THE EFFECT OF CUSTOMER PARTICIPATION ON EMPLOYEE INNOVATIVE BEHAVIOR

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The Effect of Customer Participation on Employee Innovative Behavior

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CERTIFICATE OF ORIGINALITY

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Abstract

This study aims to investigate the influence of customer participation in services on the innovative behaviors of employees. These behaviors, relating to the generation and implementation of ideas, usually require support and resources from others, such as customers. Although previous studies have acknowledged the importance of customers in service innovation and investigated how their participation in product development teams can affect innovation performance, the effect of mandatory customer participation in services on employee innovative behavior has not been examined. This study attempts to address such gap by achieving the following research objectives. First, the study aims to develop a scale of perceived customer participation, as a precondition for the research question: how does customer participation influence employee innovative behavior. In addition, social exchange research indicates that more customer participation in services may lead to further customer-employee exchanges and a higher level of interpersonal trust between these parties. Trust has also been identified and examined as an innovation facilitator. Thus, this study proposes that interpersonal trust mediates the relationship between customer participation and employee innovative behavior. Another objective relates to the role of job complexity, which is associated with both customer participation and employee innovative behavior. Based on the previous literature, this study hypothesizes that job complexity moderates the customer participation-employee innovative behavior relationship.

Both qualitative and quantitative methods were used to address the research question. The measurement scales of all constructs but “customer participation” were adopted from previous research, while the instrument of perceived customer

participation was developed following the procedure suggested by Churchill (1979). The measurement items for customer participation were generated by referring to previous studies (25 items) and by summarizing the results of in-depth interviews with 12 customer-contact employees/managers in hotel restaurants (7 items). Next, a panel consisting of seven experts was formed to purify these items and improve content validity. Through this process, some measurement items were removed or rephrased and 18 items were retained. After that, a pilot study was conducted in Shenzhen to enhance the reliability, validity, and readability of the measurement scales. Based on the pilot data, the three dimensions of customer participation were identified (i.e., behavioral, information, and emotional participation) and the scale was purified (by removing three items). The high reliability and validity of employee innovative behavior and interpersonal trust were supported, and the measurement items of job complexity were also improved. These items were then used as the bases for the main survey.

The main survey was performed in Beijing, and the data were analyzed using AMOS 20.0. The confirmatory factor analysis results showed a favorable fit of the measurement models to the data and indicated high reliability and validity of all measurement scales. Thus, the newly developed scale of customer participation was supported and other scales were confirmed. The structural equation modeling results indicate that, except behavioral participation, the information and emotional participation of customers significantly influence employee innovative behavior. Moreover, affective trust, but not cognitive trust mediates the relationship between customer information/emotional participation and employee innovative behavior. Job complexity also has a positive effect on employee innovative behavior. However, the moderating effect of job complexity in the relationship between

customer participation and employee innovative behavior is not supported.

These findings provide service firms with several implications in stimulating the innovative behaviors of their employees and managing customer participation effectively. This study also provides some theoretical contributions to innovation research and service marketing. The limitations and future directions of this study are also provided (in Chapter 6).

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Chapter 1: Introduction

1.1 Research background

In the current era, innovation becomes a trend owing to the rapid development of science and technology. Correspondingly, firms strive to innovate to maintain high levels of competency; for example, such companies as Apple Inc. and the InterContinental Hotels Group constantly innovate and lead their respective industries. In comparison, companies that have shown lack innovation for many years, such as Eastman Kodak and Nokia, have found themselves in less competitive positions.

Innovation is also highly valued in the hospitality industry. For example, 44 hotel management groups and 56 hotel derivative companies attended the "China Hotels Innovation Summit & Awards 2013" held in Shanghai, including most of the important hotel groups in China. The conference discussed key issues related to innovation, such as "keeping up-to-date on the trends and China hotel market", "insights into the ever-changing requirements", "exploring and building core competence of China hotels" and "understanding the concept and practice of hotel innovation" (China Decision Makers Consultancy Events, 2013). As a result, companies in the hospitality industry have devised common objectives, which are to stimulate innovative behaviors and improve innovation performance. With reference to such trend, approximately 1122 institutes of higher education in China have opened tourism and hotel programs, and nearly half of them have offered innovation-related subjects in 2014 (National Tourism Administration, 2015).

The growing need for innovation is a response to the reality of the hospitality industry in China. During the first decade of this century, the total revenue of the

food service industry in China experienced a steady and rapid increase, except in 2010 (see Figure 1.1). The speed of revenue increase, however, started to slow down in 2009, and this may be attributed to the changing operation environment of restaurants. For one thing, the number of restaurants increased steadily, resulting in a fierce competition within the industry. The exact number of restaurants in China is unknown. Nevertheless, the number of restaurants in Beijing grew for at least

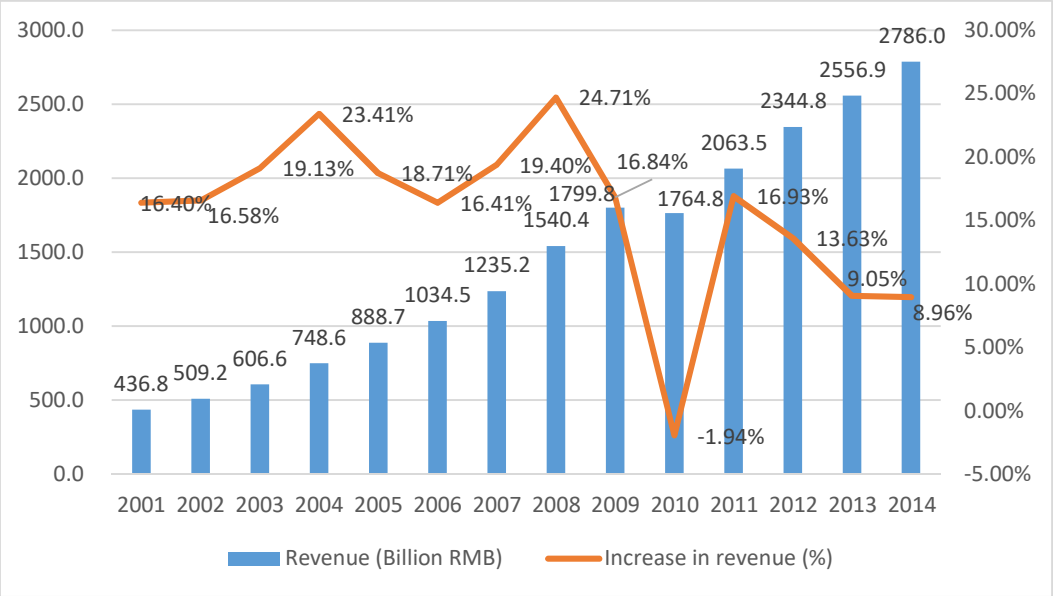

Figure 1.1 The total revenue of the catering industry (2001–2014)

Source: National Bureau of Statistics of China (NBS)

the last six years according to a report by an online dining social media in China, reaching over 70,000 in 2013 (Da Zhong Dian Ping, 2014). The number of restaurants in several other cities (e.g., Shanghai) also increased over the years. For another, the increase in demand slowed down and some markets were even shrinking. For example, the public expenses in wining and dining of official guests usually accounted for a large proportion of food and beverage (F&B) revenue (Yang, 2013). But the official catering demand in China has decreased since 2012 when the government introduced the "Eight-Point Code," which included measures to

curb bureaucracy and corruption. For example, the catering expenses of China's central government agencies decreased by 60% in 2013 (Jiang, 2013). Thus, the trend in the supply and demand for catering led to an oversupply of restaurants. In a buyer's market, the competition became even more severe, forcing numerous restaurants to adopt new and creative strategies to improve operational effectiveness (Yang, 2013). Furthermore, restaurants are faced with increasing costs. The rent cost for restaurants increased four to five times during the past decade (2003–2012), and such rent accounted for 40% to 50% of the revenue for several restaurants (Yang, 2013). The labor cost of restaurants in China also increased faster than the revenue. As such, price competition is no longer effective for restaurants. Homogeneous competition has actually led to price wars and declining profit margins, which are unfavorable for the sustainable development of the industry (Yang, 2013). Therefore, innovation is suggested as an alternative (Yang, 2013).

Given the situation explained above, numerous freestanding restaurants have begun to focus on innovation, which has played an increasingly important role in food service operations. One example is China’s hot pot restaurant sector. The Little Sheep Group, a known hot pot chain in China, has exerted great effort in creating new standards and surpassing its competitors after its establishment in 1999 (Cai, Zhang, & Huo, 2009). The company used Chinese medicine (e.g., angelica, pilosulae) as hot-pot condiments, and created the first automatic production line for hot-pot soup base in the world with such technologies as water-free and one-time molding package (Cai et al., 2009). With these innovations, the Little Sheep Group grew more quickly than its competitors, including the time-honored brand Dong Lai Shun (Cai et al., 2009), ranking third among all Chinese restaurants in terms of

total revenue in China in 2012. However, another restaurant chain called Hai Di Lao Hot Pot challenged the Little Sheep Group in recent years, and the latter lost the upper hand in several aspects in the competition (Huang, 2011). Innovation is more widespread within Hai Di Lao Hot Pot compared with the Little Sheep Group. According to Zhang Yong, the CEO of Hai Di Lao Hot Pot, one of the core ideas of the company is "treating employees like human beings" (Huang, 2011, p.64). Correspondingly, Hai Di Lao Hot Pot encourages every employee to contribute new ideas to the company. As a result, its services and business model are innovative, and Hai Di Lao Hot Pot has continued to experience great success as one of the most popular restaurant brands in China (Huang, 2011).

The importance of innovation is also recognized in hotel restaurants. Hotels in China attach importance to their restaurants because F&B revenue accounts for a large proportion (i.e., 43.73% in 2013) of the total revenue of star-rated hotels (China Tourist Hotel Association [CTHA], 2014). However, similar to freestanding restaurants, hotel restaurants also suffered from homogenization; that is, F&B services in a number of hotels are rather identical, especially in hotels that have to follow the star-rating standards for hotels in China. To resolve this issue, innovation has been established as an effective means for several hotel restaurants to gain advantages over others (Chou, Chen, & Wang, 2012). Certain hotel restaurants benefit from innovation at present. For example, the Yi Café established by Shangri-La Hotels & Resorts and the Yuanyi Buddhist Restaurant launched by Hilton Hotels & Resorts, which differ from other restaurants in China in design and market positioning, are winning numerous customers and gaining an increasing profit for their respective hotels. Inspired by freestanding restaurants and international hotel groups, star-rated hotel restaurants in China also began to exert

great effort to innovate through opening specialty restaurants and other similar activities. Parallel to these activities (especially after 2008 Beijing Olympics), the revenue and profit of hotel restaurants increased in the past years, with 2009 as a turning point (Figure 1.2).

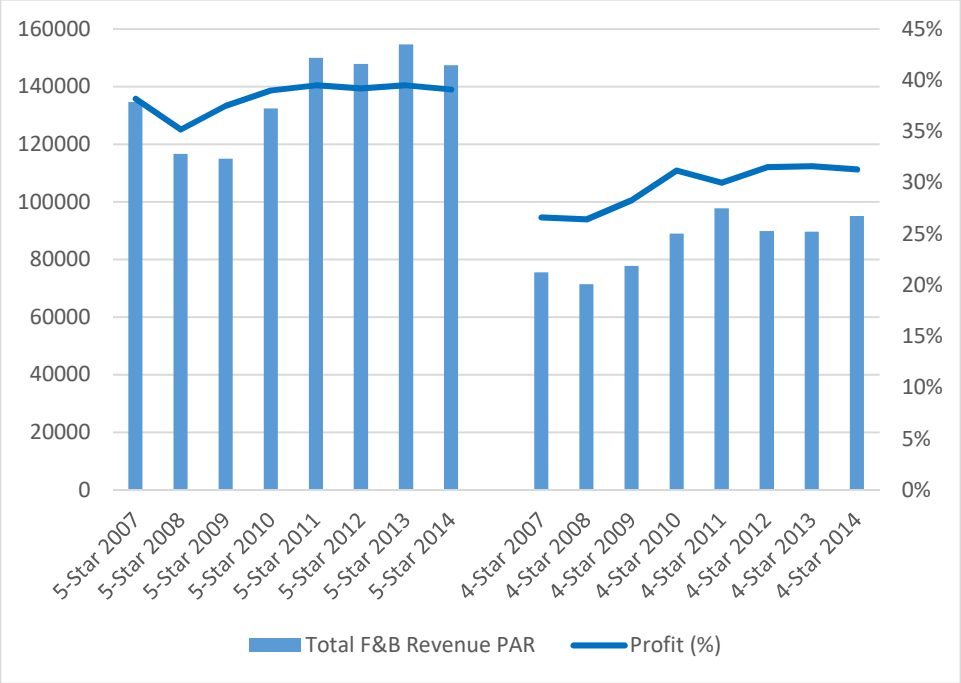

Figure 1.2 Star-rated hotels' F&B RevPAR and gross profit percentage (2007-2014)

Note: F&B RevPAR stands for food and beverage revenue per available room.

In the academic arena, ever since Schumpeter (1934) introduced the concept of innovation in business, innovation has become one of the hottest research topics in the business management literature (Crossan & Apaydin, 2010). Innovation is regarded as one of the two key factors to firms' wealth creation by Drucker (1973), and its importance to firms' performance and competences has been widely accepted (Campo, Díaz, & Yagüe, 2014; Grissemann, Plank, & Brunner-Sperdin, 2013; Rodgers, 2007). According to management scholars, the political, economic, social, and technological environments where firms operate are constantly changing

and in this context, innovation, which reflects a firm's dynamic capabilities to make a change and adopt new knowledge (Campo et al., 2014), enables the firm to adapt to such changing environments and gain competitive advantages over others (Ireland & Webb, 2007). More specifically, innovation enhances the quality of products, increases the sales and profits of firms, facilitates the growth of employees, and establishes the long-term core competencies of firms (Ireland & Webb, 2007). Therefore, most researchers in the management field address innovation as an endpoint of their studies and mainly focus on the factors that stimulate innovation in organizations.

Despite these notions, innovation remains viewed as the job of the research and development (R&D) department in a large number of firms. Innovation is thus restricted to a few members, and the innovation potential of other employees is not realized. However, the idea that an ordinary employee can also be an innovator with certain support from the firm or from others is gradually recognized (Kesting & Parm Ulhøi, 2010). The opinion that innovation does not necessarily contribute to extremely advanced technologies but can be related to nearly all employees and every detail of a job has also been slowly accepted (West, 2002).

At present, an increasing number of companies have begun to highlight the importance of individual employees' innovation. For example, Hai Di Lao Hot Pot encourages employees to pay critical attention to every detail in their jobs and contribute new ideas to the operation (Huang, 2011). Risk-taking is encouraged and creative ideas are rewarded in Hai Di Lao Hot Pot. Several innovative products/services in Hai Di Lao Hot Pot, such as providing hair band, cleaning cloth for glasses and "Baodan" bag to customers, are attributed to frontline employees (Huang, 2011). A "Baodan" bag is a bag used to protect customers' cell phones

from being splashed with soup, and "Baodan" is the name of the ordinary employee who conceived this idea. Therefore, the concept of employee innovative behavior, which refers to employees' behaviors that bring about new products or new ways of working, is proposed as a foundation for organizational innovation and a crucial factor for firm development (Scott & Bruce, 1994).

Employee innovative behaviors are especially important for service firms. It is not as easy for service firms to apply for patents with their innovative achievements as manufacturing companies do (Hipp & Grupp, 2005), because services are intangible (Moeller, 2010). Additionally, identifying the infringement of intellectual property rights related to services is difficult because the standards for services are not as precise as those for goods (Hipp & Grupp, 2005). These difficulties imply that the innovations applied by a firm can be easily followed by its competitors. As a result, the effort for innovation by service firms may not lead to improved financial returns. For example, a restaurant exerts great effort to develop a new menu item and it succeeds. However, it is very difficult to register a copyright for a menu item. In China, *Patent Law* iussed in 1984 stated that food and beverages cannot be granted patents (only the food production techniques can) (Lu, 1999). Although *Patent Law* iussed in 1992 allowed the patent for menu items, it is almost impossible to do so because the "industrial practicability," a critical requirement for patents, of menu items is low (Lu, 1999). Without a copyright, the new menu item can be easily copied by competitors. This item may then be provided in other restaurants soon, and a number of the customers may be attracted to other restaurants. Consequently, such innovation may not bring the expected increase in market share, profit, or competence. Employee innovative behavior is an effective means to address this issue because it prevents competitors from

imitating what has been offered as an innovation (Janssen, Van de Vliert, & West, 2004). Competitors may duplicate the menu item developed by a restaurant, but they cannot "steal" the innovative capabilities and behaviors of its employees. Hence, the restaurant can maintain a high level of competency with its employees' innovative behaviors. Moreover, employee innovative behaviors may not be limited to the development of new products or services. Such innovative behaviors can also involve finding creative means to work effectively with co-workers and applying excellent ideas to improve the management or marketing of a firm (Madrid, Patterson, Birdi, Leiva, & Kausel, 2014). All of these behaviors may contribute to the high performance of service firms.

The important role of employees in innovation is also attributed to customer-employee interaction. Different from goods that are produced in factories and subsequently consumed by customers, services are provided with customers and employees being present at the same time (Moeller, 2010). As such, the customer-employee contact and interaction become essential parts of the services. Service innovation is incomprehensible without the participation of frontline employees. Moreover, employees have more opportunities to innovate than managers do. Employees frequently interact with customers in service processes; hence, the former can readily obtain first-hand information about customers' needs and wants, and they are likely to notice service problems and take effective measures to resolve them (Cadwallader, Jarvis, Bitner, & Ostrom, 2010). From this angle, employees are at a better position than top managers to determine preferable alternatives that can solve service problems or improve service processes, and hence, they have advantages in implementing innovation.

The contact between customers and employees in service businesses indicates

that customer behaviors may influence employee innovative behavior. Customers are widely highlighted as resources that drive firms' innovation, and a number of firms invite certain customers to participate in the innovation process. For example, KFC upgraded its products and services in 2014. During its 27-year operation in China, the strategy of KFC changed from maintaining the American style of the brand to localizing its products and services to meet the demands of customers in China. KFC eliminated seven items from the previous menu and improved one item based on customers' feedback in 2014. Fourteen new items were also added to the menu. The previous 59-item menu was replaced with a 66-item menu, with specific Chinese dishes. Before this change, customers were asked to vote for certain items (e.g., KFC Original Recipe) at kfcpk.qq.com at the end of 2013. Numerous customers were invited to give suggestions or ideas. However, the number of customers participating in innovation programs across the service industries is small, and a few of customers' ideas may not be easily implemented. On the contrary, customer participation in services is more common because all customers contribute some inputs to service processes to some extent (Bendapudi & Leone, 2003).

Customer participation in services is conceptualized as customers' specific participation behaviors, including mental or physical efforts and resources embedded in the service production and delivery (Chen, Raab, & Tanford, 2015). Such participation has been identified as one of the characteristics of services, and this concept has received considerable attention from researchers (Bitner, Faranda, Hubbert, & Zeithaml, 1997; Mills & Morris, 1986). Early studies on customer participation in services, which were mainly in the 1980s, focused on its effect on service firms' production systems. These studies concluded that customer

participation leads to the increase of firm productivity because customers act as substitutes for labor and their participation reduces the service cost (Mills & Morris, 1986). Further studies identified a broader variety of customer roles and resources in service processes, such as decision maker (Bitner et al., 1997) and quality evaluator (Ennew & Binks, 1999). Research on customer participation in services has extended beyond service processes to include topics, such as customers' engagement in collaboration and co-development with service providers (Prahalad & Ramaswamy, 2004) and service innovation (Magnusson, Matthing, & Kristensson, 2003) from the beginning of the 21st century. From this angle, customer participation is a widely accepted concept, and its influences on firms have received considerable attention from researchers. However, although the identification and measurement of customer participation have been extensively studied (Ennew & Binks, 1999; Groth, 2005), scant research has focused on customer participation from the employee perspective. This viewpoint is necessary because customer participation is regarded as customers' service co-creation with employees that, in turn, affects service firms' performance via employees (Bendapudi & Leone, 2003). This gap should be bridged because of the significance of employees in service processes. Therefore, the present research investigates how employees perceive customers' participation behaviors.

In recent years, a growing number of researchers and practitioners have realized that customer participation greatly contributes to the value creation of service firms; hence, encouraging customers to participate actively in services has become a strategy for firms to achieve competitive advantages (Grönroos & Ravald, 2011). For this reason, an increasing number of service firms enthusiastically support customer participation in service production and delivery. Customers

consequently create a high value via service co-production with employees and interact with employees frequently (Chathoth, Altinay, Harrington, Okumus, & Chan, 2013). The frequency of customer-employee interactions has been argued to compel a successful service innovation considering that customers are external resources for innovation (Alam, 2002). Although previous studies have highlighted the role of customer participation in service innovation (Matthing, Sanden, & Edvardsson, 2004), the effects of customer participation in services on employee innovative behavior have yet to be addressed. Thus, the present study aims to investigate how customer participation affects employee innovative behavior.

1.2 Research question and objectives

Customers are increasingly involved in the production process in all types of organizations and the business world has shifted from product focus to customer focus (Shahin & Nikneshan, 2008). Thus, customer participation in services has received considerable attention from researchers (Kandampully, Keating, Kim, Mattila, & Solnet, 2014; Groth, 2005). Although encouraging customer participation is vital for a firm to enhance its performance, the effect of customer participation on employees' behaviors should not be ignored. One of the results of customer participation in services is the realization that there exist information and knowledge exchanges between customers and employees, and such exchanges may provide opportunities for service innovation.

Service innovation has become a crucial factor for the development of the core competencies of service firms, and employee innovative behavior is viewed as a foundation and driving force for organizational innovation (Cadwallader et al., 2010). Employee innovative behaviors can be roughly divided into two stages:

generation of new ideas and implementation of such ideas (Dorenbosch, Van Engen, & Verhagen, 2005). Employees can generate new ideas for service processes with the information or other resources provided by customers through their interactions or the former can accept the ideas created by customers (Thomke & Von Hippel, 2002). Subsequently, when employees decide to implement a new idea, they should seek support from others, including customers (Nambisan, 2002). These idea application behaviors tend to occur when customers and employees have good relationships, which could be developed through the customer participation behaviors in services (Kim & Cha, 2002).

Customer participation involves "relationship building" with employees (Kellogg, Youngdahl, & Bowen, 1997). An interpersonal trust between customers and employees may emerge when customers propose additional information, actions, or emotions concerning service processes and exchange frequently with employees (Johnson & Grayson, 2005). Interpersonal trust is defined as a person exhibiting reliance on another's behaviors or confidence in another's character and knowledge (McAllister, 1995). Previous studies have established that trust from an organization motivates employees to willingly spend significant time and energy in their jobs, stimulates them to accomplish their work creatively, and encourages them to accept additional responsibilities (Slåtten & Mehmetoglu, 2011a). Interpersonal trust between customers and employees works similarly. According to social exchange theory (SET), a high level of interpersonal trust signifies the ease with which a person senses another's positive attitude (e.g., support, acceptance) (Törnblom & Kazemi, 2012). In return, this person tends to take actions that benefit the other party (e.g., information provision, knowledge sharing) (Blau, 1964; Nunkoo & Ramkissoon, 2012). In this way, interpersonal trust between customers

and employees facilitates the flow of knowledge that, in turn, enables employee idea generation. At the same time, when employees view customers as reliable and responsible, certain incentives (e.g., work efficiency, reward) may encourage these employees to implement new ideas.

Employee innovative behaviors are regarded as workplace behaviors that occur on a job. Thus, job characteristics should be considered when discussing the effect of customer participation on employee innovative behavior. According to job design theory, which describes how jobs vary in characteristics and what employees expect from jobs, different jobs stimulate various employee motivations, which includes the motivation to innovate (Joo & Lim, 2009). Job complexity is a type of job characteristic that measures the degree of complexity and difficulty of the tasks required by a job (Morgeson & Humphrey, 2006). Such job characteristic is identified as a factor that may influence employee innovative behavior (Shaw & Gupta, 2004). The present study also investigates the influence of job complexity on the relationship between customer participation and employee innovative behavior based on previous research.

