TRANSFORMING SMARTPHONE OWNERS INTO PARTIAL EMPLOYEES: THE EFFECT OF VALUE CREATION AND INNOVATIVENESS ON CONSUMER COPRODUCTION BEHAVIOUR

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Abstract

In recent years new research studies have appeared that tackle the issue of smartphone adoption and acceptance, little is known about the consumer coproduction behaviour of smart phones. Many consumers dedicate to provide feedback to companies, help other consumers in solving problems, advocate and recommend of the product to other consumers; consequently, they are regarded as value co-producers. A better understanding of how the underlying mechanism facilitate consumer coproduction behaviour could be worthwhile to mobile marketing strategies. Our main goal is to understand what the driving factors in deterring consumer coproduction behaviours. This study proposes hedonic and symbolic value of smartphone drive consumer coproduction behaviours. Also, consumers with high innovativeness are more likely to engage in consumer coproduction behaviours. By using structural equation modelling (SEM), the result of this study shows that both symbolic and hedonic value of smartphone give rise to consumer coproduction behaviours through device attachment. The findings of this study also have implications to both marketes and researchers.

Keywords: value-creation, smart phone, consumer coproduction behaviour
1 INTRODUCTION

Smartphones has experienced tremendous sales growth and its sales are expected to exceed 1 billion in 2013 (Deloitte 2013); consequently, smart phone users anticipated to hit 192 million by the year 2016 (eMarketer 2012). Given that the smartphone ownership has increased noticeably, research studies have appeared to investigate smartphone adoption and usage (e.g. Falaki et al. 2010; Park and Chen 2007; Smith 2011; Setterstrom et al. 2012). However, there is no research evidence to conduct on other behavioural outcomes like consumer coproduction behaviours.

Consumer coproduction behaviours (Groth 2005; Gruen et al. 2000; Yi et al. 2012) is analogous to voluntary behaviours that consumers provide feedback to companies, help other consumers in solving problems, advocate and recommend of the product to other consumers. Once consumers engage in voluntary behaviours, they are regarded as value co-producers (Kozinets et al. 2010) or partial employees (Yi et al. 2012; Yen et al. 2011). Many studies recognize value co-producers benefits the marketing or branding (Groth et al. 2004; Paine and Organ 2000; Yu and Chu, 2007; Chiu et al., 2009; Bateman et al., 2006); therefore, a better understanding of how the underlying mechanism facilitate consumer coproduction behaviour could be worthwhile to mobile marketing strategies.

Specifically, value creations are essential in exercising voluntary behaviours (Bove et al., 2008; Yi et al. 2012). The research is full of discussions surrounding utilitarian value of mobile device adoption (e.g. Bauer et al., 2007; Kleijnen et al. 2007; Kim et al. 2007), only a few isolated effort addressed experiential value of mobile device (Pihlström 2007; Pura 2005). Given smartphone devices provide experiential, symbolic and entertainment value (Rouibah and Abbas 2010), this study thus attempts to investigate smart phone users’ coproduction behaviors from experiential perspective based on customer value theory (Holbrook 2005). Moreover, many consumers admit to being overly attached to their smart phones and about 37% of adults and 60% of teenagers show addictions to their smart phones (Swallow 2011). According to Falaki et al. (2010), the extensive applications of smart phones encourage consumers to frequent check by sliding their fingers and may lead to device attachment. Given that attachment is crucial in determining consumer behaviours (e.g. Chaudhuri & Holbrook 2001, Park et al. 2010); it would seem advisable to make an effort to investigate how device attachment affect the relationship between value-creation and consumer coproduction behaviour.

Besides, consumers who show innovativeness have a tendency to stretch out an innovative technology (Klink and Athaide 2010), it is necessary to examine the role of innovativeness in performing coproduction behaviours. Taken together, this study thus discusses whether smart phone users’ coproduction behaviours depend on effects of value creation (symbolic, hedonic and attachment value) and consumer innovativeness.

