the business situation of the telecommunication industry. The theories are the baseline of the further description of the business circumstance currently.

A. Conceptual Framework

Based on the Competitive Advantage and the Competitive Scope there are 5 options for a firm to choose the level of the strategy. In the competitive advantage domain firm should choose whether the go with cost leadership or to be different among other competitors. While in the competitive scope domain they should choose to go to broad target or play on the narrow target. Those determined five business-level strategies to chosen by a firm. The Business Model Canvas is a strategic management template for developing new or documenting existing business models. It is a visual chart with elements describing a firm's value proposition, infrastructure, customers, and finances.

B. Analysis of Business Situation

Based on the Porter general strategy to gain competitive advantage, in the current position Vendor E maintain their market leader position in differentiation. While another vendor who also took position on this segment has been fail. Other vendor keep maintain their cost leadership.

C. Technology life-Cycle

The technology life-cycle (TLC) describes the commercial gain of a product through the expense of research and development phase, and the financial return during its "vital life". Some technologies, such as steel, paper or cement manufacturing, have a long lifespan (with minor variations in technology incorporated with time) whilst in other cases, such as electronic or pharmaceutical products, the lifespan may be quite short. The technology life cycle is concerned with the time and cost of developing the technology, the timeline of recovering cost and modes of making the technology yield a profit proportionate to the costs and risks involved. Most new technologies follow a similar technology maturity lifecycle describing the technological maturity of a product. This is not similar to a product life cycle, but applies to an entire technology, or a generation of a technology.

The TLC may be seen as composed of four phases: (a) the research and development (R&D) phase (sometimes called the "bleeding edge") when incomes from inputs are negative and where the prospects of failure are high. (b) the ascent phase when out-of-pocket costs have been recovered and the technology begins to gather strength by going beyond some Point A on the TLC (sometimes called the "leading edge"). (c) the maturity phase when gain is high and stable, the region, going into saturation, marked by M, and (d) the decline (or decay phase), after a Point D, of reducing fortunes and utility of the technology. Diffusion of innovations theory, pioneered by Everett Rogers, posits that people have different levels of readiness for adopting new innovations and that the characteristics of

a product affect overall adoption. Diffusion of Innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures.

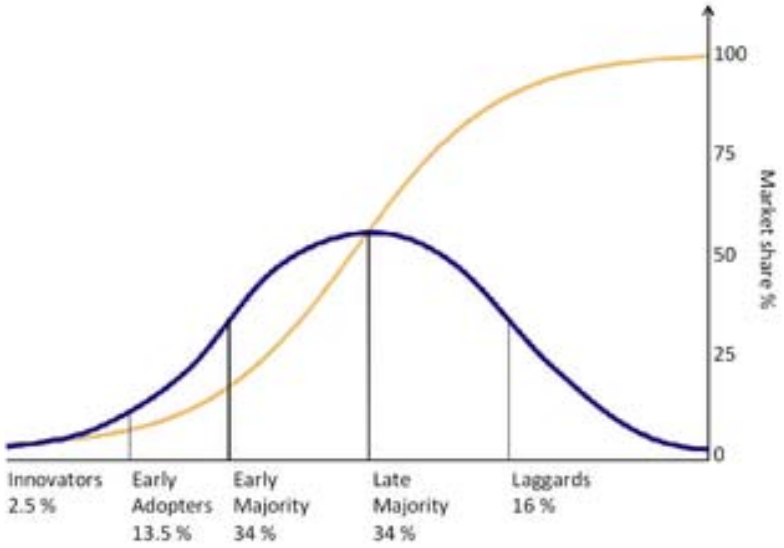


Figure 1. Rogers' Diffusion of Innovations Bell Curve

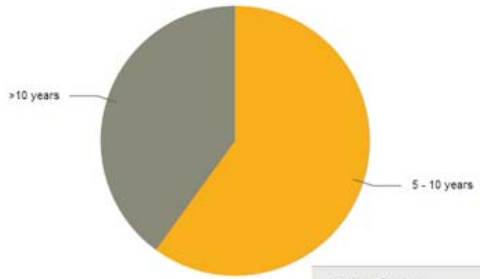
Rogers proposes that adopters of any new innovation or idea can be categorized as innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%), based on the mathematically based Bell curve.

