

Customer participation to co-create value in human transformative services: a study of higher education and health care services

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Abstract Previous studies on customer participation have mainly focused on its outcome benefits. The current study investigates the effect of various participation behaviors on both process and outcome value in human transformative services. Based on the data surveyed from health care and higher education services in Vietnam, the results show that active and relevant participation behaviors are crucial to co-create value. Information sharing, responsible behavior, and voluntary in-role feedback have different roles in process and outcome value. Voluntary in-role feedback is more important in health care service, while responsible behavior is critical in higher education. Moreover, distinction should be made between passive provision of information and voluntary feedback of customers to the firm.

Keywords Customer participation · Customer value · Transformative service · Vietnam

1 Introduction

Customer participation in the creation of a service for him/herself has been researched for some decades (Bateson 1985; Bitner et al. 1997; Lovelock and Young 1979). This concept has become even more critical since Prahalad and Ramaswamy (2000, 2004) point out the importance of the interaction between a firm and its customers in the economic value creation process. Several scholars have now agreed that in the customer's need satisfying process, the customer is not just a

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payer and a passive receiver of the service created solely by the firm but a co-creator of the service (Grönroos 2008; Grönroos and Voima 2013; Heinonen et al. 2010; Landroguez et al. 2013; Vargo and Lusch 2004). That is, customers need to participate and provide necessary non-monetary resources in the service creation process (Grönroos 2008; Saarijarvi 2012).

Customer participation has been found to have positive impact on service outcomes (Auh et al. 2007; Bitner et al. 1997; Ennew and Binks 1999; Fliess et al. 2014; Kelley et al. 1990; Lovelock and Young 1979). However, customer participation can also lead to negative consequences due to inappropriate participative behaviors or poor interactive mechanism (Bendapudi and Leone 2003; Mustak et al. 2013; Hsieh et al. 2004; Chan et al. 2010; Seiders et al. 2015; Ostrom et al. 2010). Given these mixed findings, scholars have pointed out the need to explore issues related to the concept of customer participation, such as defining, conceptualizing, measuring, and determining the customer's participative role in service production (Chen and Raab 2014; Mustak et al. 2013).

The current study is developed around three research issues. The first is about the concept clarification. It seems that many authors did not differentiate between customer participation in the creation of the service itself and customer participation in the creation of value (Etgar 2008; Mustak et al. 2013). Distinguishing between these two terms is needed because they are closely related but distinct concepts (Lusch and Vargo 2006; Lusch et al. 2007; Grönroos and Ravald 2011). In fact, some studies did mention about the connections between customer participation in creating service and in creating value, but research explicitly investigates these links is scarce (Aarikka-Stenroos and Jaakkola 2012; Lusch et al. 2007; Etgar 2008; Mustak et al. 2013).

Second, literature shows relatively few studies which provide deeper knowledge of the customer's behaviors in the service creation (Chan et al. 2010; Heinonen et al. 2013; Moeller et al. 2013; Wu 2011; Mustak et al. 2013) and how these participation behaviors contribute to the creation of value (Etgar 2008; Jaakkola and Alexander 2014). Participating in a service means that customers must spend more resources. That is, in gets–gives trade-off in the conceptualization of value (Zeithaml 1988), there is an increase in the “gives,” but the changes in the “gets” has not been clearly understood in the literature, as mentioned above. Consequently, the relation between customer participation and perceived value has not been fully understood yet. Particularly, little is known about how various participative behaviors contribute to the emergence of different forms of value for customer (Mustak et al. 2013; Olsen and Mai 2013).

The third issue is on the service industry under study. Given the diverse nature of services (Lovelock et al. 2011), customer participation may have different roles; some of which are more critical than others (Bitner et al. 1997). The current study focuses on human transformative services in response to the recent call for more research on this service category (Anderson et al. 2013; Bitner et al. 2014; Davis and Pechmann 2013; Rosenbaum et al. 2011). In fact, transformative service ranked second in the ten research priorities in service sciences as being suggested by Ostrom et al. (2010). In brief, human transformative service refers to those that centers on creating uplifting changes and improvements in the well-being of

customers and other stakeholders (Anderson et al. 2011). This research stream ultimately focuses on understanding the roles that services and customers play in affecting consumer well-being. Particularly, health care and higher education services are chosen in the current study. Among many transformative services that aim to create uplifting changes and improvement in the well-being of customers, health care and education services have important roles in fulfilling the very basic needs of a human life (Lengnick-Hall et al. 2000). Moreover, in these two service industries, customer participation is very critical to co-create the service. They have prerequisite roles that, if not fulfilled, will significantly affect the service outcomes (Bitner et al. 1997). Díaz-Méndez and Gummesson (2012) also emphasize that higher education and health care are among the typical examples of the service co-creation and value co-creation between a service firm and its customers. Apart from the above characteristics, the selection of two service industries (rather than only one) in the sample would not only improve the generalizability of the results across services but also provide chance to investigate the varying roles (weights) of each participative behavior in a given service industry.

Against the aforementioned analyses, the current study aims to explore the impact of three specific participating behaviors in a transformative service (i.e., information sharing, responsible behavior, and voluntary in-role feedback) on the emergence of two forms of perceived value (i.e., process value and outcome value). It also tests the influence of process and outcome values on customer satisfaction. Empirically, this study provides evidence of customer participation in transformative services in Vietnam, an emerging and transitioning economy in the South East Asia region. Given the fact that the majority of extant empirical studies have been conducted in developed countries, empirical evidence from an emerging and transitioning economy like Vietnam would be a necessary step before the global knowledge of this research topic can be claimed (Burgess and Steenkamp 2006). More details about this empirical research setting are presented in the method section.

In the sections that follow, we present a conceptual background and develop a set of hypotheses regarding the links of customer participation, perceived value, and customer satisfaction. Next, we report the empirical study and analyses that test the hypothesized relationships. Finally, we present a discussion of the findings and conclude with implications for service research and management.