2 LITERATURE REVIEW

2.1 Consumer Coproduction Behaviour and Device Attachment

Gruen et al. (2000) identified consumer coproduction behaviour closely parallels the customer voluntary behaviours that consumers engage in an extra role in helping other consumers, giving feedback and useful information to the company, putting up with service failures, and involving in word-of-mouth actives (see also Yi et al. 2012). Based on the framework of Wehmeyer (2008), a multi-faceted user-device attachment encompass different elements, including symbolic and necessity attachment. Symbolic device attachment refers that mobile phone enables consumers to signal social status, provides fashion and conspicuous meaning (Bauer et al. 2005; Carroll et al. 2002; Katz & Sugiyama 2006; Wilska 2003). Necessity device attachment is derived from intimate communication (Jarvenpaa & Lang 2005) and frequent usage. When a mobile phone is necessary for daily use or some professional tasks, consumers can develop user-device attachment due to its necessity (Prasopoulou et al. 2006).A number of studies have suggested that attachment is of decisive
importance for consumer loyalty (e.g. Funk & James 2006; Schmitt et al. 2009). For example, Chen and Hu (2010) revealed that extracting symbolic meaning to products benefit consumer loyalty. Affective commitment which is derived from emotional attachment has been particularly influential in determining voluntary behaviours (Yi et al. 2012; Yen et al. 2011). Since smartphone devices differ from other devices provides ubiquitous interaction across time and space, consumers are thus easily to form emotional attachments to their device (Mintz et al. 2012; Pihlström 2007; Pura 2005). Thus, we hypothesize that smartphone users who exhibit higher emotional attachment to their smartphones are more likely to engage in consumer coproduction behaviour.

H1: The device attachment is positively associated with coproduction behaviours.

2.2 Hedonic Value and Device Attachment

Dawning on customer value theory (Holbrook 2005), the hedonic value involves multi-sensory, fantasy, entertainment, and fun aspects of an individual’s experience. Smartphones provide a user friendly interface and miscellaneous apps to amuse consumers (Srinivasan et al. 2002). The navigability and user friendly interface enable consumers to enjoy their experience in a short response time and thus generate higher adoption intentions (Finnilä 2011). Consequently, individuals who experience pleasure and fun are expected to trigger emotional attachment and affective commitment to a product (Jin et al. 2010). Thus,

H2: Hedonic value is positively associated with the device attachment.

2.3 Symbolic Value and Device Attachment

Symbolic value refers to expressive value or self-representation that could enhance personal meaning (Smith and Colgate 2007). Ideal self enhancement refers to a desire for positive social recognition (Engel et al. 1993; Sundaram et al.1998) that consumers can use product or brands to reinforce self-identities (Belk 1988; Kleine et al. 1995). Prior research into mobile device suggests that symbolic value of cell phones satisfies customers’ self-presentation and symbolic self-enhancement (Wirth et al. 2008). The symbolic or conspicuous nature of a smartphone not only can help to enhance one’s self-image (Im & Ha 2012) but also can evoke positive emotions (Brown & Humphreys 2002; Fairley 2003; Blom & Monk 2003; Hassenzahl 2004). Therefore, using a smartphone allows consumers to express who they are and construct an ideal image, consumers should be motivated to attach to their device. Thus, smart phones have symbolic or conspicuous consumption values that can help to improve one’s self-image (Amclar and D’Incau 2002; Im and Ha 2012). According to the theory of material possession attachment, consumers could develop attachment to possessions if those reflect their self-image or self-definition benefits (Kleine and Baker 2004). Thus,

H3: Symbolic value is positively associated with the device attachment.

2.4 Consumer innovativeness and device attachment

Innovativeness is of central interest in the context of technology acceptance (Thompson et al. 2006; Lian and Lin 2008). Consumers with a high degree of innovativeness are more likely to seek sensation benefits and try out new technological device (Klink and Athaide 2010). Thus, this study proposes that sensation innovators are more likely to try out smartphones and demonstrate a higher level of attachment to device.

