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Differences in Types of Product Customization: Comparison of Japanese and Western Firms

Abstract

At one time, Japanese firms had the most advanced product customization system, which attracted the attention of both practitioners and academicians. However, while Western firms have adopted e-customization, Japanese firms have not, and thus seem to be left far behind their competitors. Why are Japanese firms unwilling to improve their systems in spite of having the capability to do so? To answer this question, we investigated some cases in Japan and compared them with examples in Western countries. The results showed that, unlike Western firms, Japanese firms do not adopt e-customization to satisfy their customers' needs for creating their own products, but to effectively provide a series of unique customized products. Western firms use e-customization to pursue co-creation with their customers. In contrast, Japanese firms do not identify themselves as co-creators with their customers. Rather, they are still trying to be professional creators based on a spirit of craftsmanship. As such, most Japanese firms provide customized products without an e-customization.

Keywords: traditional customization, e-customization, case study,

Differences in Types of Product Customization: Comparison of Japanese and Western Firms

Introduction

In the late 1980s, mass customization was identified by practitioners and academicians (Davis 1987; Kotler 1989; Westbrook and Williamson 1993). Mass customization can be defined as a flexible and quick responsive system by continuous improvement for providing a product based on customer's needs (Pine, Victor, and Boynton 1993). Typically, the mass customization systems have utilized high-tech Internet technology for their customer interface and, therefore, most of them can be categorized into electronic customization, or e-customization. Today, many customized product providers utilize mainly online outlets without face-to-face communication with customers.

Contrary to this, most Japanese firms offering customized products still rely on face-to-face communication environment. For example, whereas US footwear firms provide customized products through their online retailers, Japanese footwear firms do not. They employ a traditional customization system developed over 20 years ago. In their customization system, a customer must visit a retailer, and create a customized product with a sales representative through direct discussion.

Clearly, there is a gap between Japanese firms and Western firms regarding the customization shopping process. Since the early 1990s, Western firms have enthusiastically introduced e-customization systems to provide a more efficient shopping process for their consumers. However, most Japanese firms have not adopted the Internet technology to their customization system and, as a result, they seem to have relinquished the frontier of customization. Why do Japanese firms not attempt to improve their systems?

Recent practitioners and academicians have focused too much on e-customization and overlooked the current Japanese customization environment (cf. Flynn and Vencat 2012). There is little research focused on the traditional customization system

though it may have a potential for future success. Thus, this study draws new attention to the investigation of the traditional customization, comparing it with the current e-customization.

Background

One of the original product customizations comes from the Japanese production system (i.e., Lean Production System). During the early stage of product customization, previous research has tried to conduct case studies of, for example, bicycle manufacturer and eyewear retailer) to identify who and how provide customized products (Kotha 1996; Gilmore and Pine 1997). Later, to identify the characteristics of customization, prior studies covered the entire supply chain (c.f., Duray 2002) and consumer behaviors (c.f., Huffman and Kahn 1998). At the same time, not only advantages, but also disadvantages of customization were discussed (c.f., Zipkin 2001).

Although there exists a wide variety of research topics, the essential issue for customization is the interface between a consumer and a firm to make the shopping process efficient and effective (e.g., Hoch, Bradlow, and Wansink 1999; Dellaert and Stremersch 2005). Recently, Hildebrand, Häubl, and Herrmann (2014) proposed the concept of the CvSS (customization via starting solution) system, lessening the customers' burden in the complicated configuration process.

Since the early period of product customization research, all of researchers have focused on e-customization, or product customization which firms accept customers' orders via their website. However, many Japanese firms maintain their product customization systems in which they provide customized products for their customers on the face-to-face basis. In other words, Japanese firms conduct co-creation with customers by maintaining the traditional customization system, whereas Western firms offer their customers a chance to self-design their items more effectively by replacing the traditional customization system with e-customization.

Method

In-depth interviews were conducted to compare the Japanese firms with Western firms. The samples were selected and contacted based on how intensively each of the firms is adopting the customization system in Europe, Japan and the US. After a screening process, twenty-four Japanese and US firms and industry associations were selected, and ten organizations were accepted for our interview. No European firms were interviewed in this study due to their rejections.

A qualitative dataset was collected from interviews and observations of the firms and their websites. The interview questions were modified from previous research (e.g., Endo and Kincaid 2008; Endo and Ono 2011) regarding the current customization, technology, market trends, products, competitors, business partners, and customers. Qualitative feedback was gathered from open-ended questions and less structured dialog between the interviewer and interviewees (Belk, Fischer, and Kozinets 2013). Each interview took approximately one to two hours. The interviews were recorded on a digital portable recorder and in writing, and transcribed. To analyze the dataset, we utilized Marshall and Rossman's approach (1999) and Tesch's interpretative analysis process using Nvivo software.