2 Literature background and hypotheses

2.1 The concept of customer participation

The concept of customer participation has gained increasing attention of marketing scholars in the recent years (Brodie et al. 2011; Yim et al. 2012; Jaakkola and Alexander 2014). Over the time, its conceptualization varies considerably in terms of the nature of customer contributions, the temporal scope, and the outcome (Bitner et al. 1997; Auh et al. 2007; Brodie et al. 2011). The clear trend is that the meaning of customer participation has evolved from an interference in service production

(Levitt 1972), to a broad engagement of customer in the creation of value (Lusch and Vargo 2006; Heinonen et al. 2010; Grönroos and Ravald 2011; Mustak et al. 2013). The broadening of the conceptual domain of a construct would capture the marketing phenomenon and its relations with other constructs to a fuller extent. However, over-broadened concept may be challenged by the problem of conceptual distinctiveness and the reduced specificity in managerial implications. Therefore, this study adopts the definition of customer participation as a customer's *behaviors* related to the creation and delivery of service offerings (Auh et al. 2007; Mustak et al. 2013). These behavioral manifestations of customer are confined within the direct interaction or joint sphere of the service process (Grönroos and Voima 2013; Chen and Raab 2014; Gallan et al. 2013; Jaakkola and Alexander 2014; Vivek et al. 2012).

In the early development of the concept, Bateson (1985) explores customer perception of “do-it-yourself” service in comparison with the traditional service system. Mills and Morris (1986) view clients as partial employees of service firms and develop a model of client involvement. Bitner et al. (1997) elaborate the roles of service customer as productive resource, contributor, and competitor to the service firm. They also describe three levels of customer participation in creating a service. In low participation, all that is required is the customer's physical presence, with the employees of the firm doing all of the service production work. In moderate participation, consumer inputs (i.e., information, effort or physical possessions) are required to aid the service organization in creating the service. In high participation, customers have essential production roles that, if not fulfilled, will significantly affect the service outcome. Accordingly, higher education and health care are professional services that fit this high participation category. Unless the customer does something or adhere to the service process, the service provider cannot effectively deliver the service outcome (Seiders et al. 2015).

Under the lens of the emerging service dominant logic (Vargo and Lusch 2004), or service logic (Grönroos 2006, 2008), or customer dominant logic (Heinonen et al. 2010), the locus of service value creation was shifted from the firm to the interaction between the firm and the customer. Accordingly, service is described as a process of a firm doing things in interaction with its customers (Vargo and Lusch 2004). Customer participation thus becomes a fundamental part of the production of a service. The term value co-creation implies that value is the consequence of the collaboration and interaction between a firm and its customer. In this collaboration, both the firm and the customer apply resources, such as skills and knowledge, to a service interaction to acquire benefits (Cova et al. 2011).

It is worth clarifying the conceptual relations among customer participation, customer engagement and customer involvement. Customer participation refers to a customer's behaviors related to the creation and delivery of service offerings. These behaviors occur in an interactive situation in the joint sphere of the service (Auh et al. 2007; Chan et al. 2010; Van Doorn et al. 2010). In contrast, customer involvement is the perceived relevance of an object, based on inherent needs, values, and interests. It is not viewed as a behavior, but it indicates a state of mind or perceived personal relevance (Fliess et al. 2014). Finally, customer engagement is defined as a psychological state that occurs by virtue of interactive customer

experiences with a focal agent/object such as a firm or brand (Brodie et al. 2011; Jaakkola and Alexander 2014). Engagement captures the intensity of an individual's participation in and connection with an organization's offerings or organizational activities. It may be manifested cognitively, affectively, behaviorally, or socially (Vivek et al. 2012). As such, customer participation is viewed as a behavioral component in the interactive sphere, whereas customer involvement reflects the cognitive, affective, or motivational component of customer engagement in a service. They are the two components of the higher abstract construct of customer engagement (Jaakkola and Alexander 2014).

Extant literature shows that there have been a number of empirical studies on the connections of customer participation and other marketing concepts. For example, Auh et al. (2007) explore the links between factors such as customer expertise, customer communication, customer affective commitment, interactional justice, and the level of customer participation in a service, which leads to customer loyalty. Chan et al. (2010) find that customer participation could enhance customers' economic value and strengthen the relational bond between customers and employees. But it also increases employees' job stress and hampers their job satisfaction. Yim et al. (2012) test the mediating role of intrinsic and extrinsic values in the impact of customer participation on service outcomes. It also examines how customers' and employees' relational efficacy beliefs moderate the extent to which customer participation enhances their enjoyment and the consequential outcomes. Gallan et al. (2013) study the participation of customers in health care service and find that when customers' affective levels become more positive, levels of participation increase. In turn, higher levels of positivity and participation improve customer perceptions of the service quality and satisfaction. Chen and Raab (2014) suggest that mandatory customer participation includes information participation, actionable participation and attitudinal participation, all of which significantly affect customer loyalty. Dong et al. (2014) warn that customer participation could be a double-edged sword. Their empirical results show that when customers are ready, increasing customer participation would enhance customer satisfaction and service quality. In contrast, the effect of customer participation on service outcomes becomes negative if customers are not willing or ready. Regarding the antecedents of customer participation behavior, Olsen and Mai (2013) find that customer's convenience orientation and knowledge influence both motivation and behavior of customer participation and involvement also drives customer participation behavior. Olson and Rosacker (2013) study the common motivations and relationships between crowd sourcing participation and open source software development. Ahn and Rho (2014) examine the effect of relational factors on customer participation.

In short, the above review indicates that customer participation focuses on behaviors that take place in the interaction sphere for the creation of service offerings. It is distinct from customer involvement, and both of which form the broader construct of customer engagement. Although there have been some findings on the concept, empirical evidence on the role of customer participation on service outcomes is limited and inconsistent (Dong et al. 2014). Moreover, given the diverse nature of services (Lovelock et al. 2011), the raising issues are what specific

behaviors are involved in a participation process and how each of these participative behaviors affects the process and outcome value in a human transformative service such as health care or higher education. These questions are to be addressed in the next sections.

2.2 Customer participation behaviors

Previous studies have suggested different dimensionalities of customer participation (Chen and Raab, 2014), from single dimension (e.g., Groth 2005; Auh et al. 2007; Yi et al. 2011) to two dimensions (e.g., Kelley et al. 1990), three dimensions (e.g., Ennew and Binks 1999; Claycomb et al. 2001), or four dimensions (e.g. Uzkuzt 2010). Particularly, Yi and Gong (2013) consider customer participation behavior as one dimension of the broader construct of value co-creation behavior of customer. Accordingly, customer participation behavior refers to the required behavior necessary for successful value co-creation. In contrast, customer citizenship behavior, the other dimension, refers to voluntary behavior that provides extraordinary value to the firm but is not necessarily required. Customer participation behavior, in turn, includes four components, namely information seeking, information sharing, responsible behavior, and personal interaction.

