



# PHILIPS Sweden – From LED to LEAD

## Individual Work Project

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**PHILIPS**



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## **1. Philips Sweden: From LED to LEAD**

### **a) Company**

Philips Lighting is a global market leader with recognized expertise in the development, manufacturing and application of innovative LED lighting solutions. Through the past 123 years it has pioneered key innovation breakthroughs in lighting and it is now aiming to strengthen its leadership position in the LED segment. In Sweden, Philips sells this technology in both business-to-consumer (B2C) and business-to-business (B2B) markets. Its biggest competitor is OSRAM, the second biggest lighting manufacturer after Philips.

### **b) Market overview**

LEDs, or light-emitting diodes, are a highly energy efficient alternative to existent compact incandescent (CFL) and halogen lights. Between many other advantages, they use just 15% of the electricity of a traditional incandescent bulb and have a lifespan of more than 20 years (please see appendix 1 to compare different light bulb's performance). Available with standard bases, which fit common household light fixtures, LEDs are the next generation in home and professional lighting. In 2012, LED accounted for approximately 2 percent of the global lighting market, but is expected to represent 80 percent of the market by 2020<sup>1</sup>. Initially sold at a high premium, the price of these products has dropped worldwide as the technology scaled and new competitors entered in the market. High market fragmentation, low switching costs and low perceived product and brand differences have led to a high degree of industry rivalry worldwide, undermining producers' margins. Particularly in Sweden, the high bargaining power of few and large retailers and wholesalers, has further aggravated this situation.

### **c) Current client situation**

Philips is the current market leader in both B2C and B2B LED lighting markets in Sweden<sup>2</sup>. Whilst the overall LED market was growing at a 16,5% rate, Philips' Sweden sales and market share had been decreasing since 2013, especially in the B2C market<sup>3</sup>. According to the B2B Product Marketing manager, Kim Van-Blessin, and the B2C Product Marketing Manager, Anna Sossi, the roots causes undermining Philips'

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<sup>1</sup> Matt Rogers (2012), "Energy = innovation: 10 disruptive technologies", McKinsey & Company

<sup>2</sup> Corporate meeting, February 2014

<sup>3</sup> Due to confidentiality reasons the team cannot quantify the drop in sales nor market share

competitive position were the Product-focused strategy it had been developing in this country. To defend its market position from the hostile lighting environment, Philips' managers had been solely focused on up-dating product portfolios and, as a consequence, had not developed any market or customer knowledge.

#### **d) Business Project Challenge**

The team identified Philip's current situation as case of "market myopia", explained by Kotler (2010) as "the mistake of paying more attention to the specific products a company offers than to the benefits and experiences produced by these products"<sup>4</sup>. This situation had left Philips' managers incapable of aligning its marketing mix, product, price, place and promotion (the four P's) with customers and market developments and therefore unable being compete. Therefore the project's overall aim was to provide the client with an understanding of the B2C and B2B<sup>5</sup> LED marketplace and its customers' needs and wants, and the development of a customer-centric strategy based on this findings. The objectives were to evaluate Philips' market environment, identify Philip's target customers and understand what these customers require from lighting solutions in terms of product, price, place and promotion. Additional objectives were to identify competitors, evaluate their strategies and suggest subsequent necessary actions by Philips to sustain its competitive edge. The last objective was to develop recommendations to Philips' current marketing mix and align its strategy with the customer and market findings.

#### **e) Summary of conclusions**

The team developed two customer-centric strategies for both markets. For B2C the team identified two target segments for LED (current users and potential users). For B2B the team identified that due to the high volume orders and economies of scale offered, hotel chains with centralized procurement processes (direct or via wholesaler) best served the client's interests. After identifying the targeted customers, the team was able to extensively profile them based on the questionnaires, interviews and observations conducted and give recommendations for Philips to align its marketing strategy with its customer needs (i.e. create a customer-centric strategy).

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<sup>4</sup> Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson Education.

<sup>5</sup> Philips' initial intentions were to focus on both B2C and B2B markets, however the team decided to include only B2B Hospitality due to scope and time concerns.

