THE ROLE OF ATTACHMENT TO SELF-DESIGNED PRODUCT: THE MEDIATOR OF INVOLVEMENT IN SHAPING EVALUATION

I-Ling Ling*, Graduate Institute of Marketing and Logistics/Transportation, National Chiayi University. No.580, Sinmin Rd., Chiayi City 60054, Taiwan, (886) 5273-2843, yiling@mail.ncyu.edu.tw

Chih-Hui Shieh, Department of Distribution Management, National Taichung University of Science and Technology, No.129, Sec. 3, Sanmin Rd., Taichung 40401, Taiwan, (886) 42219-6552, chs101@nutc.edu.tw.

ABSTRACT

The purpose of this article is to provide a demonstration of how self-designed toolkits influence consumers' attachment for their self-designed products and to explore how the evaluation is influenced by the design-support level through the mediator (i.e. involvement). This article also investigates the influences of social comparison on shaping evaluation. One experiment was conducted using online mass customization toolkits. The authors demonstrate that the feeling of attachment that arises from being involved in the creation of self-designed products mediates consumers' valuation. Theoretical and managerial implications for companies to improve the co-creation process in mass customization through online design toolkits are provided.

Keywords: mass customization, self-design, attachment, involvement, willingness to sell

INTRODUCTION

Modern technology and production methods have enabled consumers to be more involved in the production process. The *customize-it-yourself* or *self-customization* market is growing at a rapid rate in many categories. A consumer may make a product by following step-by-step instructions (e.g., baking cupcakes, assembling an IKEA bookcase) or may go online and design parts of a product (e.g., t-shirt, bag, cell-phone cover). Participating in the production process of products as opposed to simply buying the products off the shelf may create additional value for consumers and enhance the consumption experience. Labor leads to love and increases valuation. This phenomenon is called the "IKEA effect," named in honor of the Swedish company whose products typically arrive with some assembly required [1] [2].

Successful completion of a task is one means by which people can meet their goal to feel competent and in control [3]. Mass customization (MC) strategies allow consumers to create individualized products that match their personal needs. MC takes advantage of the balance between low cost and differentiation and appeals to broad targets. It is becoming more available in the marketplace. For instance, some companies offer MC design own products. toolkits to assist consumers to their Wildemashe (http://www.wildemasche.de/index.php), one of the leading knitters in Germany, offers MC toolkits with a choice of colors, size, module, and shape to design self-owned scarves, blankets, and other items. Companies possess economic scale and flexibility, and at the same time offer product value for each consumer [4]. The French luxury brand, Longchamp, has launched a self-designed project on their official website for consumers to design their own handbags.

The endowment effect is a cognitive bias which was first hypothesized by economist Richard Thaler. According to Thaler's theory, people value an object more if their ownership is clearly established. The results of the endowment effect can sometimes be quite interesting, and being aware of the endowment effect can be very important whether you are buying or selling something. One of the most famous examples of the endowment effect in the literature is from a study by [5], where participants were given a mug and then offered the chance to sell it or trade it for an equally priced alternative (pens). They demonstrate the endowment effect that people prefer goods with which they have been endowed and thus some of the overvaluation may have been due merely to perceived ownership of the product [5] [6]. Some research also indicate that a user's willingness-topay more for self-designed products than standard products (with technical quality held constant) suggesting that the self-made operation holds the potential to be a profitable marketing strategy [7] [8]. In an attempt to better understand the influence of the *I designed* it myself effect [9], this article aims to explain the influences of attachment and social comparison on consumers' willingness-to-payWTP/WTS) for their self-designed products. The rationale for this study is discussed in more detail in the following section.