With the aim to explore the role of various specific participation behaviors, the current study adjusts Yi and Gong (2013) framework by employing two components of participation, namely information sharing and responsible behaviors, and adding voluntary in-role feedback during the interaction in the service process. Information seeking is excluded from the current study because it refers to customer activities before using the service (Yi and Gong 2013), while this study focuses on the service interaction within the joint sphere. Another reason to exclude information seeking is that it has a weak correlation with participation behavior (only 0.38) in Yi and Gong's empirical study, compared to those of information sharing, responsible behavior, and personal interaction (i.e., 0.78; 0.83, and 0.81, respectively). Personal interaction is also excluded due to its irrelevance in this specific research context. Personal interaction refers to interpersonal relations between customer and frontline employees (Yi and Gong 2013) that are manifested via courtesy, friendliness, and respect. In the context of knowledge-based professional services like health care and higher education, customers are at a knowledge disadvantage and thus more inferior to the service professionals in the interaction process (Makarem and Al-Amin 2014). Thus, customer interaction with service professional is similar to the traditional relationship between lower-level employees and managers in command-and-control organizations (Lengnick-Hall and Sanders 1997). Therefore, it is reasonable to assume that courtesy, friendliness, and respect in the personal interaction are always presented.

Information sharing refers to the act of providing information to service employees (Yi and Gong 2013). Essentially, information sharing is the contribution of customer's knowledge resources to the production of the service (Lengnick-Hall 1996). This participation behavior is very essential in the service process because the shared information helps service employees in producing the service that meets customer's particular needs (Ennew and Binks 1999). In health care services, for

example, patients share information with health care providers through behaviors such as describing their current condition and symptoms, sharing information about the disease's history and treatment, and expressing their want to pursue specific therapies and procedures (Gallan et al. 2013). However, not all patients practice this behavior at the same extent. When being asked, some of them may not prepare to provide all needed information to the doctor. This may be because of their limited knowledge, their unconscious mind or negative emotion, etc. Thus, there is a variation in the extent of this participation behavior across patients. Yi and Gong (2013) stress that if customers fail to share proper information, the outcomes of the service may not be as expected.

Responsible behavior refers to customer collaborative activities that are required for the production of the service (Yi and Gong 2013). This behavior occurs during the service process, when customers perform their in-role duties and responsibilities as a partial employee (Ennew and Binks 1999). According to Bettencourt (1997), a successful service creation requires that customers be cooperative, observing rules and policies, and accepting directions from employees. In health care service, responsible behavior manifests in cooperating with diagnostic efforts (Gallan et al. 2013) or other activities such as positioning the body according to the instructions of the radiographers to obtain a chest screen, taking medicaments as prescribed (Zainuddin et al. 2013). In higher education service, examples of responsible behavior include home readings or doing assignments, taking part in class meetings. These activities are necessary to ensure the service outcomes. However, not all customers (i.e., patients or students in this specific study) practice these behaviors at the same level or to the level expected by the service employees because to perform properly these responsible behaviors, customers need to possess appropriate knowledge or skills and to contribute more on both physical and non-physical resources.

Voluntary in-role feedback refers to the unsolicited information that customers voluntarily and actively provide to the service employees *during* the service process, which are helpful for frontline employees and the firm to adjust/improve the service creation process (Groth et al. 2004). This feedback is given voluntarily by the customer during the service process, when the service has not yet finished. It occurs after the customer experiences or receives certain behavior(s) of the service employees in the direct interaction. Voluntary in-role feedback is distinct from information sharing mentioned above. It is, by nature, a voluntary behavior which provides additional information beyond the required information being asked by the service employees. Voluntary in-role feedback is also distinct from the construct feedback described by Yi and Gong (2013), which refers to voluntary extra-role feedback occurring *after* the service consumption (i.e., citizenship behavior).

This factor is added as a component of participation behavior because it is necessary in any two-way dialogical process, which facilitates the effective resource integration between customers and service employees (Grönroos and Voima 2013). In a fruitful dialog, customers may practice both roles including giving information with and without questions (information sharing—passive role vs. voluntary feedback—active role). The voluntary provision of information without being asked in many cases indicates that the customer is ready and highly involved in the service

process (Dong et al. 2014). Moreover, in this particular study, health care and higher education are process-based services. The interaction phase normally lasts relatively long time. Customers have opportunities to offer prompt feedbacks and suggestions to employees upon receiving employees' behavior (Bettencourt 1997). These voluntary feedbacks of customers during the service process would provide valuable information and chances for the timely adjustment within the service process. In health care service, patients unsolicitedly express their comfort level or body responses to physician's specific therapies and procedures are example of voluntary in-role feedback (Gallan et al. 2013). In higher education, similarly, students unsolicitedly provide feedback or suggestions on the teaching approach or raise questions in classes are manifestations of voluntary in-role feedback.

In short, the proposed three-dimensional framework of customer participation behavior is deemed particularly relevant in knowledge-based transformative services like health care and higher education (Nordenflycht 2010). In these services, customer participation is most effective when it is in the form of *information sharing, responsible behavior, and voluntary in-role feedback*. These behaviors enable both the firm and its customers to learn more about the capabilities, needs, and conditions of each other and to integrate their resources in a more effectively and efficiently manner (Cegala et al. 2007; Gallan et al. 2013; Jaworski and Kohli 2006; Gummesson and Mele 2010).

2.3 Perceived service value

Fundamentally, service value is understood as the consumer's overall assessment of the utility of a service based on perceptions of what is received and what is given (Zeithaml 1988). Evolving with the service logic, Grönroos (2008) emphasized the experiencing aspect of service value by expressing that value for customers means that when they have been assisted by a service process they are or feel better off than before. Moreover, Babin and James (2010) stress that the concept of value should encompass the overall "gives," which includes factors such as money, effort, time, opportunity, and emotions as well as the overall "gets" which includes quality as well as emotions, prestige, and convenience. Thus, the conceptualization of service value must encompass the gets—gives and the process—outcome facets of the construct.

With this in mind, this study adopts the process—outcome approach to customer value (Hau and Thuy 2012). This dimensionality is based on Grönroos (1982) who views a service as integrating of technical (i.e., outcome) and functional (i.e., process) components. It is also in line with the view that value is not only determined at the end of the process only, but emerges during usage as well (Parasuraman et al. 1985; Grönroos and Voima 2013). In other words, in this study, customer value is conceptualized as a bidimensional construct (Lin et al. 2005) which consists of process value (or functional value) and outcome value (or technical value). Outcome value refers to those benefits that result from the service encounter, whereas process value refers to those experiences during the co-creation process. Within each component, the Zeithaml's (1988) gets—gives trade-off

principle is still applied. That is, benefits and sacrifices are embedded in the way customers evaluate process value and outcome value.