## 2. Reflection: Developing a Promotion Strategy for “The Good Bulbs”

To create a customer-centric strategy for B2C market, the team had to identify Philips’ target customer. After segmenting the market<sup>6</sup>, the team identified two target segments: the “LED Ambassadors” (current users of LED with a monthly income above 20.000 SEK), and the “Good Bulbs” (current non-users of LED with a monthly income above 20.000 SEK). In order to give recommendations to Philips’ marketing mix, the team created in-depth profiles of both segments and described their needs in terms of the four P’s. The purpose of this reflection is to analyse the promotion strategy developed for the “Good Bulbs”, current non-users of LED products.

### a) Original approach to the topic

The overarching objective behind the customer-centric strategy developed for the “Good Bulbs” was to attract them to buy Philips’ LEDs. Although not using LED bulbs, the team identified that this target would benefit from adopting this technology. It was proven through statistical analysis that its satisfaction increased whenever a light bulb’s energy efficiency and durability increased<sup>7</sup> (please see appendix 2).

Whilst exploring the targets’ needs, the team identified that the “Good Bulbs” did not differ much from the “LED Ambassadors” in terms of the product and place demanded, and therefore recommendations to these marketing mix’s elements were very similar<sup>8</sup>. However, in terms of product communication (promotion) and cost (price) both had very different needs. Whilst “LED Ambassadors” were well aware of what LED light bulbs were and well informed about their major benefits, the “Good Bulbs” felt that available information regarding LEDs was not clear nor convincingly conveyed, and most did not understand its benefits and higher prices over other types of lighting products<sup>9</sup>. Moreover, there was evidence that this target was confused between the differences between LED and other energy-saving light bulbs<sup>10</sup>.

### *Developing a Promotion Strategy for “The Good Bulbs”*

As this customer was majorly lacking product information, the team developed recommendations to Philips’ Promotion to confront this finding. The first strategy consisted in placing Philips’ personalized informational displays in-store, which

<sup>6</sup> Segmentation was based on user-status (LED and non-LED users) and monthly income (<20.000kr and ≥20.000kr)

<sup>7</sup> For 1 unit increase in durability and energy efficiency, satisfaction increased by 0,578 and 0,294 units respectively

<sup>8</sup> Both profiles valued high product variety in-store and demanded high store convenience

<sup>9</sup> On average, a LED light bulb in Sweden costs up to 5 times more than a non-LED bulb

<sup>10</sup> 10% of the questionnaire respondents that mentioned they were buying LED, were buying a ‘swirly shape’ (CFLs)

compared LED's products performance over other conventional lighting solutions and stated how LEDs performed better or equally as the latter. These displays should include monetary savings with specific examples (e.g. number of traditional light bulbs saved). Additionally, the team suggested including a QR code for further information on LED's positive environmental impact. The second strategy consisted in giving monetary incentives to convince this target to move to LED. The team suggested offering promotional discounts on LEDs or bundling Philips' halogen bulbs with LEDs in order to make the target aware of these products.

The objectives of these recommendations were to clarify the most important LED benefits over other traditional light bulbs, reduce customer ambiguity and increase Philips' brand awareness in-store and establish itself as a go-to brand in LEDs. So far, Philips Sweden had not developed any promotional materials to attract non-users.

#### **b) Main limitations of the approach used**

When the team started the business project with Philips, initial intentions did not include the development of customer-centric recommendations to Philips' marketing mix but rather an in-depth analysis of its customers' needs regarding lighting in both B2C and B2B markets. However, at a later stage, Philips' Marketing managers became increasingly interested in having the team to develop strategic recommendations. Due to time constraints, the team was not able to base the abovementioned promotional activities in available academic research, and therefore took a more "intuitive" approach to develop promotional strategies to attract this target. Most recommendations were based on the customer insights acquired whilst studying and observing the target's needs. Consequently, a major limitation of the approach given was the lack of academic studies supporting the promotional recommendations developed.

#### **c) New Approach**

The team should have conducted more research on common barriers to the adoption of market disruptive innovations such as LED lighting<sup>11</sup> and the necessary marketing strategies to overcome these barriers.

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<sup>11</sup>Thomond, P., Herzberg, T., & Lettice, F. (2003, September). Disruptive innovation: Removing the innovators dilemma. In *British Academy of Management Annual Conference: Knowledge into Practice*.