D. Generation of Innovation

The technology life-cycle (TLC) describes the commercial gain of a product through the expense of research and development phase, and the financial return during its "vital life". Some technologies, such as steel, paper or cement manufacturing, have a long lifespan (with minor variations in technology incorporated with time) whilst in other cases, such as electronic or pharmaceutical products, the lifespan may be quite short. The innovation development process consists of all decisions, activities, and their impact that occur from recognition of a need or a problem, through research, development, and commercialization of an innovation, through diffusion and adoption of the innovation by users, to its consequences.

3. Business Solution

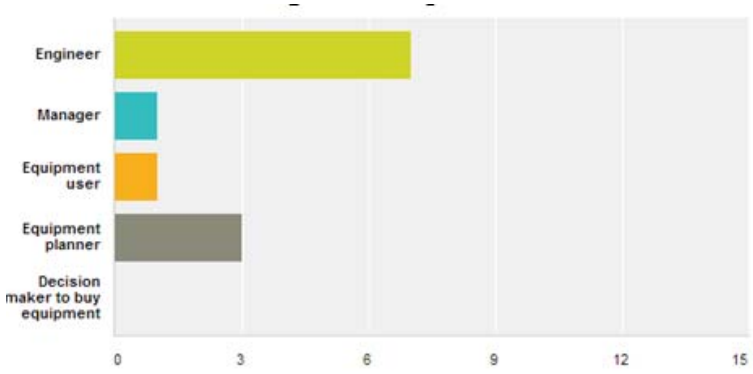
Feedback has been received from the respondent with strong qualification in justifying the requirement. The entire respondent has been involved in telecommunication industry at least 5 years, which consider has senior expertise on this industry.



Answer Choices	Responses
0 - 1 year	0%
1 - 5 years	0%
5 - 10 years	60%
>10 years	40%

Figure 2. How long have you been working in telecommunication industry?

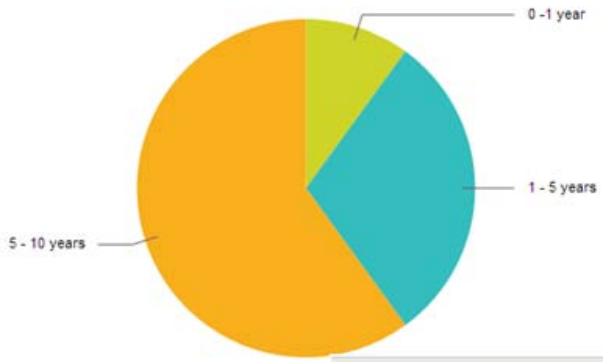
Feedback has been received from the respondent with strong qualification in justifying the requirement. The entire respondent has been involved in telecommunication industry at least 5 years, which consider has senior expertise on this industry.



Answer Choices	Responses
Engineer	70%
Manager	10%
Equipment user	10%
Equipment planner	30%
Decision maker to buy equipment	0%

Figure 3. What is your position and role?

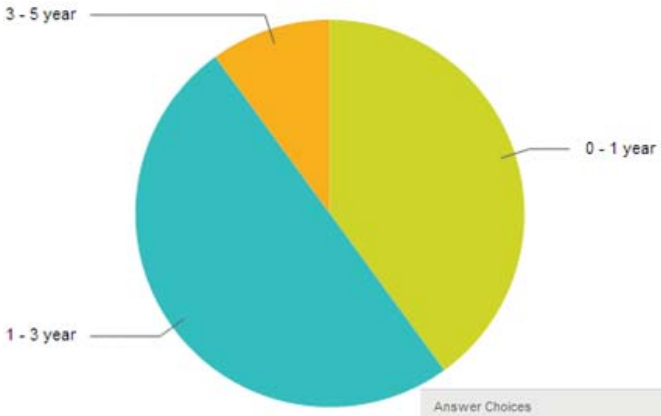
As shown on above figure, 70% of the respondents are engineer which have good understanding in technology and company requirement. Other respondent are involved in deciding the requirement. None of the respondent has the absolute right to decide purchasing of the equipment.



Answer Choices	Responses
0 -1 year	10%
1 - 5 years	30%
5 - 10 years	60%
>10 years	0%

Figure 4. How long have been you working in this position and role?