2.4 Customer participation behaviors and value creation

Based on the service logic perspective (Gummesson and Mele 2010; Grönroos and Voima 2013; Jaakkola and Alexander 2014; Vargo and Lusch 2008), the connection between customer participation and value creation can be explained through the process of interaction and resource integration. Interaction between customer and service provider (including dialog, resource transfer and learning) enables customer to enter and support the value creating processes of service provider. Resource integration is a process of getting assets together and incorporating one's resources into another's processes. Consequently, the value creation potential of a customer arises from his/her ability to match, to position, and to contribute to the creation of service offering. A customer matches resources and processes to increase its ability to shape value proposition and enable value creation processes. In short, interaction is the generator of experience and value, while resource integration shapes experience and value (Gummesson and Mele 2010).

Figure 1 depicts three participation behaviors and their proposed effects on process and outcome value, which in turn, affect customer satisfaction. Theoretical justifications for the research hypotheses are as follows.

2.4.1 Customer participation and outcome value

As mentioned, outcome value is related to those benefits that result from the service encounter. In human transformative services like higher education and health care, the outcome benefits are the customer being better off *after* consuming the service (Grönroos 2008; Lengnick-Hall 1996). In other words, customer operant resources

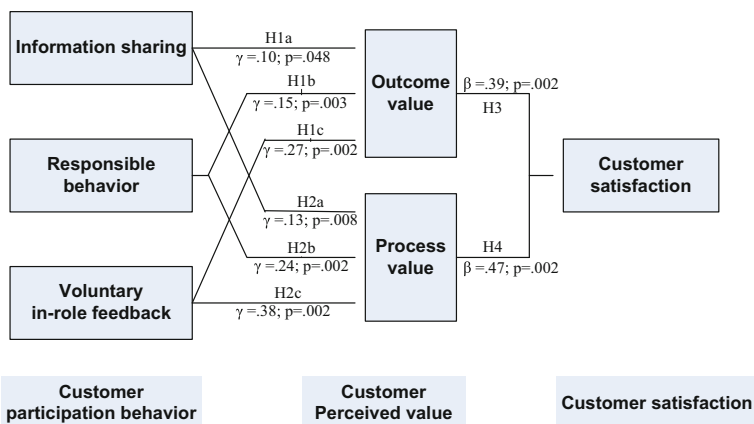


Fig. 1 The model and standardized estimates for the combined sample

(i.e., knowledge, capabilities in higher education, and physical, mental, psychological strength in health care service) would be enhanced after the service.

Through customer participation, the perceived outcome value may be enhanced in three aspects: customized service, better service quality, cost reduction, and increased control (Chan et al. 2010; Dong et al. 2014; Yim et al. 2012). Participation behaviors such as information sharing and voluntary in-role feedback are essential forms of customer—provider dialog. They represent the transfer of knowledge or information from customer to provider. The sharing of information and voluntarily giving feedback helps firms learn knowledge of customer needs and wants (Lusch and Vargo 2006; Payne et al. 2008). According to Jaakkola and Alexander (2014), using customer knowledge and expertise in service creation can be considered as most suitable value co-creation mechanism. It is the customers who have the most detailed knowledge about their own needs, preferences and activities, whereas firms hold the expertise to fulfill those needs. The pieces of knowledge provided by customer would enable firms to customize the service specifications and procedure to suit customer needs (Auh et al. 2007; Chan et al. 2010). The knowledge may also be related to customer's personal values which are used by the customers as their own standards or framework to evaluate the service (Lages and Fernandes 2005). Moreover, Auh et al. (2007) suggest that responsible behaviors of customer in the service production leads to cost reduction, which in turn leads to more favorable perception of the service value. Chan et al. (2010) and Jaakkola and Alexander (2014) explain that these behaviors allow customers to provide resources directly into the service provision, make more choices, and work with the service provider to facilitate a higher efficiency through the integration of supplemented resources provided by the two sides (Jaakkola and Alexander 2014). Moreover, with the contributions of redundant customer's resources, the provider may spend less resource to achieve the same outcome benefits and to the extent that customers participate in the service production, the consumer can expect a reduction in price (Auh et al. 2007). Additionally, customers who participate by providing more information, voluntary feedback, and doing responsible actions in the service process can gain more control and thus reducing the financial and performance risks associated with receiving inappropriate outcomes (Chan et al. 2010; Etgar 2008).

This reasoning implies that customer participation behaviors including information sharing, responsible behavior, and voluntary in-role feedback would enhance the perceived “gets” and reduce the perceived “gives.” Therefore, it is proposed that

H1a There is a positive effect of Information sharing on outcome value.

H1b There is a positive effect of Responsible behavior on outcome value.

H1c There is a positive effect of Voluntary in-role feedback on outcome value.

2.4.2 Customer participation and process value

Process value refers to those derived from customer experience while joining the service process. In human transformative services like higher education and health care, the process value is the customer being better *while* experiencing the service

(Heinonen et al. 2013; Helkkula et al. 2012; Lengnick-Hall 1996). The justification for the impact of customer participation behavior on customer perception of process value is based on the enhancement of intrinsic value (e.g., enjoyment, learning, and psychological strength) and extrinsic value (e.g., social relation, sense of approval, and affiliation), which are in line with the experiential view service consumption (Helkkula et al. 2012; Holbrook 2005). Accordingly, the value of consuming a service resides not in the object of consumption but in the experience of consumption (Yim et al. 2012; Payne et al. 2008). This view explains that value creation is embedded in personalized experience, which promotes the notion that consumption is for its own sake (Prahalad and Ramaswamy 2004) or for a self-justifying end itself (Holbrook 2006). It specifically emphasizes the emotional, contextual, symbolic, and non-utilitarian aspects of consumption experience (Helkkula et al. 2012; Addis and Holbrook 2001).

Participation behavior through communication and interaction would improve the intrinsic value via enjoyment, confidence, and other psychological benefits (Jaakkola and Alexander 2014). Customer enjoyment expresses a customer level of positive affective experience during the participation in a service process for their own sake that reflects generalized feelings of pleasure and fun (Babin et al. 1994; Bateson 1985; Etdar 2008; Payne et al. 2008). As Bitner et al. (1997) put it, “some customers simply enjoy participating in service delivery” (p. 198). This means a fun and enjoyable exchange experience could be created by customers’ participation as their role shifts from passive receivers to active co-producers of value (Dabholkar and Bagozzi 2002; Vargo and Lusch 2004). Thus, the process value of participation can be derived from intrinsic enjoyment and the creation of an enjoyable experience through customer participation is important in the process of value co-creation (Yim et al. 2012).