*Disruptive Innovations*

Disruptive innovations are the process by which an innovation disrupts an existing market, eventually displacing an earlier technology (Christensen, C. 2013). LEDs are the future of lighting and are expected to disrupt the traditional light bulb sector and its supporting industries no later than 2020<sup>12</sup>. The importance of studying their market acceptance derives from the fact that even though considered necessary and desirable, it has been proven that disruptive innovations tend to encounter great customer resistance and are one of the major causes of innovation's market failure (Ram, 1989). Likewise, the team concluded that despite benefiting from the usage of LED products, the "Good Bulbs" were not a current customer of this technology. In the following section it will be explained how the team could have supported the promotional strategies created to attract this target on relevant academic studies.

*A Promotion Strategy For The "Good Bulbs" Supported By Academic Research*

Ram, S., & Sheth, J. N. (1989) identified two types of barriers that explain why customers tend to resist to the adoption of disruptive innovations. Those are functional barriers and psychological barriers. Functional barriers relate to three factors: product usage patterns, product value and risks associated with product usage. Psychological barriers arise from two factors: traditions from the customers and perceived image.

*Functional barriers: Usage barriers*

Customers evaluate the usage of a new product while estimating the required behavioral change as compared to the usage of existing products as a reference point (Kuester & Hess, 2009). Naturally, if customers perceive that product innovations will require changes in their behaviors, customer acceptance will require more time.

The team identified that Socket Fit and Color of Light were two important attributes that the "Good Bulbs" took into account when buying a light bulb. Philips' LEDs fit most common household light fixtures. Furthermore they present great color variability, meaning that they can look a lot like the color of light of traditional incandescent bulbs (known as "warm white"). The team intuitively recommended Philips' to mention in its informational displays that those two characteristics would not change whenever a customer moved to LEDs.

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<sup>12</sup> Matt Rogers (2012), "Energy = innovation: 10 disruptive technologies", McKinsey & Company

The fact that the customers tend to estimate the behavioral shift according to existing products, has underlined the importance of emphasizing the LED's attributes that perform the same as traditional bulbs. Since behavioral shifts are likely to represent a barrier for this target, similar attributes should be highly emphasized in Philips' selling tagline/slogan. In addition, Philips' could display both types of light bulbs in-store so that customers could compare and assess themselves the performance of LEDs color of light and socket fit with other types of bulbs.

***Functional barriers: Value barriers***

Unless an innovation compromises a strong performance to price compared with product substitutes, the customer will see no reason to change (Ram, 1989). To reduce value barriers, it is not sufficient to assist customers in understanding the absolute benefits of new products' features; a company has to communicate the relative product benefits (Ram and Sheth, 1989).

As mentioned, LEDs are a highly efficient energy lighting solution and can last up to 18 years whilst light bulbs with halogen technology last up to 1 year<sup>13</sup>. They are also the highest priced bulbs<sup>14</sup>. Intuitively, the team advised Philips' to create informational displays and compare LEDs benefits over attributes of other light bulbs types.

The fact that customers evaluate innovation performance based on existing products, leads to the importance of stating the relative performance of LED technology on the abovementioned informational displays to create a strong positioning in-store. Additionally Philips' should also clearly state added benefits of LED over other high efficient bulbs (CFLs) to better convey its product's value<sup>15</sup>.

***Functional barriers: Economic Risk barriers***

The higher the cost of innovation, the higher it is the perceived risk (Ram, 1989). Whenever innovations pose a high risk, customers tend to postpone adopting an innovation until they can learn more about it (Ram, 1989).

LEDs cost up to ten times more than non-LED bulbs<sup>16</sup> and as a consequence people might be postponing the decision to buy LEDs until they have better price tags.

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<sup>13</sup> Please see appendix 1

<sup>14</sup> Please see appendix 1

<sup>15</sup> Taking into account that there is evidence that this target might be confused between these technologies: 10% of the questionnaire respondents that mentioned they were buying LED, were buying a 'swirly shape' (CFLs)

<sup>16</sup> Please see appendix 1



Consequently, the team advised Philips to offer monetary incentives for this target to move to LED: price discounts and bundling were two strategies mentioned.

The fact that customers might be waiting for better price tags to adopt this technology supports the importance of giving monetary incentives to this target. Instead of just lowering prices, Philips should make use of promotional sales in order to make them aware of those rebates. To increase visibility, it should also feature its LED products on special promotional shelves and on the ends of aisles.