This thesis focuses on the relationship between two converging trends emphasized by service firms, namely, customer participation in services and employee innovative behaviors based on the aforementioned analysis. The core question of the study is: How does customer participation influence employee innovative behavior? The research objectives are established in the following four aspects.

1) A scale of perceived customer participation should be developed as a precondition for examining the effect of customer participation on employee innovative behavior. Previous measurement scales may be inappropriate for this

study (more details are given in Sections 3.5.1 and 3.6).

2) The effect of customer participation on employee innovative behavior should be examined. Previous studies have widely discussed the importance of encouraging customers to participate in service processes as well as the means to involve customers in new product development (Lagrosen, 2005). Meanwhile, the concern about involving customers in service innovation is growing (Sigala, 2012). Nevertheless, how to stimulate employee innovative behaviors in service industries with customer participation in services remains an undiscussed issue, and this issue is the main focus of the current study.

3) The mediating effect of interpersonal trust between customer participation and employee innovative behavior would also be investigated. When customers actively participate in services, frequent interactions between customers and employees may lead to interpersonal trust (Johnson & Grayson, 2005); and this trust may facilitate employee innovative behavior along with customers' information exchange and support for employees (Clegg, Unsworth, Epitropaki, & Parker, 2002). Testing the mediating effect of interpersonal trust further clarifies the second objective.

4) The moderating effect of job complexity on the relationship between customer participation and employee innovative behavior would be likewise assessed. Job complexity may influence the interaction between the participating customers and employees (Morgeson & Humphrey, 2006), and employees in simple, moderately complex, or overly complex jobs may differently exhibit innovative behaviors when customers participate in the services (Tierney & Farmer, 2002).

In summary, the current study attempts to develop a scale of perceived

customer participation, examine the effect of customer participation on employee innovative behavior, investigate the mediating effect of interpersonal trust, and test the moderating effect of job complexity.

1.3 Significance and value of the research

This study primarily aims to investigate the effect of customer participation on employee innovative behavior in a restaurant service setting from the standpoint of employees. The study intends to contribute to the service marketing and organizational behavior fields theoretically and practically.

This research has three theoretical contributions. First, limited research has investigated the influence of customer participation in services on employee innovative behavior. This study bridges the gap, which is necessary because employee innovative behavior is a strategy for many service firms to maintain core competencies, and most of the majority of the work performed by employees in service firms is related to customers (Slåtten & Mehmetoglu, 2011a). The present study combines service marketing and organizational behavior concepts in the research model, bringing about a multidisciplinary contribution to the understanding of employee innovative behavior.

Second, this study reveals how employees gain trust and support from customers when the latter exhibit participation behaviors. Hence, the findings supplement previous research on customer relationship management. Although it is an imperative part of service marketing, numerous studies tend to consider customer relationship management as one-way behavior, mainly relying on marketers (Hyun, 2010). On the contrary, the present study proposes that employees' relationships with customers can be influenced by customer participation, which affects

interpersonal trust between the two parties via customer-employee exchanges. Interpersonal trust is a key factor of relationships, and building customer trust is important for service marketing. This study also identifies and tests the mediating role of interpersonal trust in the relationship between customer participation and employee innovative behavior.

Finally, this study adds to the workplace behavior literature by estimating the moderating role of job complexity on the effect of customer participation on employee innovative behavior. Extant studies have highlighted the effects of job complexity on employees' intention to innovate (Hammond, Neff, Farr, Schwall, & Zhao, 2011). The present study proceeds further by arguing that job complexity may influence the customer-employee exchanges in services and modify the effect of customer participation on employee innovative behavior. This finding can contribute to the workplace behavior research by taking customers (as "partial employees") into consideration.

The practical contributions of this research are two-fold. One is related to customer participation, whereas the other is related to employee innovative behavior. Managing customer participation is difficult because managers cannot reward or reprimand customers in a similar way as they would their employees (Wu, 2011). A high level of customer participation often induces poor employee performance because of ineffective customer behavior management. For example, if behaviors of customers are not constrained and the responsibilities of employees are not defined clearly, employees may face role conflicts and may be confused when customers participate in services (Bowen & Ford, 2004). The present study investigates how employees perceive customer participation, how they exchange with customers, and how they respond to customer behaviors. The findings of this

study provide implications for the management of customer participation.

Another practical contribution is the promotion of employee innovative behaviors in service firms. Customers can be external resources for service firms (Ulwick, 2002). Customer participation behaviors can also play a role in employee innovative behavior. Implications on determining how to encourage employees to innovate effectively through customer participation are proposed in this study. When customers significantly participate in services, they exert considerable effort and resources in the processes. Service firms should then seize the opportunity to facilitate employee innovative behaviors in these processes. When adopting customer participation to encourage employee innovative behavior, job characteristics must also be considered. The influence of job complexity tested in this study also has value for service job design, through which firms can stimulate employee innovative behaviors. Thus, this study focuses on the influence of work environment but not personal characteristics on employee innovative behavior. Nevertheless, t-tests/analyses of variance (ANOVAs) on employee innovative behavior based on the profile of employees are conducted to provide specific information about how employees in different groups (e.g., age groups) demonstrate their innovative behaviors. Such analyses can provide practical implications for managers when they recruit or train employees. In particular, this study concentrates on the aforementioned research issues in the hospitality industry, and its findings have strategic implications for service management in restaurants.

1.4 Organization of the thesis

The main body of the thesis consists of six chapters. Chapter 1 introduces the research background, proposes the research question to be answered, sets the main

objectives, and expounds on the significance and value of this study. Chapter 2 provides a literature review of the pertinent concepts, including customer participation in services, employee innovative behavior, interpersonal trust, and job complexity; it also explains the relationships among these concepts based on the existing literature. Chapter 2 likewise reviews the theoretical foundations of the study (i.e., SET and job design theory) to examine the relationships among these concepts from a broader perspective. Furthermore, this chapter briefly summarizes the theoretical foundation for the research and then derives the conceptual framework, which guides the research methods and data collection. Subsequently, the research hypotheses are proposed based on the literature reviewed.

Chapter 3 explains the research methodology of the study. Mixed methods, including both qualitative and quantitative approaches, are used to answer the research question. Qualitative approaches (i.e., in-depth interview and expert panel) are adopted for the scale development of perceived customer participation, which is based on the principles suggested by Churchill (1979). The scales of the three other constructs are adopted from previous research, which is expatiated in Section 3.5. A questionnaire that is designed using Likert scale consists of items used to measure different constructs. Chapter 3 also describes the process of data collection and data analysis, including the approaches to test the hypotheses. Chapter 4 describes the pilot study conducted in Shenzhen to test the content validity and reliability of the survey instrument as well as to evaluate the readability and effectiveness of the Chinese version of the questionnaire. Using data from the pilot study, Exploratory Factor Analysis (EFA) is carried out to identify dimensions of the constructs and purify the scales. Chapter 5 provides the results of the main survey and discusses in detail the findings from the Structural Equation Modeling

(SEM). Chapter 6 expatiates the final discussions on the findings, along with implications of the study for service management and marketing and the theoretical contributions of this study. This chapter also pesents the limitations of the research and suggestions for future research.

1.5 Definition of terms

The definitions of the terms used in this study are given below.

"Customer participation in services" is a behavioral concept that refers to the actions and resources customers contribute to the service production and delivery (Rodie & Kleine, 2000), including behaviors ranging from merely attending service settings to co-producing services with employees (Campos, Mendes, Valle, & Scott, 2015). From the perspective of customers' input, customer participation includes attitudinal participation, information participation, and actionable participation (Chen & Raab, 2014).

"Employee innovative behavior" refers to employees' intentional behaviors that lead to new products, new methods of production, new organizational structures, or other new work-related results, including creative idea generation and implementation (West, 2002). The process of idea generation describes how employees acquire new ideas and involves the behaviors of exploring opportunities, obtaining ideas and testing these ideas, whereas idea implementation is defined as employees' behaviors in seeking support for, promoting, and realizing the ideas (Krause, 2004). In this study, the "employee" is restricted to individual customer-contact employees who engage in services in a restaurant context; they are mainly frontline employees and entry-level managers. Frontline employees in restaurants involve several positions such as sever, host/hostess, food runner, bartender, busser,

cashier, and other service-related positions. The positions of entry-level managers are at the level under department managers, such as maître and deputy managers.

"Interpersonal trust" in this study is regarded as the display of reliance of customers and employees on each other's behaviors in service processes in terms of the other's character and knowledge (McAllister, 1995). Interpersonal trust can be categorized into cognition-based trust and affect-based trust. The former is related to a trustor's belief that the trustee has capabilities or resources to perform a certain action, whereas the latter refers to a trustee's care and concern for the trustor's interests (Schaubroeck, Lam, & Peng, 2011).

"Job complexity" refers to the degree of complexity and difficulty of the tasks required by a job (Morgeson & Humphrey, 2006).

Chapter 2: Literature Review and Conceptual Framework

2.1 Introduction

An overview of the main concepts of the study, including customer participation in services, employee innovative behavior, interpersonal trust and job complexity, is provided in this chapter. Fundamental theories, namely, SET and job design theory, are also discussed. The conceptual model for this study is derived, and hypotheses are proposed based on the literature reviewed and the two fundamental theories.

First, the concept of customer participation in services is reviewed in the service marketing field. Customer participation in services is regarded as customers' in-role value co-creation behaviors, and its crucial role in service transactions has been recognized (Groth, 2005). Although customer participation is indispensable, the forms and levels of customer participation vary depending on the kinds of customers and the service settings (Bitner et al., 1997), which is explained in Section 2.2.2. The motivations compelling customers to participate actively in services may include lower cost, higher level of control, or better experiences than they are accustomed to (see Section 2.2.3). In addition, customer participation may affect not only customer-related outcomes, such as customer satisfaction, but also employee-related outcomes such as work performance and labor tasks (Yi, Nataraajan, & Gong, 2011).

Second, previous studies on employee innovative behavior are introduced. Employee innovative behaviors include not only idea generation but also idea implementation, with the latter signifying the main differences between innovation and creativity (i.e., creativity concentrates only on idea generation). Compared with

creativity, employee innovative behavior involves seeking support from others to apply new ideas as well as establishing a favorable environment for idea realization. Hence, employee innovative behavior is affected by both the employees themselves and external factors (see Section 2.3.2), which may include their leaders' support and customers' resources (Shalley & Gilson, 2004). The conceptualization and characteristics of innovation is explained in Section 2.3.1. Then, as a type individual innotion, employee innovative behavior is specifically introduced in Section 2.3.4.

In addition, two concepts associated with customer participation and employee innovative behavior are reviewed, namely, "interpersonal trust" and "job complexity." Frequent exchanges between customers and employees can lead to interpersonal trust between the two parties, and trust may facilitate employee innovative behavior. Jobs is also an important context in which customers and employees interact with each other, and job complexity may play a role in the relationship between customer participation and employee innovative behavior. The conceptual model of this study is introduced, and the hypotheses are also established based on these main concepts.

2.2 Customer participation in services

To date, the majority of the literature on customer behaviors focuses on how customers make their purchase decisions. However, an increasing number of researchers have realized that customers are no longer passive service receivers but more active value creators (Dabholkar & Sheng, 2012; Lugosi, 2007; Santos-Vijande, López-Sánchez, & Pascual-Fernández, 2015). Customer value co-creation behaviors can be classified into two types, namely, customer participation behaviors and customer citizenship behaviors (Groth, 2005; Yi & Gong, 2013). The

former refers to customers' mandatory participation behaviors in the service production and delivery (Groth, 2005), such as providing information and interacting with employees, while the latter includes customers' voluntary and discretionary behaviors during the service process, which are dispensable for service transactions but beneficial for service firms or their employees (Groth, 2005), such as giving advice to employees and helping other customers. In other words, compared with customer citizenship behavior, customer participation is a kind of in-role behavior, which is a precondition for service transactions (Yi & Gong, 2013).

This mandatory participation is a result of the distinct characteristics of services. One of the basic characteristics of services that distinguish them from goods is that service production and consumption occur simultaneously (Moeller, 2010). This inseparability indicates that customers actually participate in the processes as services are performed (Chan, Yim, & Lam, 2010; Lloyd, 2003). The service quality is consequently influenced by the information and effort provided by customers, which are crucial to the completion of service transactions (Uzkurt, 2010; Wang, Wang, & Zhao, 2007). Therefore, firms encourage customers to be "value co-creators" of services so that they may strengthen their competitiveness with additional resources from customers (Wu, 2011), and on the other hand, they are also concerned about the possible influence of customer participation on employees' behaviors.

2.2.1 Customer participation and its components

Customer participation in services is described by Rodie and Kleine (2000, p.111) as "a behavioral concept that refers to the actions and resources supplied by

customers for service production and/or delivery", which may include customers' various inputs, such as physical, mental, and emotional inputs (Uzkurt, 2010). Physical input includes customers' tangible possessions and physical efforts (Rodie & Kleine, 2000). For example, customers show their presence in a hotel, give their laundry to the housekeeping department (laundry are regarded as tangible possessions), or serve themselves in a buffet restaurant (i.e., physical efforts). Mental input (or information input) is meant as customers' provision of information in service processes or preparation of materials in order to respond to the service providers effectively (Dabholkar & Sheng, 2012). Take banquets as an example, customers must prepare specific information or knowledge about these services as well as their needs in decoration, table arrangement and menu design, so that they can describe these clearly when they negotiate with service providers. Emotional input involves the feelings of customers, such as showing their patience or pleasure in their interaction with service providers, or even enduring unpleasant circumstances during this process (Bendapudi & Leone, 2003). In brief, customer participation reflects the effort exerted by customers during the service production and delivery processes (Lloyd, 2003). The degree of this effort is reflected by the amount of energy invested and time spent by a customer in a kind of service (Lloyd, 2003). Usually, the effort exerted by customers in services positively relates to their expected outcomes, such as expectations related to convenience and cost reduction (Bitner et al., 1997).

The aforementioned definition indicates that customer participation is similar to customer contact and customer involvement. However, these concepts have certain distinctions. "Customer contact" describes the extent to which customers encounter the service systems (Skaggs & Galli-Debicella, 2012), either face to face

or through media, such as via phone and video. The amount of time when a customer is present in a service exchange during the whole service duration implies the degree of customer contact (Rodie & Kleine, 2000). Customer contact is typically a strategic concept viewed from the firm perspective, whereas customer participation is usually viewed from the customer's standpoint. Customer contact describes the direct interaction between customers and employees, and inspires the service design and management; however, customer participation is not restricted to the boundaries of service encounters because it also concerns customers' effort and contributions to the service production and delivery (Rodie & Kleine, 2000). The meaning of customer involvement is close to that of customer participation, and several studies have used the word "involvement" to define customer participation (Yi et al., 2011, p.88). However, customer involvement is often viewed as an attitudinal construct, while customer participation is regarded as a behavior (Rodie & Kleine, 2000). Moreover, customer involvement is traditionally related to goods, while customer participation reveals the co-creation of a service (Lloyd, 2003).

Customer participation is regarded by many researchers as the customers' contributions to service value creation through their roles in the course of service processes (Ennew & Binks, 1999; Mills & Morris, 1986). Customers were considered long ago as human resources for firms and as an effective means of substituting for labor because they act as partial employees in services (Ford & Heaton, 2001; Kandampully et al., 2014). For instance, a soon-to-be-married couple create specific menu items for their wedding banquet and relays their requirements to a hotel restaurant. This may save the restaurant considerable time. Another example is a self-service buffet in which customers obtain their own food. Thus,

customer participation may enhance the productivity of service firms by reducing costs (including transaction costs) (Yi et al., 2011) and improving employee performance by providing necessary information and resources (Santos-Vijande et al., 2015). The resources invested by customers in services also include information and knowledge, which are significant in facilitating service firms' value creation and innovation (Hu, Horng, & Sun, 2009) and improving their long-term competitiveness (Ireland & Webb, 2007). Apart from being partial employees, customers also act as service quality evaluators (Ennew & Binks, 1999). When customers participate in services, they control service quality to a certain extent, act as service advisors, and even intervene in the production to avoid service failure (Kellogg et al., 1997). High service quality could further lead to high customer satisfaction. In fact, customer participation has been regarded by several researchers as satisfaction-seeking behaviors; customers exert various efforts before, during, and after service encounters to maximize their satisfaction from these experiences (Namasivayam, 2003). Hence, customer participation not only increases the probability of receiving high quality services but also enhances customer experience and satisfaction, especially for those who perceive participation behaviors as attractive (Sigala, 2012).

Additionally, many scholars argue that customer participation is customers' various behaviors exhibited along the whole service value chain (Youngdahl, Kellogg, Nie, & Bowen, 2003). Kellogg et al. (1997) viewed customer participation as service quality assurance behaviors and proceeded to identify four distinct forms of customer participation, namely, preparation, relationship building, information exchange, and intervention. Customer participation begins from preparing for services through behaviors such as seeking referrals, studying the competitors, and

arriving early (Kellogg et al., 1997). Relationship building refers to the process wherein customers establish relationships with employees through vocal communication and body language; this process is another form of participation that is crucial for service co-creation (Kellogg et al., 1997). In addition, customers need to seek information about the services or the firm and then provide information about their own demands. Thus, customers can clearly understand their roles in the services by seeking and providing information (Kellogg et al., 1997). Finally, customers may intervene in service processes by complaining, giving negative feedback, or participating in problem resolution when they foresee that the services may not produce their desired outcomes (Kellogg et al., 1997). This whole process is illustrated in Figure 2.1.

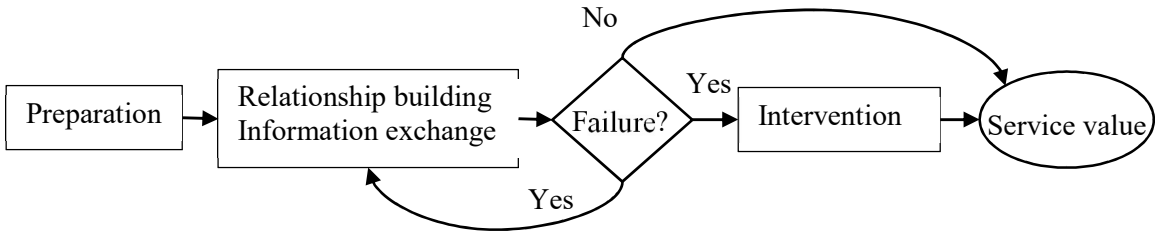

Figure 2.1 Customer participation in service value chain

Source: Kellogg et al., 1997

Information exchange is viewed as a component of customer participation by most of the researchers (Yi & Gong, 2013; Chen & Raab, 2014). Information on the aspects of the services they are going to avail is required for customers to fully participate in the service processes (Sigala, 2012). Customers seek information about the tasks to be performed, the methods to improve service quality, the

employees they interact with, or the firm they obtain services from. Information seeking is regarded as one of the key elements of customer participation (Yi & Gong, 2013). If customers have collected significant information, the risk and uncertainty of their consumption and participation can be reduced (Yi & Gong, 2013). Customers can also master their tasks and roles with considerable information, thus enabling them to be fully immersed into the value co-creation processes (Yi & Gong, 2013). On the other hand, customers should provide specific information to service firms or employees to guarantee their successful participation (Aarikka-Stenroos & Jaakkola, 2012). For example, if customers do not explain their needs clearly, employees cannot provide the right kind of service nor would they be able to communicate with them properly. This information provision, also called "information sharing" by several researchers, is regarded as a significant component of customer participation (Ennew & Binks, 1999) and a means to convey customers' service expectations to employees (Lloyd, 2003). Customers exchange information with employees through information seeking and sharing in order to ensure better services (Kellogg et al., 1997).

Although customers must participate in services to complete service transactions, the extent to which they participate differs. Based on this notion, Claycomb, Lengnick-Hall, and Inks (2001) categorized customer participation into three forms with different levels: attendance, information provision, and co-production. Customers' attendance in production factories is unnecessary for consuming goods in most cases. On the contrary, the basic requirement for service transactions is that customers should be present in the service settings (Lai, Lui, & Hon, 2014). Attendance is clearly a component of customer participation that it is overlooked by several researchers; nevertheless, many researchers still regard it as

a form of customer participation (Campos et al., 2015). Claycomb et al. (2001) measured customers' attendance by the number of hours they spent in a service setting, and a considerable physical presence of customers in services indicates a high level of customer participation. Information provision defined by Claycomb et al. (2001) is part of the information exchange discussed in the previous paragraph. Co-production describes customers' behaviors in co-producing the services with employees with their effort and resources (Claycomb et al., 2001). In the broad sense, co-production is a process wherein customers engage in service production as an active participant and thus is similar in meaning to customer participation (Chen, Tsou, & Ching, 2011). These two concepts are the same and interchangeable to some researchers (Bendapudi & Leone, 2003). However, co-production refers to customers' core offering (of firms) provision and applies to especially goods, although it also has a place in a service setting (Vargo & Lusch, 2008). Examples of co-production include customers' designing specific services together with employees (e.g., a body-building plan) and performing the service delivery themselves (e.g., serving tea for themselves). Thus, customer participation in services describes the service value co-creation of customers and employees; and co-production is one of the components of service co-creation (Auh, Bell, McLeod, & Shih, 2007; Lusch & Vargo, 2011). Customers optionally involve in service co-production, but they are always value co-creators (Gummesson, 2006; Vargo & Lusch, 2008). Co-production pertains to high-level customer participation behaviors because these behaviors require customers to engage completely in services and expend more energy and resources than other behaviors, such as attendance and information provision (Campos et al., 2015). The present study regards customer participation as service co-creation behaviors, and service co-

production as their forms, in which customers perform specific tasks together with employees in service production and delivery (Claycomb et al., 2001).

Other researchers conceptualize customer participation based on the interaction between customers and firms. The most influential view is presented by Ennew and Binks (1999), who regarded customer participation as a form of information sharing, responsible behavior, and personal interaction. Information sharing is similar to "information provision," which has been discussed earlier (Claycomb et al., 2001). Responsible behavior represents customers' recognition of their duties and responsibilities when they demand for services (Ennew & Binks, 1999). For example, customers must follow the rules of the service production and, to a certain extent, be responsible for the results. Responsible behavior is in accordance with the role of customers as partial employees (Yen, Gwinner, & Su, 2004). If customers cooperate and accept the essential instructions from their service providers, the levels of their participation are high (Yen et al., 2004). The dimension "personal interaction," or specifically customers' interaction with employees, is also indispensable for their participation (Lengnick-Hall, Claycomb, & Inks, 2000). The interaction between customers and employees is actually a key characteristic of services (Lai et al., 2014), and customer participation is widely viewed from the perspective of interaction between customers and a firm or its employees (Ennew & Binks, 1999). Through such interaction, customers build a relationship (either temporary or long-term) with employees and enhance the service processes (Kellogg et al., 1997). In addition, the elements included in relationships, such as interpersonal trust, support, cooperation and mutual commitment (Ennew & Binks, 1999), emerge and bring about positive outcomes including repurchase intention and customer loyalty (Castellanos-Verdugo, de los Ángeles Oviedo-García, Roldán,

& Veerapermal, 2009). Personal interaction is regarded as one of the differences between employee innovation in service firms and that in manufacturing companies (Lai et al., 2014). Basically, customers tend to participate actively in the services if service firms are able to foster a friendly and positive service environment (Lengnick-Hall et al., 2000).

Customer participation as value co-creation behavior has been studied well since 1980s, but the perceptions or attitudes of employees toward such participation has received limited attention from researchers. Employees' perceived customer participation reflects their attitudes toward these behaviors, which may then influence their responsive actions and work performance. Thus, employees' perceived customer participation should not be ignored. This study consequently developed a scale of perceived customer participation from the viewpoint of employees. The details are explained in Chapter 3.