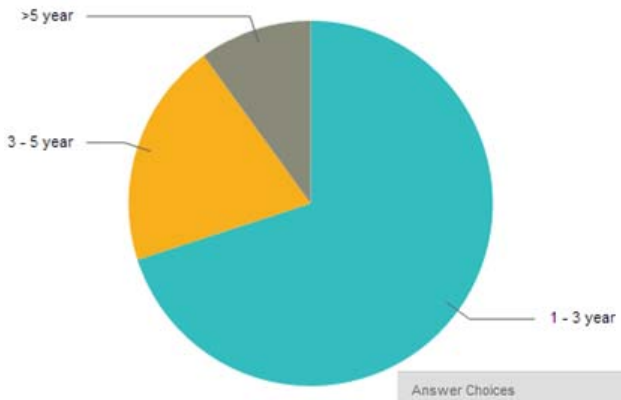
Respondent intend to purchase new product less than 3 years from its official release. This gave perception that customer would like to have updated technology on their portfolio. Intention to innovator of the market is quite strong shown by the customer behavior. It is represented by 40% of the customer. They are willing to buy the new technology less than 1 year after the product is released in to the market. Below figure is showing that 50% of the respondents are described as early adopter, who will buy the technology whenever it is proven.



Answer Choices	Responses
0 - 1 year	40%
1 - 3 year	50%
3 - 5 year	10%
>5 year	0%

Figure 5. How long you decide to purchase new product from its official release?

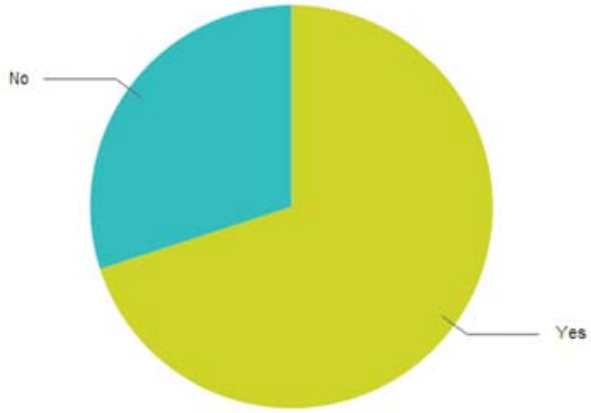
Even tough their strategy is to utilize the updated technology, customers are also realized that the product they purchased is not always in their maturity level. 70% of the respondents believe that at least 1 year is needed to a new technology reach it's maturity level.



Answer Choices	Responses
<1 year	0%
1 - 3 year	70%
3 - 5 year	20%
>5 year	10%

Figure 6. How long do you think, a new product reach its maturity level?

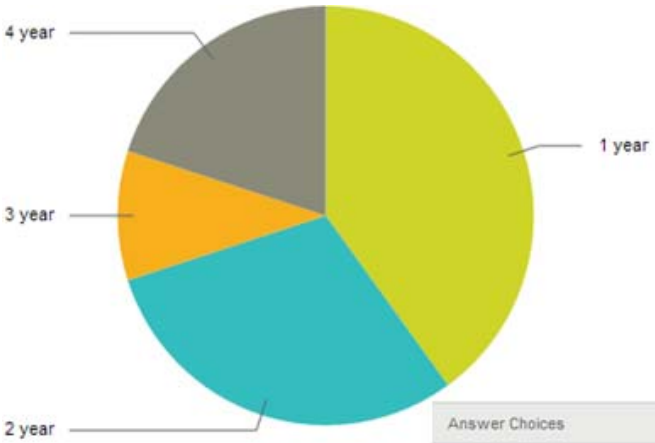
The strong willingness of operator to be leader in technology is also represented from the 70% of them is intended to purchase new equipment without reference from the other operator. It means that operator is willing to take the risk to be a leader in technology with consequences to take a risk in product maturity.



Answer Choices	Responses
Yes	70%
No	30%

Figure 7. Do you intend to buy new product without others operator reference?