### ***Psychological Barriers: Tradition Barriers***

Customers tend to resist innovations that require them to move from established traditions, and the greater the deviation, the greater the resistance (Ram, 1989)

Using LED light bulbs does not imply that customers have to consciously break established traditions. Customers do not even make great product considerations about light-bulbs – their “tradition” is to buy a product that is readily available and familiar to them (Kotler, 2010). However this also presents a threat to LED adoption: customers are unlikely to move to this technology if it is not highly available and they are not highly aware of it. They are unwilling to travel large distances or conduct extensive research to make a purchase.

This finding supports two recommendations given to Philips’ marketing mix: the first is that Philips has to intensify LED distribution and ensure product variety in-store<sup>17</sup> and the second is that it needs to educate its consumers and make them highly aware of LED bulbs. The latter conclusion underlines the importance of the abovementioned strategies to attract this profile. Additionally, a good way to increase LED penetration and break the tradition barriers is to resort to government regulation (Ram,1989): although all non-efficient incandescent bulbs have been banned from the European Union in 2012<sup>18</sup>, LED adoption has little direct government support in the consumer sphere. Philips’ should look for greater governmental funding and advertise the notable environmental and cost advantages of LED over other energy saving technologies<sup>19</sup>.

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<sup>17</sup> Currently, Philips Sweden has a national LED cover of 19% whilst OSRAM has a national cover of 79%. One of the team recommendations was to intensify distribution and product variety in-store.

<sup>18</sup> Authors of European Commission. (N.d) *Better Light With Less Energy*. In European Commission.

<sup>19</sup> Vogler, Wee, and Wunderlich (2011) “LED at the crossroads: Scenic route or expressway?”

***Psychological Barriers: Image Barriers***

Innovations attain a certain identity from the product class or industry which they belong or the country in which they are produced (Ram, 1989). If these associations are unfavorable, the customer develops a negative image about the product (Ram, 1989).

LEDs are associated with energy-efficient and environmental friendly technologies and Swedes generally have positive images about them. Sweden is seen as a very environmentally conscious society: Sweden ranks first in the EU in consumption of organic foods, leads the way in recycling drinks cans and bottles, and gets the highest share of its energy from renewable sources<sup>20</sup>. Furthermore, the country was ranked ninth in the world on the Environmental Performance Index (2014)<sup>21</sup>. Indeed, the team advised Philips to provide a QR code in its informational displays to provide further information on the LED positive environmental impacts. The fact that it has been proven that innovations attain a certain identity from the product class they belong to, supports the need to take advantage of LEDs positive image to incentivize product penetration in Sweden.

**d) Conclusion**

By acquiring a more broad understanding of customers' barriers to the adoption of disruptive innovations, and supporting its ideas not only on the research conducted but also on published academic journals, the team would have better conveyed its arguments and underlined the urgency of these actions to attract the "Good Bulbs". Although it was possible to conclude that in the end, the team's recommendations were extremely aligned with what has been found in the academia, there were some arguments which could have been even more aligned with the targets' needs. Those were the need to put greater focus on the LED light bulbs' attributes that perform equally as traditional bulbs (break usage barriers), emphasize relative LED light bulb performance and additional benefits over other types of energy saving bulbs (break value barriers) and the need to make Philips' LED promotions highly visible in-store (break economic barriers). Additionally it was concluded that Philips' could also benefit from displaying side-by-side both LED and halogen and CFL bulbs (break usage barriers) and looking for greater governmental support (break tradition barriers).

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<sup>20</sup> Authors of Sweden. (March 07, 2014) *Sustainable Living in Sweden*.

<sup>21</sup> Hsu, A., & Al. (2014) *2014 Environmental Performance Index Full Report and Analysis*. In Yale Center for Environmental Law & Policy.

### 3. Reflection on Learning

#### a) Previous knowledge learned from Masters' program

Theoretical tools were used in all phases of the project process to structure and ensure that important aspects were accounted for. At first stage the team needed to understand Philips' environment. The team used the *Porter analysis*<sup>22</sup> to identify and understand the drivers and forces in the client's industry and later to test the feasibility of recommendations. Moreover, the team also made use of the PESTEL framework<sup>23</sup>. The model was used to map the macro-environment and understand overarching trends in the client's environment that later could be capitalized on. To develop a customer-centric strategy the team based itself on Philip Kotler's *Marketing Process*, the process by which a company creates and captures value from customers in return. The first stage of this process consisted in understanding Philips customers' needs and wants: the team used the *Consumer and Business buying behavior model*<sup>24</sup> to design the questionnaires for B2C and B2B. The second stage consisted in designing a customer-centric strategy. The main objective was to identify which customers should Philips' serve: the team used *Segmentation* in order to divide the market into smaller segments with distinct needs, characteristics, or behaviors and *Targeting*<sup>25</sup> in order to evaluate each market segment's attractiveness and identify the target customers. Lastly, the team used the *Marketing Mix*<sup>26</sup> framework to translate business insights from the research and analysis conducted into actionable recommendations.