H4: Consumer innovativeness is positively associated with the device attachment.
3 METHOD

3.1 Samples

The formal questionnaire survey was mainly collected from Internet and restricted to those who have smartphone. The data was mainly collected from the largest domestic online survey website, Youthwant.com. The online questionnaire was restricted to those who only have smart phones and have past experience downloading smart phone applications. The participants are then instructed to register the membership of Youthwant.com to get the membership ID. Thus, participants can receive a digital currency for more spaces of digital albums and coupons in 7-11 convenience stores. All respondents have smartphone with minimal half year use experience, Among the 195 respondents, 79 are males and the rest of 116 are females. Approximately 86 % of the respondents are 21 to 40 years old. HTC users account for 32%, Apple users account for 25%, Samsung users account for 24%, other brands (i.e. Sony, BlackBerry, ASUS, and NOKIA) account for 19%.

3.2 Measures

Emotional value with seven items on a 7-point scale (1, “strongly disagree”, 7, “strongly agree “) included as follows: “Using my smartphone gives fun to me”, “Using my smartphone is interesting to me.”, “Using my smartphone sold here stimulates my curiosity.”, “Using my smartphone sold here arouses my imagination.”, “Using my smartphone sold here keeps me absorbed.”, modified from Kim et al. (2011).The coefficient alpha = .937.

The four items of Symbolic were modified from Hee-Woong (2011) and were measured based on seven-point Likert scale with 1= extremely disagree to 7= extremely agree, including: “Using my smartphone enhances my self-image to others”, “Using my smartphone improves my self-expression to others”, “Using my smartphone makes a good impression on other people”, “Using my smartphone improves the way I am perceived.” The coefficient alpha = .942.

Consumer Innovativeness with eleven items on a 7-point scale (1, “strongly disagree”, 7, “strongly agree “) included as follows: “I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.”, “I try to anticipate and avoid situations where there is a likely chance.”, “I will have to think in depth about something.”, “I only think as hard as I have to.”, “The idea of relying on thought to get my way to the top does not appeal to me.”, “The notion of thinking abstractly is not appealing to me.”, “When I see a new or different brand on the shelf, I often pick it up just to see what it is like.”, “I like introducing new brands and products to my friends.”, “I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchase.”, “I often read the information on the packages of products just out of curiosity.”, “I get bored with buying the same brands even if they are good.”, “I shop around a lot for my clothes just to find out more about the latest styles.”, adopted from Cotte (2004). The coefficient alpha = .833.

Device attachment scale is adopted from Wehmeyer (2008), with nine item anchored seven-point Likert scale: “Using an up-to-date smartphone is important to me.”, “My smartphone is an expression of my personality.”, “I would not like to use an old and outdated device.”, “It is important to me that my friends like my smartphone.”, and “Modern persons use new and up-to-date devices.”, “I feel uneasy when I do not have my smartphone with me.”, “I always have my smartphone with me.”, “If I do not have my smartphone with me, I feel like something is missing.”, and “I feel more self-confident when I have my smartphone with me.” The coefficient alpha = .935.

Consumer coproduction behaviour modified from Yen et al. (2011) , with 13 item anchored seven-point Likert scale: including: “I said positive things about smartphone and the employee to others.”, “I recommended smartphone and the employee to others.”, “I encouraged friends and relatives to use smartphone.”, “I assist other customers if they need my help.”, “I help other customers if they seem to have problems.”, “I show others how to use the services correctly.”, “I give advice to other customers.”, If I have a useful idea on how to improve service.” When I receive good service from the
employee, I let the employee know about it.”, “When I experience a problem, I let the employee know about it.”, “If service is not delivered as expected, I would be willing to put up with it.”, “If the employee makes a mistake during service delivery, I would be willing to be patient.”, “If I have to wait longer than I normally expected to receive the service, I would be willing to adapt.” The coefficient alpha = .881.

3.3 Analytical Method

The measures were assessed for convergent, discriminant, and nomologic validity in LISREL 8.50 (Jöreskog & Sörbom 2001), using the two-step approach (Anderson & Gerbing 1988). Under this method, convergent and discriminant validity are evaluated during the measurement model phase, while the structural model provides an appraisal of nomologic validity. Prior to CFA, values for skewness and kurtosis were examined and observed variables with the threshold value below ±3.0 were retained in further analyses (Bollen 1989).

