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ONLINE SERVICE CO-CUSTOMIZATION: HOW THE PARTNER AND THE INFORMATION PRESENTATION AFFECTS TOURISTS’ CHOICE OF ONLINE TOUR SERVICES

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Abstract
People always travel with their friends. Some of them would like to design their travel plan together while some others would like to design their plan singly. Prior studies most focus on the single decision context. This paper investigates the collaborative customization in the joint decision and joint consumption context, and the information presentation format (attribute-based vs. bundle-based) effect on the tourists’ decision and behaviour is discussed. We also consider the relationship effect. And finally the potential theoretical contribution and practical implication are discussed.

Keywords: Co-customization, Online tour services, Joint-Decision making.
1 INTRODUCTION

In the 1970’s, Toffler (1970) predicted that consumers would customize all their products by themselves in the 21st century in his famous book “Future Shock” (Toffler 1970), and now it comes true. Online customization is becoming increasingly more popular among consumers, firms, governments and researchers (Fogliatto et al. 2012; Goduscheit & Jørgensen 2013). With the advent of internet and social media, collaborative customer co-design with community members becomes a new trend in the online customization arena (Piller 2004; Hildebrand et al. 2013). As interaction with others could help foster joint creativity and problem solving, and reduce their perception of risk (Piller 2004), website community nowadays enables more and more customers to form initial design ideas and modify their final customized products.

In recent years, online tour service is flourishing with large quantity of users and transaction volume (Werthner 2004), and the social influence plays a significant role in travellers’ decision making (Nezakati et al. 2015). With the common view that what people want most during travels is to flexibly customize their travel plan (Jin et al. 2012), many companies nowadays adopt a customization strategy to improve their online tour service quality. And a new phenomenon is emerging in the online tour customization area. Recently, a famous tourism website in China called QiongYou (www.qyer.com) provides customers with a new function, known as “Travel Together”, which allows the customers to asynchronously design their travel plans with their partners through the online tour toolkit. This new kind of collaborative customization enables both the customers and their partners to design and consume product or service together, which is distinct from traditional collaborative customization that is called design together and consume separately. At the same time, another well-known website in China called MaFengWo (www.mafengwo.cn) also provides customers with a new function, “Accompany”. Through this module, the customers can invite people with the same tour destination from the online community to travel together even if they do not know each other before. They can customize the trip together online and once they reach a consensus, the action will be taken.

In prior customization studies only the individual decision making context is considered. Though the community members can give feedback to users, the customized products are consumed only by individuals. Under this circumstance, only the consumers’ attitudes, beliefs and preferences would play a role of the final products. That is to say, even others’ product information, experiences and suggestions are integrated into the design; they would not be the determinants. However, things would be different when customer and his/her partner would not only design the product together but also consume the product together as well. In this circumstance, both customer and partner would take the preferences of each other into consideration. Sometimes there may be conflicts because people have differing attitudes, beliefs and preferences, especially when they do not know each other before (Gorlin & Dhar 2012). And whether these conflicts can be resolved directly leads to whether this customization can succeed in the end, including the evaluation of the customization value and the consumers’ satisfaction.

As the prior study pointed out, one of the roles of IT plays in customization is that it enables orders to be fulfilled correctly through integration of information flow (Dietrich 2007). To be more specific, IT enables integration of product information and design experience during the customization process through the product configuration and co-designing (Piller 2004). So one of the most important problems IT researchers considered in the online customization context is how to present the information, and the format of the product information also affects the consumers’ perception of the value and satisfaction derived from the customization process(Simonson 2005; Valenzuela 2009; Balasubramanian & Lambert 2014). However, in the joint decision context, integrating the information flow is not only to help consumer understand the product but also understand the partner’s attitude and preferences. So one research question is, in our joint decision context, how the information format of tour e-services customization affects the tourists’ decisions and perceptions. In addition, the nature of the relationship would affect customers’ decision making (Simpson et al.
2012). For example, people would behave differently when going out with a close friend compared with going out with a stranger. Thus, another research question in this paper is how the relationship with your partner affects your travel decisions. Specifically, what is the difference in customers’ behavior when travelling with acquaintances versus travelling with strangers?

