Universidade do Minho

7th International Conference on Industrial Engineering and Industrial Management
Valladolid, July 10-12, 2013

Market Oriented New Product Development Process: a Case Study

Manuel Lopes Nunes
Paulo Sérgio Lima Pereira Afonso
Production and Systems Department | School of Engineering | University of Minho (Portugal)
Motivation

- The development of new products is related with strategic management, engineering, marketing and other disciplines.
- The process of new product development (NPD) became more strategic and market oriented.

- Market orientation means moving from the traditional market-driven to the new driving-market approach.

- Such approach asks for a different leadership of the NPD process, higher coordination amongst departments and areas of knowledge (marketing, sales, accounting and engineering areas)
- that may share common concerns, objectives and tools during the NPD process but that also have different approaches, tools and objectives which should be balanced.
Motivation

Market orientation and NPD has attracted considerable attention in the marketing literature, several important questions require further examination.

On the other hand, majority of prior research merely studies the relation between market orientation and NPD through quantitative research, such as negative or positive, direct or indirect relation.

Thus, there is limited research on how and why market orientation affects NPD.
Market orientation

Market orientation is about putting the customer first in business planning (Kohli and Jaworski, 1990).

Some researchers stated market orientation as the process of obtaining information from the marketplace (customers, competitors, supply chain partners, and environmental trends).

Hunt and Morgan (1995:11) define market orientation as:

1. systematic information on customers and competitors, actual and potential,
2. the systematic analysis of the information developing market knowledge,
3. the systematic use of such knowledge to guide strategy.
Market orientation

(Lafferty and Hult, 2001) market orientation embraces four areas:

(1) an emphasis on customers;
(2) the importance of shared knowledge (information);
(3) Inter-functional coordination of marketing activities and relationships;
(4) being responsive to market activities by taking the appropriate action.
Market driven vs driving-market orientation

Market orientation (or being market-driven) has been mentioned as too reactive…

Thus, the literature has been proposing two forms of market orientation - market-driven and driving-market approaches (Jaworski et al., 2000; Beverland et al., 2006).

When using a market-driven approach, businesses adopt a reactive stance and focus on trying to learn, understand and respond to stakeholder perceptions and behaviour (customer, competitor, owners, managers and employees) - Jaworski et al. (2000).

On the other hand, a driving-market approach involves proactive strategies which change the structure of the marketplace or the rules of the game (Jaworski et al., 2000). Driving-market involves leading customers rather than offering in response to customers' requests (Beverland et al., 2006).
Market driven and Driving-market orientation in NPD

Both have a market and a competitor focus, producing ideas from the marketplace (Beverland et al., 2006).

Market-driven approach have a focus on incremental product changes driven by feedback from business buyers and end-consumers (Beverland et al., 2006).

And firm with a focus on radical business innovation is better described as having a driving-market orientation - Kumar et al. (2000).

Organizations using a driving-market strategy in NPD do not only try to meet customer needs but also search for products that pioneer new markets.

Driving-market strategy entails high risk, but also offers a firm the potential to revolutionize an industry and obtain vast rewards (Kumar et al., 2000).
Universidade do Minho

Conceptual Framework of How Market Orientation occurs in NPD
### Two approaches

<table>
<thead>
<tr>
<th>Four areas</th>
<th>Market-driven</th>
<th>Driving-market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying customers’ needs</td>
<td>Emphasizes feedback from customers and the response to customers’ current needs (Narver et al., 2000).</td>
<td>Emphasizes a deeper insight into both the expressed and latent needs of customers (Narver et al., 2000), and gives rise to new customers (Hamel and Prahalad, 1994).</td>
</tr>
<tr>
<td>Collecting information</td>
<td>Information based on the understanding of the strengths and weaknesses of firms’ competitors, and information from monitoring competitors’ actions and investigating competitors’ supply-chain partners (Laffery and Hult, 2001).</td>
<td>Requires further information by shaping the behaviour of competitors (e.g., firms set the alliances, and cooperate with competitors) (Sarasvathy, 2001), and by changing the structure of industry (Jaworski et al., 2000).</td>
</tr>
<tr>
<td>Inter-functional coordination</td>
<td>Makes the market department take the responsibility for all departments in the organization (Kohli and Jaworski, 1990).</td>
<td>Technology department plays a much more important role (Kumar et al., 2000). Early manufacturing inputs could repress creative ideas (Swink and Song, 2007).</td>
</tr>
<tr>
<td>Taking action</td>
<td>(no differences) All departments need to be responsive, such as designing, producing, promoting and distributing products (Kohli and Jaworski, 1990).</td>
<td></td>
</tr>
</tbody>
</table>
Case Study

Case study is an approach that helps in exploring a contemporary phenomenon in its real life context (Yin, 1994).