4 RESULTS

4.1 Measurement Model

All construct measures are reflective. Fit statistics were acceptable (x²/df= 2.29, CFI=.96, NFI=.93, NNFI=.95, RMSEA=.08). All constructs including first- and second-order ones were significantly converged (p < .001). The convergent validity of all scales was supported. The t-values pertaining to all items of all scales were each greater than 2.0 (at p<0.05). When each indicator's estimated path coefficient on its underlying construct factor is significant (greater than twice its standard error) in the measurement model, the scales of the constructs in the model achieve convergent validity (Anderson & Gerbing 1988). Further, the scales achieved discriminant validity, because no confidence intervals of the correlations for the constructs (Φ values) included 1.0 (p<0.05) (Anderson & Gerbing 1988). All Cronbach’sa scores and composite reliability values of the constructs were above 0.70. Thus, the measures demonstrated adequate convergent validity and reliability

4.2 Structural Model

Structural model estimation shows that the fit statistics are acceptable ((x²/df= 2.39, CFI=.97; NFI=.94; NNFI=.96 RMSEA=.08). Overall, the hypotheses are supported. As reported in Figure 1, the relationship between hedonic value and device attachment is positively significant (γ=0.21, t=2.51). Symbolic value is positively associated with the device attachment (γ=0.31, t=3.04). Also, results manifest that the positive relationship between innovativeness and device attachment is statistically significant (γ=0.40, t=3.86). Last, the result indicated that device attachment is a crucial factor contributing to coproduction behaviour (β=0.6. t=5.68). Finally, this study checked the mediating effect of device attachment. Thus, the structural equation model was re-estimated by constraining the direct effect of hedonic value, symbolic value, and innovativeness on consumer coproduction behaviour. The Modification all are smaller than 4. Thus, the study manifested that device attachment serves as full mediation.

![Figure 1. Result of SEM](image_url)
5 CONCLUSION

5.1 General Conclusion

While most previous studies focus on smart phone usage, little research has discussed consumer coproduction behaviour. While the majority of studies on mobile device focused on attitude and adoption behaviours, this study contributes to a better understanding of consumer coproduction behaviours and provide the groundwork from the perspectives of value creation, and device attachment. Customers may engage in a variety of consumer coproduction behaviours such as providing advice and helping other customers to solve problems; as a consequence, they behave like employees. Most researchers reached consensus on the importance of consumer coproduction behaviours that benefits the marketing campaign and branding. A few empirical studies have examined the driving factors of customer citizenship behaviours. This study contributes to understand consumer coproduction behaviours on the basis of value-creation theory.

5.2 Implications

Our research provides several theoretical and practical implications to consumer behaviour. First, past studies only examined the attitude and adoption behaviours of smartphone. Results in our studies extend the current knowledge of smartphone usage; our research has suggested, albeit tentatively, two value-creation process of user device attachment on the consumer coproduction behaviours. Creating device attachment through symbolic and hedonic value may be of importance in facilitating consumer engaging in coproduction behaviours. Besides, innovators are more likely to attachment smart phones and thus involve in coproduction behaviours. The results demonstrate how consumers develop coproduction behaviours and provide enormous value to mobile marketing.

5.3 Future Research

The current research also bears with some limitations that merit further advancement. First, even though we solicited research participation from the online communities, the majority of our participants are HTC users, this sample frame might be subject to the issue of external validity to a different group of smartphone users. Although the sample in the study as small, it would be beneficial to replicate this study on larger and different populations. Second, findings reported in our studies may demonstrate that the effect of apps by different characteristics could vary in different app context. This tendency calls for additional research to investigate the role of apps characteristics. Last but not least, future research could investigate the correlation of device attachment to other behavioural outcomes such as commitment or ongoing usage intention. This study examines the divergent effect of device attachment on coproduction behaviours and provides a promising line of inquiry to marketers and scholars. While research on smart phones is till at a beginning stage, findings have broad implications for theory, research, and practice.

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