#### b) New knowledge

The Schein's *Model for stakeholder analysis*<sup>27</sup> was used to identify the root causes of Philips' problem and make sure that all individuals or groups concerns were taken into account when recommending courses of action (please see appendix 3). Lundeberg's *X-model*<sup>28</sup> was used to provide a comprehensive understanding of how the current situation can be linked to the project objectives. This helped in understanding the intended chain of events for the project and making sure there was an alignment between people and task results and effects (please see appendix 4). The Lundeberg's Y-

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<sup>22</sup> Porter, M. (2008). The five competitive forces that shape strategy. *Harvard business review*, 86(1)

<sup>23</sup> BusinessMate. (2009). *What is the PESTEL framework*.

<sup>24</sup> Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson Education.

<sup>25</sup> Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson Education.

<sup>26</sup> Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson Education.

<sup>27</sup> Schein, E. (1997). The concept of "client" from a process consultation perspective pp.202--216.

<sup>28</sup> Lundeberg, M., Mårtensson, P. and Mähring, M. (2006). *IT & business performance*.

*model*<sup>29</sup> complemented the X-model by providing an understanding of how the project should be approached. Further, it helped in understanding the changes needed in order to have Philips moving from the current to its intended future situation (see appendix 5).

**c) Personal experience**

My biggest contribution to the project was to understand the value of continuous and extensive communication with the client. This not only ensured that the process did not deviate from the pre-stated objectives and the client's desires, but most importantly, it helped to build trust to gain answers to critical questions. For example, although not scheduled, I suggested conducting a mid-project presentation in order to present major findings of our research. Not only had it allowed identifying gaps in the work already done, it also increased the client's involvement and willingness to share confidential information. On the other hand, I have identified my intentions to conduct as many consumer and market analysis as possible, as one of my biggest weaknesses. As a consequence, the team had to evaluate all the research methods considered, and identify those which generated the highest benefit/cost relationship; otherwise the project scope would have jeopardized the project. This has highlighted the importance of being realistic about the action plan developed and clearly identifying the objectives, results and effects of each task conducted in order to safeguard the projects' efficacy. It is important to accept a certain amount of uncertainty in early phases of the project and take some time to evaluate the alternative paths for delimitation of the project scope (Pär Mårtensson, 2003).

**d) Benefit in hindsight**

What has added the most value was the team's capability of transforming the research findings into actionable recommendations for Philips' marketing mix. The team did not just provide information about Philips' target customers; it was able to tell a story about their needs without overwhelming the managers with too much quantitative data. Looking back, the team learned that especially the B2C questionnaire could have been more user-friendly. When initiating the project, the team had very limited knowledge about LED lighting. Over time, the team members became experts on this matter, making it difficult to communicate with end-user without using jargon. The team concluded that the language should have more adjusted to target audience in order to communicate effectively.

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<sup>29</sup> Lundeberg, M., Mårtensson, P. and Mähring, M. (2006). *IT & business performance*.

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## Appendix 1. Light Bulb Performance Comparison

Incandescent bulbs are banned from the European Union since 2012. They are present in this table to access performance of the three types of bulbs allowed in the EU: Halogen, CFLs and LEDs.

**Table 1: Light Bulb Performance Comparison**

Characteristics	60-Watt Incandescent (banned)	Halogen	Compact Fluorescents (CFLs)	Light Emitting Diodes (LEDs)
				
<b>Price per bulb</b>	7 kr	7 Kr -17kr	10 Kr-44 Kr	70Kr-140Kr
<b>Life span</b> (hours)	1,200	2,000	8,000	50,000
<b>Life span*</b> (months/years)	6 months	1 year	3 years	18 years
<b>Wattage Power per generated light output</b> (60W Equivalent)	60	43	13-15	9-12
<b>Light Output</b> (Lumens)	630-860	565-750	740-840	570-830
<b>Sensitivity to Low temperatures</b>	some	some	yes	no
<b>Turns on instantly</b>	yes	yes	no	yes
<b>Hazardous materials</b>	no	no	yes: 5 mg mercury/bulb	no