2.2.2 Levels of customer participation

Although customer participation is a set of required (in-role) behaviors that are necessary for successful service production and delivery, the levels of participation vary with customers and service settings (Lloyd, 2003; Solnet & Paulsen, 2006). Considerable differences exist in the information and effort customers contribute to services situations because of the different personal characteristics and conditions of customers (Claycomb et al., 2001). For example, if customers merely attend and do not perform other activities than buying, the levels of their participation are extremely low. If customers provide additional information about their needs or feelings or even co-produce specific services with employees, the levels of their participation are high. To complete service transactions, all services require

customers to participate at certain levels. Certain services may require customers only to be present to receive the service and pay, while others require them to complete several parts of the tasks (Bitner et al., 1997). Table 2.1 presents the different levels of customer participation required depending on the service situation.

Table 2.1 Levels of customer participation across different services

Low participation	**Moderate participation**	**High participation**
Products are standardized	Client inputs customize a standard service	Active client participation guides the customized service
Service is provided regardless of any individual purchase	Provision of service requires customer purchase	Service cannot be created apart from the customer's purchase
Payment may be the only required customer input	Customer inputs (information, materials) are necessary for an adequate outcome, but the service firm provides the service	Customer inputs are mandatory and co-create the outcome
***Examples*:**		
Airline travel	Hair cut	Marriage counselling
Motel stay	Annual physical exam	Personal training
Fast-food restaurant	Full service restaurant	Weight-reduction program

Source: Bitner et al., 1997

The three levels of customer participation differ in terms of the degrees of customization, dependence on individual purchases, and customer inputs (see Table 2.1). A high degree of customization in the service delivery generally indicates a

high level of customer participation (Bitner et al., 1997). For example, customers must fully participate when they receive marriage counseling services, most of which are customized. In contrast, the services by fast-food restaurants are standardized, and the levels of customer participation in these settings are usually low. Additionally, although the services with high levels of customer participation cannot be fostered without individual purchases, the ones with low levels of customer participation can be created (Bitner et al., 1997). A good example is airline travel service, which is provided even when a few seats remain unsold. Furthermore, compared with low levels of participation, high levels of participation require additional inputs from customers, including information, materials, time, effort, and other resources (Chen et al., 2015).

Mills and Morris (1986) also argued that various types of services (or jobs) require different levels of customer participation. They categorized the interaction between customers and employees into three types: maintenance interaction, task interaction, and personal interaction. If a service requires additional task interaction and personal interaction, the levels of customer participation are usually high (Hsiao, Lee, & Chen, 2015; Mills & Morris, 1986). For example, in a training program for F&B service, the trainees must interact frequently with the trainer to learn and be involved in the tasks as well as to practice what they have learned. Thus, their levels of participation are high. If the main purpose of the service interaction is to maintain relationships or obtain certain outcomes (e.g., a standard soft drink), the level of customer participation is relatively low (Mills & Morris, 1986). For example, for hotels operating under a management contract, the owner of the hotel interacts with the operator (e.g., hotel management company) occasionally to maintain the relationship. Specific procedures exist to manage these interactions. In such cases,

the levels of customer participation are low (in the given example, “customer” represents firms in business-to-business environments rather than consumers).

According to the different levels of customer participation and control of service providers over service inputs, Goodwin and Radford (1993) categorized various service delivery into four models (Figure 2.2): industry model, therapy model, movie model, and retail model. A typical example of the industry model is the human tellers in a bank. Human tellers have high control over inputs, whereas customers participate in these services at a low level. The therapy model is characterized by the high control of providers over inputs and the high level of customer participation (Lloyd, 2003). An example is free independent travel, for which customers make decisions regarding accommodation, attractions, and other activities themselves and thus actively participate in the travel services. Nevertheless, the service providers are entrusted with these transactions, so they continue to have a high control over each encounter. The movie model is where both the control of service providers and level of customer participation are low. Finally, the retail model describes the service settings where customers have major participation, whereas providers have limited control over the services. For instance, in automatic teller machine services, customers complete most of the work, whereas employees in the banks exert only limited control over such services.

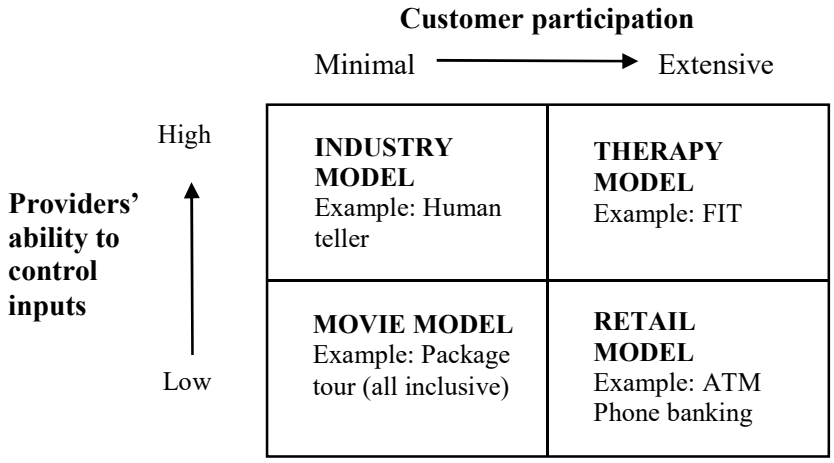

Figure 2.2 Models of service delivery

Source: Goodwin & Radford, 1993

The four models introduced by Goodwin and Radford (1993) reveal the basic characteristics of the interaction between customers and service providers in different service settings (Lloyd, 2003). These characteristics are important when analyzing the effect of customer participation on service innovation.

2.2.3 Motivations of customer participation

As this study attempts to investigate the consequences of customer participation in services, the motivations of customer participation should be considered. More customer participation implies the presence of more substantial interaction and responsibility sharing (Yen et al., 2004), and there are reasons for customers' willingness to participate in services. As previously mentioned, customers can gain economic benefits from their participation in service processes. Service firms can improve productivity or service quality because of customer participation (Ford & Heaton, 2001; Wang et al., 2007), while customers can also benefit from their participation in terms of time and monetary savings (Kokkinou & Cranage, 2013). Several customers prefer to serve themselves to reduce the time

of service delivery (Ford & Heaton, 2001). Participation behaviors also help customers minimize their boredom and anxiety during the waiting period for services (Bowers & Martin, 2005). In addition, a few service firms consider customer participation as a means to improve employee performance, so they provide certain incentives to encourage customers to participate more in services. As a result, customers may enjoy low-priced services (Kelley, Donnelly, & Skinner, 1990).

Another motivation for customer participation is the reduction in the perceived risk of services and accompanying increase in their control over services. Compared with goods, services are considered riskier; the service outcomes are uncertain because services are intangible and the service quality tends to fluctuate (Lloyd, 2003). Customers may thus actively participate in services to ensure positive outcomes (Lloyd, 2003). Customers may also have desires to control the services they purchase, and their perceived control over the pace of the services provided makes them exceedingly satisfied (Kokkinou & Cranage, 2013). Previous studies have indicated that customer participation is positively associated with customer satisfaction, and some psychological benefits compel several customers to participate actively in the service processes (Sigala, 2012). One of the psychological benefits is social bonding, which refers to the act of maintaining customers' good relationships with employees (Bendapudi & Leone, 2003). With regards to customer-employee relationship, Remy and Kopel (2002) identified economic and social linkages as the benefits received by customers from their participation behaviors. Economic linkage refers to customers' relationships with employees and the means by which customers pursue personal interests and conveniences, whereas social linkage pertains to customer participation by demonstrating their social needs

such as friendliness and human contact (Remy & Kopel, 2002).

Numerous customers actively participate in services to obtain pleasure, freshness, and joyful experiences (Rodie & Kleine, 2000). Asatryan and Oh (2008) noted that a few customers prefer to perform hospitality services themselves, which enables them to feel a psychological ownership of their experiences and increases their loyalty to the service firms. In addition, several firms conduct organizational socialization, through which customers appreciate the values, culture, and norms of an organization (Kelley et al., 1990); and provide more support for their customers (e.g., being fair in service treatment, keeping promises, providing reliable services) to create a good experience for customers. The organizational socialization and support from firms are found to increase customer participation (Wu, 2011).

2.2.4 Influences of customer participation on employees

The effects of customer participation on customer-related outcomes (e.g., perceived service quality, customer satisfaction) and on firm-related outcomes (e.g., firm productivity, work performance) have been extensively discussed by scholars in the service marketing context (Auh et al., 2007; Hyun, 2010; Namasivayam & Guchait, 2013; Wang et al., 2007). Similarly, customer participation may also influence employee-related outcomes because the customer-employee exchange is an essential part of customer participation, although this topic has attracted much less attention (Ennew & Binks, 1999).

Customer participation influences employees' workload in services. Customers participating in services act as partial employees by sharing a part of the production responsibilities in a specific service setting (Kelley et al., 1990; Chen et al., 2015). As such, the employees' workload may decrease (Bendapudi & Leone, 2003;

Chathoth et al., 2013). However, with the rising level of customer participation, standards as well as customers' expectations for services also change. Service tasks become ambiguous and involve considerable personal judgments, which require flexible skills and cause additional challenges to employees (Hibbert, Piacentini, & Hogg, 2012). In addition, a high level of customer participation can lead to complex information and frequent information flows (Troye & Supphellen, 2012). As a result, employees must acquire updated knowledge and skills, especially communication skills, to adjust to the changing environment (Graf, 2007). Role conflicts of employees can also occur with the increasing degree of customer participation (Bowen & Ford, 2004). Requiring employees to resolve this conflict may result in a high level of job complexity; thus, customer participation is positively related to employees' perceived workload (Hsieh, Yen, & Chin, 2004).

Meanwhile, customer participation may cause role conflict and ambiguity of employees. Employees usually experience role conflict when the customers' expectations of a service differ from the firm's required actions (Graf, 2007). A higher level of customer participation indicates more chances for employees to encounter various demands from customers, and thus, employees are more likely to receive incompatible job demands from customers and managers (Hsieh et al., 2004). Role ambiguity occurs when employees lack the necessary information to perform their respective roles, so they are uncertain about the expectations of customers and/or managers (Mohamed, 2015). When customers actively participate in services, they may act as partial employees, consultants, innovators, or marketers during service participation (Graf, 2007; Ford & Heaton, 2001). The service tasks become complex for employees because of customers' multiple roles, and the employee's responsibilities may be difficult to define (Graf, 2007). This poor

definition of responsibilities may cause employees' role ambiguity.

Although the organizational behavior literature has an impressive research tradition of investigating employee-related outcomes (e.g., employee performance, satisfaction, commitment, and turnover intention) (Langfred & Moye, 2004; Madjar & Ortiz-Walters, 2009), the research on the influence of customers on these outcomes is relatively lacking. Identifying the effect of customer participation on these employee outcomes is necessary given the importance of the attitudes or behaviors of employees to organizations. In their research that involved a large household electronic firm, Yi et al. (2011) concluded that customer participation is positively related to employee performance, satisfaction, and commitment, and negatively associated with employee turnover intention. Despite this relevant finding, they called for in-depth research to examine the effect of customer participation on employee behaviors or on their psychological well-being (Yi et al., 2011).

Basically, previous studies have focused mainly on the relationships between customer participation and customer-related outcomes (e.g., perceived service quality, customer satisfaction, customer experiences) and the significance of customer participation as a strategy for firms (Eisingerich & Bell, 2006; Grönroos & Ravald, 2011). However, limited research has discussed the effect of customer participation on employee innovative behavior. Despite the findings on the importance of customers to improving firm innovation (Duverger, 2011), the need to assess whether or how customer participation affects employee innovative behavior remains.

2.3 Innovation and employee innovative behavior

2.3.1 Innovation: conception and characteristics

Innovation is a concept related to creativity. These two concepts are often confused with each other because both involve the generation of new ideas. However, these concepts are not the same. The main aim of creativity is to generate new ideas, whereas innovation involves the conception of new ideas as well implementation of the ideas because it is expected to bring about specific output (Li & Hsu, 2016a; West, 2002). Innovation is a process that consists of several stages, which may include idea generation, promotion, and realization (Janssen, 2000); therefore, creativity can be regarded as an initial stage of innovation. The term innovation in business was first identified and defined by Schumpeter (1934), who emphasized novelty as one of the most important characteristics of innovation. Schumpeter (1934) regarded innovation as conducting tasks differently, giving rise to novel outputs, such as a new product or a new quality of a product, a new method of production, a new market, a new source of supply, or a new organizational structure. Innovation occurs in organizational contexts when employees intentionally adopt new and useful ideas, processes, products, or procedures in their jobs to contribute benefits to the organization or to themselves (Kim & Lee, 2013).

New ideas are clearly the core of innovation, regardless of its definition. Newness, which measures how different an object/idea introduced to an organization is from extant things and how novel such object/idea is to the members, is vital to innovation because it distinguishes innovation from change (Krizaj, Brodnik, & Bukovec, 2014). Nevertheless, assessing whether an idea is new can be difficult, and the degree of this newness is relative to different people. A few scholars suggested that innovative ideas should be entirely new to the society

(Schumpeter, 1934). However, others argued that an idea is considered an innovation if the idea is viewed as new by the involved people or new to the workplace in which it is introduced even if the idea is regarded as an imitation of an already existing concept elsewhere (King & Anderson, 2002). Thus, the application of other people's new ideas can be viewed as innovation and this provides the basis for the notion that employees could adopt ideas from customers (De Jong & Den Hartog, 2010).

From the degree of newness, innovation in services could be categorized into four types, namely radical, incremental, ad hoc and recombinative innovation (De Vries, 2006). While radical innovation relates to innovative behaviors leading to complete change, incremental innovation brings about improvements in one aspect but without changing the whole service process or work system (Brooker & Joppe, 2013; Souto, 2015). Ad hoc innovation refers to employees' personalized solutions to customers' specific problems (De Vries, 2006). Recombinative innovation is the result of a recombination of existing information and knowledge, such as combining environmental technologies with hotel management to bring innovation to the industry (Fraj, Matute, & Melero, 2015). In the tourism and hospitality industry, although some researchers highlighted various outcomes of innovation by staff, other researchers found that radical innovation rarely comes from insiders (Brooker & Joppe, 2013; Kay, 2010). As the present study focuses on the innovative behaviors of employees in the hospitality industy, innovation mainly describes those outsomes leading to marginal improvements. For example, inspired by the information technology, an employee in a hotel improved the management of electronic room keys (Martĺnez-Ros & Orfila-Sintes, 2009).

Besides newness of ideas, another important characteristic of innovation is

change, although the two concepts are not the same. Innovation for most firms is a means to change the organization, either to respond to the dynamic external environment or to act one step ahead to influence the environment (Camisón & Monfort-Mir, 2012). However, innovation is not about routine changes; the changes should be positive so that they can lead to the creation of benefits (Krizaj et al., 2014). For example, a restaurant that uses cycle menus changes its menu items every day. This behavior is merely a change rather than innovation. The changes caused by innovation should also be intentional rather than accidental (King & Anderson, 2002). For example, when the Point of Sales (POS) system of a restaurant malfunctions, improving the reliability of the system and preventing it from breaking down again are considered innovation. However, employees do not innovate if they only manually bill the customers or simply repair and maintain the existing system. The latter behaviors are merely adaptation to the environment.

These adaptive behaviors differ from innovative behaviors in several aspects. Kirton's (1976) adaption-innovation theory describes these distinctions in detail. The comparison of innovators and adaptors is shown in Table 2.2, which illustrates the several characteristics of employee innovative behavior. For example, different from adaptors who tend to be motivated by problems and their attempt to solve them, innovators discover the problems and adopt new approaches to create a radical change. In terms of personality, innovators are more independent, confident and willing to take risks than adaptors, who tend to avoid risks when taking actions and challenge the rules rarely. In addition, compared with adaptors, innovators are more capable of handling unstructured situations and play an important part in preventing firms from ossifying (Kirton, 1976).

Table 2.2 Differences between adaptors and innovators

Adaptor	Innovator
o Characterized by precision, reliability, efficiency, ethodicalness, prudence, discipline, conformity.	o Seen as undisciplined, thinking tangentially, approaching tasks from unsuspected angles.
o Concerned with resolving problems rather than finding them.	o Discovers problems and avenues of solution.
o Seeks solutions to problems in tried and understood ways.	o Queries problems' concomitant assumptions; manipulates problems.
o Reduces problems by improvement and greater efficiency, with maximum of continuity and stability.	o Is catalyst to settled groups, irreverent of their consensual views; seen as abrasive, creating dissonance.
o Seen as sound, conforming, safe, and dependable.	o Seen as unsound, impractical; often shocks his/her opposite.
o Seems impervious to boredom, seems able to maintain high accuracy in long spells of detailed work.	o Capable of detailed routine (system maintenance) work for only short bursts. Quick to delegate routine tasks.
o Is an authority within given structures.	o Tends to take control in unstructured situations.
o Challenges rules rarely, cautiously, when assured of strong support.	o Often challenges rules, has little respect for past custom.
o Tends to have high self-doubt. Reacts to criticism by closer outward conformity. Vulnerable to social pressure and authority; compliant with authorities.	o Appears to have low self-doubt when generating ideas, not needing consensus to maintain certitude in face of opposition.
o Is essential to the functioning of the institution all the time, but occasionally needs to be "dug out" of the systems so that they will not grow into a rigid.	o In the institution is ideal in unscheduled crises, yet he/she still needs to help avoid potential crises, if he/she adapt to the well-functioning systems.
o *When collaborating with innovators:* supplies stability, order and continuity to the partnership.	o *When collaborating with adaptors:* supplies the task orientations, the break with the past and accepted theory.
o Sensitive to people, maintains group cohesion and cooperation.	o Insensitive to people, often threatens group cohesion and cooperation.
o Provides a safe base for the innovator's riskier operations.	o Provides the dynamics to bring about periodic radical change, without which institutions tend to ossify.

Source: Kirton, 1976

Innovation is basically demonstrated in three forms: product or service innovation, process innovation, and business model innovation (Crossan &

Apaydin, 2010). Product or service innovation is the result of introducing new products to the market (Nambisan, 2002). The products or services created can be new to the firm, the customer, or the market (Crossan & Apaydin, 2010). Process innovation is the innovation related to production processe, such as new techniques to produce goods or services, new methods for management, or new technologies that are useful for production and management processes (Orfila-Sintes, Crespí-Cladera, & Martínez-Ros, 2005). A business model is a system that illustrates how a firm conducts business, and business model innovation radically changes the manner a firm operates and creates value (Magnusson et al., 2003). Compared with the other two forms, the concept of business model is slightly more complex.

Meanwhile, Hjalager (2010) classified innovation in hospitality industry specifically into five types, namely, product/service innovation, process innovation, managerial innovation, market innovation, and institutional innovation. Managerial innovation is the innovation that relates to management (e.g., directing and empowering employees), whereas market innovation deals with service marketing (e.g., finding a new market segment). Institutional innovation leads to new organization structure or framework (Hjalager, 2010). The present study focuses on employee innovative behaviors (rather than group or firm innovation), which may involve all of the above forms.

2.3.2 Driving forces and motivation for innovation

Innovations are inspired by both external and internal factors. For example, Hjalager (2010) identified entrepreneurship, technology-push/demand-pull, and innovation systems as the three main forces driving innovation in the tourism and hospitality industry. Entrepreneurs are creative destructors who continue to

contribute their ideas and products to the existing operation systems, causing disturbance to the market equilibrium and leading customers' experiences and preferences (Drucker, 2007). The entrepreneurship approach to innovation is widely accepted because entrepreneurs lead the industry with innovative products based on explicit ideas and values (Getz & Petersen, 2005). Another paradigm for innovation is the view that the current state of science and technology as well as customers' demand serve as driving forces toward innovation. Science and technology induce productivity improvement and management optimization, which are followed by additional changes in firms such as experience-based and customer-oriented services (Janssen et al., 2004). The influence of technology ultimately extends to products and services and now innovation can be felt by customers directly (Janssen et al., 2004). In contrast, customers, especially the leading users, encourage the service firms to innovate, prompting the latter to forecast and satisfy the former's needs, gaining advantage over competitors in the process (Sigala, 2012). Finally, the various innovation systems in an industry (e.g., human relations management, inter-organizational structures) are also regarded as driving forces (Hjalager, 2010). For example, the clusters of restaurants or the strategic alliances among different firms can stimulate innovations in these firms (Svensson, Nordin, & Flagestad, 2005).

To a certain extent, all kinds of innovation depend on employees' initiatives to innovate. Thus, identifying the reason why employees innovate is crucial, and this has gained considerable attention from researchers. The first and most commonly accepted explanation is the innovation driven by intrinsic motivation (Tu & Lu, 2013). Employees with high intrinsic motivation to innovate think highly of self-achievement, and their passion for work is derived from their love for their jobs

(Hon, 2012). Actually, most of the external factors (e.g., climate, support, tasks) influence employee innovative behavior via their self-motivation (Hon, 2012; Shin & Zhou, 2003).

Another explanation for employee innovative behavior is based on creative self-efficacy, which refers to a person's belief in his/her capabilities to exert innovation and reach creative outcomes regardless of the skills he/she possesses (Tierney & Farmer, 2002). According to planned behavior theory, a person's behavior is determined by his/her perceived behavior control and intention (Ajzen, 2011). The former is reflected in employees' self-efficacy when they work, whereas the latter is the immediate antecedent of their behavior as well as the reflection of their attitudes towards such behavior; these two represent employees' work capabilities and intention (Ajzen, 2011). In general, when employees are confident in their capabilities to innovate, their level of creative self-efficacy increases, leading to numerous innovations and a high probability of applying the innovation successfully (Tierney & Farmer, 2011).

Moreover, several researchers have highlighted the effect of psychological climate, which is defined as the employees' perceptions of the environmental factors that shape their expectations for innovation and potential outcomes of these behaviors (Hunter, Bedell, & Mumford, 2007). A positive psychological climate, such as employees' perceived organizational support, is positively associated with employee innovative behavior (Scott & Bruce, 1994). This finding provides managerial implications concerning different methods that can be used by organizations to encourage employee innovative behavior (e.g., assistance in developing new ideas, reward systems).

Meanwhile, some researchers have adopted expectancy theory to explain why

employees innovate. Employee perfom a type of behavior expecting to obtain a return, and the expected benefits from innovation induce their innovative behavior (Yuan & Woodman, 2010). Employees exhibit innovative behaviors because they expect benefits, such as performance enhancement, service quality improvement, error reduction, or capability development (Yuan & Woodman, 2010). Employees assign different values to these benefits and decide whether to perform a certain innovative behavior accordingly (Yuan & Woodman, 2010).

2.3.3 Employee innovative behavior: Levels and factors

Three levels of innovation in an organizational context, including individual level, work group level and firm level, have been widely studied, although researchers have not always made clear distinctions between these levels because they are closely connected to one another (Crossan & Apaydin, 2010). The subjects of innovation at the firm level are organizations. The firm level innovation describes the collective fruits of firm level exploration; and it is characterized by organizational change and development (Gumusluoglu & Ilsev, 2009). Thus, firm innovation is usually related to organizational factors, as in the case of organizational learning style (Liao, Fei, & Liu, 2008), reward system (Baer, Oldham, & Cummings, 2003), business model and strategy (Teece, 2010), and organization structure (Lin, 2011). For example, organizational learning, in which members use learning to solve the problems they are facing, is beneficial for an organization to avoid knowledge inertia and to facilitate continuous innovation (Liao et al., 2008). At the work group level, leaders play a vital role in group members' innovation (Zhang & Bartol, 2010). For instance, leaders can stimulate group members' innovation by giving active feedback in clear, friendly, detailed or

other positive manners (George & Zhou, 2007). In contrast, group members' motivation for innovation decreases when leaders closely supervise members or interfere with their behaviors (Shalley & Gilson, 2004; Zhang & Bartol, 2010). Work group features, such as support for innovation (Janssen, 2005), evaluative context (i.e., controlling and informational aspects of expected evaluation) (Shalley & Perry-Smith, 2001) and socializing activities among group members (Shalley & Gilson, 2004) can also foster or hinder innovation.