This paper is organized as follows. We first review the theoretical foundations including online customization, travellers’ decision making process and consumers’ joint decision making. Then we develop the hypothesis, and design a lab experiment to collect data. Finally the potential theoretical contribution and practical implications are discussed.

2 THEORETICAL FOUNDATION

2.1 Collaborative customization and information format

Though individualization is a primary motivation for customization, it does not always mean one-to-one between the customer and supplier (Piller 2004). Other users involved in the customization process, from the initial idea forming to the final decision and even to the production process, which recognized as collaborative customization, are widely discussed in academia during the past decade. However, the researchers do not reach a consensus yet. There are two mainstreams in this area.

In one stream, some researchers suggest that collaborative customization with other customers would yield good outcomes. Some case studies propose that collaborative co-design with other customers can generate many benefits such as creating trust, sharing experience, fostering aesthetic creativity and reducing perceived risk (Piller 2004). And some empirical studies also find that integrating other customers’ feedback on the preliminary design solution into the customization outcomes leads to a higher evaluation of the customization outcome such as a higher willingness to pay, higher perceived preference fit and purchase intention (Franke et al. 2008). Apart from the direct influence from other customers, some indirect influence may also play a role in the customization process. Just providing a starting solution such as a template from other customers can reduce the perceived complexity of the customization process and enhance consumers’ mental simulation of product use, which in turn increase the satisfaction with the customized product (Hildebrand et al. 2014).

In the other stream, the results are entirely opposite. Exposed to other customers’ design as the default product may arouse the customers’ feeling of social comparison and upward comparison may lead to a lower evaluation of the customized product (Moreau & Herd 2010). Another field study tells us that community feedback may lead to less unique final products, and the results from two following lab experiments also indicates that receiving feedback from other community members on the initial self-designs would lead to less unique products, lower confidence and less satisfaction with the final products, lower product use frequency, and lower monetary valuation (Hildebrand et al. 2013).

Though there are many existing researches about collaborative customization with other customers, our paper is in a very different context. In prior studies, the final customized product is consumed only by the designer. In our study, however, the final tour product is consumed by both designer and his/her partner. That is, both participants would travel together after customization. There are two kinds of situations. One is that one designer first design their plan alone and then two people travel together. The other is that both designer and partner first design the plan together and later travel together too.

For each of above two customization scenarios, a toolkit is needed to present the product information. So the information format is a key issue for the company which plans to employ a customization strategy. In prior studies, there are three types of information format. The first one is called attribute-by-attribute format (attributed-based) (Valenzuela 2009), which presents users with all of the product attributes that can be customized along with all of the possible values for each attribute. In this circumstance, consumers could select the desired value for each attribute in turn until the complete product is specified. Another different format is to present customers with bundles of information (bundle-based), “with each pertaining to a bundle of attributes and amounts, or a module of attributes.
With this format, consumers could assemble a product by selecting modules that contain particular attributes, and attribute amounts, and perhaps quality levels" (Balasubramanian & Lambert 2014). The third format simply displays all of the possible product alternatives to users so that they could pick out the product alternatives they most prefer (Kamis et al. 2008). Each kind of format has its own advantages and disadvantages. In our study, we only consider the attribute-based and bundle-based format since it is quite rare and hard for the tour company to present all of its online tour plan alternatives to users.

2.2 Consumers decision making in tourism

Travellers’ decision making is very complicated. In previous literature, theories and models predicting travellers’ behaviour can be divided into two stages. In the earlier stage, the travellers are viewed as homo-economics who are always making decisions rationally and individually (Sirakaya & Woodside 2005). Then some traditional decision making models are applied in tourism area to predict travellers’ behaviour. In the later stage, with the advent of online tour websites and communities which enable the travellers to search for information and share their experience, social media plays a important role in the tour decision making (Zeng & Gerritsen 2014). And some empirical studies are conducted to test how social media influence the travellers’ behaviour.

In the first stage, most theories are based on the information-processing theory, which is proposed to illustrate how consumers make choices during the decision-making process (Bettman et al. 1998). This theory indicates that consumer decision-making process includes five stages. The first stage is problem recognition. Then it is information search stage during which consumers gather some alternatives. Followed is the stage of alternative evaluation and selection. The fourth stage is purchasing and the last stage is post-purchase process. Some other models, which are the extension of information-processing theory, are proposed to describe consumer behaviour as well, which could also be applied to tour decision making process (Sirakaya & Woodside 2005).