\*assuming an 8 daily hours usage

## Appendix 2 – Regression Analysis “The Good Bulbs”

(current non-users of LED with a monthly income above 20.000 SEK)

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	0,45	1,251			0,36	0,721
Price	-0,04	0,131	-0,041		-0,305	0,762
Attractiveness (package)	0,019	0,21	0,013		0,09	0,929
Size (package)	0,119	0,251	0,078		0,474	0,638
Product protection (package)	0,009	0,197	0,007		0,047	0,963
Informativeness (package)	0,044	0,147	0,037		0,299	0,766
Storage convenience	0,11	0,212	0,096		0,518	0,608
Transportation convenience	-0,231	0,203	-0,192		-1,14	0,261
Energy Consumption	0,294	0,163	0,236		1,809	0,078
Attractiveness	-0,226	0,212	-0,22		-1,067	0,293
Size	0,623	0,219	0,621		2,841	0,007
Brightness	-0,06	0,155	-0,054		-0,386	0,702
Operating temperature	-0,236	0,174	-0,187		-1,359	0,182
Color	0,08	0,106	0,099		0,753	0,456
Durability	0,578	0,138	0,546		4,185	0
Dimmability	-0,066	0,07	-0,119		-0,943	0,351
Frostedness	0,044	0,083	0,067		0,537	0,594
Warm-up time	-0,039	0,119	-0,046		-0,325	0,747

Dependent Variable: What is your overall satisfaction with that lamp performance?-Overall satisfaction



**Appendix 3 – Stakeholder’s analysis B2C and B2B****B2C**

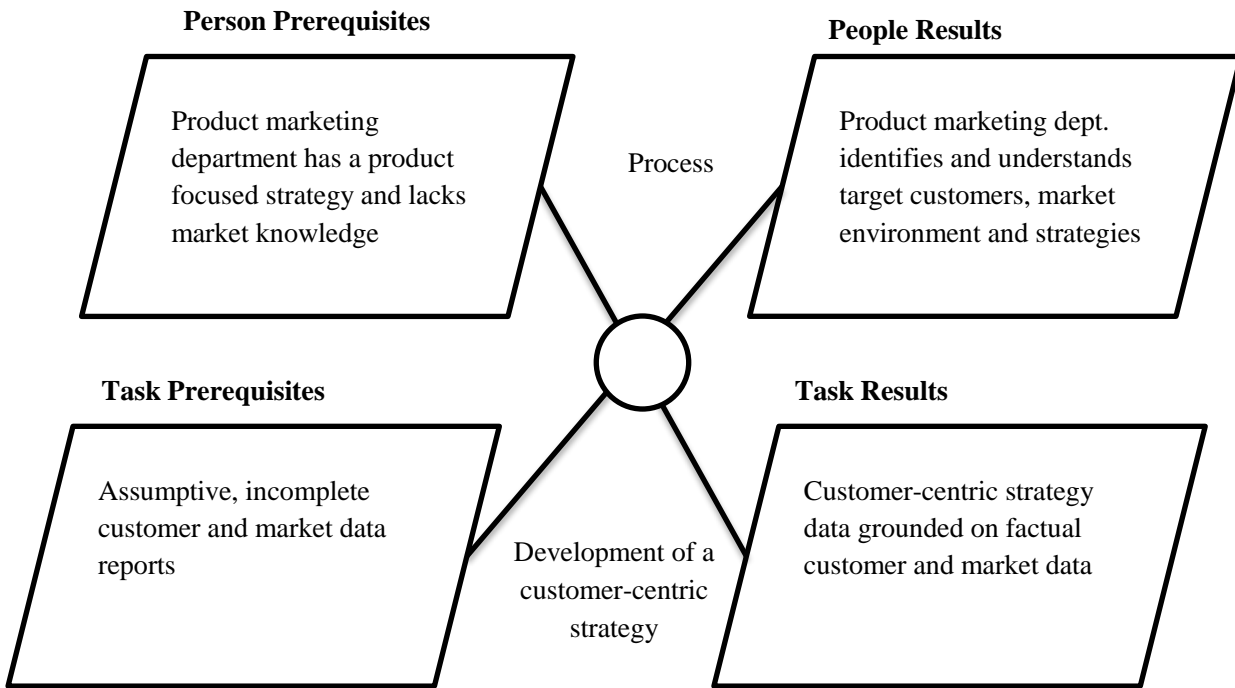
Stakeholders B2C	What is the problem?	Why is it a problem?	Solution
Anna Sossi	Sales are not meeting stated targets	Lacking resources to keep up with the market developments	More resources to conduct market research and align strategy with consumer insights
Philips CPM team	Sales are not meeting stated targets	Market activities are not consumer-oriented enough	Execute HQ’ s conceptualized market activities
Philips HQ	Sales are not meeting stated targets	Market activities are not consumer-oriented enough	Execute HQ’ s conceptualized market activities
End-consumer	N/A	N/A	N/A
Academic dep.	N/A	N/A	N/A