Research question: this study is trying to figure out how marketing orientation is carried out in NPD and how marketing orientation affects NPD. Specifically, the indication of this research is to go deeper into the relationship between market orientation and NPD.

Company: Freeze Industry is a SME that has its own marketing department and NPD department. Moreover, Freeze Industry SA used to develop new products based on market demand and its own innovative capability.
Universidade do Minho

Research Method

- According to Yin (1994), interviews are the primary way, and it is one of the most important sources for a case study.
- Authors developed an interview guide based on the theoretical framework.
- The data was mainly obtained from the interviewees with the Sales responsible, Marketing manager, R&D responsible and other managers.
- After the interview, the authors listen recorded interviews several times and transcribe all the data onto several pages, then authors break down the data, examine, compare, evaluate, conceptualize and categorize data, and discussed with each other, and then the data was compiled into a fewer number of pages of text. Accordingly, authors have analysed the empirical data combined with the literature.
- In addition, the report was sent to the company for examination.
- As secondary data, the authors collected data from the firm’s official website, internal documents, as well as from the news and reports about the company.
The Company

Freeze Industry is a Portuguese family company dedicated to the production of refrigerators and other refrigeration equipment for domestic, commercial and professional use.

Freeze Industry was started in 2008 and resulted from two firms with twenty years of experience which were leaders in their respective markets.

They have a high commitment to product and service quality as well as the well-being of all collaborators.

This company aims to consolidate its leadership in the Portuguese market and be one of the principal manufacturers of refrigeration products at European and World levels.

Freeze Industry intends to be a reference in the refrigeration sector, through the recognition of its technical and service provision capacity. Technically, production flexibility and reduced delivery time are strong points in the service provided by the firm.
The Company

The company’s strategy is focused on emerging markets, especially Africa, through the creation of conditions for direct distribution to their clients.

It also focuses on professional refrigeration and the ever-increasing projection of its brand, Freeze, in the markets where it is present; particularly, in their main markets which are Africa, Europe and the Arab world.

To support this strategy, new and modern facilities (namely a new production plant) were constructed in the North of Portugal.

Recently, Freeze Industry concluded an investment of 22.6 million Euros to expand the production capacity. This expansion will allow the group to increase exportations, reinforce sales of its own brand and launch new brands in the market.

This investment is part of an operational restructuring of Freeze Industry, which involved the closing of two factories, whose activity was transferred to the new facility. The two companies produced 150 thousand units per year and this new facility will produce between 640 to 650 thousand units per year.
Products

The company produces chest freezers, combined refrigerators/freezers, refrigerators and upright freezers; and other cooling.

The company offers products recognized for their excellent value for money and technical service in the all markets were they are present in.

This implies an intense effort in the development of solutions that are adapted to their clients’ needs and with performance characteristics that should fit the diverse and demanding clients around the world.

On the other hand, beyond the common refrigerators and freezers, the company develops, produces and commercializes more sophisticated products such as wine coolers, refrigeration units for the pharmaceutical industry and professional refrigeration systems.

Recently, the company is focus on chest freezers of high-energy efficiency. These new products should be recognized by their high-energy efficiency associated with design – this represents a change!
Universidade do Minho

Analysis of Findings

In this company, there is a Strategic Marketing Manager is responsible for the market analysis, competitor analysis, brand management and communication.

In the case of Freeze Industry, their efforts to design a new innovative product of high-energy efficiency (an A+++ product) show how different the market-driven and driving-market approaches are different.