Firm or work group innovation pertains to the accumulative outcomes of the innovative efforts of all members who exhibit individual innovative behaviors (Gumusluoglu & Ilsev, 2009). When innovation is displayed individually, it is reasonable for researchers to find that personal characteristics directly influence innovation. For example, a creative personality style positively relates to individual innovation (Chen, 2011). When members of an organization have creative personalities, they exhibit high innovation and good performance (Zhou & George, 2001). Members with an innovative cognitive style are willing to take the risk of adopting new means to solve problems and thus engage in highly innovative behaviors (Shalley, Zhou, & Oldham, 2004). Furthermore, individual innovation is affected by the individual's motivation and knowledge, along with the intrinsic motivation driving employee innovative behavior (Hon & Leung, 2011; Shin & Zhou, 2003) and the experience or knowledge facilitating their innovation (Carmeli, Meitar, & Weisberg, 2006). Many earlier studies on employee innovation tend to focus on personal characteristics (Oldham & Cummings, 1996), leading to the conclusion that companies should recruit employees with creative personalities. However, the environment or climate surrounding employees, which includes the factors influencing organizational or work group innovation, also influence

individual innovation. In general, these factors typically affect individuals' innovation via the intrinsic motivation of the employees (Hon, 2012). Thus, firms could also encourage employees to innovate by improving contextual factors and providing a supportive innovation climate. The employee innovative behavior in service firms is a type of individual innovation, which is extremely important in ensuring improved firm performance and development (De Jong & Den Hartog, 2007), and it is the main focus of the current study.

Employee innovative behaviors are extra-role behaviors that are usually not required by their jobs. Unless some preconditions are met, employees may not have intention to innovate (Li & Hsu, 2016a). Employee empowerment and engagement are examples of these preconditions. Empowerment, referring to organizations providing employees discretion and autonomy to make decisions about job-related activities, is regarded as an antecedent of employee innovative behavior (Bhatnagar, 2012). If an employee is given more discretion and rights to control his/her work, according to social exchange theory and reciprocity principle, he/she will have more confidence in solving problems in his/her job creatively and in obtaining innovative outcomes (Hon & Lu, 2010). In other words, employee empowerment increases employees' creative self-efficacy, leading to more innovations and high probability to perform the innovation successfully (Tierney & Farmer, 2011). On the contrary, if an employee lacks empowerment in his/her job, it usually means that the procedures and methods to complete the tasks of the job have been determined. In this way, employees feel that they do not have the authority to make decisions and that the job is relatively lack of challenge, reducing the employees' motivation to innovate (Sok & O'Cass, 2015). Furthermore, if customers are considered, employee empowerment plays an important role in determining whether or how

employees respond to customers' efforts and resources in a creative way (O'Cass, 2015).

Employee engagement may also significantly influence employees' innovative behaviors. Employee engagement, being defined as "the individual's involvement and satisfaction with as well as enthusiasm for work" (Harter, Schmidt, & Hayes, 2002, p.269), is another precondition of employee innovation. Without the willingness to invest additional effort on work and the enthusiasm to complete job tasks effectively, employees' intentional (extra-role) idea application rarely occurs (Slåtten & Mehmetoglu, 2011b). Employee innovative behavior involves risks and uncertainty; thus, employees with higher level of engagement, which indicates the ability not to be easily depressed and the persistence when confronting difficulties, are more likely to take initiatives to innovate (Bhatnagar, 2012). In addition, engaged employees actively take advantages of all resources available to complete their jobs creatively; thus, employee engagement may increase the probability of successful innovation (Slåtten & Mehmetoglu, 2011b). As a result, the significance of empowerment and engagement to employee innovative behavior has been widely examined and accepted (Bhatnagar, 2012; Li & Hsu, 2016a). In the hospitality industry, an increasing number of hotels/restaurants make great effort to empower and engage employees in work, although the levels may vary (Chebat, 2013). Therefore, the present study holds the notion that employee empowerment and engagement are highlighted by hospitality firms and focuses on the factors that relate to the customers.

2.3.4 Employee innovative behavior: A multi-stage process

The operationalization of individual innovation could be realized in many ways,

such as personality characteristics, outputs and behaviors. For example, Kirton's (1976) adaption-innovation theory views individual innovation as personality characteristics and identifies two cognitive styles, namely, adaptors and innovators. Brooker, Joppe, Davidson and Marles (2012) categoried innovators as minimalist, imitator and the industry innovator. Several researchers have conceptualized individual innovation as an output. For example, the newness measurement developed by Krizaj et al. (2014) focuses on the outcomes of individual innovation, which was described as an intermediate stage on the continuum between invention and adoption. Others researchers, such as Scott and Bruce (1994) and Janssen (2000), see individual innovation as a set of behaviors. The present study adopted the last perspective, and as such, the term "employee innovative behavior" is used. Employee innovative behavior includes all behaviors by employees associated with idea generation and idea implementation (Li & Hsu, 2016a). In general, employees first create ideas with potential value (e.g., ideas that can bring about new services and production methods) and then attempt to apply or implement these ideas. Employees may need to seek support from others, such as their firm's management, for the idea implementation (Janssen, 2005). Therefore, employee innovative behavior remains associated with other co-workers and the service organizations although it is an individual behavior.

Employee innovative behavior has been highlighted by most researchers not as a set of discrete actions but as a multiple-stage process (Hjalager, 2010). Generally, employee innovative behavior can be divided into two stages: idea development (i.e., employee creativity) and idea application (Hon & Lui, 2016). The first stage (idea development) proposes new ideas, and the second stage (idea application) aims at conducive outcomes by implementing the new ideas; the demarcation point

of the two stages is the decision to execute the ideas (King & Anderson, 2002). Scott and Bruce (1994) regarded employee innovative behavior as a process with three stages. In the first stage, a new idea, regardless whether original or adopted from others, emerges when an employee identifies a problem or opportunity in the service process. In the second stage, the employee seeks support from others or builds a team for idea application. In the final stage, the individual actualizes the idea by creating an innovative prototype or model and launching commercial products (Janssen, 2005). Similarly, Janssen (2000) examined employee innovative behaviors in three aspects (i.e., idea generation, idea promotion, and idea realization) because of the central position of ideas in employee innovative behaviors. Becker and Whisler (1967) summarized innovation as a four-stage process, which can be illustrated in an input-output model. This model was considered as describing employee innovative behavior (Quintane, Mitch Casselman, Sebastian Reiche, & Nylund, 2011**).** The four stages, namely, stimulus, conception, proposal and adoption, demonstrate how employees obtain a new idea and transform it into an output (Figure 2.3). Kleysen and Street (2001) deduced five forms of innovative behavior, including opportunity exploration, generativity, formative investigation, championing, and application, based on existing literature and survey responses from 225 employees in nine firms.

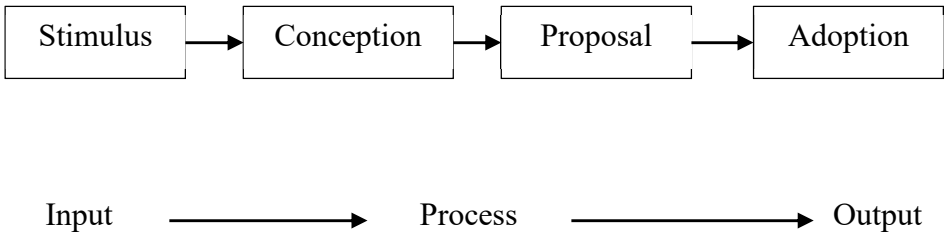

Figure 2.3 Four-stage innovative behavior process based on input-output model

Source: Becker & Whisler, 1967

Although various stages of innovation have been introduced by many researchers, their opinions do not contradict. Basically, all innovative behaviors can be categorized into two major stages: idea generation, which is the stage with various creativity-based behaviors to create new ideas (Dorenbosch et al., 2005), and idea implementation, which is the stage to realize the new ideas (Krause, 2004). For example, in the model proposed by Becker and Whisler (1967, p.466), "stimulus" and "conception" are under the idea generation stage, whereas "proposal" and "adoption" are under the idea implementation stage. A stimulus makes an employee aware of opportunities for innovation; conception signifies the stage in which the employee conceives a new idea; proposal involves seeking support from the organization; and adoption refers to the application of ideas (Becker & Whisler, 1967). The second and the third stages of Scott and Bruce's (1994) model also describe employees' effort to implement the ideas (Krause, 2004). Thus, these stages can be classified under idea implementation. Similarly, the idea promotion and idea realization by Janssen (2000) can be regarded as two steps of idea implementation. Based on the above discussion, two main stages (with various innovative behaviors in each stage) of employee innovative behavior, that is, idea generation and idea implementation are expatiated in the following paragraphs.

Idea generation

Ideas must be generated in response to problems or opportunities before an innovation can occur (Krause, 2004). As such, "idea generation" refers to the behaviors concerning the exploration and generation of ideas (De Jong & Den Hartog, 2010), or "problem recognition" and "idea generation" in creativity-oriented behaviors identified by Dorenbosch et al. (2005). More specifically,

Kleysen and Street (2001, p.285) subdivided "opportunity exploration" into four basic behaviors: "paying attention to opportunity sources," "looking for opportunities to innovate," "recognizing opportunities," and "gathering information about opportunities." The innovation process starts with problem recognition or the unsatisfactory gap between actual performance and ideal or expected performance (Kim & Lee, 2013). The performance gap drives employees to search for new approaches with which they solve the current problem (i.e., looking for opportunities) (Grissemann et al., 2013).

Any work-related experience or factor could be a source of new opportunities. Seven sources for innovative opportunities have been identified by Drucker (2007). These opportunity sources are: 1) the unexpected success, unexpected failure, and unexpected outside event; 2) the incongruity between the actual reality and ideal situation perceived by employees; 3) the process needs in response to problem recognition or causes of failure identification; 4) the changes in industry or market structure (e.g., new entrants, re-segmentation); 5) the demographical changes (e.g., population changes, increasing educational level); 6) the changes in people's perception, mood, and meaning; and 7) the new scientific or non-scientific knowledge (Drucker, 2007). The first four sources exist in a certain industry or firm, whereas the last three sources represent the changes outside the industry. Generally, employees who have access to both internal and external sources can explore numerous opportunities, which enable them to generate new, creative ideas (Li & Hsu, 2016b).

Opportunity exploration behaviors lay the foundation for new ideas because such ideas are usually generated by investigating problems from a different angle (Hjalager, 2010). The generated ideas can focus on several aspects, such as new

services, processes and solutions for identified problems; the core of idea generation is recognizing and combining the existing information and concepts to solve problems or improve performance creatively (De Jong & Den Hartog, 2010).

How an idea is generated is complex. According to Jensen, Johnson, Lorenz and Lundvall (2007), ideas can be created through two modes: (1) science, technology and innovation (STI); and (2) doing, using, and interacting (DUI). The STI mode describes the process of idea generation based on scientific and technical knowledge (Jensen et al., 2007). For example, several restaurants incorporate information technology progress in their services by developing electronic menu systems, and customers can quickly place an order using the installed application in their smartphones with or without the help of employees. In comparison, the DUI mode is experience-based; employees learn by doing (Jensen et al., 2007). The DUI mode involves interactions between employees and other people (e.g., customers, group members), and this mode is also common in service firms (Hu et al., 2009; Li & Hsu, 2016b). Knowledge that is either tacit or codified is important for both the STI and DUI modes (Jensen et al., 2007), and such knowledge can be acquired from interaction or exchange with others (Panteli & Sockalingam, 2005). Employees may acquire specific knowledge on service processes, which can facilitate their idea generation behaviors, through frequent interactions with customers (Hu et al., 2009).

Ideas in the generation process can also be adopted by an employee from others (Scott & Bruce, 1994). Hence, new ideas are not necessarily generated by the employee and may come from other sources (e.g., customers). Consequently, the interest in how to encourage customers to participate in new product development has grown in recent years (Lagrosen, 2005). Several researchers have revealed that

customers may create ideas themselves or inspire employees' idea generation by co-creation behaviors (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010). The former (i.e., customer creating ideas) indicates that customers are treated as innovators or members of the innovation team in firms, while the latter signifies that the employees are innovators, which is the focus of the present study. Nevertheless, the extent to which employees can draw inspiration from customers remains an unresolved issue. The contributions of customers in employees' idea generation may be limited because customers tend to focus on their expected services. Nevertheless, employee innovative behavior is related to other issues apart from producing new services, such as handling work problems effectively (Madrid et al., 2014). Concerns have also been expressed by researchers that ideas conceived by customers during the idea generation stage may be imitative or unimaginative solutions (Ulwick, 2002). These ideas may be based on customers' personal needs and are not aimed at the long-termdevelopment of firms or employees (Madjar & Ortiz‐Walters, 2008). Additionally, employees' willingness to apply ideas provided by customers may be doubted (Baldwin & von Hippel, 2011). However, the situation may be different when customers and employees actively co-create the services. This will be investigated by the present study.

Idea implementation

Generated ideas may only cause radical changes or improvements in performance when they are actively and successfully implemented. Idea implementation is divided into idea promotion and idea realization (Janssen, 2000; Dorenbosch et al., 2005). Employees seek support from others to implement the ideas during idea promotion (Dorenbosch et al., 2005). Such support is necessary because resistance to innovation may occur when employees convert new ideas into

services or processes. The new services, service processes, or tasks caused by innovation may hinder the performance of people considering their limited existing knowledge (Laukkanen, Sinkkonen, Kivijärvi, & Laukkanen, 2007). This effect on performance is called "functional barriers" and they may result in innovation resistance (Laukkanen et al., 2007, p.420). Resistance to innovation could also come from "psychological barriers," which emerge when an innovation conflicts with the traditions, norms, or other conventional beliefs (Laukkanen et al., 2007, p.420). Therefore, during the idea promotion process, employees mobilize support for the implementation of new ideas, seek and obtain approval for the execution of those ideas, and make other organizational members interested in or enthusiastic about such ideas to remove barriers to or reduce resistance against the actualization of new ideas (Janssen, 2000).

After acquiring support from other people, employees can finally realize the ideas and transform them into innovative prototypes or models (Jaiswal & Dhar, 2015). In idea realization, employees attempt to incorporate innovative ideas into regular service processes and make them new routines (Kleysen & Street, 2001). Employees may also evaluate and modify the ideas or the innovation process after the idea execution, which can then improve the performance of the subsequent innovation (De Jong & Den Hartog, 2010).

Customers are usually considered when researchers discuss organizational innovation in service industries owing to the customers' roles in service transactions (Desouza et al., 2008; Magnusson et al., 2003). Numerous studies have discussed customer's role in innovation process and the effect of customer participation in firms' R&D teams on innovation performance (Martin, Horne, & Schultz, 1999; Ulwick, 2002). However, the influences of customer participation in services on

employee (as individual) innovative behavior have been overlooked in the literatre. The present study attempts to fill this research gap.

2.4 Customer-employee exchange

Most of the customer participation behaviors involve exchanges between customers and employees. To participate in the service processes, customers need not only seek information about services from employees but also provide information about their needs to employees. This is called “information exchange” (Kellogg et al., 1997). When customers co-create services with employees, frequent information, emotion and behavior exchanges are also needed (Chen et al., 2011). Therefore, social exchange theory is adopted by this study, as a fundamental theory for understanding the interaction between customers and employees.

2.4.1 Social exchange theory

Social exchange theory (SET) is one of the most influential theories in social psychology and it is widely used for understanding workplace behaviors. The core concept of SET can be traced back to at least the 1920s (Malinowski, 1922, as sited in Cropanzano & Mitchell, 2005) and it was first introduced to reveal social behaviors in the 1950s by Homans (1958). Homans (1958) argued that every person exhibits his/her behaviors based on the expected cost and reward of such behaviors, and that the patterns of reciprocity among people and the exchanges that occur in the market work similarly. Thus, the interaction between people is induced by an exchange of resources (Törnblom & Kazemi, 2012), which can either be tangible (e.g., money, goods) or intangible (e.g., information, love). Although the forms of the resources may differ, both parties in such exchange expect their behaviors to

lead to rewards (Törnblom & Kazemi, 2012).

Social exchange involves various interactions that generate responsibilities for either party (Schoenherr, Narayanan, & Narasimhan, 2015). These interactions are interdependent on each party (Cropanzano & Mitchell, 2005), resulting in a good relationship between parties under certain circumstances. The behaviors of both parties can be understood with the four propositions made by Homans (1974).

Success proposition. If a person benefits from a particular action, he/she would perform the action again. The frequency of repeating such a behavior depends on the frequency of this person receiving rewards from such behavior.

Stimulus proposition. Similar stimuli may bring about similar behaviors. If a person has been rewarded through his/her action to a particular stimulus, then he/she would perform a similar action if the present stimulus is similar to the past one. For example, if a salesperson sells a large number of products on a crowded bridge, he/she will sell products on other crowded bridges. In this case, although the bridges are not the same, they share a similar characteristic (i.e., crowded), which is a stimulus for the salesperson's behavior.

Deprivation-satiation proposition. A reward becomes less valuable to a person when he/she frequently receives the same reward from a particular action. Consequently, the person may not be motivated to perform this action again.

Value proposition. The value of a particular action to a person signifies his/her tendency to perform that action. People prefer a more valuable action to a less valuable behavior.

The rewards from a certain action can be categorized into internal and external (Törnblom & Kazemi, 2012). Internal rewards are emotional incentives or satisfaction from relationships, whereas external ones are other benefits people gain

from the social relationships (e.g., material rewards) (Törnblom & Kazemi, 2012). There are four types of rewards from social exchanges: money, approval, esteem/respect, and compliance, which are also the sources of power (Blau, 1964). According to Blau (1964), social exchanges are induced by social attraction, which is the force that stimulates people to take initiative in establishing and expanding their social associations. Different parties are formed and exchanges occur through social attraction along with people's compliance to the principle of reciprocity. Five principles can explain the mechanisms behind people's social exchanges (Blau, 1964).

Rationality principle. People's exchanges are intended to obtain rewards, so those involved in social exchanges are economically rational.

Reciprocity principle. When a social exchange occurs, the rewarded person should reciprocate. Otherwise, the exchange stops or leads to conflicts.

Justice principle. The payment a person receives for an exchange is proportional to his/her input.

Marginal utility principle. This principle is the similar to the "deprivation-satiation proposition" introduced by Homans. When a person receives the same reward from an action, the value of this reward decreases. As a result, the person may not perform the same action.

Imbalance principle. If a set of social exchanges in one relationship is more balanced and stable, the other sets may appear imbalanced and unstable in comparison. For example, when most of the income of servers in a restaurant is obtained from the tips given by customers and these employees act responsibly for their serving behaviors, then the exchanges between employees and customers in this restaurant become stable. Consequently, the exchanges

between employees and managers become unstable because these employees may consider customers' requirements to be more important than managers' expectations.

According to SET, social exchange behaviors lead to both economic and social outcomes. Either customers' purchasing a particular service or employees' finding a new way to work more effectively, they all expect to receive rewards from such actions (Sierra & McQuitty, 2005). Certainly, these rewards are not restricted to money; other social rewards may exist such as satisfaction, self-achievement, and pursuit of personal advantages (Paillé, Grima, & Dufour, 2015). Social exchange behaviors must bring about positive outcomes so that the actors performing them are encouraged to continue (Thibaut & Kelley, 1959, as cited in Cook & Rice, 2006). Companies may encourage customers to participate in the service process by providing incentives, such as discounted and enjoyable service experiences. As a result, customers would increase their exchanges with employees. Continuous exchange behaviors are favorable for establishing a track record of exchange relationships, which service firms strive to develop to anticipate the controllable costs and benefits of a future service exchange (Ma & Qu, 2011). This anticipation influences the exchange behaviors. According to SET, if employees obtain positive outcomes from previous exchanges, they would also anticipate future outcomes to be positive, thus motivating them to continue their exchange behaviors (Cook & Rice, 2006).

When positive outcomes from an exchange continue, this exchange increases customers' and employees' trust in each other over time, and both parties become motivated to maintain the relationship. This motivation enhances their commitment to each other (Nunkoo & Ramkissoon, 2012). Employees are more likely to

demonstrate innovative behaviors with customers' trust and commitment (Slåtten & Mehmetoglu, 2011a).

2.4.2 Relationships between customers and employees

Managing relationships with customers has been extensively studied in the marketing literature. Relationship building between customers and employees are required in service processes, and such relationships positively affect the operational outcomes of service firms via relationship benefits (Kim & Cha, 2002), service quality (Ennew & Binks, 1999), satisfaction towards the service providers and loyalty towards the service firms (Hyun, 2010) or towards service brand (Sierra & McQuitty, 2005). Customer-employee relationships essentially lay the foundation for customers' relationships with a service firm as well as their loyalty to the firm (Eisingerich & Bell, 2006). Firms can gain the benefits of customers' actions or behaviors only if the quality of customer-employee relationships is sufficiently high (Castellanos-Verdugo et al., 2009).

Relationship building is an essential component of customer participation in services (Kellogg et al., 1997). Customers may not have contact with employees in the manufacturing industries except for those in the sales and marketing departments (Keith, Lee, & Leem, 2004). In comparison, customers act as partial employees in a service context when they participate in the service production and delivery (Ford & Heaton, 2001). Similar to employees, customers offer labor, knowledge, and effort to improve service creation (Kelley et al., 1990). Namasivayam (2003) further claimed that customers enter organizational boundaries during the culmination of the production process and consumption but leave immediately thereafter. Therefore, customers are considered transient "full-

time" employees of the service establishment rather than merely partial employees (Namasivayam, 2003). Hence, to a certain extent, customers and employees act as group members in a service production and delievery context. Therefore, the influence of customer participation on employees should not be overlooked (Namasivayam, 2003).

Different from creativity, innovation refers not only to the generation of new ideas but also the implementation of the ideas to benefit both the firm and customers; thus, employee innovative behaviors rely on the employees' relationships with their customers (Baer, 2012). When customers actively participate in the service process because of potential benefits, they may have more emotional interactions with employees, and the relationship between the two parties may consequently be improved (Castellanos-Verdugo et al., 2009). Therefore, employees may obtain additional support for innovation from customers. However, this relationship should not be regarded as a relationship between team members owing to the limited interaction time and extent of cooperation (Hsieh et al., 2004). The quality of the relationship between customers and employees may vary depending on personality and environment. One of the factors that determine the quality of (customer-employee) relationships is the interpersonal trust between the two parties (Paillé et al., 2015).

2.4.3 Interpersonal trust

Trust involves a trustee and a trustor, with the latter exhibiting reliance in the former's behaviors under certain circumstances (Hassan, Toylan, Semerciöz, & Aksel, 2012). Specifically, trust is a psychological state, in which a trustor has confidence in a trustee and can accept the risk and vulnerability of a certain behavior

of the trustee (Rousseau, Sitkin, Burt, & Camerer, 1998). This state emerges based on the expectation that the trustee performs a certain action that is important to the trustor even without monitoring or control from the latter (Mayer, Davis, & Schoorman, 1995). From the perspective of a trustor, trust means a person's belief in others, which is related to the trustor's personality to a certain extent (Mooradian, Renzl, & Matzler, 2006). For example, a manager who can trust his/her subordinates is usually considered confident, optimistic, and supportive (Zhang & Bartol, 2010). Trust is also a belief of the trustor that the other person does not take advantage of his/her weaknesses (Rousseau et al., 1998). Thus, a trustor's level of trust in a trustee is also influenced by the latter's personality and abilities (Nunkoo & Ramkissoon, 2012). For example, if a trustee is honest, reliable, and competent enough to complete an action that is valuable to a trustor, the latter's level of trust in the former may be high. Environmental factors (e.g., culture, system, and society) may also affect one's expectations from another (Hassan et al., 2012). Consequently, trust is a person's evaluation of the risks in the external environment and a means to decrease the complexity of social intercourse (Rousseau et al., 1998).

Trust can be categorized into three types as process-, characteristic-, and institutional-based trust, depending on the source of trust (Parkhe, 1998). Process-based trust refers to the trust developed based on the past or expected exchange (Parkhe, 1998). For example, if a firm continuously provides good services, customers can confidently predict positive service outcomes and trust the firm. Characteristic-based trust is derived from individuals' characteristics. This trust occurs when a trustor shares social similarities with the trustee (Parkhe, 1998). Institutional-based trust, which is established on individual or firm-specific attributes or intermediary mechanisms, is tied to formal societal structures (Parkhe,

1998). This type of trust relies on social institutions (e.g., law, third-party assurance) to enforce certain actions of trustees. The aforementioned classification of trust provides insights into the means to establish the trust mechanism.