THEORETICAL BACKGROUND

Self-Design with Mass Customization Creates Value

Consumer involvement, as coworkers in the production process, is a new trend of service exchange for value co-creation [10]. To date, many companies create websites that enable consumers to design their own individual products, which the manufacturer can then produce to order. For example, websites, such as www.spreadshirt.net and www.lapjacks.com, provide tools for people who want to make and purchase self-designed products. Being involved in the co-creation of a product may generate additional value for customers and add to their quality of life [11]. Involvement in the production process enhances the value of products. Literature on the endowment effect offers one possible explanation: Individuals who created an object interpret it more as theirs than individuals who merely bought it, and in turn, subjective ownership feelings increase the subjective value of the product [5] [6].

Companies' increasing tendency to allow consumers to customize their products, particularly through the Internet, is effective in part because consumers are willing to pay a premium for products that they have customized to their idiosyncratic preferences [7] [8]. The economic value of self-designed products using mass customization toolkits has been attributed to two factors of preference: fit achieved, which should be as high as possible, and design effort, which should be as low as possible. The *I designed it my self* effect as the value increment ascribed to a self-designed object arises purely from the fact that consumers feel like the organizers of that object [9].

Although customization could be a utopia for the marketer, a lot of effort is still necessary to reach that goal. For example, with the development of information technology, consumers could sell their own program system on the Android Market. Meanwhile, designers also have to set the price for their own designed-goods. The evaluation of self-designed products might be influenced by several factors, such as customer preference [12],

process effort and enjoyment [9], social comparison [13], successful completion of labor [1] [2], and gift-giving [14]. Prior research on endowment suggests that the subjective value a person attributes to an object is contingent upon whether he/she owns the object or not. Products included in one's endowment are valued more highly than identical goods not held in one's endowment [5] [6]. The IKEA effect is defined as consumers' willingness to pay more for self-created products than for identical products made by others [1]. A stronger feeling of psychological ownership leads to a higher appraisal of the value of the product and thus consumers are more likely to pay for it [15] [9]. Through the design process, consumers incorporate the product into their extended self by materializing their ideas and fulfilling their imagination. On the basis of psychological ownership (i.e., the *I design it myself* effect), the authors predict that:

 H_1 : Consumers perceive a greater involvement for their self-designed products when they are more attached in the co-creative process.

 H_2 : The higher the involvement for a self-designed product the higher the evaluation the consumer attributes to it.

The authors conducted one experiment to test the hypotheses in sequence. Experiment 1 shows that the IKEA effect indeed exists through online mass customization toolkits. People who are more attached in their self-designing will become more involved to their self-designed product (H_1 and H_2).

METHODS

Self-designed products represent the ideas, thoughts and identity of individuals [16]. When people construct products themselves and come to overvalue their creations, this is called the *I design it myself* phenomenon [1]. The purpose of Experiment 1 is to provide an initial demonstration of how self-designed toolkits influence consumers' attachment for their self-designed products (H₁) and to explore how the price of willingness-to-pay (WTP) is influenced by the involvement level through the mediator (i.e. attachment) (H₂).

Participants

One hundred and twenty participants from a shopping mall completed this experiment in order to get a lottery. A two-level between-subjects design was

conducted. Participants were randomly assigned to one of the two conditions: simple toolkits (low attachment) and complex toolkits (high attachment). In all conditions, participants were encouraged to design a mug by themselves via a website. Each participant in the simple toolkits condition was provided with a 5-color, 2-style and 3-figure toolkit, while participants in the complex toolkits condition were given a 24-color, 17-style and 700-figure toolkit.

Once participants had finished making their designs, they visualized a virtual picture of the final mug. They then completed the manipulation check questions about the attachment perception of design-support level (e.g., color, stylish and figure) in the task on a five-point scale (1 = none, 5 = a great deal). Involvement is mainly regarded as personal relevance and motivation to process [17] [18]. Higher involvement levels in making or modifying a product in a given domain may enhance enjoyment of the process of making or modifying the product as well as the likelihood of bonding with the product. Using a five-point scale (1 = not at all, 5 = extremely) they then answered the two identical dependent variables: how attached are they to the self-designed mug and whether they intend to pay for the one they designed. Participants also reported how much they would pay for their self-designed product.