With the advent of internet, e-service is becoming increasingly more popular in the tourism area, and travellers’ decision making is significantly influenced by social power (Nezakati et al. 2015). Therefore, in the later stage, social media plays a role in the decision making process due to the simplicity of information flow. Nowadays, Travel has become an information-intensive industry since travellers could easily access information through internet (Qu 2011). During this study, the authors use the social identity theory to illustrate how community participation changes travelling’s behaviour and increases knowledge sharing. A web-based online survey is conducted to collect data and the results show that community identification mediate the relationship between community participation and consumer behaviour. Another study uses the disconfirmation model to test travellers’ behaviour in e-tourism services (Bajpai & Lee 2015). A web-based online questionnaire using Google Drive is designed to collect data. The results show that e-services quality evaluation affects consumer behaviour in e-tourism services, which is measured by user satisfaction and loyalty. Some other studies also show that the friends and other customers’ advice and tour information may influence the tourists’ trust, purchase intention, willingness to pay and destination choice (Murphy et al. 2007; Kane et al. 2014).

Prior studies shed lights on how travellers make decisions through e-tourism services. But they all only consider the context that only one customer makes decision during the travel design process. In reality, however, many people go out for travel with their friends or family members. And some people may even like travelling with strangers as we described above. In this context, many decisions should be made by both of consumer and his/her travel partner. So this is a joint decision and joint consumption context (Gorlin & Dhar 2012).

2.3 Joint decision making model

As Simpson et al. (2012) proposed their dyadic framework of consumer decision-making, joint decision making has become an emerging research direction. As many choices can be divided into two
stages: one is the decision stage and the other is the consumption stage, joint decisions can be accordingly divided into four types: joint decision and joint consumption, joint decision and single consumption, single decision and joint consumption, and single decision and single consumption (Gorlin & Dhar 2012). In this paper, we discuss the joint consumption contexts, which are different from prior studies. Specifically, we discuss two kinds of decision context: joint decision * joint consumption and single decision * joint consumption.

The framework proposed by Simpson considered a relationship partner's influence on a decision (Simpson et al. 2012). The first case is the joint decision and joint consumption context, which is the focus of the framework. The authors outline three ways in which the relationship partner will influence the decision outcome. The first type is that partners’ attitudes and beliefs directly influence the consumer’s preferences. The second type is partners’ preferences influence the consumers’ choice or behaviour. And the last type is partners’ attitudes and beliefs influence consumers’ attitudes and beliefs over time. For example, Mary and Bob want to go for lunch together and now they have two alternatives restaurant A and B. Mary believes that restaurant A is superior to B and so Bob prefers to go to A rather than go to B, though he may think that B is better. This is the first type of influence. If Mary prefers to go to A, though Bob prefers restaurant B, they finally decide to go to A. This is the second type of influence. If Mary and Bob are close friends or a couple, during a long time of interaction with each other, they become increasingly more similar with each other. Mary thinks restaurant A is a better choice, and then Bob also thinks restaurant A is better than B. This is the third type of influence. The second case is the single decision and joint consumption context. For example, if Bob wants to give Mary a surprise vocation, he may design a travel plan alone. In this case, though Bob makes single decision during the design, he would take Mary’s preferences into consideration apart from his own preferences. During this process, Bob may even have to guess Mary’s preferences. However, consumers always construe the preferences of others based on their own preferences (Lerouge 2006), resulting in a cognitive bias. Thus Bob may feel somewhat anxious about this plan (Moreau et al. 2011).

As the consumer makes decision with his/her partner, the nature of the relationship between the consumer and the partner should be taken into consideration (Simpson et al. 2012). One theory associated with the joint decision context is the interdependency theory (H & W. 1978), which is a major component of social exchange theory. According to this theory, people would depend on their partner because he/she can gain unique benefits which others cannot provide to him/her. If a person is dependent on his/her partner, he/she may take more of the partner’s preferences into consideration. And if individuals feel “tied down” to their partners, partners’ preferences may influence individuals more and with the passage of time, the individuals may even change their own attitudes, beliefs and preferences.