Moreover, from a learning perspective, participation would enhance customers’ knowledge and skills leading to a perception of process value due to the improvement of their operant resource (Mustak et al. 2013). This is particularly relevant to process-based knowledge services like health care and higher education, where knowledge on the health issues or knowledge on how to learn better is as important as the outcome benefits of the service. Regarding to this aspect, Yim et al. (2012) stress that customer participation could create value for both customers and employees because of the experience they learn. Studies on learning (Lengnick-Hall 1996) confirm that people who exert a great deal of effort while learning would enjoy the learning process more than people who exert little effort.

Process value of customer participation can also be derived from extrinsic benefits such as social relationship and sense of approval. Chan et al. (2010) point out that customers may fulfill their social needs for approval, affiliation, and esteem when they participate in the service with employees. This is because augmented seller-customer interactions during the joint effort in service creation would act as catalysts for two-way communication and relationship development (Mustak et al. 2013; Lovelock and Young 1979; Kelley et al. 1990). Thus, interaction between customers and employees represents an opportunity to create relational values for both parties (Fleming et al. 2005). This relational value is particularly evident when the service is long term, customers depend heavily on credence qualities for their

service evaluation, and service employees have more personal connections with customers (Fleming et al. 2005). These are relevant in the process-based services context of higher education or health care. Such friendly and enjoyable interpersonal relationship would add relational value for customers (Chan et al. 2010; Patterson and Smith 2003; Sharma and Patterson 1999). In health care service, when patients work with doctors to incorporate their preferences, the level of care delivered is improved which encourages more empathetic, honest, and friendly interactions leading to relational values (Street et al. 2007). Given the above analysis, this study proposes as follows:

- H2a** There is a positive effect of Information sharing on process value.
- H2b** There is a positive effect of Responsible behavior on process value.
- H2c** There is a positive effect of Voluntary in-role feedback on process value.

2.5 Perceived value and customer satisfaction (replicated hypotheses)

Customer satisfaction is defined as an affective state resulting from the comparison of the expectation of performance and the perceived performance of a service (Oliver 1980). Literature shows that customer satisfaction and customer value are among the most studied concepts in marketing literature. While customer value is “the basic foundation for everything we do in marketing” (Holbrook 2005, p. 46), customer satisfaction is widely accepted as a strong predictor for post-purchase behavior variables such as repurchase intention, word-of-mouth, or loyalty (Ravald and Grönroos 1996; Eggert and Ulaga 2002). According to Eggert and Ulaga (2002), customer satisfaction research is mainly influenced by the disconfirmation paradigm (Parasuraman et al. 1988) which states that the customer’s feeling of satisfaction is a result of a comparison between perceived performance and one or more comparison standard, such as expectations. The customer is satisfied when he/she feels that the product’s performance is equal to what was expected (confirming). If the product’s performance exceeds expectation, the customer is very satisfied (positive disconfirming); if it remains below expectations, the customer will be dissatisfied (negatively disconfirming).

Customer satisfaction and customer value are distinct from each other. Customer value is a cognitive-based construct, resulting from the cognitive comparison between “the gets” and “the gives.” In contrast, customer satisfaction is an affective-based construct resulting from the evaluative comparison between the expected performance and the actual performance (Cronin et al. 2000; Eggert and Ulaga 2002).

The common theoretical justification for the impact of customer perceived value on customer satisfaction is based on Weiner’s (1986) and Bagozzi’s (1992) model on cognitive appraisal— affective response, which advocates that cognitive process trigger affective response, suggesting that customer perceived value affect satisfaction. However, albeit numerous studies have conducted regarding the nature and the connection between these two constructs (e.g., Cronin et al. 2000; Eggert and Ulaga 2002; Lam et al. 2004; McDougall and Levesque 2000; Whittaker et al.

2007; Walsh et al. 2014), a consensus has not been reached (Heinonen et al. 2013). Therefore, it is worth testing again the relation between perceived value which are manifested in its process and outcome components and customer satisfaction through the following hypotheses:

H3 There is a positive effect of outcome value on customer satisfaction.

H4 There is a positive effect of process value on customer satisfaction.

3 Method

3.1 The empirical setting

To test the model and hypotheses, higher education and health care services in Vietnam were selected. Vietnam is an emerging market which is transitioning from a central planning economy to a market economy. The country has been experiencing a steady growth of the service sector from 31 % of GDP in 2007 to 42 % in 2013. This growth reflects the increasing demand for discretionary services (e.g., tourism, retails, banking, telecommunications, education, and health care) as a results of rising incomes, emerging middle class, urbanization, and business development of the economy (Alejandro et al. 2012). Moreover, Vietnamese people are heavily affected by the Eastern Confucius, collectivist culture. The underlying cultural values are likely to affect consumer behaviors (Triandis 1995, Zhou et al. 2005). These economic, social, and cultural characteristics make Vietnam an appropriate setting for this study, given the fact that most of the existing body of research has been conducted in high income, industrialized countries, while “emerging markets are natural laboratories in which theories and assumptions about their underlying mechanisms can be tested, generalizations derived and boundary conditions identified“ (Burgess and Steenkamp 2006, p. 337).

As far as the service industry, health care (i.e., general health treatments) and higher education (i.e., postgraduate studies) were selected. As mentioned before, these two transformative knowledge-based services essentially act on human body, which require high interactions between service employees and customers (Wong 2012; Gill et al. 2011). The ultimate outcomes of these two services are the improvement of customers’ knowledge, skills, and health situation, i.e., customer operant capital (Arnould et al. 2006). Moreover, education and health care are characterized as knowledge intensive professional services. In these services, the core offering relies on a substantial body of complex knowledge of service employees and there exists a substantial knowledge disadvantage of service customers (Nordenflycht 2010).