Trust generally exists in various social relationships, and as a term, it usually describes people's belief in a person or a group of people rather than the belief in non-living things (e.g., an incident, institution) (Schoenherr et al., 2015). The majority of trust is actually "interpersonal trust," which occurs in interpersonal relationships, and interpersonal trust is usually bi-directional (Lewicki, Tomlinson, & Gillespie, 2006). Interpersonal trust plays an imperative role in relationships and is considered an important factor in measuring the relationship quality (Wong & Sohal, 2002). Interpersonal trust reduces transaction costs and facilitates interpersonal cooperation (McAllister, 1995). The importance of interpersonal trust to customer relationship management in a business context has been widely accepted (Hyun, 2010). Although interpersonal trust usually emerges in relationships, it is developed under the conditions of risk and interdependence (Rousseau et al., 1998). People tend to build trust in relationships whenever a risk exists so that they can reduce the uncertainty and potential loss (Mayer et al., 1995). Interdependence refers to the mutual dependency that evolves between the people in a relationship, and the level of interdependence can directly affect the level of importance trust will have for those involved in the relationship (Rousseau et al., 1998).

Interpersonal trust has affective and cognitive foundations; thus, it can be categorized into two types, affect-based trust, which implies the emotional bonds between two subjects, and cognition-based trust, which describes the trust decision related to knowledge and "good reasons" (McAllister, 1995). Affect-based trust is

about a trustee's care and concern for the trustor's interests, whereas cognition-based trust is related to a trustor's assessment of the trustee's performance (Schaubroeck et al., 2011). As for the relationship between these two, affect-based trust is positively associated with cognition-based trust (McAllister, 1995). For example, a customer asked an employee to perform a task, but the employee fails to do it. From the cognitive view, the employee's performance is unsatisfactory and the customer's trust in the employee decreases. However, if the customer has developed affective emotions toward the employee based on their frequent interactions in the past, the customer's trust may not decrease, because the customer's affect-based trust in the employee is strong, or he/she believes that the employee is concerned about him/her and attempts to take care of his/her interests.

As the above discussion indicates, interpersonal trust is developed in relationships over time through the constant interactions among people. Interpersonal trust is thus regarded as a dynamic phenomenon that occurs at different stages of relationships (Lewicki & Bunker, 1996). Lewicki and Bunker (1996) suggested that interpersonal trust evolves through three stages: from calculus-based trust to knowledge-based trust, and finally to identification-based trust. In the first stage or "calculus-based trust" stage, all people are rational traders who decide to perform an action based on its expected benefits and costs. A person in this stage trusts another based on the belief that the benefits he/she gains may outweigh the costs if the trustee performs the action. Nevertheless, calculus-based trust actually focuses more on deterrence (e.g., sanctions, loss of repeat business) than on reward-seeking elements, and this trust is rooted in the assumption that the fear of punishment stops the violation of trust (Lewicki & Bunker, 1996). As the relationship develops, calculus-based trust is gradually replaced by knowledge-

based trust, which depends on the information about each other acquired in the previous interactions (Lewicki & Bunker, 1996). The information or "knowledge" about a trustee allows the trustor to understand and predict the actions of the trustee (Paillé et al., 2015). In the third stage, identification-based trust emerges as the highest level of trust. Identification-based trust is grounded in the mutual value and moral responsibilities of the involved parties in the relationships, which compels one person to act voluntarily for the other (Lewicki & Bunker, 1996). In this type of trust, a trustor believes that the trustee attends to the trustor's interests even without potential deterrence or monitoring from the latter (Schoenherr et al., 2015). The evolution of these three types of interpersonal trust is illustrated in Figure 2.4.

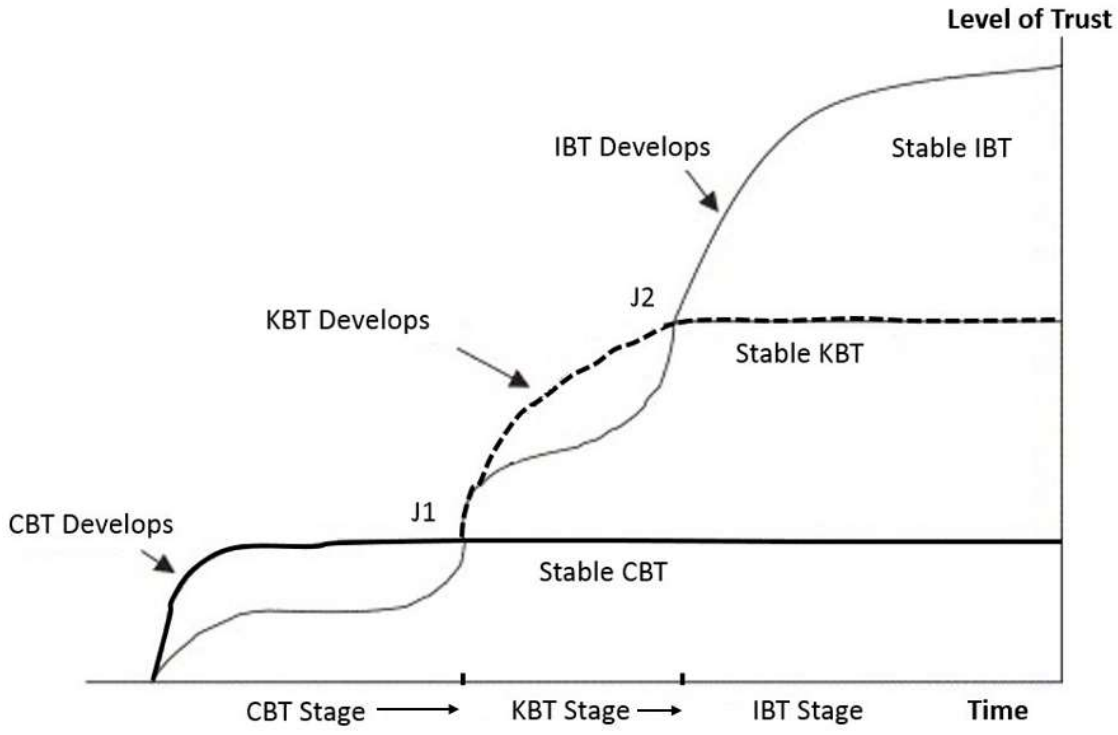

Figure 2.4 The three stages of interpersonal trust in relationships

Source: Lewicki & Bunker, 1996

Note: (1) J1: The point when calculus-based trust (CBT) becomes knowledge-based trust (KBT); J2: The point when KBT becomes identification-based trust (IBT). (2) The KBT line starts from the second stage (J1-J2) because the

"knowledge" is based on the previous exchanges in the first stage. This line also overlaps with the IBT line at the beginning of the second stage. (3) The IBT line is the longest one, with lower level than CBT in the first stage and lower level than KBT in the second stage. IBT is the highest level of trust and its development may not go smoothly (Lewicki & Bunker, 1996), thus the line twists and turns.

Trust is essentially a positive psychological state. By affecting the quality of various relationships, trust benefits the performance of a person or an organization. Researchers appear to have reached a consensus that interpersonal trust in the workplace strongly and positively influences productivity, job satisfaction, organizational commitment, and knowledge sharing (Hon & Lu, 2010; Mooradian et al., 2006; Paillé et al., 2015). Knowledge sharing plays an indispensable and imperative role for innovation (Hu et al., 2009). Meanwhile, knowledge sharing benefits from interpersonal trust because the latter reduces the cost of knowledge exchange, increases one's understanding of knowledge, and facilitates the useful application of the knowledge acquired from others (Abrams, Cross, Lesser, & Levin, 2003). Apart from being a requirement for the knowledge transfer process (Shaw & Williams, 2009), interpersonal trust encourages innovation by increasing the probability that a member's new ideas can be understood and accepted by others (Ruppel & Harrington, 2000). When considering customer participation in services, previous studies on customers' contribution to a firm's innovation tend to focus on customers' provision of information, idea, or feedback (Fang, 2008). However, only a few studies have examined the relationship between customers and employees. Therefore, the current study investigates the role of interpersonal trust in the relationship between customer participation and employee innovative behavior.

2.5 Job design and job complexity

2.5.1 Job design and employees' behaviors

Employee innovative behaviors are workplace and job-related behaviors. Thus, the job-related factors, such as job control and job complexity, have been examined by numerous researchers as factors that influence employee innovative behavior (Axtell et al., 2000; Oldham & Cummings, 1996). Several studies have indicated that employees are intrinsically motivated by the enjoyment, achievement, and challenge of jobs rather than external rewards or punishment and they are proactive and innovative on the jobs with these features (Coelho & Augusto, 2010; Joo & Lim, 2009). This statement complies with job design theory, which reveals the different characteristics of jobs, the effect of jobs on employees' work performance, and the methods to design suitable jobs for employees (Morgeson & Humphrey, 2006).

The origin of job design theory can be traced back to *The Principles of Scientific Management*, in which Taylor (1911) proposed measures to scientize and standardize the jobs of workers to increase their productivity. Taylor did not consider the social and psychological factors in his job design, and these factors were investigated by behavioral management researchers, such as Mayo (1933). The two-factor theory (motivation-hygiene theory) proposed by Hertzberg (1959) indicates that the factors intrinsic to jobs, such as recognition, achievement, and the job itself, are the main reasons that stimulate employees' motivation to work and finally lead to employee satisfaction. This intrinsic motivation influences employees' attitude and emotion toward work, making it a key factor promoting their innovative behaviors (Tu & Lu, 2013). On the contrary, the factors extrinsic to jobs, such as salary and work conditions, are hygiene factors that prevent

employees from being dissatisfied. The two-factor theory indicates that job design may influence employees' intrinsic motivation and work behaviors, and may further affect employee innovative behavior.

Most studies on job design after the 1970s have been based on the "Job Diagnostic Survey" introduced by Hackman and Oldham (1975), whose research framework has been named the Job Characteristics Model (JCM) by other researchers (Chung-Yan, 2010). The JCM provides seven characteristics of a job, which are as follows:

(a) skill variety, which describes the extent to which a job requires employees to use different skills;

(b) task identity, which assesses the extent to which a job is completed as a whole and each piece of work is identifiable;

(c) task significance of a job, which indicates the extent to which a job influences the lives or well-being of other people;

(d) autonomy, which measures the extent to which employees have discretion and independence to determine how they can finish the job at hand;

(e) feedback from the job itself, which refers to the extent to which employees improve their performance with the feedback (either positive or negative) from the job;

(f) feedback from agents, or specifically, the feedback (either positive or negative) received from managers, co-workers, or customers; and

(g) dealing with others, which represents the extent to which a job requires employees to work together with one another or with customers (Hackman & Oldham, 1975).

The first five characteristics are regarded as core job dimensions, whereas the

last two are supplementary job dimensions. The JCM is one of the most widely accepted and commonly used models. In fact, many researchers and practitioners design meaningful jobs for employees based on this model (Chung-Yan, 2010; Shaw & Gupta, 2004).

The JCM provides the perspectives toward examining the effect of job structure on employees' work attitudes and behaviors (Morgeson & Humphrey, 2006). The characteristics of a job are fundamental factors explaining various employee workplace behaviors, employee satisfaction, and their turnover intention (Chung-Yan, 2010; Grebner et al., 2003; Krasman, 2013). For example, employees with more job autonomy feel more responsible for their work and engage in their jobs more actively (Langfred & Moye, 2004). Conversely, employees with less job autonomy are not enthusiastic about completing their tasks, so their work performance declines (Langfred & Moye, 2004).

Studies on job design often measure the complexity of a job by using a composite of the core dimensions of the JCM, such as complexity reflected in skill variety and task identity (Joo & Lim, 2009). Job complexity is gradually regarded by researchers as one of the job characteristics and an important factor to consider for job design (Humphrey, Nahrgang, & Morgeson, 2007). In the model modified by Humphrey et al. (2007, p. 1334), job complexity is included in the "Motivational Characteristics" (with 10 dimensions) and distinguished from the original five core characteristics. Among all the job characteristics discussed in the literature, job complexity is one of the most widely used concepts in research on employee workplace behaviors (Chung-Yan, 2010; Matthew & Chigozie, 2014; Shalley, Gilson, & Blum, 2009).

2.5.2 Job complexity and its consequences

Job complexity refers to the degree of complexity and difficulty of the tasks required by a job (Morgeson & Humphrey, 2006). The concept was originally part of the job design, but it has been determined as a distinct factor in a subsequent study (Edwards, Scully, & Brtek, 2000). Complex jobs are mentally demanding and challenging, requiring employees to use high-level skills (Braarud & Kirwan, 2011; Chung-Yan, 2010). Compared with simple jobs, which can be completed by following standard operating procedures (Chung-Yan, 2010), complex jobs are characterized by high levels of uncertainty (i.e., factors and results are unpredictable in a dynamic environment), ambiguity (i.e., unclear input, process, or output of the job), novelty (i.e., including a number of non-routine tasks), and difficulty (Morgeson & Humphrey, 2006; Ohly & Fritz, 2010). Job complexity is a relative term, depending on the individual employees (Liu & Li, 2012) and the comparative set. For example, the computer software used at a hotel front desk may appear complicated to one employee, but it may be a simple system for another employee with high computer literacy. In a restaurant, table service may be more complex than cashiering due to the different levels of customer interaction.

Job complexity can be understood in three ways: component, coordinative, and dynamic complexity (Hærem, Pentland, & Miller, 2015). First, complex jobs include a large number of components. Numerous resources, information and acts are required, including physical and mental inputs, cognitive efforts, human information processing resources, and short-term memory requirements (Gottfredson & Aspinall, 2005; Li & Wieringa, 2000; Liu & Li, 2012). For example, butler service is a complex job because of the extensive information and numerous acts required. Butlers must have knowledge about the usage of various service

facilities and processes, be able to communicate effectively with customers, and perform a variety of tasks often at the bidding of the clients (e.g., obtaining event tickets, arranging a last minute trip). Second, complex jobs require more coordination than simple jobs because of the form and strength of the relationships between various inputs and products (Man & Lam, 2003). For example, a wedding planner should coordinate various people or tasks from multiple companies, including florists, professional makeup artists, the venues provided by hotels, and the marriage officiants. Thus, wedding service is a job with coordinative complexity. Coordinative complexity can also refer to the interaction between employees and their jobs (Liu & Li, 2012). Job complexity can be a relative or subjective term depending on different employee characteristics. For example, different employees may interpret the same job differently, resulting in the concept of perceived job complexity (Battistelli, Montani, & Odoardi, 2013). Finally, dynamic complexity arises when the environment changes constantly and affects the job components and their relationships (Hærem et al., 2015). A good example is the job of tour operators, who arrange group tours and usually work in an environment with constant changes, which are caused by customers, various hospitality service providers, or retailers.

From the task structure perspective, job complexity can be categorized into three types: input, process, and output complexity (Liu & Li, 2012). Two dimensions, namely, the amount and clarity of information, are included for each type of job complexity (Ohly & Fritz, 2010). The requirement of additional information indicates a high job complexity. For example, a salesperson in a hotel should know the information about the hotel and the market in order to sell services to customers, the job is complex in terms of input. To collect data through a customer satisfaction survey involves much interaction with the customers, thus this

job could be complex to employees in terms of process. The job of a restaurant purchasing agent could be complex because some output of the work is unpredictable. The clarity of information is another dimension when measuring job complexity. Jobs with unclear information are more complex compared with jobs with clear information (Liu & Li, 2012). For example, the job of a restaurant receiving clerk may be simple because all the information of the goods has been provided in the purchase order.

Job complexity has been regarded as a form of job enrichment (Becton, Carr, & Judge, 2011). Therefore, most of the existing studies claim that this job characteristic leads to positive results. The positive relationship of job complexity with well-being and job-related attitudes is supported by numerous researchers (Grebner et al., 2003; Shalley et al., 2009). For example, job complexity positively influences job satisfaction and affective commitment and negatively predicts employee turnover intention (Grebner et al., 2003). In contrast, simplified jobs result in relatively poor mental health because employees may perceive their job as not allowing them to utilize their skills (Li & Burch, 2013). Overly complex jobs, similar to simple jobs, can also have negative consequences. For example, overly complex jobs may cause mental overload and stress (Li & Burch, 2013). Overall, an inverted U-shaped relationship exists between complexity and employees' psychological outcomes or performance (Chung-Yan, 2010). For example, an increase in job complexity implies an improvement in employee performance because the complexity alleviates boredom and provides stimulation to employees (Shaw & Gupta, 2004). However, excessive complexity (i.e., when the complexity exceeds a certain level) leads to the opposite outcomes and decreases employee performance (Chung-Yan, 2010).

The extant research on job design tends to focus on how to simplify jobs for employees and improve employee efficiency (Humphrey et al., 2007). On the contrary, employees may also become bored and lack initiatives when the jobs are simplified (Chung-Yan, 2010). Compared with job simplification, few researchers have focused on employee innovative behavior and long-term development of jobs with different levels of complexity. However, the influence of job complexity should be examined when customers participate in services as partial employees (Ireland & Webb, 2007). Hence, the present study considers the role of job complexity when investigating the effect of customer participation on employee innovative behavior.

2.6 Theoretical foundation and conceptual model

According to SET, a person decides whether to conduct a behavior by comparing the costs and benefits that may be obtained when performing that behavior (Homans, 1974). If the expected benefits of a behavior exceed the costs this behavior caused to a person, the person will conduct the behavior; otherwise, he/she will not. Whether employees perform innovative behaviors also complies with this cost-benefit principle. The benefits of employee innovative behavior may include enhanced performance, improved well-being, or even self-actualization (Ottenbacher, 2007; Zhou & Oldham, 2001). On the contrary, the expected costs or losses of an innovative behavior negatively influence employees' intention to engage in innovation. These negative outcomes can include excessive change, service failure, or job stress (Simpson, Siguaw, & Enz, 2006). Various factors influence employee innovative behaviors by affecting their perceived benefits and

costs (Simpson et al., 2006). Customers tend to share some of the responsibilities of the services, and a good relationship induced by customer participation may relieve the tension felt by employees when applying an innovation; thus, customer participation may reduce the cost of employee innovative behavior (Bendapudi & Leone, 2003).

Apart from the cost-benefit comparison, SET concentrates on the exchanges among people. In these exchanges, the principle of reciprocity is ubiquitous (Cook & Rice, 2006). Reciprocity occurs between customers and employees through cooperative exchanges in a service transaction, with the assumption that a good deed, behavior, or exchange from one person will be returned by the receiver (Xerri, 2013). When customers actively participate in services, they need to build relationships with employees, exchange information with employees, and share some responsibilities of the services (Ennew & Binks, 1999). As a result, employees can have manageable workloads or improved relationships with customers (Bendapudi & Leone, 2003; Castellanos-Verdugo et al., 2009). Subsequently, according to SET, employees become satisfied with the exchange outcomes and are then motivated to provide customers with their good deeds in return. Innovative behavior is one of the good deeds that may improve the service efficiency or quality (Victorino, Verma, Plaschka, & Dev, 2005), and interpersonal trust, which is earned by the continuous interactions between the two parties, may facilitate employee innovative behaviors (Ruppel & Harrington, 2000).

Meanwhile, customer and employee exchanges can occur in different environments. The stimulus conditions of the exchanges are affected by the environment where they occur (Schoenherr et al., 2015). Hence, the environment may also affect the interactions between employees and customers. The present

study observes the exchanges between the two parties in a specific service setting in the hospitality industry (i.e., restaurants) when examining the relationship between customer participation and employee innovative behavior. Moreover, job complexity is one of the characteristics of the environment where customers and employees exchange with each other (Braarud & Kirwan, 2011). According to job design theory (Shalley et al., 2009), a job with certain complexity affects the psychological states and behaviors of the person holding the job. Customers are regarded as partial employees in services; therefore, their behaviors may also be related to job complexity. Therefore, based on a comprehensive review and analysis of the literature, the conceptual model of this study is proposed as follows (see Figure 2.5).

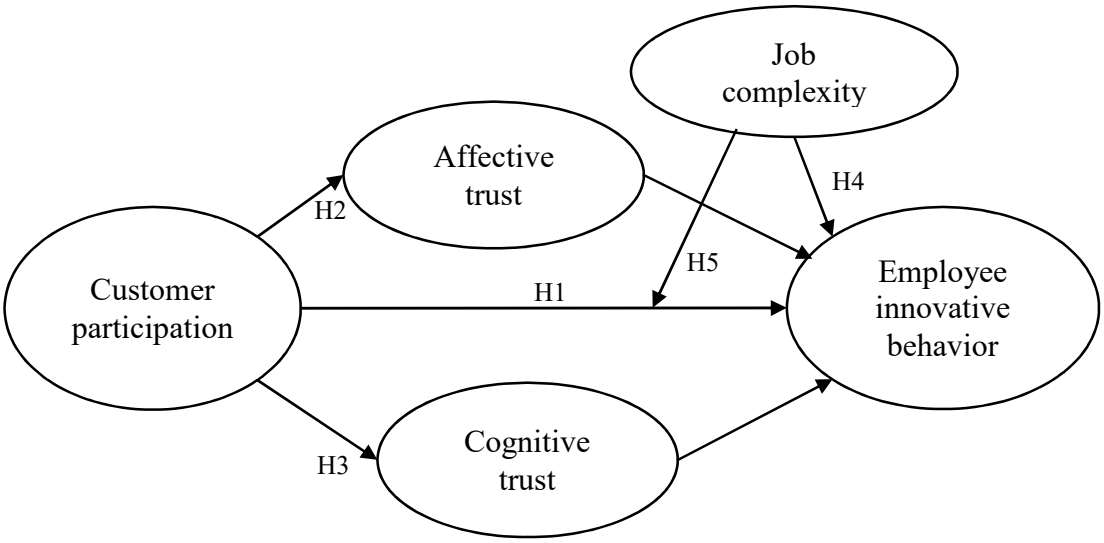

Figure 2.5 Proposed conceptual model of the effect of CP on EIB

Note: (1) CP: Customer Participation; EIB: Employee Innovative Behavior. (2) H1-H5 in the figure represent hypotheses, which are explained in Section 2.7.

2.7 Hypotheses

This study investigates the effect of customer participation on employee innovative behavior as well as the mediating effect of interpersonal trust (Figure 2.5). Meanwhile, as service firms attempt to create a suitable environment facilitating employee innovative behavior, the characteristics of a job should be investigated together with the motivation and emotion of the employee who performs the job (Shalley et al., 2009). Thus, the role of job complexity is also examined. The latent constructs of interpersonal trust are cognitive trust and affective trust, which are explained in separate sections. The relationships among the four concepts (customer participation, interpersonal trust, job complexity, employee innovative behavior) are explained and five hypotheses are proposed in the following sections.

2.7.1 Customer participation and employee innovative behavior

While the importance of customers to service innovation and market success is generally accepted (Chen et al., 2011; Hjalager, 2010), the effect of customer participation in services on employee innovative behavior remains unresolved. Nevertheless, a few studies have indirectly exhibited the effect.

Customer participation in services may present opportunities that, in turn, encourage employees' idea generation behaviors. First, customer participation in services may increase the probability of customers' idea generation, which may further transform into employee innovative behavior. If employees accept and adopt customers' ideas, these ideas induce employee innovative behavior (Scott & Bruce, 1994). The role of customers as innovators during the service process has been identified, and the approaches to their innovation have been explored (Baldwin &

von Hippel, 2011; Thomke & Von Hippel, 2002). Customers have the first-hand experience in the services they consume, thus their innovation (especially in service quality enhancement) could occur before a firm takes actions to change the services (Foss, Laursen, & Pedersen, 2011). If customers actively participate in service processes, they utilize their experience, skills, and knowledge as well as enhance their understanding and knowledge about the services from their participation behaviors (Fang, 2008; Hibbert, Winklhofer, & Temerak, 2012). Knowledge and learning may further be transformed into various novel ideas (Hu et al., 2009). In particular, the purported lead-users, who have clear needs before other customers, have a strong motivation to solve service problems innovatively (Graf, 2007).

