

Foresight, Innovation and Design

미래예측을 포함한 디자인혁신 방법론에 관한 연구

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1. Introduction

World class corporations such as Samsung, MicroSoft and Amazon offer something in common in their product and service strategies. BC Lee and KH Lee of Samsung got never satisfied with their current status quo of the products and services at their peak in the market place. They kept innovating and introducing new products. While they enjoyed textile and sugar business, they saw the semi-conductor opportunity in the 1970's and grabbed and launched it. When Bill Gates saw an opportunity in PC software industry, he left the Harvard University to grab the opportunity and launched the MicroSoft. So did Jeff Bezos of Amazon. Jeff, a graduate of Princetone, was a rising star in Wall Street investment banking industry. But when he saw the Internet potential as a new distribution channel, he left the job and started the Amazon, an Internet book store. All of them embarked on the Opportunity Share rather than Market Share, Getting more MS means visible, practical immediate profit and predictable. Getting Opportunity Share means not clearly visible, grabbing future opportunity predictable and imaginative sales and profit perspective. In this paper, a New Product Development strategy and methodology are presented to encompass the future trend.

2. Background

The best products are designed in a way that connects with the lifestyle and values of intended customers. The current level of the services that products provide to the customers were designed and developed to satisfy the lifestyle and values of the customers in the past. The present and future Trend motivate the customers with needs of lifestyle change and increase of expectation level of perceived value of the products. This leads to Product Opportunity Gap (POG) and new market segments.

The trend is formed by the change in Political, Environmental, Social, Technological and Economical (PESTE) factors. Scanning the changes of PESTE factors leads to new trend and foresight that result in new Product Opportunity that satisfy the

needs of lifestyle change and value system change for the customers.

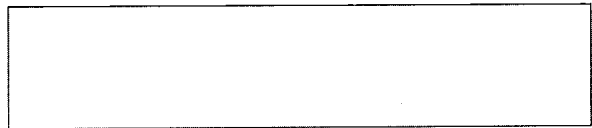
NPD Strategy process is modeled by scanning PESTE, understanding Trends, finding Product Opportunity, refining POs into Value Opportunities that contribute to overall experience of the product, translating the VO's and their attributes into design of new products matching current trends.

3. Product Opportunity and PESTE

3-1. Product Opportunity

As in Figure 3-1, the current service level of present market is below the expected service level of customers, who have been exposed to various trend due to rapid changes in the environments they are in.

소비자 기대수준 or Unmet Needs ← Trend via PESTE (at T + t)



현재 제품/서비스 ← Reflecting PESTE (at T)

[3-1] Product Opportunity Gap

3-2. PESTE

However change in PESTE provides better clues to future trend and future customer values. PESTE can be summarized as ;

Political factors focus on global political environment;

- Militant Islam gain power,..

Environmental factors focus on ecological destruction,

- Water shortage trend, garbage clut,..

Social factors focus on cultural & social interaction

- Family and work patterns. health issues,..

Technological factors focus on results from scientific discoveries and implied capabilities

- Nano and Bio technology, New materials ,...

Economical factors focus on excessive income people perceive they have, or expect to have,..

- Psycheconometrics,...

4. Customer Value system

4-1 Shifting of Customer Value

Perceived value of people changed in the past. For example, in 60's and 70' everybody had lar sa long hair style, may be due to Beatles and other poputar celebrities. Now days many men have a bald hair style, may be due to Mike Jordan and other sports celebrities.

4-2. Product Opportunity

- When Philips saw the trend of bald hair style, they introduced 'Head Blade' which became an immediate success in the market.
- Like wise, whenever there are gap between the service level of product in the current market and the expected service level of customer due to new trend, there is a new product opportunity gap, which leads to innovation and/or new product development. The perceived value of customers has shifted.

4-3. Customer Value Attributes

- The value quadrant was defined by Cagan and Vogel, and we utilize their value system analysis in this paper.
- 7 attribues of Customer Value and sub attributes were defined for each attribute.
- Emotion,Aesthetics, Identity, Ergonomics,Impact, Core Technology, Quality contribute overall experience of product and relate to value characteristics of Useful, Usable and Desirable.

		Low	Med	High
EMOTION	adventure			
	independence			
	security			
	sexuality			
	confidence			
ERGONOMICS	comfort			
	safety			
	ease of use			
AESTHETICS	visual			
	auditory			
	tactile			
	olfactory			
IDENTITY	point in time			
	sense of place			
	personality			
IMPACT	social			
	environmental			
CORE TECH.	reliable			
	enabling			
QUALITY	craftsmanship			
	durability			
PROFIT IMPACT				
BRAND IMPACT				
EXTENDABLE				

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[5-1] VOA of Coffee Shop vs Starbucks

5. Value Opportunity Analysis

To design an improved product over competition or to develop a new product to accommodate the future need of the customer, the Value Opportunity Analysis is an effective tool to transform the customer value into the design attributes. The example of the VOA is in Figure 5.1 for coffee service design.

6. VOA for future

53 Trends now shaping the future have been reported and updated using foresight methodology by UN research organization. Scanning the trend we can foresee the future trend and the customer value changes. The changed value attributes can be transformed into design attributes for future product development.

7. Conclusion

The world class corporations have been competing not only focussing on the Market Share but also on the Opportunity Share.

The World class future product can be developed via analysing trends by scanning the PESTE, interpreting the changes in the perceived value of the customers, Value Opportunity analysis, grabbing the POG and developing the innovative and future oriented product by filling the gap.

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