3.2 Sample and data collection

Two surveys were conducted simultaneously using structured questionnaires. The first survey was targeted to outpatients of health care services. They were

conveniently approached at 37 public and private hospitals of different sizes. The second survey's respondents were postgraduate students of various fields (i.e., engineering, business, social sciences, natural sciences, etc.), who were also approached conveniently at 8 public and private university campuses during their class's break. All data collections were undertaken in HoChiMinh city, the largest city of Vietnam. Interviewers were six carefully trained students who were taking a research methods course. The questionnaire for each survey was initially developed in English and then translated into Vietnamese through a translation and back-translation procedure (Hambleton 1993). The two translators were university academics who are fluent in both languages. After comparing the two English versions, mismatched points were discussed and the Vietnamese version revised accordingly.

3.3 Measurement scales

The scale items measuring six *constructs* in the model are presented in Table 2. Accordingly, the scale to measure customer participation behaviors consisted of 9 items reflecting three dimensions, namely information sharing (3 items), responsible

Table 1 Sample characteristics

	Higher education		Health care		Combined sample	
	Frequency	%	Frequency	%	Frequency	%
<i>N</i>	417	50.5	409	49.5	826	100
Gender						
Male	227	54.4	181	44.3	408	49.4
Female	190	45.6	228	55.7	418	50.6
Age group						
18–25	52	12.5	40	9.8	92	11.1
26–35	310	74.3	149	36.4	459	55.6
36–45	47	11.3	115	28.1	162	19.6
46 or more	8	1.9	105	25.7	113	13.7
Income: (VND Mil./month)						
Low(<i>less than 5</i>)	76	18.3	135	33.0	211	25.6
Upper low(<i>5 to less than 10</i>)	127	30.5	141	34.5	268	32.5
Medium(<i>10 to less than 15</i>)	97	23.3	85	20.8	182	22.1
High(<i>15 or more</i>)	116	27.8	48	11.8	164	19.9
Education						
High school (or lower)			75	18.3		
College	n/a		115	28.1	n/a	
University			190	46.5		
Post-grad			29	7.1		

Table 2 Scale items and loadings (on combined sample data)

Item wording (example on health care items)	Std. loading
Information sharing: (CR = 0.812 AVE = 0.685)	
I clearly describe my health status/symptom with the doctor at X	0.76
I provide the doctor with necessary information	0.89
I answer all the doctor's questions (<i>low EFA loading = 0.42</i>)	<i>Deleted</i>
Responsible behavior: (CR = 0.788 AVE = 0.651)	
I perform all the tasks that are required by the doctor	0.75
I adequately complete all the tasks instructed by the doctor	0.86
I follow the doctor's directives or orders (<i>low EFA loading = 0.48</i>)	<i>Deleted</i>
Voluntary In-role Feedback: (CR = 0.710 AVE = 0.553)	
<i>During the meeting(s) with the doctor....</i>	
When I receive good service from the doctor, I comment about it	0.67
When I experience unpleasant feeling about the service, I let the doctor know	0.81
If a problem emerged I let the doctor know (<i>low CFA loading = 0.48</i>)	<i>Deleted</i>
Outcome value: (CR = 0.890 AVE = 0.730)	
<i>In comparison with the money, time and effort I spend...</i>	
The benefits I receive from X is as good as expected	0.90
The services I receive from X is of high value	0.87
The doctor at X provides me with the benefits I want	0.79
The doctor at X gives me what I need (<i>error covariance = 0.44</i>)	<i>Deleted</i>
Process value: (CR = 0.856 AVE = 0.748)	
<i>In comparison with the money, time and effort I spend...</i>	
The doctor at X makes me feel good during the time I use the service	0.86
The doctor at X gives me a positive experience during the service	0.87
I have an encouraging time during the service at X (<i>error covariance = 0.26</i>)	<i>Deleted</i>
I have a happy time during the service at X (<i>error covariance = 0.25</i>)	<i>Deleted</i>
Satisfaction: (CR = 0.889 AVE = 0.729)	
In general, the service of X meets my expectations	0.90
I have a positive experience with X and the doctor	0.91
I feel happy with the service at X	0.74
Overall, I am satisfied with X and its services (<i>error covariance = 0.46</i>)	<i>Deleted</i>

CR Composite reliability, AVE Average variance extracted

behavior (3 items), and voluntary in-role feedback (3 items). These items were adapted from Yi and Gong (2013). The scales measuring process value (4 items) and outcome value (4 items) were adapted from Wang et al. (2004) and Sweeney and Soutar (2001). Finally, customer satisfaction was measured by 4 items derived from Yu and Dean (2001). All scales were in five-point Likert type, anchoring from 1 for *totally disagree* and 5 for *totally agree*.

4 Results

4.1 Sample characteristics

As shown in Table 1, the sample included 826 respondents. Of which, 417 cases were customers of education service (50.5 %) and 409 cases were in health care service (49.5 %). Moreover, statistics on the health care sample indicated that it was relatively even in terms of gender, age group, income, and education level. The education sample also held balance in terms of gender and income. The majority (74.3 %) of students were within 26–35 years of age which was understandable because they were postgraduate students.

4.2 Assessment and refinement of measurement scales

For a preliminary assessment of all measurement scales, exploratory factor analyses (EFA) were undertaken on all scales together, first using data of the combined sample of two services and then of the health care sample and the higher education sample separately. The factor patterns yielded by the three EFAs fully supported the designed structure. However, two items were eliminated due to low loadings in at least one of the three EFAs (Table 2). Other scale items loaded substantially on their designated scale with factor loading higher than 0.50. The remaining 19 items measuring six constructs were then subjected to confirmatory factor analysis using AMOS.

In the confirmatory factor analysis (CFA), the full measurement model included six first-order constructs and their 19 respective reflective items. The test for normality showed that the kurtosis of all variables was within -0.26 to $+0.87$ and skewness ranged from -0.88 to 0.27 . That is, the assumption of normal distribution was not severely violated and thus, the use of maximum likelihood estimation (ML)

Table 3 Discriminant validity of scales

	Squared correlation and average variance extracted					
	Information sharing	Responsible behavior	Voluntary in-role Feedback	Process value	Outcome value	Customer satisfaction
Information sharing	0.685					
Responsible behavior	0.141	0.651				
Voluntary in-role Feedback	0.088	0.123	0.553			
Process value	0.075	0.131	0.206	0.730		
Outcome value	0.039	0.061	0.110	0.666	0.748	
Satisfaction	0.048	0.075	0.162	0.619	0.604	0.729

Values in the lower triangular region represent the squared correlation coefficients

Values in the diagonal represent the average variance extracted (AVE). All are above the threshold of 0.50

Significance value for AVE (bold in the diagonal): >0.50

was considered appropriate (Fabrigar et al. 1999). The measurement model was refined further by eliminating 5 items that exhibited a high covariance of the error terms (4 items) or low loading (1 item) as indicated in Table 2. As a result, with the combined data, the CFA of the measurement model yielded the following indices: Chi-square = 224.24; $df = 64$; $p = 0.000$; GFI = 0.963; CFI = 0.976; TLI = 0.965; RMSEA = 0.055. The fit indices of CFA applied to the health care and education sample separately are shown in Table 4, which are all satisfactory. These results show a good fit between the measurement model and the data of combined sample as well as of the individual samples.