Second, customer participation in services can inspire employees' creative thinking by facilitating their opportunity exploration. Obtaining ideas from customers using common methods (e.g., structured inquiry mechanisms) has become increasingly difficult, and this situation limits customers' contributions to innovation (Nambisan, 2002). Even if a firm has received significant information about customers' consuming behaviors or potential needs, the information may not accurately depict the customers' insights or potential ideas because customers' internal needs are remarkably apparent "in their own natural settings than in artificial settings" (Leonard-Barton, 1995, as cited in Nambisan, 2002, p. 395). In other words, customers' opinions or attitudes are shown in real service transactions rather than scenarios or experiments. Customer participation in services makes it possible for employees to understand customers' internal needs because the service exchange settings are natural to customers (Aarikka-Stenroos & Jaakkola, 2012). According to social cognitive theory, employees learn by observing customers' behaviors and by interacting with them (Lent, Brown, & Hackett, 1994), which are

made possible by customers' participation in the services (Chan et al., 2010). Employees can competently understand customers and work-related problems when they are provided with opportunities to learn how customers contribute information, efforts, and other resources to the service creation process (Yi et al., 2011). From this angle, employees who have frequent exchanges with customers tend to discern customers' insights, which can then be viewed as opportunities through which employees can generate new ideas (Kleysen & Street, 2001). New challenges or problems that occur with the increasing participation of customers are also possible sources for employees' new ideas (Drucker, 2007).

Finally, customer participation in services could stimulate employees' capabilities to innovate. Customer participation is characterized by frequent information exchanges between customers and employees (Kellogg et al., 1997). By co-creating services with customers, the information acquired from customers can become knowledge if employees "learn by doing" in this process (Jensen et al., 2007). Such knowledge may lead to an increase in the number of generated ideas (Liao et al., 2008). Thus, there may be a positive relationship between customer participation and employees' idea generation.

Customer participation in services may also facilitate employees' idea implementation. Employee innovative behavior includes idea generation as well as idea implementation (Krause, 2004). While the former is strongly influenced by individual factors (e.g., personality, cognitive style), the latter is more affected by group and organization factors (e.g., organization culture and climate) (Hunter et al., 2007). Unlike idea creation, idea implementation is completed more in a social context than by one person alone (Magadley & Birdi, 2012). This stage also requires support for innovation, which includes support from customers as service co-

creators (Axtell et al., 2000; Lashley, 1995). Idea implementation is the main distinction between employee creativity and employee innovation (Scott & Bruce, 1994). The support seeking, socialized behaviors, and prototypization during the idea implementation period are made possible by customer participation in services because customers act as partial employees and share responsibilities of services when they participate in the processes (Ennew & Binks, 1999; Ford & Heaton, 2001). Thus, customer participation in services may increase their acceptance of innovation outcomes and reduce potential innovation resistance (Janssen, 2000; Ottenbacher, 2007), which may encourage employees' risk taking behaviors (Clegg et al., 2002). In particular for new services realization, customers' participation positively influences the quality of the new services and innovation performance (Ottenbacher, Shaw, & Lockwood, 2006). Hence, customer participation in services may facilitate employee idea generation as well as implementation, giving rise to the following hypothesis:

Hypothesis 1. Customer participation in services will have a positive effect on employee innovative behavior.

2.7.2 Customer participation, affective trust and employee innovative behavior

Increased customer participation leads to frequent personal interactions between customers and employees (Ennew & Binks, 1999) that, in turn, facilitate interpersonal trust building between the two parties (Johnson & Grayson, 2005). When customers exhibit participation behaviors in services, they initially build relationships with employees, encouraging both sides to contact and exchange with each other deeply (Kim & Cha, 2002). Through frequent information and action exchanges, customers and employees can acquire additional information or

knowledge about each other, making them understand and predict each other's behaviors (Lewicki & Bunker, 1996). According to SET, constant exchanges between customers and employees generate the expectation that performing good deeds will be followed by good reactions (Cook & Rice, 2006). These predictable behaviors or expectations demonstrate the characteristics of affective trust (Johnson & Grayson, 2005). Frequent exchanges that are derived from customer participation form the basis of trusting bonds and may encourage the affective trust between customers and employees. Furthermore, customers and employees tend to care for each other and deepen emotional connections because customer participation involves emotional input. These emotional connections may create the grounds of affective trust (Johnson & Grayson, 2005).

Affective trust between customers and employees may further influence their behaviors. If customers trust employees, they are confident that the employees would maintain the privacy of the personal information they provided and not use such information in any way that will be harmful to them (Panteli & Sockalingam, 2005). Customers' trust in employees encourages the flow of information and knowledge between the two parties and thus facilitates employees' idea generation (Kim & Cha, 2002). Similarly, high level of interpersonal trust makes employees believe that customers are dependable and the information or ideas provided by customers can be adopted. Employees may also believe that customers will support their attempt to generate new ideas to create an enhance experience for customers (Madjar & Ortiz-Walters, 2009). Thus, interpersonal trust can foster employees' idea generation as well as implementation. Employees seek support in the idea implementation stage, and the customer trust is necessary; otherwise, the innovation is doubted and not accepted (Carmeli & Spreitzer, 2009). After all, innovative

behaviors ultimately involve risk-taking, and a few of these behaviors can fail. Customers tend to express support for the outcomes of employee innovative behavior when they believe that the employees are concerned about their interests and employees have the abilities to provide them with improved services (Ruppel & Harrington, 2000). The affective trust between customers and employees induces employees to expect that the innovation achievement can succeed with customers' support and encourages their risk-taking behaviors (Clegg et al., 2002). Thus, the current study proposes the following hypothesis:

Hypothesis 2. Affective trust mediates the relationship between customer participation in services and employee innovative behavior.

2.7.3 Customer participation, cognitive trust and employee innovative behavior

When customers participate in the service processes, they encounter, adapt, and gradually begin to appreciate the values, norms, and required behavioral patterns of a firm with which they are interacting (Claycomb et al., 2001). This process leads to two results. On the one hand, customer participation may lead to the development of their skills, knowledge, and attitudes (Wu, 2011). On the other hand, customers can better understand their roles in services and employees' capabilities to complete the tasks through the information exchange and service co-creation with employees (Kelley et al., 1990). Gradually, both customers and employees may perceive that the other party has the ability to perform the tasks well. Customers may be more concerned about employees' interests and monitor their performance more closely now than before because customers already know more about the employees. Thus, increased customer participation lays the foundation of cognitive trust between the

two parties (Johnson & Grayson, 2005).

Such cognitive trust between customers and employees further facilitates employee innovative behavior. Cognitive trust is a type of knowledge-based trust (McAllister, 1995). In this context, coginitve trust between customers and employees indicate that customers are willing to rely on employees' performance and confident in employees' abilities to solve problems or improve service processes in their work (Kanawattanachai & Yoo, 2002). With cognitive trust, customers tend to support employees if they attempt to execute creative ideas to provide better services to their customers (Schaubroeck et al., 2011). Cognitive trust has been noted to facilitate employee innovative behavior in the context of group members or other networks where collaborations exist (Xerri, 2013). Thus, cognitive trust between customers and employees may also give rise to increased instances of employee innovative behaviors. Based on these arguments, frequent interactions between customers and employees lead to cognitive trust when the former actively participate in services, and such trust—along with customers' knowledge sharing and support—facilitates employee innovative behavior. These observations suggest the following hypothesis:

Hypothesis 3. Cognitive trust mediates the relationship between customer participation in services and employee innovative behavior.

2.7.4 The role of job complexity

Considerable evidence has been presented in support of the notion that job complexity relates to the innovative behaviors of employees who perform the jobs. The jobs with high complexity require employees to use their skills, knowledge, and abilities fully as well as to learn new techniques and knowledge; thus,

employees on these jobs tend to focus on opportunities and create new ideas (Zacher & Frese, 2011). As job complexity increases, the complexity of information for employees' work increases (Battistelli et al., 2013). At the same time, the requirements of domain information (e.g., known scientific facts) and problem-solving information also increase, thereby compelling employees to seek new information and knowledge (Battistelli et al., 2013). The growing job complexity increases the number of idea sources for employees (Drucker, 2007). These external resources and employees' knowledge learning are argued as important factors for employee innovative behaviors (Jensen et al., 2007). In addition, the intrinsic motivation of employees serves as a key factor between job complexity and employee innovative behavior; such motivation is noted to be stronger in complex jobs than in simple, routine jobs (Joo & Lim, 2009). Thus, the actions that reduce job complexity, such as job standardization, may negatively influence employee innovative behavior (Luoh, Tsaur, & Tang, 2014). Compared with complex jobs, simple jobs involve monotonous tasks that can be easily completed (Ohly, Sonnentag, & Pluntke, 2006). These simple jobs, which are referred to as Tayloristic jobs by researchers because simplicity is the core feature of Taylor's job design theory (Taylor, 1911), are established to negatively influence employees' initiative, readiness to change, and intention to show proactive behaviors (Ohly et al., 2006). Thus, the following hypothesis is proposed:

Hypothesis 4. Job complexity will have a positive effect on employee innovative behavior.

Job complexity indicates the degree to which the demands of a job are considered stimulating or challenging (Wang, Tsai, & Tsai, 2014). Tasks are

relatively easier for an employee in a simple service job. When customers participate increasingly in the services, the employee may complete the tasks easily with the information provided by customers. If customers actively participate in the job/tasks, they tend to act as competitors to the employee (Ennew, 1996). According to job design theory, a simple job may imply a small responsibility, and employees tend to delegate certain tasks to others to avoid the monotony and boredom (Chung-Yan & Butler, 2011). Thus, employees may allow customers to complete specific tasks of the job themselves. In this case, customers act as substitution for labor but do not present an opportunity for the employee to acquire knowledge or improve relationship with customers. From the employee perspective, if an employee feels burdened by a simplified and monotonous job, he/she may continue to have no intention to innovate even when customers participate in services increasingly. Therefore, in simple jobs, the effect of customer participation on employee innovative behavior may not be salient.

On the contrary, employees tend to feel excited toward the changing activities in the job and display additional enthusiasm to perform well when there is a certain degree of autonomy (Oldham & Cummings, 1996). The uncertainty of complex jobs encourages employees to take risks, which leads to innovation on the condition that risk-taking behaviors are supported by the organization (Freel, 2005). In addition, complex jobs encourage employees to concentrate on multiple dimensions of their jobs and to pursue creative outcomes because the output complexity of such jobs is relatively high (Oldham & Cummings, 1996). Compared with simple jobs, when customer participate in the services in complex and challenging jobs, they actively interact with employees to seek and provide necessary information about how to enjoy the services well and how to cooperate with employees to complete

certain tasks (Man & Lam, 2003). Frequent information and action exchanges may provide employees additional opportunities to think and act innovatively. Thus, moderately complex jobs tend to encourage employee innovative behaviors when customers participate increasingly (Tierney & Farmer, 2002).

The situation may change if the job complexity is extremely high. The level of customer participation also depends on the job complexity. If a job is extremely complex or the service production is excessively complicated, customer participation is limited for customers except with special training (Eisingerich & Bell, 2006). When customers participate increasingly in overly complex job-related services, employees may have to spend considerable time training/helping customers (Eisingerich & Bell, 2006). As such, customer participation becomes part of employees' workload and may increase employees' job stress (Hsieh et al., 2004). Psychological stressors have been identified as major handicaps to innovation (Janssen, 2000). Therefore, customer participation may not facilitate employee innovative behavior in overly complex jobs.

In summary, moderately complex jobs encourage frequent interactions between customers and employees, offer employees additional flexibilities, and give employees numerous challenges (Tierney & Farmer, 2002). Compared with simple jobs and overly complex jobs, employees are compelled to take initiatives to handle a few but not innumerable challenges in their work and exhibit increased motivation to improve their services, especially when the exchanges between customers and employees occur with moderately complex tasks (Wong & Ladkin, 2008). These exchanges and relationships tend to encourage employees to generate new ideas and actualize such ideas. That is to say, the effect of customer participation behaviors on employee innovative behavior would be strong; this

study presents the following hypothesis:

Hypothesis 5. Job complexity will moderate the effect of customer participation on employee innovative behavior such that the effect will be stronger with moderately complex jobs compared to jobs with low or extremely high complexity.

Chapter 3: Methodology

3.1 Introduction

This chapter discusses the main research methods employed for this study. Section 3.2 discusses the research design developed to answer the research question as well as specify the research process. Section 3.3 describes the main survey details. The survey setting and survey population are explained. The methods for sampling and the sample size are determined according to the research objective and the practical conditions. Section 3.4 presents data analysis methods, including the analytical approaches, the methods used to test the reliability and validity of the measurements and the methods to test the hypotheses. Section 3.5 expatiates the measurement scales of the constructs for the main survey, including employee innovative behavior, interpersonal trust and job complexity, which are adopted from previous research. Section 3.6 explains the reasons as to why the extant customer participation scales may be inappropriate to be adopted in this study. In addition, the development of the scale for perceived customer participation is presented, which follows the procedures suggested by Churchill (1979).

3.2 Research design

This study was designed to investigate the influence mechanism of customer participation in services on employee innovative behavior. This approach is a typical explanatory study that seeks theoretical reasoning. Therefore, according to the principles proposed by Sekaran (2003), a quantitative survey is necessary for the present study to confirm the model derived from the reviewed literature and fundamental theories. All of the issues associated with customer participation and

employee innovative behavior were explored from the perspective of employees.

A questionnaire was designed to examine the relationships among the relevant constructs in this study. The four related constructs, namely, customer participation, interpersonal trust, job complexity and employee innovative behavior, were examined by groups of items, which were designed based on previous studies and the characteristics of the services in the hospitality industry (Section 3.5). The measurement scales for interpersonal trust, job complexity, and employee innovative behavior were adopted from previous studies. For employees' perceived customer participation, a new scale was developed through qualitative in-depth interviews and a panel of experts (Section 3.6). The concept of employee innovative behavior refers more to innovation by ordinary employees rather than that implemented by R&D departments or executive committee members. Thus, the target respondents for the questionnaire were frontline employees or entry-level managers in restaurants. These are the people who deliver services directly to customers and have frequent interactions with the customers. After the pilot study, where the reliability of the measurements were tested, the main survey was conducted. Based on the data collected from the survey, relationships among the variables were analyzed with structural equation modelling (SEM). This analysis was followed by the discussion and conclusion of the research, along with the implications for future research.

To sum up, the research involves seven steps (Figure 3.1). The study began with a literature review, followed by the proposal of a research framework, including the research hypotheses. Chapter 2 discusses both the literature review and conceptual model. Previous related studies and the conceptual model established a foundation for the instrument development, in which the questionnaire

design was based. The research design from the third step (instrument development) is reported in succession in the following sections.

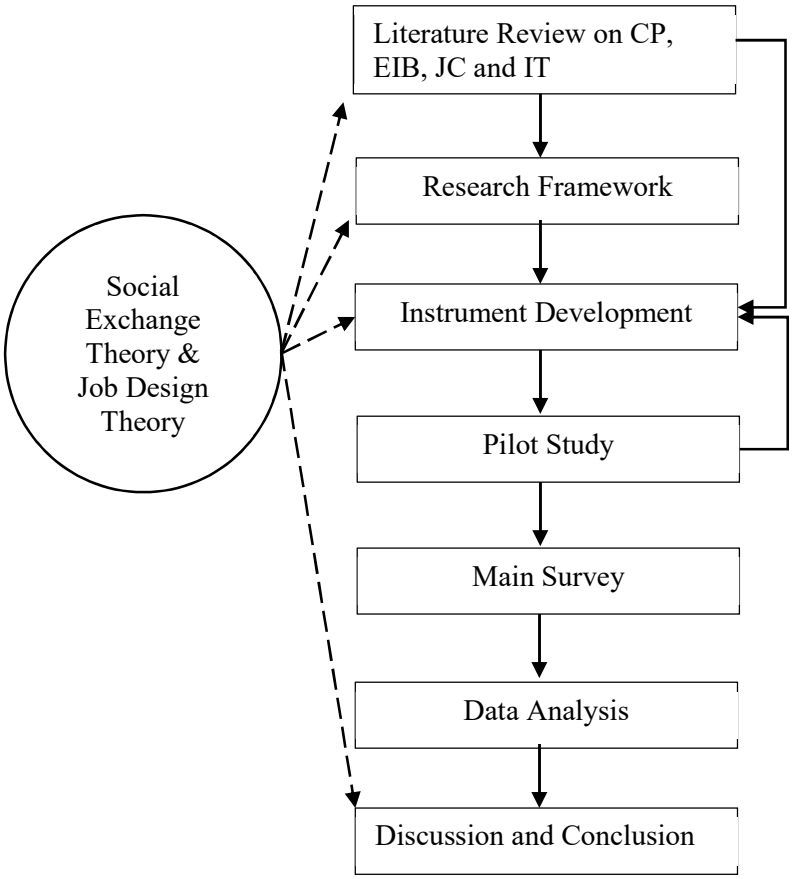

Figure 3.1 Overview of the research design

Note: CP (customer participation), EIB (employee innovative behavior), JC (job complexity), IT (interpersonal trust).

3.3 Survey setting, population and sample

3.3.1 Survey setting and population

The survey setting for this study included both hotel restaurants (i.e., Chinese restaurants, Western restaurants or specialty restaurants, café, buffet, bars, and other types of restaurant) and freestanding restaurants. The catering industry is a

traditional industry with a long history; nevertheless, this industry highlights the importance of innovation because of the fast-changing environments at present (Hjalager, 2010; Rodgers, 2007). The latest advanced technology and applications are evident in restaurants, and these are used to provide customers with good experience; more and more restaurants create supportive atmosphere for innovation; and their innovation processes may be different from other industries (Hjalager, 2010; Ottenbacher & Harrington, 2009). In addition, a restaurant provides various services (e.g., ordering, table services) to customers, and the employees need to constantly interact with customers (Chathoth et al., 2013). As a sector of the hospitality industry, restaurants also focus on serving customers well and encourage employees to maintain good relationships with customers (Castellanos-Verdugo et al., 2009). These characteristics of restaurants make them an ideal service setting to examine customer participation, interpersonal trust, and their effect on employee innovative behaviors given that customer participation behaviors represent customers' co-creation, exchanges, and relationship building with employees. Other reasons to do the survey in restaurants are that the various service positions of the front-of-house staff reflect different levels of job complexity (Wang et al., 2014), and restaurants encourage employee innovative behavior in the workplace (Hon, Chan, & Lu, 2013; Huang, 2011). One of the research objectives is to test the moderating effect of job complexity on the relationship between customer participation and employee innovative behavior. Hence, focusing on the restaurant service setting can increase the validity of the test.

This study specifically focuses on Chinese frontline employees in restaurants. China has experienced 30 years of steady increase in the number of restaurants and total restaurant revenue since 1982 (Yang, 2013). However, challenges have

continued to emerge with the rapid development of restaurant supply. Hence, numerous restaurants cannot adapt to the quick change of customer needs, and several employees lack the motivation to work and to strive for enhanced development, resulting in high turnover rates; nevertheless, other restaurants use price as a sword to survive the fierce competition, only to learn that their profit decreases and they are at the point of no return (Yang, 2013). To solve these problems, a number of restaurants begin to place a high value on innovation. Driven by cost-benefit rationale, many restaurants enthusiastically encourage employees to contribute to the firms' innovation rather than establish a specialized innovation team or R&D department based on the cost–benefit rationale (Chen, 2011). Thus, a changing and developing catering industry and market, such as China, is an ideal setting for the present research, which aims to focus on employee innovative behavior as a result of customers' participation in services.

Cultural background is another issue that should be considered in this study because customer participation and employee innovative behavior are both noted to be influenced by culture (Hon & Leung, 2011; Lloyd, 2003). When cultural background is considered, most of the studies on customer participation and employee innovative behavior have been conducted in a Western cultural context (Kellogg et al., 1997; Ennew & Binks, 1999; Janssen, 2000). Little research has been conducted on the topics in a Chinese cultural contex Limited research has been conducted on the topics within a Chinese cultural context. On the other hand, the Chinese F&B industry has become one of the largest in the world and its scope continues to grow. In line with this, focusing on the Chinese catering industry is a worthwhile task as this may provide implications for the industry in other fast-developing areas. With this notion in mind, this study examines the influence of

customer participation on employee innovative behavior in a restaurant setting in China. In other words, the population of the study is entirely Chinese frontline employees of restaurants in China.

3.3.2 Sampling

The main survey was conducted in restaurants in Beijing. Beijing enjoys one of the most well-developed hospitality industries in China. According to the Beijing Statistical Information Net (www.bjstats.gov.cn), the F&B revenue of restaurants in Beijing reached ￥17.913 billion in the first quarter of 2014, ranking second among all of the cities in China. According to a survey of Consumers' Association of Beijing in 2007, the customer satisfaction index of Beijing restaurants reached 75.61, which was better than the previous year, and the image index of restaurants was 84.39, which was better than most of the other cities in China (China Economic Net, 2007). Thus, results based on Beijing restaurant employees can provide implications for restaurants in other areas of China. From the employee perspective, Beijing has a large number of migrant workers in the hospitality industry. According to the Beijing Statistical Information Net, the foreign population in Beijing from all over China accounts for nearly 40% of the total population in 2012. Correspondingly, most restaurant employees in Beijing are migrant workers from all over China, which may reduce the bias caused by surveying respondents from one specific location.

The sample for this study included Chinese frontline employees in Beijing restaurants, with half of the questionnaires collected from freestanding restaurants and the other half from hotel restaurants. The total number of employees in restaurants is unknown, thus the use of a random sampling is not feasible. This

study thus used quota sampling to select the respondents. The top 40 restaurants in Beijing based on consumers' rating were first chosen as target restaurants for freestanding restaurants; the list was provided by Da Zhong Dian Ping (http://www.dianping.com/). These restaurants, such as Beijing Roast Duck (of Quanjude) and Golden Jaguar, all attended the "China Catering Marketing Innovation Forum 2013" sponsored by China Cuisine Association. Thus, these restaurants attribute a certain importance to innovation.

Meanwhile, the sampling quota for hotel restaurants was determined based on the number and operation conditions of star-rated hotels in Beijing (Table 3.1). According to the star-rating standard for hotels in China, one- and two-star hotels are not required to have restaurants. In reality, most one- and two-star hotels do not have restaurants. Thus, this study focused on restaurants in three-, four- and five-star hotels, where additional innovation can be noted (Li & Yang, 2013). Although there are fewer five-star hotels than three- and four-star hotels, the number of rooms (and restaurants) in a five-star hotel is usually larger than a four- or three-star hotel. Meanwhile, a number of international hotels operated by hotel groups, such as Shangri-La Hotels & Resorts and Hilton Hotels & Resorts, are not members of CTHA. Thus, they were not included in the 58 hotels (five-star hotels in Table 3.1). When the aforementioned background was considered, a total of 10 three-star, 10 four-star, and 5 five-star hotels were selected initially, and the managers of these hotels were contacted to participate in this study.

Table 3.1 Operational data for Beijing star-rated hotels (4th Quarter, 2013)

	No. of hotels	ADR (￥)	Occupancy (%)
Five-star Hotels	58	860.89	64.37
Four-star Hotels	128	502.82	62.45
Three-star Hotels	207	375.48	55.67
Two-star Hotels	172	237.75	53.23
One-star Hotels	14	235.8	32.18
All star hotels	579	529.31	59.52

Source: China Tourist Hotel Association (CTHA), 2014

After the target restaurants had been determined, the respondents were selected with quota sampling based on the positions of frontline employees. The frontline employees in a restaurant usually include host/hostess, server, food runner, bartender, busser, and cashier. The respondents of the survey covered employees in all of these positions. Data about the proportion of these positions in restaurants in China are unavailable (because the number of restaurants is extremely large). Thus, the quota for the positions of server, host/hostess, food runner, cashier, busser, and others (e.g., maître) were initially determined as 40%, 15%, 15%, 5%, 5% and 20%, respectively, based on the number of the employees at each position typically recruited by restaurants (Yang, 2013). The employees and jobs in different restaurants may actually vary. Thus, the exact number of employees to be selected may also differ.

3.3.3 Sample size

Sample size should be considered and decided carefully for the estimation of or generalization to the population based on the information included in a sample.