3 RESEARCH MODEL AND HYPOTHESES

3.1 The information format effect in the collaborative customization

In our collaborative customization context, which is a joint decision and joint consumption case, the most important thing is to resolve preference conflict. There are four strategies can be employed to resolve conflict between these two consumers, namely compromise option, to defer purchase, balancing and highlighting (Simonson 1989; Dhar 1999). The compromise option means the consumer and the partner will choose an option that is halfway between their preferences. Defer purchase means they will defer their purchase and search for more alternatives. The balancing strategy can be used in the repeated choices context. Specifically, when faced with repeated decisions, the two persons will choose a desired option of the consumer for one attribute and a desired option of the partner for another attribute. They could also choose the highlighting strategy to highlight all of the consumer’s preferences in one decision episode and all of the partner’s preferences in the next episode, which is known as “turn-taking” rule. In the collaborative customization, if the attribute-based format is employed to present information, the designer and the partner need to choose the most preferred
option for each attribute. This is like a repeated choices context. They can either adopt a balancing strategy or a compromise strategy for each attribute choice to resolve conflicts. However, if information is presented in a bundle-based format, it would be harder for the designer and the partner to resolve conflicts. For example, Bob prefers to travel by air and live in a three star hotel, whereas Mary prefers to travel by train and live in a five star hotel. If the customization is presented by attribute, they can make each decision separately and use the strategies mentioned above to resolve conflicts. But if the customization is presented by bundle, which means the two attributes are bundled together with four alternatives. Bob and Mary need to compare all of the four alternatives to choose the most suitable option. And actually all the alternatives cannot meet their needs exactly, and they also need to compromise. This is a harder choice leading to a higher perceived complexity and lower satisfaction.

H1: In the joint decision and joint consumption context, compared with the bundle-based format, the attribute-based format leads to a lower perceived complexity and a higher satisfaction of the customization process.

In the single decision and joint consumption context, the consumer needs to guess the partner’s preferences. Because the partner is absent, the consumer may wrongly construe the partner’s preference (Lerouge 2006). And the bias may lead to anxiety. In this case, if the consumer designs the plan attribute-by-attribute, he/she needs to trade off every option for each attribute and insufficient information makes the consumer unconfident in every decision, which increases the complexity of design. If the consumer can design the plan by bundle, he/she only needs to make decisions by the modules, which is easier.

H2: In the single decision and joint consumption context, compared with the attribute-based format, the bundle-based format leads to a lower perceived complexity and higher satisfaction of the customization process.

3.2 The partner effect in the collaborative customization

The relationship with your partner may be a big problem when the consumer makes decision during the collaborative customization process. The partner can be the consumer’s acquaintance such as a friend, and can also be a stranger who is temporarily invited from the online community. According to the interdependency theory, when two friends are in the collaborative customization, they will be higher dependent on each other than two strangers. In addition, the difficulty of leaving an existing relationship makes the dyad of friends tied together more closely. Therefore, the acquaintance partner may influence the consumer's decision stronger than the stranger partner. In other words, the consumers are more likely to take the acquaintance partner’s preferences into consideration when they make decisions and vice versa. So the consumer may reach a consensus more easily than he/she is with a strange partner, which lowers information format effect.

H3: In the joint decision and joint consumption context, the partner can negatively moderate the information format effect. Specifically, the acquaintance partner makes the effect weaker and the strange partner makes the effect stronger.

In the single decision and joint consumption context, because the consumer is more familiar with the acquaintance partner than the strange partner, they will be more similar with each other. So the consumer can guess acquaintance’s preference with a greater confidence, which facilitates the consumer to customize by attribute. In the contrast, the more knowledge gained from the partner, the more difficult to choose a desired option through the bundle-based formation, because the more knowledge associated with a harder choice among too many options.

H4: In the single decision and joint consumption context, the partner can positively moderate the information format effect. Specifically, the acquaintance partner makes the effect stronger and the strange partner makes the effect weaker.
4 RESEARCH METHOD

4.1 Experiment design

A two (joint decision vs. single decision) by two (attribute-based vs. bundle-based) by two (acquaintance partner vs. strange partner) experiment is designed to test all these hypotheses. We will develop a tour website as the experiment toolkit for the current study.

We will employ 8 attributes for each travel plan, including the period, the attraction number, the transportation, the hotel, the meals, the guide, the airport/train station pickup, and travel insurance (Jin et al. 2012). All the options for each attribute are generated from a real travel company. And in line with prior study, we limit the number of options for each attribute to prevent information overload (Kamis et al. 2008).