These differences are summarized in Table 2 and they can be expressed in the before mentioned three domains: customer orientation, competitor orientation and interfunctional coordination.
### Table 2: Findings summary

<table>
<thead>
<tr>
<th>Task</th>
<th>Market-driven (The traditional approach)</th>
<th>Driving-market (The new A+++ product)</th>
</tr>
</thead>
</table>
| **Identifying customers’ needs** | - Led by **clients**  
  - Through the eyes of clients and business partners                                                  | - Led by Marketing department/CEO  
  - Through direct data from consumers and from market studies  
  - Technologically and strategically aligned                                                             |
| **Collecting information**  | - Led by **Sales** department  
  - Using **common** suppliers and common clients to obtain information about competitors  
  - Using **free** available data                                                                      | - Led by **Marketing** department  
  - **New sources** of information are needed  
  - Through a benchmarking exercise of the competitors                                                   |
| **Inter-functional coordination** | - Led by **R&D** department  
  - **Reduced** and **late** internal inter-functionality  
  - **Reduced** clients’ and suppliers’ contribution                                                   | - Leadership is **not clear** and it may be shared but R&D department remains central  
  - The **NPD process turns more complex with more and earlier contributions**                     |
Customer Orientation

The company has a geographic segmentation with its main markets in Africa, Europe and Arab World.

Traditionally, Freeze Industry follows a market-driven approach.

According to the Sales manager “production system is very flexible permitting several product combinations” and they “are able to adapt easily their products to market needs”.

Thus, their NPD has been essentially reactive and pushed by their clients’ suggestions and by client’s perceptions of customers’ needs.

The firm makes some incremental improvements in their products - “usually the company reacts to the market” (R&D Responsible).

Their clients have also suggested new product lines. For instance, “the client asked for a new line of products with 60 cm doors and we developed an entire line of these products” (R&D Responsible).

*The A+++ project (a new freezer)*

Intends to anticipate market needs, clients requests and competitors solutions. This a new product aligned with strategic and technological objectives and the CEO putted it in the NPD agenda. Thus it is pushed by the inside of the company, the marketing department assumes the leadership in terms of costumer analysis and intends to collect direct data and to use information from market studies. It is a completely different approach.
Competitor Orientation

Freeze Industry SA makes a regular estimation of competitors’ costs and product attributes through reverse engineering.

Furthermore, they analyse competitors’ activities according to common suppliers and mutual customer’s information.

Competitors’ strategies, technologies and market approaches recognized as cost-effective are analysed, particularly “competitors strategies and product technologies” (Strategic Manager).

Strategic Manager stated that they “have a sales and marketing department with that responsibility. […] We purchase competitor new products to study their structure and technology. […] We have competitor monitorization in world shows and exhibitions”.

According to the Strategic Manager, they consider this competitor information when making product/service decisions “very important for […] decisions [in terms of] costs and product structure.

The A+++ project Has been asking for a different approach. New sources of information are needed and consultants’ advice may be important. The company recognizes that they must collect information directly from their clients and that there is necessary a benchmarking exercise of the direct competitors.
In this case study, clients contribute in the beginning of the process with their suggestions and the “voice of the customer” and receive feedback just in the end of the NPD process (after product industrialization).

Just a very few number of suppliers may contribute to the NPD (and those are usually moulding and materials suppliers). The other departments of the company collaborate in the end of the NPD process (after product development).

Purchasing and production are asked to participate just in the product industrialization stage, before the first production series.

The A+++ project

The NPD process turns more complex with more and earlier external and internal contributions, i.e. from suppliers and from the other departments.

The CEO approval is very important and he should validate the initial production cost estimative. A target costing could be followed to deal with this augmented complexity but it is not a possibility in this case.
Conclusions

The analysis shows that when the firm develops a new product, it follows four steps after choosing the market-driven or driving-market approach:

- identifying customers’ needs, collecting the information, inter-functional coordination and taking action.

How market orientation affects NPD in the enterprise is explored from these steps towards two approaches.

For the first step (identifying customers’ needs) the market-driven product requires the firm responding to customers’ feedback and monitoring customers’ current needs.

For the driving-market product, it needs the firm’s deeper insight into not only customers’ current needs, but also customers’ latent needs in order to create new customers.