In general, a large sample size is better than a small one if both of them are randomly selected from the population (Anderson, Sweeney, & Williams, 2011). However, determining the sample size by simply following the concept of "as large as possible" is inappropriate with the time and budget limitations.

The factors influencing sample size should be considered for sample size determination. The sample size of a study theoretically depends on four elements, namely, population size, desired precision (i.e., sampling error, margin of error, or confidence interval), variability, and confidence level. Differences on these four elements imply a variation on the desirable size of the sample. Therefore, the sample size depends on the requirements imposed by the analyst (i.e., desired precision and confidence level), which are decided before sampling, and the observed aspects (i.e., population and variability). If the relative error has been controlled, the sample size can be calculated by the following formula (Cochran, 1977).

$$n = \frac{(\frac{tS}{\mathrm{rY}})^2}{1 + [(\frac{tS}{\mathrm{rY}})^2 / N]},$$

where N refers to the population size, t represents the t-value associated with the desired quantile, r indicates half-width of the confidence interval, S reflects the standard deviation of the population, and Y refers to population mean. S/Y is the coefficient of variation (or CV = σ / μ). An exponential distribution has a coefficient of variation equaling 1 (mean is equal to standard deviation). An exponential distribution has a CV equaling 1 (i.e., mean is equal to standard deviation). Distributions with CV<1 are considered low-variance, whereas those with CV > 1 are considered high-variance.

For this study, the population *N* (i.e., number of restaurant frontline employees) nearly reached 10 million because the number of all staff members in restaurants in China in 2012 was 12.08 million (Yang, 2013). The confidence interval was set at +/- 5%, and the confidence level was determined at 95%, following the normal rules (Field, 2013). However, the CV is unknown. After the pilot study, the sample size (for the main survey) was estimated with the mean and standard deviation of the data (see Chapter 4).

For a SEM-based research, additional factors are required for sample size determination. Controversies regarding the suitable sample size for a SEM study remain. However, several factors that influence the optimal sample size for SEM-based studies have been identified and should be considered (a few of them should be considered in all studies). The first is the alpha level, which refers to the level of significance when Type I error occurs when the null hypothesis is true (Anderson et al., 2011). The sample size increases as the alpha level decreases. If two studies have the same variables and items, the study with an alpha level of 0.01 should include more subjects than the one with an alpha level of 0.05. In addition, standard deviation of the observations is positively related to sample size (Anderson et al., 2011). The researcher can estimate the standard deviation and then more precisely decide the sample size based on the pilot study. Another factor that influences sample size is the effect size, which estimates the expected difference between two groups (Suresh & Chandrashekara, 2012). Effect size can be determined through previous studies, literature review, or logical assertion. If the effect size is small, the sample size should be large. Furthermore, the power of tests, or the probability correctly rejecting the null hypothesis when it is false, affects the sample size (Anderson et al., 2011). The power is positively associated with the optimal sample

size for SEM studies (Fan, Thompson, & Wang, 1999). As a general rule, the power of a test is set to be over 80% (Fan et al., 1999). According to their study on the relationships among fit indices (i.e., Root Mean Square Error Approximation, McDonald's Fit Index, and Steiger's gamma), power and sample size, Fan et al. (1999) noted that a sample size with expected power acts as a function of the choice of fit indices, the value of the fit indices, the number of variables (i.e., degree of freedom), and the relationship among the variables. This finding indicates that the number of variables is an important factor for sample size determination. Many researchers actually determine the sample size based on certain "rules of thumb." Although the 5:1 ratio of sample size to the number of free parameters was suggested, the most widely used principle is the "rule of 10" (Westland, 2010, p.477). According to the rule of 10, the minimum sample size for a study with 38 items should be 38 × 10=380. Nevertheless, the rule of 10 is only a rule of thumb, and the debate over the effectiveness of this rule is still ongoing (Westland, 2010). The present study thus decides on the sample size considering these factors and the results of the pilot study (Chapter 4).

3.4 Methods for data analysis

3.4.1 Analytical approaches

SEM was selected as an analytical method. This model has been widely used in the analysis of multiple constructs, especially in the analysis of causal links between latent constructs. The application of SEM in tourism and hospitality industry studies has been justified (Reisinger & Turner, 1999). In the present study, the main research question concerns the behaviors of two parties (i.e., customers and employees), and in relation to these, several variables must be considered. For

this type of complex relationship with multiple observed variables, a few of which may have influences on others, SEM analysis is a proper choice (Reisinger & Turner, 1999).

The preconditions of using SEM should not be overlooked, and measures should be taken to ensure the validity. First, the sample size must be large enough to obtain stable estimates of the correlations (Fan et al., 1999). The sample size for this study should be more than 380, as discussed earlier. Second, an established theoretical support about the relationships is required. Fundamental theories, such as SET and job design theory, are used to guide the investigation in this study. In addition, most relationships among the constructs have theoretical fundations. For example, although the mediating role of affective trust proposed in hypothesis 2 has not been previously examined, the impact of customer participation on affective trust as well as the relationship between trust and employee innovative behavior were supported by many previous studies (Clegg et al., 2002; Johnson & Grayson, 2005). Finally, SEM is often model driven (Byrne, 2013). For some SEM studies, a qualitative exploratory research beforehand is necessary. For this study, the model has been derived with theoretical support. A qualitative study was conducted for the scale development of perceived customer participation.

Three most widely used programs for SEM are Analysis of Moment Structures (AMOS), EQS software, and Linear Structural Relationships (LISREL) (Byrne, 2001). First introduced by Joreskog and Van Thillo in 1972, LISREL is a program for covariance structure analysis (Reisinger & Turner, 1999). Eight stages are involved when applying this tool for carrying out SEM. These stages are the development of a theoretical model, construction of a path diagram, conversion of path diagram into a set of structural and measurement equations, selection of the

input matrix type, assessment of identification of the model, evaluation of the results for goodness-of-fit, modification of the model if theoretically justified, and cross-validation of the model (Reisinger & Turner, 1999). EQS can also be used for SEM analysis; it is a powerful technique for analyzing data and drawing path diagrams automatically (Byrne, 2001). AMOS is a powerful program that can analyze mean and covariance structures, providing convenience to researchers working directly from a path diagram (Byrne, 2013). Compared with EQS and LISREL, AMOS is more user-friendly, with fail-safe devices to avoid several mistakes (Byrne, 2001). Therefore, this study used AMOS version 20.0 for the data analysis.

3.4.2 Testing the reliability and validity of the measurements

Reliability indicates the ability of the measure to produce the same results under the same conditions (Tavakol & Dennick, 2011). The present study used Cronbach's alpha (α) to measure the reliability of measurements. Cronbach's α is a widely used parameter to measure the internal consistency of scales composed of several items by examining the correlations between the items across respondents (Tavakol & Dennick, 2011). Usually, the Cronbach's α value of each scale should approach or exceed 0.70 (Tavakol & Dennick, 2011). The present study complies with this criterion.

Validity reflects whether a measurement scale can adequately represent the unobservable latent concept and whether it can be used to predict the latent concept (Fornell & Larcker, 1981). The average variance extracted (AVE), which estimates the overall amount of variance explained by a construct in relation to the variance

resulting from the measurement error, is commonly adopted to measure the validity of measurements (Fornell & Larcker, 1981). A rule of thumb for validity test is that the AVE for each construct should exceed 0.5 (Fornell & Larcker, 1981). In this study, both the Cronbach's α and AVE of the measurements were estimated by AMOS.

3.4.3 Testing the mediating and moderating effects

The mediating effect is defined as the situation when the relationship between a predictor variable and an outcome variable can be explained by their relationship to a third variable (Baron & Kenny, 1986). This third variable is called a mediator. To test the mediating effect in a relationship, three regression models are required (Baron & Kenny, 1986). Model 1 predicts the outcome variable from the predictor variable (Figure 3.2). The effect is demonstrated with *A* as the coefficient of the predictor in the model. Model 2 predicts the mediator from the predictor, with *B* as the coefficient of the predictor. Model 3 regards both the predictor and the mediator as independent variables and the outcome as dependent variable. *C* is used to represent the coefficient of the mediator in Model 3. In this study, the predictor is customer participation, the outcome is employee innovative behavior, and the mediator is affective trust or cognitive trust.

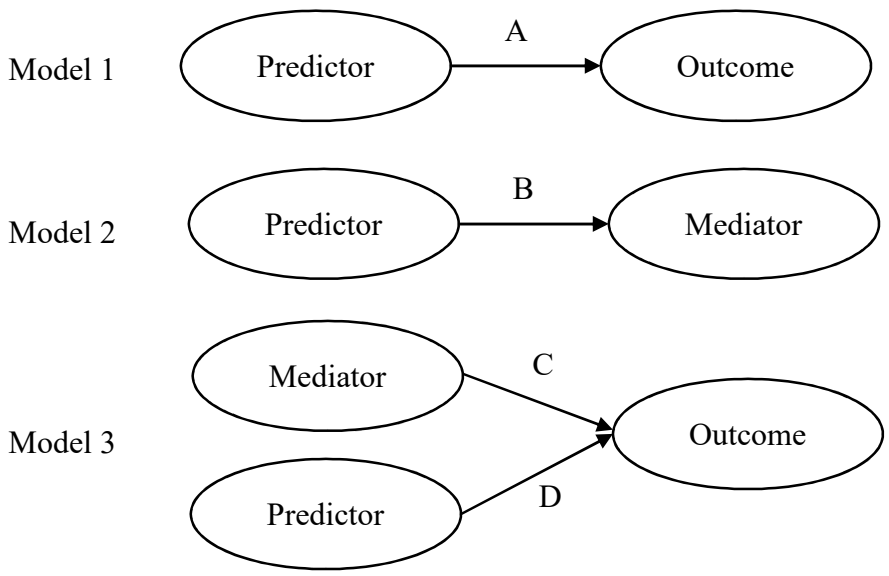

Figure 3.2 Three regression models of mediation in a relationship

The following four criteria should be satisfied to support the mediation (Baron & Kenny, 1986).

1. The predictor significantly predicts the outcome. In other words, Model 1 should be significant.

2. Regression Model 2 is effective, or the predictor significantly predicts the mediator.

3. The mediator significantly predicts the outcome variable.

4. The predictor presumes the outcome less significantly in Model 3 than in Model 1, or $D<A$. This criterion indicates that the effect of the predictor on the outcome is partly explained by the mediator.

The fourth criterion proposed by Baron and Kenny (1986) is not sufficiently clear in terms of the magnitude of the slightly significant effect. Hence, the Sobel test and effect sizes were adopted to solve this problem. The former was used to estimate the indirect effect and its significance (Sobel, 1982). If the Sobel test is significant ($p<0.05$ for this study), the mediation is significant (Sobel, 1982). The

result of the Sobel test was provided by AMOS.

Effect sizes were also used for mediation estimation. The indirect effect equals $B \times C$, and the standardized indirect effect can be derived using the following formula (Preacher & Kelley, 2011):

$$\text{Standardized indirect effect} = \frac{B \times C}{S_{outcome}} \times S_{predictor},$$

where S represents standard deviation. The standardized indirect effect should be higher than 0. The mediation is not supported if the indirect effect is equal to or below 0. Another parameter to test the mediation is the ratio of the indirect effect to the total effect of the predictor on the outcome, which is estimated by $\frac{B \times C}{A}$. A large ratio implies great evidence of the mediating effect (Preacher & Kelley, 2011). In summary, the path coefficients were considered in this study to test the mediating effect; moreover, the Sobel significance was examined, and the effect sizes were adopted.

Moderation refers to the combined effect of two variables on another (Field, 2013). The regression model for moderation is shown in Figure 3.3. Predictor × Moderator is applied considering the interaction effect of the two variables, but it does not suggest the multiplication of the values of the two variables (Field, 2013). As such, the coefficients cannot be used to interpret the effect between predictor/moderator and outcome. Thus, grand mean centering, which refers to the process of transforming a variable into deviations around a fixed point, is usually used to transform the independent variables. In this way, the conditional effect of the predictor on the outcome at the different values of the moderator becomes evident.

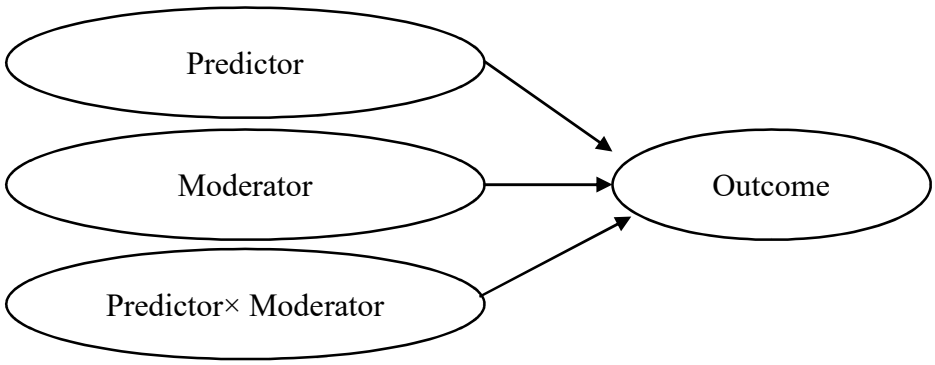

Figure 3.3 The model of moderation in a relationship

The moderator for this study is job complexity. After the mean centering based on the data, job complexity was categorized into three groups (i.e., high complexity, medium complexity, and low complexity) because several previous studies have categorized jobs into three groups when examining employee innovative behavior (Chung-Yan, 2010). The moderating effect is supported on the condition that the effects of customer participation on employee innovative behavior are significantly different among different groups (p value of difference testing is lower than 0.05).

A number of methods can be used to test the moderating effect. One method is based on the process suggested by Johnson and Neyman (1936, as cited in Field, 2013), in which a regression model for the predictor and outcome variables is created using the different values of the moderator. Through the significance of each regression model, the moderating effect can be estimated with the results of "zone of significance" (Field, 2013, p. 401). This testing can be performed with the program designed by Hayes (2012, as cited in Field, 2013), which can be installed into Statistic Package for Social Science (SPSS) 20.0. Another approach is multi-group invariance analysis with AMOS software. Multi-group invariance analysis compares the relationship of two variables under different conditional values of other factors (Byrne, 2013), making it suitable for testing the moderation. With

multi-group invariance analysis, AMOS 20.0 provides the fit indices, t statistics, and p values of the model. The results provide bases for chi-square difference tests, which can indicate whether there are different effects among varied groups. Chi-square difference tests showing significance indicate the existence of the moderating effect (Byrne, 2013). The aforementioned two methods differ in the analysis tools and information output; thus, both methods were used in this study to test the moderating effect to provide additional information.

3.5 Measurement scales

3.5.1 Measurement of customer participation

Measuring customer participation is difficult owing to the complexity of customers' various behaviors and the differences among specific industries. Hence, a universally accepted scale has yet to be formulated. From the perspective of customers' contribution to service quality, customer participation can be measured based on customers' contributions to technical quality and functional quality (Kelley et al., 1990). The former describes what the customers offer (i.e., what they do), such as information and actions, whereas the latter explains how customers act (i.e., how they do what they do), such as friendliness and courtesy (Kelley et al., 1990). Based on customers' actions and resources, Lloyd (2003) measured customer participation with two dimensions, namely, "behavior" and "information," including 10 items, such as effort, time, and prior knowledge.

Several representative customer participation measures are listed in Table 3.2. From the standpoint of interaction between customers and the firm, customer participation can be measured by three dimensions, which are information sharing, responsible behavior, and personal interaction (Ennew & Binks, 1999). Bettencourt

(1997) measured customer participation using three dimensions with regards their roles as promoters of the firm, co-producers of the firm's services, and consultants to the organization. Focusing on customers' input and roles in participation, Zolfagharian and Sheng (2012) developed a five-dimension scale in three settings (i.e., self-checkout, toy assembly, and meal assembly). The scale includes time spent in service processes; familiarity with services and policies; physical, mental

Table 3.2 Primary customer participation measures in previous studies

Study	Dimensions/Items
Auh et al., 2007	One dimension (three items, Cronbach`s α = .80) 1. I try to work cooperatively with my advisor. 2. I do things to make my advisor's job easier. 3. I prepare my queries before contacting my advisor.
Groth, 2005	One dimension: co-production (five items, α = .94)
Chen & Raab, 2014	Three dimensions 1. Attitudinal participation (three items, α = .87) 2. Information participation (three items, α = .81) 3. Actionable participation (three items, α = .71)
Claycomb et al., 2001	Three dimensions 1. Attendance (one item) 2. Information provision (five items) 3. Coproduction (three items)
Ennew & Binks, 1999	Three dimensions 1. Information sharing (five items, α = .82) 2. Responsible behavior (two items, α = .66) 3. Personal interaction (two items, α = .32)
Kellogg et al., 1997	Four dimensions 1. Preparation 2. Relationship building 3. Information exchange 4. Intervention
Uzkurt, 2010	Four dimensions 1. Information exchange 2. Behavioral participation 3. Emotional/interactive participation 4. Willingness or ability to participate
Yi & Gong, 2013	Four dimensions 1. Information seeking (three items, α = .91) 2. Information sharing (four items, α = .94) 3. Responsible behavior (four items, α = .93) 4. Personally interaction (five items, α = .95)

and emotional effort; service production actions; and partial employee (Zolfagharian & Sheng, 2012).

However, it may be inappropriate to directly adopt the aforementioned measurement scales in the current study for several reasons. First, this study concentrates on how employee innovative behaviors are affected by customer participation; thus, all the items are evaluated by employees. The scales provided by previous studies are designed to be answered by customers. A few of the items cannot be rated by employees. For instance, the frequently cited scale by Kellogg et al. (1997) includes a dimension measuring the "preparation" of customers. Employees cannot possibly evaluate customers' preparation before their participation in service processes. In addition, the dimension on information exchange usually includes items such as "I have searched for information on where this service is located" (Yi & Gong, 2013, p. 3). Similar items cannot be used in this study because the activity does not occur during service processes and cannot be observed by employees. Second, various scales are developed based on different definitions of customer participation. Researchers conceptualize customer participation differently, and a universally agreed definition and measurement for customer participation do not exist. For example, the items by Groth (2005) regard customer participation as customers' own specific actions in services (see Table 3.2). Claycomb et al. (2001) recognized that customer participation consists of three levels of behaviors, namely, attendance, information provision, and co-production. However, Claycomb et al. (2001) may oversimplify customer participation because customer participation may differ in terms of the amount or quality of information provided even at the same "level" of participation such as information provision.

Additionally, many researchers have designed scales for their studies but

neglected to provide details of their scale development, whereas others may refrain from following a rigorous scale development process (Claycomb et al., 2001; Yi & Gong, 2013). For these reasons, the validity or reliability of these scales may be questionable. Thus, the present study conceptualizes customer participation as both the actions and resources that customers contribute to service production and delivery (Rodie & Kleine, 2000). Then, a scale is developed by closely following the process suggested by Churchill (1979).

Employees' perceived customer participation may not be similar to customers' perceptions of their participation. Previous studies tend to focus on customer participation from the standpoint of customers and discuss the influence of customer participation on customer-related outcomes (e.g., customer satisfaction). However, not much research discusses employees' perceived customer participation, which is important because of the frequent interactions between customers and employees in services (Chathoth et al., 2013). The present study thus develops a scale of perceived customer participation from the perspective of employees.

After the development of the scale of perceived customer participation (Section 3.6), the measurement items were included in the questionnaire. Respondents were asked to evaluate the items with frequency from "never" to "always" with a seven-point Likert-type scale.

3.5.2 Measurement of employee innovative behavior

Considerable research has been devoted to the measurement of employee innovative behavior. In an early study on individual innovative behavior, Scott and Bruce (1994) defined the construct and developed a widely accepted scale, which

is one of the most influential scales (De Jong & Den Hartog, 2010; Dorenbosch et al., 2005). Scott and Bruce (1994) regarded employee innovative behavior as a one-dimensional construct that encompasses both idea generation and application behaviors. They developed the scale to measure employee innovative behavior with six questions from searching out an idea to seeking support for innovation. Nevertheless, the items are quite general, especially the item "is innovative" (Scott & Bruce, 1994, p.607). This item actually assumes innovation as a personality characteristic rather than a behavior. Therefore, some scholars have published other scales based on Scott and Bruce's research. For example, Janssen (2000) developed a six-item scale with three dimensions, namely, idea generation, idea promotion, and idea implementation. They treated idea promotion as an independent dimension and measured the behaviors such as seeking support, getting approval, and arousing enthusiasm of others (Janssen, 2000). Based on the scale by Scott and Bruce (1994), Zhou and George (2001) used a 13-question scale with more specific items to measure employee innovative behavior. This scale has been empirically tested to meet the standard of internal and external validity (Zhou & George, 2001), and it is also widely adopted (Gumusluoglu & Ilsev, 2009; Shalley et al., 2009).

When measuring employee innovative behavior, some researchers ask leaders/supervisors to evaluate the innovative behaviors of their subordinates, whereas others use a self-report measurement of employee innovative behavior. As previously discussed, the newness of ideas is relative. An idea new to a person may not be considered innovative by another. In addition, idea implementation is usually attributed to a number of people. If an employee is asked to evaluate his/her behavior in a certain innovation, he/she may exaggerate his/her contribution. Hence, to avoid such "subjective" assessment of innovation in research, researchers have

used leader-member pairs in the data collection process, where two separate questionnaires are designed; employees assess the variables such as leader-member exchange quality, perceptions of effort-reward fairness, or job dissatisfaction, and leaders score their subordinates' innovative behaviors (Janssen, 2000; Scott & Bruce, 1994; Zhou & George, 2001). Although the leader-member pairs survey is widely used (Khazanchi & Masterson, 2011), the reliability of this assessment also has shortcomings because employees are more familiar with their innovative behaviors than their leaders (De Jong & Den Hartog, 2007).

Conversely, several researchers evaluate the construct based on employees' self-report of their innovation, especially in studies that focus on the effect of innovation on employee-related outcomes (e.g., career satisfaction and perceived insider status) (Kim, Hon, & Crant, 2009). The scale by Scott and Bruce (1994) was originally developed to survey leaders about the innovation of their subordinates. Yet, it has been confirmed as a reliable tool in evaluating employees' self-reported innovative behavior (Carmeli et al., 2006; Carmeli & Spreitzer, 2009; Yuan & Woodman, 2010). Therefore, a few researchers continued to use the scales for supervisors to survey employees by slightly changing the items, such as "(the employee) searches out new technologies, processes, instruments" to "at work, I seek new service technologies, methods, or techniques" (Hu et al., 2009, p.45).

Other researchers developed new scales to measure employee innovative behavior from the employee perspective. For example, both Krause (2004) and Dorenbosch et al. (2005) established the measures of employee innovative behavior with two dimensions (i.e., idea generation and idea implementation). Krause (2004) added idea testing into the measurement to ensure the effectiveness of ideas before idea implementation, and this item is measured together with idea generation.

According to Dorenbosch et al. (2005), employee innovative behavior involves creativity- and implementation-oriented work behaviors. The 16-item scale (10 items for creativity and 6 for implementation) has been tested as reliable (Dorenbosch et al., 2005). Kleysen and Street (2001) also regarded innovative behavior as a multi-dimensional construct and proposed a 14-item scale that measures employees' opportunity exploration, generativity, formative investigation, championing, and application. However, this five-dimension scale requires improvement because the model fit is relatively poor (Kleysen & Street, 2001).

Among all of these measurements, the scale developed by Janssen (2000) and further confirmed by Janssen (2005), which is based on Scott and Bruce's (1994) research, has been widely accepted in present studies. This scale focuses on "innovative work behavior" (not only "creativity"); it has been proven reliable in surveying employees in general as well as in the setting of hospitality industry (Bysted, 2013; Slåtten & Mehmetoglu, 2011a). Thus, the current study adopted the measurement proposed by Janssen (2000) to evaluate employee innovative behavior; employees were asked to rate the extent to which they exhibit innovative behaviors at work (see Table 3.3).