RESULTS

Participants in the complex toolkits condition ($M_{color} = 5.36$, SD = .92; $M_{style} = 4.92$, SD = 1.34; $M_{figure} = 5.02$, SD = 1.01) indicated higher design-support than those in the simple toolkits condition ($M_{color} = 2.75$, SD = 1.49; $M_{style} = 2.43$, SD = 1.55; $M_{figure} = 2.39$, SD = 1.43), t (118)_{color, style, figure} = 11.53, 10.05, 11.65, all p < .001. The results indicated that the design-support manipulation was successful.

An ANOVA revealed a significant main effect of self-designed support on evaluation for the self-designed mug. Participants exhibited a higher evaluation their self-designed product in the complex toolkits condition than in the simple toolkits condition ($M_{high} = 5.53$ vs. $M_{low} = 3.59$). An ANOVA on the evaluation showed that the effect prediction, participants reported a greater STP for their self-designed product in the high design support condition than in the low design support condition ($M_{high} = 5.23$ vs. $M_{low} = 4.19$, F(1,60) = 5.58, p < .05). Consumers perceive a greater WTP for their self-designed products when they are involved in the co-creative process, especially when using complex toolkits vs. simple toolkits. H₁ was confirmed.

Furthermore, the *I* design it myself phenomenon was examined. Whether involvement mediated the effect of design support on share to the website, we followed the procedures recommended by [19]. Using share to public as the dependent variable, we created a dummy variable for our manipulation (1 = complex toolkits). As expected, design support had an insignificant effect on the share to public (from $\beta = 0.51$, p < .001, to $\beta = 0.07$, p = 0.53) when involvement was included in the equation, and involvement was a significant predictor of the share-to-public (β = 0.58, p < .001). The inclusion of involvement increased the variance significantly (by 14%, from $R^2 = .26$ to $R^2 = .40$), F(2, 117) = 39.10, p < .001, $P_{rep} > .99$; Sobel Z = 4.89, p < .01, indicating the fully mediating role of involvement (see Figure 1). Involvement mediated the effect of design support on the share-to-public: H₂ is supported- *From labor to love*. The higher the perceived involvement of a selfdesigned product with an MC toolkit, the higher the evaluation for the self-designed product.



Figure 1: Mediation analyses of the *I design it myself* effect

Note: a. the parameter is the mediation model of the evaluation

b. the parameter is the direct effect of design support on the evaluation

c. ** p < .001

CONCLUSION AND DISCUSSION

Findings from this research reveal that participants' involvement in the self-designed production process affects their evaluation, and that the impact of design support on the share to public is mediated through the mediator, involvement. Through self-designed involvement, in enhanced endowment with the self-designed product, consumers may express their taste and preference with their creativity. A feeling of share to public is formed through their involvement in the production process. Thus, the results indicate that being toolkit-involved in the co-creation process changes how consumers relate to products in addition to enhancing their intention to share.

Recent research has investigated why consumers appreciate mass customization (MC) and whether they are willing to pay more for MC products [20] [9]. Past research focused on the understanding of MC in general and thus considered the physical and intellectual involvement in MC as the same, when in fact they are not. In physical MC, such as an IKEA bookcase, consumers can select only the technical components whereas intellectual involvement allows consumers to co-create the appearance of the product such as a cell phone cover.

This research advances theoretical contributions on value co-creation in mass customization through online design toolkits. Firstly, few studies have applied the reference point to investigate the IT-supported user activities. This theoretical lens provides a new perspective to explore how online users co-create the value of their self-designed products. Based on the IKEA effect, the authors select online artifacts and causally link them to the value of self-designed products. Secondly, the authors extend the endowment literature by exploring the antecedents of psychological ownership from the perspective of self-esteem in the online product design context. The authors extend this line of research by shedding light on the theoretical mechanism underlying the value increment of self-designed products. Practically, the authors attempt to identify and test the influence of online artifacts. Through providing or improving these online artifacts, organizations can attract more consumers to involve their self-designed production and elicit higher evaluation for the self-designed product.