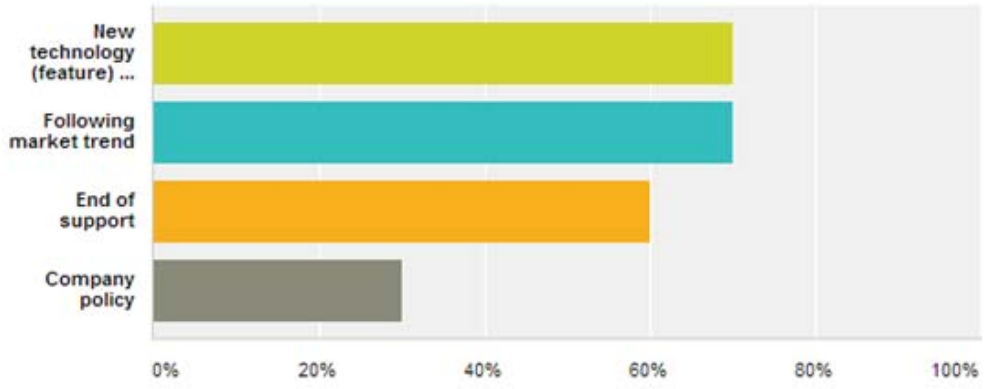
How operators maintain and keep their equipment usage is represented in this result. To maintain equipment they purchase is optimally utilized, software upgrade is necessarily done. Software upgrade will keep the equipment has optimal usage to adopt the new capability of the market demand.



Answer Choices	Responses
1 year	40%
2 year	30%
3 year	10%
4 year	20%
5 year or more	0%

Figure 8. How often do you update the software release in your equipment?

The strategy of the operator to be a leader in technology is inline with their strategy to maintain the new technology it self. 40%% of the respondent believe that upgrade in every year will keep their competitive value and fulfill the market demand. 30% respondent seems prefer to optimize their expense by update the technology every 2 years.



Answer Choices	Responses
New technology (feature) is coming	70%
Following market trend	70%
End of support	60%
Company policy	30%

Figure 9. What is your main consideration to upgrade the software release?

Only 30% respondent has clear policy on the modernization of their technology. While most of the operators consider the driver of the modernization should decide by the market itself. They also consider the maintenance support of the equipment to keep the technology they were using.

Based on the above analysis, this section will defined the proposed new product roadmap release strategy. To accommodate the most demand of customers to provide one new release in a year, Ericsson product roadmap need to adjust their release strategy. The recommendations for the adjustments are: (1) Provide one official release in a year. Official release will be communicated to the customer so they can also plan with the budget and product they have to release. This official release will be used by operator as their baseline technology planning for the next upcoming years. For the product that currently release two official releases in a year, should be wrapped in one release to communicate it with customer. (2) Minor release is still maintained to as the backup release and should not be communicated to customer unless there is major issue on the product failure. Incase of major issue in product failure, the second release for this year should be communicated to customer as the mitigation of the first release. Minor issue of the release can be fixed by the patch to fix the bug of the relegated release.

Figure 10. Example of the Product Roadmap

The consequences of being the innovator and early adopter of a technology are: (1) Risk of unproven technology. Some technology needs to reach its maturity level before it is proven in live usage. It costs a risk that there will a failure in delivery, implementation, and revenue generation. (2) New technology has higher level of price. Another consequence to have new technology in the early release is that the technology still has the high level of prices. It may impact on more budget to acquire this new technology. (3) Rapid product delivery to end-user After spend some budget to invest on technology, stakeholder of the customer will push to generate revenue from this investment. With the new technology customer has the opportunity to define new product or services. The challenge is to deliver the technology in time, and generate revenue as soon as possible. To make a sure that customer will also have benefit from the implementation of the new technology, as partner, technology vendor should also understand and prepare the solution of customer challenge. Some alternative solution and competitor move as the consequences mentioned above are tried to be answered as below table.

Table 1. Alternative Solution of New Technology Implementation

Consequences	Alternative Solution
1. Risk of Unproven Technology	A. First of Application Sponsorship
2. High Level of New Technology Price	B. Pay as You Use and Licensing C. Revenue Sharing
3. Rapid Product Delivery to End-User	D. Reference of the Business Model

4. Conclusion and Implementation Plan

Vendor E proposed new release to the customer with benefit of new feature implementation, which will increase their revenue on voice traffic. To convince customer of the new technology will be applied, Vendor E propose business model for customer references. Licensing scheme is also offered in the proposal, so customer will get lower budget.

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