As shown in Tables 2 and 4, in all cases of the three samples, the standardized item loadings range from 0.63 to 0.93, while the average variance extracted (AVE)

Table 4 Measurement and structural model estimation results

	Combined sample (826 cases)	Health care (409 cases)	Education (417 cases)
Measurement model			
Chi squared	224.24	241.46	157.67
dF	64	64	64
p	0.000 < 0.05	0.000 < 0.05	0.000 < 0.05
GFI	0.963	0.927	0.948
TLI	0.965	0.935	0.953
CFI	0.976	0.954	0.967
RMSEA	0.055	0.082	0.059
Standardized item loadings	0.67–0.91	0.67–0.93	0.63–0.90
Structural model			
Chi squared	396.10	338.84	282.32
dF	70	70	70
p	0.000 < 0.05	0.000 < 0.05	0.000 < 0.05
GFI	0.933	0.900	0.910
TLI	0.935	0.910	0.903
CFI	0.950	0.931	0.926
RMSEA	0.075	0.097	0.085
Standardized path coefficient			
H1a—Information sharing → Outcome value	0.10 (.048)	0.20 (.017)	0.25 (.002)
H1b—Responsible behavior → Outcome value	0.15 (.003)	0.01 (.887)	0.30 (.002)
H1c—Voluntary in-role Feedback → Outcome value	0.27 (.002)	0.29 (.002)	0.12 (.123)
H2a—Information sharing → Process value	0.13 (.008)	0.20 (.005)	0.31 (.002)
H2b—Responsible behavior → Process value	0.24 (.002)	0.11 (.081)	0.39 (.002)
H2c—Voluntary in-role Feedback → Process value	0.38 (.002)	0.42 (.002)	0.19 (.005)
H3—Outcome value → Satisfaction	0.39 (.002)	0.38 (.002)	0.42 (.036)
H4—Process value → Satisfaction	0.47 (.002)	0.50 (.002)	0.40 (.005)

Numbers in parentheses are p values

of scales range from 0.553 to 0.748, all above the accepted 0.50 limit. These results indicate satisfactory convergent validity of scales. The composite reliability (CR) values of the six constructs fall between 0.710 and 0.890, which are above the accepted standards of 0.70 as suggested by Kline (1998). The squared correlation coefficients of the 15 pairs of constructs (see Table 3) are all smaller than their respective AVE which imply that discriminant validity of all scales are achieved (Fornell and Larcker 1981).

4.3 Test of Common method variance

To investigate the problem of common method variance (CMV), the Harman single factor CFA, which is the most widely known approach (Podsakoff et al. 2003), was undertaken. The results showed very low fit indices (Chi-square = 3904; $df = 106$; GFI = 0.535; CFI = 0.464; TLI = 0.393; RMSEA = 0.208). Additionally, given that Harman's test is highly conservative in detecting biases (Malhotra et al. 2006), the marker-variable technique, which is considered as a convenient yet effective tool for detecting CMV (Malhotra et al. 2006), was also employed. According to Lindell and Whitney (2001), the smallest correlation among the manifest variables provides a reasonable proxy for CMV. In the current study, the smallest correlation was 0.007 ($p = 0.837$) between item01 (*I clearly describe my health status/symptom with the doctor*) and the marker variable (*when I have a health problem, I always find a satisfactory solution*). The results of the two tests indicated that CMV was not the major source of the variations in the observed items.

4.4 Structural model estimation using the combined sample

After refining the measurement scales, the structural model was estimated using maximum likelihood method (ML). The estimation of the proposed structural model using the combined data of two services yielded a good fit (Chi-square = 396.10; $df = 70$; $p = 0.000$; GFI = 0.933; TLI = 0.935; CFI = 0.950; RMSEA = 0.075).

The standardized path coefficients are shown in Table 4. Accordingly, six hypotheses H1a, 1b, 1c and H2a, 2b, 2c were all supported at $p \leq 0.05$, with information sharing showing a significant positive effect on outcome value ($\gamma = 0.10$; $p = 0.048$) and on process value ($\gamma = 0.13$; $p = 0.008$). Responsible behavior had a significant positive effect on outcome value ($\gamma = 0.15$; $p = 0.003$) and on process value ($\gamma = 0.24$; $p = 0.002$). The paths from voluntary in-role feedback to outcome and process value also showed significant positive effects ($\gamma = 0.27$; $p = 0.002$ and $\gamma = 0.38$; $p = 0.002$, respectively). In turn, both outcome value and process value were found to have significant positive effect on customer satisfaction ($\beta = 0.39$; $p = 0.002$ and $\beta = 0.47$; $p = 0.002$, respectively). Thus, H3 and H4 received support from the empirical data of the combined sample.

4.4.1 Cross-service industry analysis

The structural model was further validated using data of individual service industries, i.e., health care and higher education. The analyses followed the same

procedure. Both the measurement and structural models were sequentially estimated using the respective datasets. The first part of Table 4 shows that the both measurement models received satisfactory fit indices, indicating that the measurement model is invariant across the two samples. Likewise, the second part of Table 4 shows that there is an acceptable fit between the data from each industry and the structural model.

As shown the third part of Table 4, the standardized coefficients for the hypothesized relationships indicated that in higher education all hypotheses were supported, except the hypothesized effect of customer voluntary in-role feedback on outcome value ($\gamma = 0.12$; $p = 0.123$). In health care, the effects of responsible behavior on both outcome and process value were not significant ($\gamma = 0.01$; $p = 0.887$ and $\gamma = 0.11$; $p = 0.081$, respectively). Thus, H1b and H2b were not supported in the case of health care service.

The results also showed that the proportion of the variance in customer satisfaction being explained by process value and outcome value was substantially at 62 % for higher education, 70 % for health care and 67 % for the two industries combined.