REFERENCES

[1] Norton, M., Mochon, D. & Ariely, D. (2012) The 'IKEA' effect: When labor leads to love. *Journal of Consumer Psychology*, doi:10.1016/j-jcps. 2011.08.002

[2] Mochon, D., Norton, M. & Ariely, D. (2012) Bolstering and restoring feelings of competence via the IKEA effect, *International Journal of Research in Marketing*, **29**(4), 363-369.

[3] Bandura, A. (1977) Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, **84**, 191-215.

[4] Hauser, J. R., Tellis, G. & Griffin, A. (2005) Research on innovation: A review and agenda for marketing science. *Marketing Science*, **25**, 687–717.

[5] Kahneman D, Knetsch, J. & Thaler R. (1990) Experimental tests of the endowment effect and the coase theorem. *Journal of Political Economy*, **98**,1325-1348.

[6] Kahneman, D., Knetsch J. & Thaler, R. (1991) Anomalies: The endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives*, **5**, 193–206.

[7] Franke, N. & Piller, F. (2004) Value creation by toolkits for user innovation and design: The case of the watch market. *The Journal of Product Innovation Management*, 2004, **21**, 401-15.

[8] Schreier, M. (2006) The value increment of mass-customized products: An empirical assessment. *Journal of Consumer Behaviour*, *5*, 317-327.

[9] Franke, N., Schreier, M. & Kaiser, U. (2010) The "I designed it myself" effect in mass customization. *Management Science*, **56**, 125-140.

[10] Edvardsson, B., Tronvoll, B. & Gruber, T. (2011) Expanding understanding of service exchange and value co creation. *Journal of the Academy of Marketing Science*, **39**, 327-339.

[11] Xie, C., Bagozzi, R. P. & Troye, S. V. (2008) Trying to presume: toward a theory of consumers as co-creators of value. *Journal of the Academy of Marketing Science*, **36**, 109-122

[12] Chin, D. & Porage, A. (2001) Acquiring user preferences for product customization. In: Bauer, M., G. mytrasiewicz, P., Vassileva, J. (Eds.), *Proceedings of the Eighth International Conference on User Modeling 2001*, UM2001, LNAI 2109, 95–104.

[13] Moreau, C. P. & Herd, K.B. (2010) To each his own? How comparisons with others influence consumers' evaluations of their self-designed products. *Journal of Consume Research*, **36**, 806–819.

[14] Moreau, C. P., Bonney, F. & Herd, K. B. (2011) It's the thought (and the effort) that counts: How customizing for others differs from customizing for oneself. *Journal of Marketing*, **75**, 120-133.

[15] Fuchs, S., Prandelli, E. & Shreier, M. (2010) The psychological effects of empowerment strategies on consumers' product demand. *Journal of Marketng*, **74**, 65-79.

[16] Pierce, J. L., Kostova, T. & Dirks, K.T. (2003) The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, **7**, 84-107.

[17] Greenwald, A. G. & Leavitt, C. (1984) Audience Involvement in Advertising: Four Levels, *Journal of Consume Research*, **11**(1), 581-592.

[18] Petty, R. E., & Cacioppo, J. T. (1986) Communication and persuasion: Central and peripheral routes to attitude change. *New York: Springer- Verlag.*

[19] Baron, R. M. & Kenny, D. A. (1986) The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, *Journal of Personality and Social Psychology*, **51**(6), 1173-1182.

[20] Franke, N., Keinz, P. & Schreier, M. (2008) Complementing Mass Customization Toolkits with User Communities: How Peer Input Improves Customer Self-Design, *Journal of Product Innovation Management*, **25**(6), 546-559.