
APS1012 Management of Innovation – Final Team Projects, Fall 2010**Innovation in the Product Development Process****Objective**

Discuss the innovative New Product Development (NPD) process by first defining its different phases, then describing the different methods used within NPD, including Voice of Customer (VOC).

Research and describe case studies that show how the market can directly and indirectly affect NPD. Consider how intrinsic factors within a firm affect NPD, and evaluate and explain the roles of engineers and industrial designers. List the best practices in new product development by looking at award-winning companies and the practices they use.

Address the following objectives:

- How the actual customer is identified
- Identify the means of contact with customers (how to capture VOC)
- How to interpret VOC
- The role of engineers in NPD, compared to the role of industrial designers
- The importance of organizational structure in innovative product development
- Relationship between engineers and industrial designers, artists, and customers
- Lessons learned: good and bad
- Implication of findings
- Recommendations

Summary

The basic concepts of New Product Development (NPD) are outlined. Different development methods and NPD processes are discussed. The phases of product development such as planning and front-end-development are reviewed, as are other product development methods including technology-push and market-pull.

One of the most important aspects of product development is the identification of customer needs, which are classified according to Kano's model. Voice of Customer (VOC) is an effective method to gather reliable and applicable information from selected customers once the market segment has been defined. The methods used to interpret and analyse the information collected by VOC are described.

The Herman Miller "Aeron" chair is presented as an example where designers interpreted the users' requirements on a deeper level: The true needs were identified as ergonomics and recyclability. Other case studies from the dynamic field of IT indicated that customers sometimes tell the NPD team more with their behaviour than their speech, and that data mining can be used to reveal patterns in the shopping habits of consumers. Examples of successful product development by Google and Apple are examined.

The intrinsic characteristics of firms affect their NPD processes as well as their application of VOC. These characteristics include orientation, participation, influence and timing of product definition. Each of these factors are considered separately and then connected together to form a bigger picture. The way departments and personnel participate is dependent on their level of influence, which is also dependent on the company's orientation. Engineers and industrial designers are contrasted and compared with each other; the two complement each other and the value of each role can be seen in successful products.

The attributes and successful practices of award-winning companies are presented. Taking a product to the next level requires incorporation of new technology and market research (VOC and trends), correct interpretation of market data, reinventing the company image if it is not already strong, and involving all departments from the design stage.