5 Discussion

In general, this empirical study finds that in transformative services such as health care or higher education, where customer participation is compulsory, the more actively customers participate in the service creation, the higher value they perceive in both process and outcome forms, leading to higher level of customer satisfaction. , despite the fact that customers need to spend more of their own resources to be an active co-creator of the service (i.e., higher “gives”), customer participation helps them gain more value (i.e., much higher “gets”).

In particular, this study specifies the effect of participation behaviors on the creation of process value and outcome value separately. In all tested cases (i.e., combined data, education data, and health care data), the explanatory power of participation behaviors on process value is stronger than on outcome value (explained variance = 0.22 vs. 0.11 in combined data; 0.29 vs. 0.16 in education, and 0.23 vs. 0.13 in health care service). While the majority of prior studies tend to link participation behavior to outcome benefits such as customized service, better quality, lower risk, and cost (Auh et al. 2007; Chan et al. 2010; Yim et al. 2012), this study provides empirical evidence that the participation of customer connects strongly to process value as well. This is particularly attributable to health care and higher education services. In these services, the participation process would benefit the customer through learning new knowledge, in addition to the development of social relation and pleasurable experience. This result thus provides a strong support to the customer experience perspective (Heinonen et al. 2013; Helkkula et al. 2012; Ramaswamy 2011).

In higher education service, responsible behavior is the most important factor among the three forms of participation behavior. In this service, responsible behavior is mainly related to learning activities. So, besides participation to

experience the service process for self-gratification or social relation purpose, this is actually the act of knowledge development within the learner, which accumulates gradually leading to the outcome benefits of the service. As such, there is a strong link between the “quality” of learning behavior, i.e., learner participation, in the learning process and the service outcomes (Lengnick-Hall et al. 2000). Thus, it can be confirmed that, in higher education the efforts, knowledge, skills, and motivations of a customer to participate in the service are very crucial (Lengnick-Hall et al. 2000). It is the customer/learner who plays the key role (through participation) in deciding how much they can get (i.e., learn) from the service provider and the provider is a facilitator of value creation. Moreover, the empirical data did not support the proposed direct effect of customer voluntary in-role feedback on outcome value in higher education. This means that voluntarily giving feedback to lecturers would directly improve the learning experience and interaction (i.e., how customers learn) leading to process value but does not directly improve the learning outcome of customers (i.e., what customers learn). This is again an illustration of the role of service provider (lecturer) as a value facilitator only, not a value creator (Grönroos 2008). By receiving voluntary in-role feedback, lecturers may adjust the way of teaching or interacting with students so that they can better develop knowledge of their own.

In health care service, voluntary in-role feedback plays more important role than information sharing and responsible behavior. This result can be explained that when patients voluntarily provide feedback during the service process, they are ready and actively involved in the service interaction. According to Dong et al. (2014), customer readiness is the precondition for customer participation behavior to be more effective. Voluntary feedback behavior is also an indicator of customer positivity, an affective state that strongly influences customer participation’s effectiveness (Gallan et al. 2013). By nature, both information sharing and voluntary in-role feedback are about giving information to the service provider in the dialog process. But in health care service, the recognition of the latter as distinct from the former is important. In fact, when patients visit a health care service, information sharing and responsible behavior are their basic and compulsory inputs for the service to be completed (Gallan et al., 2013). It is only the voluntary in-role feedback that differentiates between active and passive participating customers. This feature helps explain the trivial effects of responsible behavior on both outcome and process value in health care service. This is because in health care service, responsible behaviors such as taking medicines, adhering doctor’s therapy are necessary. Otherwise, the service outcomes cannot be achieved but wasting other resources of the customer (money, time, etc.).

The results also show that both process and outcome value have significant impact on the customer satisfaction. Several prior studies have shown that encouraging customer participation would increase their extent of satisfaction (Driscoll 1978; Cermak et al. 1994; Kellogg et al. 1997; Bitner et al. 1997; Dellande et al. 2004; Chang et al. 2009). This study, while supports to confirm this theoretical claim, provides further insights on this service outcome by showing that customer participation has no direct impact on customer satisfaction (i.e., no significant standardized path coefficients), but via process value and outcome value.

6 Conclusion

With the aforementioned findings, the current study has potential contributions to the literature on customer participation. Firstly, it shows that customer participation in the completion of a service is conceptually distinct from customer participation to co-create value, although the former is a crucial part to determine the later. This is particularly relevant in services that the participation of customers is compulsory such as in health care and higher education. Secondly, this study suggests that customer participation includes various behaviors, and each of which has different important role in the creation of customer's perception of process and outcome value related to a given service context. Irrelevant (or over/under-emphasized) participative behaviors would not only decrease the perceived value but also a waste of customer resources. Particularly, voluntary in-role feedback is more important in health care service, while responsible behavior is critical in higher education. Thirdly, regarding the dialogic behavior of customers during the service process (Gummesson and Mele 2010), distinction should be made between the passive provision of necessary information as a required component for service completion and the active voluntary feedback to provide additional information to the service provider. Finally, this study provides more insights into the important role of customer participation behavior in transformative services. While it is believed that participation is nearly a must for customers in these services, the way and mechanism of participation so as to gain much more value from the service is the matter for both customers and service providers to understand.

While being tested in health care and education services in Vietnam, the above-mentioned theoretical findings are expected to be generalizable to other services which hold key features such as compulsory customer participation, transformative service, and/or professional service. However, generalization of the findings to other settings in terms of socio-economic and cultural characteristics should be with caution.

From the managerial view, the findings of this study suggest some implications for health care and higher education services. In general, service firms should encourage customers to actively participate in the service process. Customers should be explained that active participation in the service process is much better for them and for the service firm as well. In health care, responsible behavior and sharing full information are a must for patients. Firms should design the service procedure and instruct patients clearly on how to perform these behaviors effectively and efficiently. More importantly, patients should be encouraged and rewarded for voluntarily providing feedback timely during the service process. In higher education, besides encouraging student's participation behaviors related to information provision, educational institutions should explain to them that actively performing responsible behavior is critical in this process-based service. Students should be instructed not only on the focal knowledge but on how to learn effectively during the educational process as well.

As for further research suggestions, the current study confines it empirical setting in services that require customer participation as compulsory tasks. Further studies

may extend to test the proposed relationships in other types of service in which customer participation is not compulsory. Next, given the diverse nature of services, researchers may be interested in low knowledge intensive services or services that do not act on human body. Moreover, future research may investigate the role of participation behaviors being manifested beyond the joint and interaction sphere. Finally, given that customer participation leads to higher perception of value, further research should explore to fully understand drivers of customer participation in various service contexts.

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