**B2B**

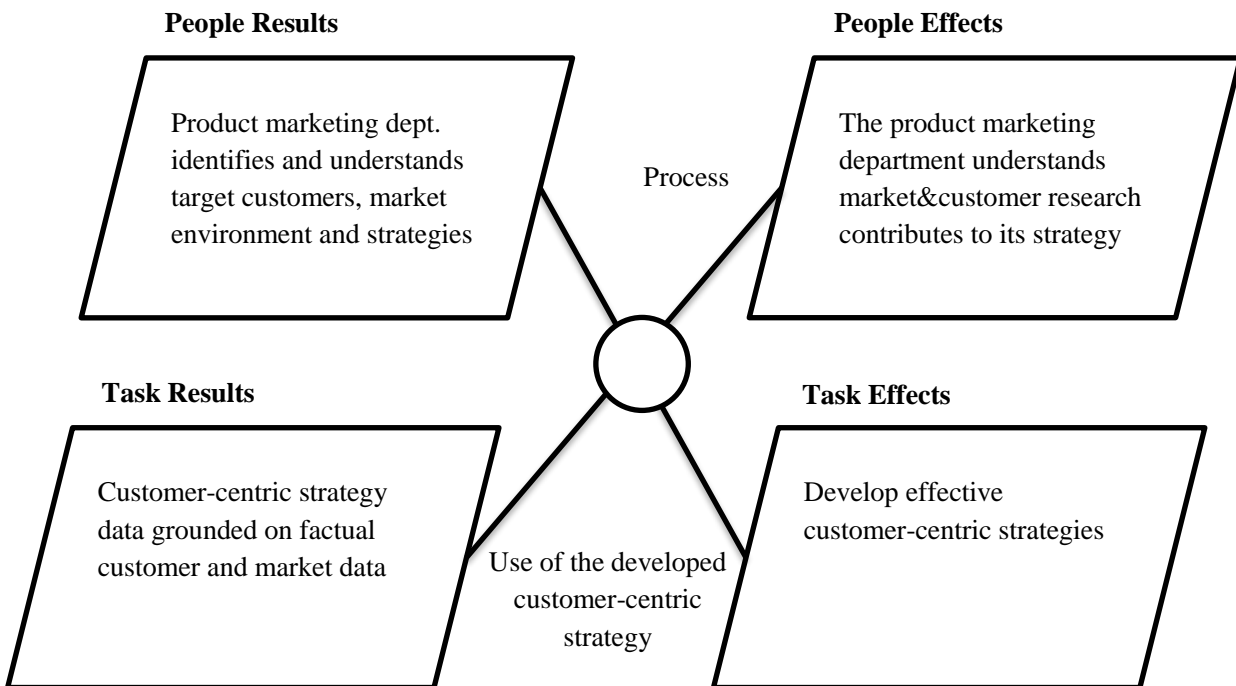
Stakeholders B2B	What is the problem?	Why is it a problem?	Solution
Kim Van-Blessin	Price war between manufacturers in the market and too many product updates, making buyers confused	Disruptive innovation in the industry and cost-based pricing as a mean to compete in the market	Strengthen relationship building with wholesalers in order to avoid price-orientation
Philips HQ	Sales are not meeting stated targets	Product trends in the market are not being followed	Avoid price war and adhere to observed product trends
End-customer	N/A	N/A	N/A
Academic dep.	N/A	N/A	N/A

**Appendix 4 – The Lundeberg’s X’s Model**

**Figure 1: Philips’ X-model - Person and Task Results**



**Figure 2: Philips’ X-model - People and Task Effects**



**Appendix 5 – The Lundeberg's Y model**