Findings

Several similarities and differences between Japan and the US associated with product customization were identified. One of the issues that both Japanese and US firms face is that they prepare for unpredictable changes in demand by exploiting the new technologies and developing new products. The CEO of a Japanese apparel manufacturer mentioned:

“Today, the market environment changes so fast that it's hard to catch up with new trends of products and technologies; however, we are trying to establish a various dialog with our customers and business partners, and make an effort to develop a new product and introduce new technologies along with traditional techniques.”

The CEO establishes various communication outlets, such as local festival events, promotes the firm's products, and observes various market trends. Based on various dialogs, the firm creates standard products as well as customized products. The CEO of a US manufacturer is also enthusiastic in developing new products by using new visual and communication technologies. Moreover, the CEO emphasized the interface between the firm and its customers through the Internet. One manager emphasized:

“... We want to increase the variety of customized products, and speed up the process (of customization). Hopefully, we can respond our customers quickly.”

Firms in both countries are eager to satisfy their customers' needs by adopting new technologies to develop new products what ever they are standard products or customized products. Furthermore, they pay attention to their partnerships with suppliers. Japanese firms, especially, focus on maintaining current partners with a long term relationship over a century. US firms also place emphasis on business partners, but they are looking for new relationships if it is needed for developing new products.

Characteristics of the Japanese customization system

During the 1990s, Japan was a frontier in customization (Westbrook and Williamson 1993). However, US firms challenged Japanese firms by developing a new customization system when most Japanese firms stopped or slowed down improvements in their own systems. Surprisingly, interviewees from Japanese firms did not recognize the terms “mass customization” or “customization”. Therefore, at the beginning of the interview, we had to explain what customization is, although we identified that the firms indeed conducted customization in their business activities before interviewing.

After conducting interviews with Japanese firms, we found that their customization systems have not changed since the 1990s, in which sales representatives meet their customers at a retail outlets, listen to their needs, and arrange to produce customized products. Their procedure is quite different from recent typical customization procedure adopted by Europe and US firms, in which customized products are not created by the firm in cooperation with their customers, but solely by customers through the Internet. In other words, Japanese customization system maintains the traditional co-creative system, whereas Western customization system has changed in a manner of self-service orientation. When one designer in a Japanese apparel manufacturer was informed of what is mass customization, she was surprised and said:

“Actually, for a long time, we have provided a customization system for our customers. But, I didn’t realize that it’s categorized as customization and good for customer satisfaction because it is so natural for us.”

Most Japanese firms do not utilize the Internet to provide self-service customized products. Rather, they emphasize and maintain the traditional customization system, in which firms’ representatives establish a close relationship with their customers and a fine-tuning process by face-to-face dialogue. In this regard, the traditional customization system is not an out-of-date system. Japanese firms maintain the traditional system and, at the same time, adopt various updated technologies in terms of designing, manufacturing, logistics, and communication. By doing so, they concentrate on improving the quality of their products. The CEO of a Japanese manufacturer stressed:

“What we are trying to provide is not merely what our customers expect. We always aim at 120% of our customers’ expectations. That’s our philosophy.”

A similar corporate philosophy can be identified over the interviews with many other Japanese firms. They run more toward customer satisfaction than providers of self-service ordered products who aim to fulfill 100% of customer expectation.

Characteristics of the US customization system

Unlike Japanese firms, US firms, for example, in the footwear and apparel industries, dynamically improve their customization systems. Their improved systems are typically characterized by electronic customization, i.e., e-customization, in which customers choose product attributes and create their products. As a consequence, the customization shopping process causes confusion due to the increasingly large number of choices (cf. Hildebrand, Häubl, and Herrmann 2014; Ono, Matsuura, Endo, and Nakagawa 2016). In this situation, US firms are finding ways of creating articulated and simple websites and developing interesting, fun and attractive products. A director of the customization division in a US firm emphasized:

“Customization shopping is fun, but it creates a burden (for customers). So we are trying to provide an attractive product as well as an interesting shopping environment.”

In general, US firms exert great effort to establish an attractive website for their e-customization, rather than training employees to let them interact with their customers. That would be one of the reasons why the US firms apply a wide variety of technologies to their customization.

Similarities between Japanese and US customization systems

We found several similarities associated with product customization between Japan and the US. A point between them is that both Japanese and US firms prepare for unpredictable changes and develop new products by introducing new technologies. The CEO of a Japanese apparel manufacturer mentioned:

“Today, the market environment changes so fast that it’s hard to catch up with new trends; however, we are trying to apply new technologies along with traditional techniques to establish a varied dialogue with our customers and partners, and making an efforts to develop new products.”

To prepare for uncertainty in demand, the firm take advantage of various communication opportunities, such as local festivals, to observe various market trends. Based on dialogue with customers and business partners, the firm develops better products including customized products than competitors.

US firms also challenge new products by using new technologies, such as in visuals, and in printing. They also integrate standard products and customized products to respond to various customers’ needs. Also, they underscore the interface between a consumer and a firm through Internet technologies. One manager emphasized:

“... We want to increase the variety of customized products, and speed up the process (of production process and delivering time). Hopefully, we can respond to our customer needs quickly.”