In the attribute-based information format condition, subjects will be asked to customize the product attribute-by-attribute with all the eight attributes. In the bundle-based condition, all eight attributes will be organized by three modules. How to bundle these attributes will be originated from the discussion with customers who had designed their own travel plan. Subjects are allowed to pick one from each of the three modules by taking three steps sequentially.

4.2 Participants and procedures

We intend to recruit 240 students who will be assigned randomly to the eight groups. It should be mentioned that there will be 40 participants in each of the four joint decision groups because they are recruited by pairs. And in the other four single decision groups there will be 20 students for each one. All of the participants are indicated that they will go for travel with their partner in the next month, and they need to customize a travel plan through this website. In the joint decision groups, they can communicate with each other through the instant messenger tool which is provided by this website. And the “travel interest”, “average travelling trips per year”, and “expenditure for each trip” are measured as the control variables. We will record all of the customization process for further analysis.

When finish the customization, they are asked to answer some questions. Each participant will be paid by 20 RMB and a chance to win the customized travel plan by themselves, which worth about 1000 RMB.

4.3 Measurement of variables

We will adopt a 5-point Likert scale to measure the process satisfaction and the outcome satisfaction from prior studies (Jin et al. 2012). The three items of the process satisfaction are as follows: “I am very satisfied with the customization process”, “This customization task is an enjoyable experience to me”, and “I didn’t feel any discomfort during the customization process”. And we will use another three items to measure the outcome satisfaction: “I am very satisfied with my customized tour package”, “My customized tour package will best meet my travel needs”, and “My customized tour package is good value”. The perceived complexity is also measured by three items: “complicated”, “difficult”, and “effortful” (Dellaert & Stremersch 2005).

5 CONCLUSION

5.1 Potential contribution

This paper sheds light on the collaborative customization and joint e-tourism decision making area. Till now there are little research considering the joint decision making (Gorlin & Dhar 2012). Prior studies about collaborative customization assumed that consumers would consume the customized product singly (Fogliatto et al. 2012). So the consumers only need to consider their own attitudes,
beliefs and preferences. In the joint decision making context, however, consumers have to take their partners’ attitudes, beliefs and preferences into consideration, which makes the choice decision more complicated. During the decision process, the consumers and their partners would first present their own preferences, and then compromise or balance their options to reduce friction and conflict in their relationship (Simpson et al. 2012). Out paper tries to answer the question that how IT facilitates consumers to make joint decision. Specifically, how the product information presentation format in the customization toolkit affects consumers’ joint decision making? The empirical results may show that in the joint decision and joint consumption context, compared with the bundle-based format, the attribute-based format leads to a lower perceived complexity and a higher satisfaction of the customization process and in the single decision and joint consumption context, the results may be the contrary.

This paper also aims to discuss the effect of nature of the relationship on the collaborative customization process. Since the joint decision making is associated with both the consumer himself/herself and his/her partner, their relationship may play a role in the process (Simpson et al. 2012), because different people may influence the consumers’ attitudes, beliefs and preference to a varying extent. This paper intends to test the differences between the acquaintance partner and strange partner, and the results may find an interaction between the degree of interdependency and the information format, namely when the partner is absent, the IT helps more and vice versa.

In a word, this paper intends to answer the question that how IT helps consumers make joint decision, and whether IT plays a different role when it comes to different relationships. The results may contribute to the collaborative customization and consumer decision making literature.

5.2 Potential implication

As the online customization is flourishing, the intended results of this paper may be helpful to the companies which are about to employ a customization strategy. The companies can provide different information formats in different contexts along with some other functions to enhance customization performance. For example, companies can provide an attribute-based format with an instant messenger tool together to help the consumers communicate with their partner to resolve preference conflict. On the other hand, companies can provide a bundle-based format without an instant messenger tool to encourage the consumers to make decision singly. The companies can also collect the consumers’ history data to analyze their behaviour habit, and accordingly provide different information format.

With the advent of social media, people would like to search for information and share experience through the internet. And in this context, the IT makes the joint decision scenario increasingly common. How to deal with this joint decision making issue is the problem that companies faces, and this paper’s results may answer part of this question and may have some practical implication.

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