Firms in both countries are eager to develop new products (both standard and customized), and seek out innovative technologies enthusiastically. Besides, firms in the both countries pay close attention to their partnerships. Japanese firms, especially, focus on maintaining current partners, which include long-term relationships of over a century. US firms also emphasize relationships with business partners, and they are willing to seek out new relationships to create new opportunities.

Differences between Japanes and US customization systems

We also found differences associated with product customization in between Japan and the US. One critical difference is the integration of traditional systems and craftsmanship in Japanese firm contrasting with the finding that US firms focus

more on improving the customization system rather than maintaining levels of craftsmanship.

Most Japanese firms, especially those who deal in traditional products (e.g., accessories, clothing, home fashions), stick to “Made in Japan” production processes and products, although some materials and parts are imported. They re-establish traditional designs and technologies to develop attractive products (standard and customized products). A director of an association stressed:

“... Our current direction is toward integrating traditional designs and technologies into current products. Besides, we want to hand down our technologies to the next generation by maintaining production in Japan.”

In contrast, US firms do not emphasize production in the domestic market. They do not stick to “Made in USA.” Rather, they are eager to develop new interesting products along with the customization system. A US plant manager mentioned:

“Within 10 years, we might create new products by using innovative printing technologies instead of 3D printing technology. It’s faster, accurate, (and) lower cost.”

Currently, the new competitions, which accelerate high-speed production, lower cost, and more personal and customized products, are developing in the world with the new technologies and system, such as IoT and Industry 4.0 (Heng2015).

Conclusion

The purpose of this research is to investigate the reasons that Japanese firms have stopped the progress of customization, and to describe the current situation of Japanese firms by comparing them with Western firms in the area of customization. Therefore, the interviews were conducted with Japanese and Western firms, especially US firms, and then the similarities and differences between them were identified.

Interestingly, most Japanese firms do not recognize themselves as customized product providers, although they profoundly utilize customization. Japanese firms do not utilize various technologies, especially in the interface between customers and sales representatives. Rather, they highlight direct human relationships with customers. On the other hand, US firms clearly understand customization, and utilize it strategically and deliberately. Moreover, they are willing to improve it by various innovative technologies, such as printing, visual, and communication.

Furthermore, Japanese firms stress the quality of their product (e.g., craftsmanship skills) as well as direct (face-to-face; one-to-one) relationships with customers. On the other hand, US firms focus not only on their product development, but also the online interface technologies related to the entire supply chain relationships such as design, production, distribution, retailing, and customers. That would be called, "Total Customization System," which has been developed by information technologies, including the Internet technology based on the Japanese customization system (c.f., Kotha 1996; Gilmore and Pine 1997).

Japanese firms and US firms establish different types of co-creation processes. Japanese customization is a more direct, one-to-one relationship. On the other hand, US customization is a more indirect, one-to-many relationship, which is a much more efficient system during the shipping process. Both interfaces have advantages and disadvantages for customization. It should be noted that integration of the human touch and technological interfaces would be potential for future customization in a co-creation environment. It should be critical that the interface for the customization shopping environment should be a balance between human factors and technological factors.

Limitations

The number of samples for this research was low, although the target samples were proper. Thus, sample size might be increased for the next investigation. Furthermore, it would be meaningful to investigate firms in European countries to obtain richer information for the next investigation.

Future Research

Our research investigated the similarities and differences between Japanese firms and US firms. Based on the interviews, we focused only on the firms' side. However, participating customers create customized products, so it is essential to see participating consumers as part of the co-creation process. Thus, it would be necessary for the consumer side to be included in future interviews. A future avenue of further research might be to conduct interviews with consumers in Europe, Japan as well as the US, which might shed more light on the comprehensive structure of customization. Moreover, expanding the interviews might be necessary to increase the number of samples for obtaining a more inclusive picture of the state of customization.

Managerial Implications

Our research has important managerial implications for retailers and manufacturers, especially in the area of human interaction between consumers and sales representatives. For providers of online customized products, they might introduce real retail outlets for supporting the product customization shopping process. In general, customers cannot imagine the final product during the co-creating process. Thus, sales representatives support their customers with fine-tuning, and less their concerns, especially in the case of high-priced products. In short, the integration of online and offline product customization would be beneficial for customer participation and sales (e.g., cart-abandonment/shopping hesitation problems) (Cho, Kang, and Cheon 2006). Consequently, firms would obtain a wide variety of customer information during the co-creating process at the retail outlet. Finally, most customized product providers carry both standard products and customized products. One interviewee mentioned that their sales of customized products totaled only 5~6% of total sales. Therefore, even though customized products do not constitute a large portion of total sales, the integrated strategy of

carrying standard and customized products at retail outlets would increase the chance to attract more customers and obtain direct knowledge of customer needs during the interactions.

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