Table 3.3 The scale of employee innovative behavior

How often do you perform the following work activities: ***(7-point, never-always)***
1. Create new ideas for difficult issues.
2. Search out new working methods, techniques, or instruments.
3. Mobilize support for innovative ideas.
4. Generate original solutions for problems.
5. Acquire approval for innovative ideas.
6. Make important organizational members enthusiastic for innovative ideas.
7. Transform innovative ideas into useful applications.
8. Introduce innovative ideas into the work environment in a systematic way.
9. Evaluate the utility of innovative ideas.

Source: Janssen, 2000

3.5.3 Measurement of interpersonal trust

Previous studies on interpersonal trust provide a cornerstone for the measurement of this construct. Interpersonal trust concentrates on the relationship between two people (Evans & Revelle, 2008); thus, using a general trust scale to measure interpersonal trust may be inappropriate. To address this, Zaheer, McEvily and Perrone (1998) developed a scale focusing on interpersonal trust in personal relationships rather than a general trusting orientation. This scale includes five items, which ask the respondents whether they agree with the statements related to their trust in other people. Another means to measure interpersonal trust is provided by Lui, Ngo and Hon (2006), who categorized trust into interorganizational and interpersonal trust and designed items for these two concepts separately. Interpersonal trust usually occurs in partnerships; it has a reinforcing effect on interorganizational trust (Lui et al., 2006). The reliability of the four-item scale on interpersonal trust developed by Lui et al. (2006) has been confirmed in an empirical study.

Most of the studies on trust focus on the trust between two people (Johnson & Grayson, 2005; Lui et al., 2006). Several studies investigated a customer's trust in an organization/supplier (Selnes, 1998; Garbarino & Johnson, 1999). The scales of these studies require a trustor to evaluate the level of his/her trust in a trustee. Fewer studies have examined trust from the trustees' perspective. Lagace (1991) examined the trust between sales managers and salespersons from the view of both trustors and trustees. The measurement provided by Lagace (1991) includes four aspects, which are "salesperson trust of sales manager," "sales manager trust of salesperson," "salesperson trust from sales manager," and "sales manager trust from salesperson."

The first two assess the trust from the standpoint of trustors. The last two measure the perceived trust (i.e., to what extent trustees perceive the reliance of trustors on them). The “interpersonal trust” in the current study actually refers to employees’ perceived customer trust. However, the trust between salesperson and sales manager is not similar to that between customers and employees. Thus, the scale by Lagace (1991) may be inappropriate for the present study.

A comprehensive scale was developed by McAllister (1995), who used five and six items to measure affect-based trust and cognition-based trust, respectively. With high validity and reliability, McAllister's (1995) scale is well accepted (having been cited over 4,000 times according to Google Scholar). The original scale developed by McAllister (1995) was used to measure the interpersonal trust between two workers (see Table 3.4 for the items). Nevertheless, this scale could also be employed to measure how an employee perceives the interpersonal trust between his/her customers and him/herself based on two reasons. First, this scale has been determined to be reliable in the context of the relationship between customers and employees (Johnson & Grayson, 2005). Second, participating customers are regarded as partial employees (Mills & Morris, 1986) or transient full-time employees (Namasivayam, 2003) of firms because they perform certain roles usually done by employees. The relationship between customers and employees may be similar to the relationship between co-workers because of the service co-creation caused by customer participation.

Table 3.4 The scale of interpersonal trust

Affective trust ***(7-point, strongly disagree–strongly agree)***	
Items for this study	**Original items from** McAllister (1995**)**
1. Customers and I have sharing relationships. We can freely share our ideas, feelings, and hopes.	1. We have a sharing relationship. We can both freely share our ideas, feelings, and hopes.
2. Customers can talk freely to me about difficulties they have and they know that I will want to listen.	2. I can talk freely to this individual about difficulties I am having at work and know that (s)he will want to listen.
3. Customers and I would feel a sense of loss if they are no longer served by me or they never come again.	3. We would hoth feel a sense of loss if one of us was transferred and we could no longer work together.
4. If customers share their problems with me, they know I would respond constructively and caringly.	4. If I shared my problems with this person, I know (s)he would respond constructively and caringly.
5. Customers would say that both customers and I have made emotional investments in our relationships.	5. I would have to say that we have both made considerable emotional investments in our working relationship.
Cognitive trust ***(7-point, strongly disagree–strongly agree)***	
Items for this study	**Original items from** McAllister (1995**)**
6. Customers perceive that I approach my job with professionalism and dedication.	6. This person approaches his/her job with professionalism and dedication.
7. Given the track record of my performance, customers have no reason to doubt my competence and preparation for the job.	7. Given this person's track record, I see no reason to doubt his/her competence and preparation for the job.
8. Customers rely on me not to put them in difficult situations by careless work.	8. I can rely on this person not to make my job more difficult by careless work.
9. Most people, even those who aren't close friends of mine, trust and respect me.	9. Most people, even those who aren't close friends of this individual, trust and respect him/her as a coworker.
	10. Other work associates of mine who must interact with this individual consider him/her to be trustworthy.
10. If customers know more about me and my background, they would be more concerned and monitor my performance more closely.	11. If people knew more about this individual and his/her background, they would be more concerned and monitor his/her performance more closely.

The measurement of employees' perceived trust between customers and employees is required in this study to investigate the effect of interpersonal trust on employee innovative behavior. Therefore, adjustments were made so that the trust could be evaluated by employees (see Table 3.4 for the results). The original item "Other work associates of mine who must interact with this individual consider him/her to be trustworthy" was removed in this scale because the interpersonal trust in the current study referred to the trust between an employee and most of the customers this employee interacts with, and the trust of customers' associates or other related people may not be relevant to the customers' trust in the employee. "Customers" in this study represent all of the customers including both first-time and repeat customers although the level of trust of these two different groups may differ. Employee-customer relationship quality may be influenced by employees' exchanges with all customers, and the respondents of the questionnaire simply provide their opinions on the extent to which they agree with the statements.

3.5.4 Measurement of job complexity

Hackman and Oldham's (1975) JCM provides a perspective to understand the nature of a job. The model includes five core dimensions, and the Motivation Potential Score of a job equals

[(Skill Variety + Task Identity + Task Significance)/3]* (Autonomy)* (Feedback).

Although numerous researchers have used the JCM to measure job complexity, the dimensions (e.g., task significance) in the model are detected to project the definition of job complexity poorly considering that job complexity is a relatively

new concept compared to the JCM (Chung-Yan, 2010); thus, job complexity has been examined as an independent construct with other measurements (Wang et al., 2014). For example, Man and Lam (2003) used a three-item scale to evaluate job complexity from the task or skill variety perspective. Nevertheless, they selected only one section of the JCM, which oversimplified the measurement (Man and Lam, 2003). The scale used by Cammann et al. (1983, cited in Shaw & Gupta, 2004) is also brief but is generally accepted among researchers (Chung-Yan, 2010; Shaw & Gupta, 2004). The scale includes three items, which are "My job is very complex," "My job requires a lot of skills," and "My job is such that it takes a long time to learn the skills required to do the job well" (Shaw & Gupta, 2004, p.852). The items adopted a five-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5), with Cronbach's α equaling to 0.73. However, the first item is considerably general. Compared with the aforementioned scales, a more commonly used scale is developed by Morgeson and Humphrey (2006). This four-item scale uses reverse scoring; it has brevity and high reliability (α=0.87, intraclass correlations=0.31, interrater agreement=0.81). However, the items in the scale are slightly general, such as "The job comprises relatively uncomplicated tasks (reverse scoring)" (Morgeson & Humphrey, 2006, p. 1338). Based on the measurement by Morgeson and Humphrey (2006), Zacher and Frese (2011) adapted a scale developed by Zapf (1993, cited in Zacher & Frese, 2011), a well-validated scale with a high reliability (α=0.76) that also includes four items. Also, the self-ratings of the construct well reflect the actual job complexity in the study of Zacher and Frese (2011). Although the self-reported job complexity in several studies involves certain subjective bias, it is regarded as acceptable (Zacher & Frese, 2011). Therefore, the present study adopted this scale to measure job complexity, and the

four items are listed as follows:

(1) I receive tasks that are extraordinary and particularly difficult.

(2) I often have to make very complicated decisions in my work.

(3) I can use my knowledge and skills in my work.

(4) I can learn new things in my work.

The questionnaire for this study can be designed after the measurements have been determined. The measures of employee innovative behavior are evaluated through a seven-point Likert scale, ranging from never (1) to always (7), for respondents to evaluate the frequency of their behaviors. The other two constructs in the present study (i.e., interpersonal trust and job complexity), are assessed according to the respondents' degree of agreement to the statements (e.g., "Receive tasks that are extraordinary and particularly difficult"), ranging from strongly disagree (1) to strongly agree (7). Frontline employees in restaurants were invited for a pilot study to test the reliability of the measurements in the current study.

3.6 Scale development for perceived customer participation

This study developed the scale of perceived customer participation following the procedures recommended by Churchill (1979). According to Churchill (1979), eight steps are required to ensure the reliability and validity of the measures, which are (1) specifying the domain of the construct, (2) generating sample of items, (3) improving content validity, (4) purifying the measure (with the data of a pilot study), (5) collecting the data, (6) assessing reliability with new data, (7) assessing construct validity, and (8) developing the norms. The first three steps for this study are explained in the following paragraphs (Sections 3.6.1–3.6.3), whereas the remaining five steps are outlined in Chapters 4, 5 and 6, together with other

constructs.

3.6.1 Specification of the construct domain

Customers participate in services in various forms. Some of these forms cannot be observed by employees. For example, customers search for information about a certain service before making a purchase decision, or customers learn how to perform the service in private. These two behaviors are forms of customer participation because they demonstrate customers' effort to participate in services (Kellogg et al., 1997). However, they occur without the presence of employees, so employees' perceptions as well as behaviors are not influenced by them. Therefore, perceived customer participation is limited to the attitude or behaviors of customers in services when customers and an employee contact or interact with each other. The interaction or exchanges among customers are also excluded from customer participation for the same reason. Some of these behaviors (e.g., a customer helping another customer) are actually customer citizenship behaviors rather than customer participation behaviors (Groth, 2005). Thus, customers' effort before participating in services, customers' actions that they perform without the employees, and customer-customer interactions in services were not included in measuring employees' perceived customer participation in this study.

Apart from the actions customers perform in service processes, the resources customers contribute to the services should also be included as customer participation, such as information provision (Claycomb et al., 2001) and emotional input (e.g., showing friendliness to employees) (Yi & Gong, 2013). The present study adopted the definition of customer participation by Rodie and Kleine (2000), which included both the resources and actions customers contributed to the services. All customers' input in service processes that employees can observe and evaluate

were considered when measuring employees' perceived customer participation.

3.6.2 Generation of items

The item pool for the construct was developed based on the domains of the construct specified in Section 3.6.1. Measurement items could be generally derived from previous studies, experience surveys, and qualitative insights prompting examples such as critical incidents and focus group (Churchill, 1979). The items in the present study were derived from previous as well as a qualitative studies using in-depth interview.

3.6.2.1 Items from previous studies

Although the scale of perceived customer participation for this study is not directly adopted from previous research, the reviewed literature in the thesis can be a source of items (Churchill, 1979). According to the definition of customer participation given by Rodie and Kleine (2000), which is widely cited and adopted in the present study, customer participation includes both customers' actions and resources that indicate customers' physical, mental, and emotional input in services. Thus, customer participation in service processes mainly manifests actions, information, and attitude (Chen & Raab, 2014). The measurement scale provided by Chen and Raab (2014) exactly follows this definition, and it has been tested reliable. This scale is based on a restaurant setting, which is the same as the current study. However, the items in the dimension "information participation" in the scale do not reflect customers' information exchange with employees/restaurant during service processes (Chen & Raab, 2014). These items (i.e., "I read reviews of other customers about the restaurant," "I spend time searching for information about the restaurant," and "I ask people I know for their opinions about the restaurant") measure customers' information-seeking behaviors before availing of services,

which cannot be assessed by employees (Chen & Raab, 2014, p. 11). Thus, the present study adopted specific items from Chen and Raab's (2014) study but not the whole scale.

A total of 25 items were adopted from previous studies (see Table 3.5) based

Table 3.5 Items of customer participation from previous studies

Items	Source
Actions/physical effort	
Customers involve themselves in problem diagnosis and resolution in my service.	Kellogg et al., 1997
Customers perform all the tasks that are required.	Groth, 2005
Customers help our restaurant with those things that are required.	Groth, 2005
Customers adequately complete all the expected behaviors.	Groth, 2005
Customers meet formal performance requirement.	Groth, 2005
Customers fulfill responsibilities to our restaurant.	Groth, 2005
Customers try to work cooperatively with me.	Auh et al., 2007
Customers do things to make my job easier.	Auh et al., 2007
Customers perform tasks that I would normally perform.	Zolfagharian & Sheng, 2012
Customers save my time by helping themselves.	Zolfagharian & Sheng, 2012
Information/Knowledge	
Customers ask me for information on what a service offers.	Yi & Gong, 2013
Customers pay attention to how others behave to use the services well.	Yi & Gong, 2013
Customers clearly explain what they want me to do.	Yi & Gong, 2013
Customers give me proper information.	Yi & Gong, 2013
Customers provide necessary information so that I can perform my duties.	Yi & Gong, 2013
Customers answer all my service-related questions.	Yi & Gong, 2013
Attitude/Emotion	
Customers smile at me and offer me words of kindness.	Kellogg et al., 1997
Customers try to get to know me.	Kellogg et al., 1997
Customers try to build contacts with me.	Kellogg et al., 1997
Customers ask for me by name.	Kellogg et al., 1997
Customers are courteous to me.	Yi & Gong, 2013
Customers do not act rudely to me.	Yi & Gong, 2013
Customers try to be cooperative with me.	Chen & Raab, 2014
Customers are friendly to me.	Chen & Raab, 2014
Customers respect me.	Chen & Raab, 2014

on the definition and dimensions of customer participation. According to the contents of the items, the researcher roughly divided these items into three groups: (1) actions/physical effort, (2) information/knowledge, and (3) attitude/emotion (which has 10, 6, and 9 items, respectively). Apart from those that overlap with the items in Table 3.5, all possible items were included in this stage providing they capture the specified domain. Considering that this study concentrates on how employee innovative behaviors are affected by their perceived customer participation, the items were also appropriately modified so that they could be assessed by employees. For example, the item "I gave the employee proper information" (Yi & Gong, 2013, p. 3) was assessed by customers. This item is changed to "customers give me proper information" for the present study.

3.6.2.2 Items from a qualitative study

A qualitative study was conducted to identify additional potential measurement items. This research used in-depth interviews, which are deemed suitable for the study for two reasons. First, exploratory qualitative approaches are appropriate with regards the nature of the inquiry because of the lack of research on customer participation from the employee perspective. Some aspects of employees' perception and attitude toward customer participation remain unidentified, and interviewing the employees can provide direct insights. Second, considering the purpose of this study, the research reflects "self-reflexivity" and "multivocality" (Riley & Love, 2000, p.173). The researcher thus attempts to determine the internal views of the respondents when they share their experiences and opinions to enable the materialization of the items of perceived customer participation from the data. As such, conducting in-depth interviews is an ideal approach for the current study

(Riley & Love, 2000).

Semi-structured interviews were conducted in Shenzhen, China. Shenzhen was selected because the hotel restaurants in this city traditionally serve customers well and encourage customers to actively participate in service processes (Beck, Martin, Xu, & Qu, 2004). Take the star-rated hotels as an example. A total of 144 star-rated hotels were operating in Shenzhen in 2013, including most of the major hotel brands in China (CTHA, 2014). The average occupancy rate of 69.07% of the hotels ranked the highest in China, and the revenue per available room (RevPAR) of the hotels (¥ 307.86) was higher than the average in China (CTHA, 2014). Shenzhen has also been included among the top five cities in China in hotel customer satisfaction for more than 10 years (CTHA, 2012). For example, customer satisfaction of hotels in Shenzhen reached 4.10 (with 5 as the highest) in 2011, which was the fifth highest among all of the Chinese cities according to a survey by CTHA (CTHA, 2012).

Interviews were conducted in June 2014. The researcher contacted managers in six hotel restaurants in Shenzhen through telephone first. After receiving their permission and support, 12 employees were interviewed in their respective workplaces for their convenience. The starting and ending times of the interviews were recorded by the researcher. The average length of each interview was approximately 22 minutes, with a minimum of 18 minutes and a maximum of nearly 25 minutes (Table 3.6). Eight interviews were voice recorded with the respondents' permission. The researcher took notes during the other four interviews, including important sentences and keywords.

As previously discussed, customer participation behaviors in terms of actions, information/knowledge, and attitude/emotion were considered when the questions of the interviews were designed. The interviews also inquired about the employees

about other participation forms they might have encountered in their service experiences that were not included in these three types. The outline for the interviews covered the following eight set of questions to gain insight into employees' perceived customer participation.

1. What are your main job duties?
2. Do you have frequent interactions with customers in your work?
3. What actions do customers demonstrate when you serve them?
4. What information do customers provide about the services that affect the service quality?
5. How do customers obtain the information necessary for the service?
6. How do customers show their attitude or express their emotions to you?
7. What other forms of customer participation in services have you experienced?
8. Do you think customer participation in services is important? Why?

Voice recordings were transcribed to text upon the completion of the interviews. The notes for the other four interviews (without recording) were also added into the text. The recordings/notes were organized and then analyzed in Chinese (all interviews were conducted in Chinese). Summative content analysis was adopted to identify the items for employees' perceived customer participation (Elo & Kyngäs, 2008). A summative content analysis involves counting and comparing the keywords or content mentioned by the interviewees, followed by understanding the underlying context of the keywords. If a keyword was mentioned frequently, it may be included in the scale.

Profile of the interviewees

Twelve interviews were conducted, and the profile of each interviewees was finalized (Table 3.6). Six interviewees were male, and the other six were female.

All of them were older than 18. The interviews were not designed to identify the geographical origin of the interviewees, but a few of them referred to their hometowns in the interview. The results of the interviews indicated that the participants were from a wide range of places including Shenzhen, Jiangxi, Shandong, Shanxi, Heilongjiang, and Guizhou in China.

Table 3.6 Profile of the Interviewees

Number	Gender	Position	Hotel	Restaurant /Department	Length (mins)
1	Female	Server	Grand Hyatt	Buffet	22
2	Male	Supervisor	Grand Hyatt	Bar	24
3	Male	Deputy manager	Grand Hyatt	Buffet	25
4	Female	Server	Grand Hyatt	Buffet	20
5	Male	Manager	Four Seasons	Chinese restaurant	20
6	Male	Server	Four Seasons	Chinese restaurant	22
7	Female	Guest Relation Officer	Four Seasons	Chinese restaurant	21
8	Female	Server	Four Seasons	Chinese restaurant	18
9	Female	Server	Kempinski	Western restaurant	23
10	Female	Server	Kempinski	Chinese restaurant	20
11	Male	Server	Kempinski	Buffet	24
12	Male	Server	Kempinski	Lobby Lounge	21

The positions and departments of the interviewees were provided when they introduced themselves or exchanged name cards with the researcher. With regards the positions of the interviewees, eight of them are servers, two of them are supervisors (one is a guest relation officer), and the other two are (deputy) managers. Five participants work in Chinese restaurants; four in buffet restaurants; one in a Western restaurant, one in a bar, and the other one in a lobby lounge (as a bartender).

All of the interviewees encounter customers every day in their work. They all answered yes to the question "Do you have frequent interactions with customers in your work?"

As mentioned earlier, content analysis was used to analyze the data. The content analysis process involves three stages, namely, open coding, creating categories, and abstraction (Elo & Kyngäs, 2008). In the first stage (i.e., open coding), notes and headings were written down in the transcript text. Then, the text was reread, and all headings that summarized the contents were written down in the margins (Elo & Kyngäs, 2008). All the headings were subsequently collected and transferred to coding sheets. Categories were freely created in this process. In the second stage (i.e., creating categories), the headings or categories were classified under high levels of headings (Elo & Kyngäs, 2008). This classification provided the basis for the third stage (i.e., abstraction). In the abstraction stage, headings that were similar to or different from each other were considered. Subcategories with similar statements or contents were grouped together as high level of categories (Elo & Kyngäs, 2008). The number of the categories was thus reduced. Categories changed repeatedly in this process until the abstraction becomes reasonable (Elo & Kyngäs, 2008). Based on the categories, the interviews were organized and the words or sentences appeared frequently were especially marked. The contents of the interviews were then analyzed and interpreted in the following sections.

Customers' participative actions

Most of the interviewees held the opinion that customers' performing some actions is essential during the service encounters. For example, customers obtain food and beverage in a buffet restaurant. Or customers select their favorite seats (or

reserve particular seats in advance) and order what they want in a Chinese restaurant. Whether or how often customers perform the actions that a service requires depends on the customers. An interviewee (#4) shared, *"When I serve a dish, it is convenient for me if the customer nearby can lean to one side and if they can move some plates on the table to leave some room for the new dish. Some customers do this and others don't. It all depends. Of course, we actually don't have reasons to require customers to do so. Customers first. I think these are more our responsibilities."* Generally, an experienced customer performs the actions well and saves additional time. An interviewee (#11) mentioned, "*One day, a customer came to me and asked where was the butter. I showed him the place and gave it to him. Next time, I saw the customer going directly to the butter… Those who always stay in the hotel enter the restaurant and act as they are at home.*" The customer type also influenced customers' participative actions. For example, as stated by one participant (#8), "*Some customers have dinner with their friends; some with their families. Some customers are businessmen. I once served a group of customers who said to me, 'leave the rice and tea here. You don't need to be around all the time. We will call for you if we need anything.'* "

Customers' informational participation

Customers should obtain certain information about a restaurant, such as the main services offered by the restaurant, data about the employees or other kinds of information, to fully enjoy fine dining experiences. According to the interviewees, most of the customers obtain the overall information about a restaurant from the website of the hotel or the brochures provided in the hotel guestrooms or other places. After customers enter the restaurant, they seek additional information from

employees, menus, or fliers on the table, and frequently from other customers. One employee (#1) said, "*As a hostess, I usually give customers some information when I lead them to their seats. Why are some seats not available? How can they reserve seats? Where are the salmon? And so on. If they want to know something about the services, they will ask me.*"

Several customers may observe other customers' behaviors to acquire information, such as ordering the same dish as others sitting at a neighboring table in an à la carte restaurant and following the lines to obtain food in a buffet restaurant. Customers often asked for information about the employees to build a relationship and expect improved services. One server (#6) in the interview mentioned, "*They sometimes get our manager's name card. Once, a customer wanted to sit near a window, but the seats near the window were all reserved. I tried to arrange a 'good' seat for him. But he was not satisfied. He mentioned the name of the manager and complained to her by phone.*"

Customers provided employees with information about their needs and preferences to ensure improved services. Most of the interviewees agreed that customers actively expressed what they needed from the services. According to these employees' experiences, most of the customers could answer their service-related questions clearly. All the hotel restaurants in this study encouraged their employees to keep record of the preferences of the customers and provide support for employees to do so, as stated in the following excerpt: "*For instance, if some VIP guests in our hotel come for the meal, we will be notified, and our managers will tell us about their preferences*" (#7). From the perspective of customers, apart from directly telling employees what they want, customers have other means to provide information, such as comment cards in several restaurants and websites of

the restaurants. According to the interviewees, customer feedback on comment cards is available to them but information provided through the websites are usually handled by other departments (e.g., marketing department).

Customers' attitudinal participation

The question "How do customers show their attitude or express their emotions to you?" was asked in the interviews to seek employees' perception of how customers express their emotions. Customers' attitudinal participation exhibits their emotional input in services (Rodie & Kleine, 2000). During the interviews, the participants agreed that most of the customers were friendly to them, but customers' attitudes and emotions varied among customers and service experiences. An interviewee (#3) recalled that "*Some customers are outgoing. They express their feelings about the service to me directly. However, many customers don't show their emotions in the services. If they are not satisfied, they tend to tell our managers or don't say anything.*" Another employee (#12) added that "*if customers are satisfied with the service, they will smile back at me and give me a considerable tip. Of course, I always smile. This is the requirement of this job. But I can feel their kindness when they smile. It makes me feel good.*"

Other forms of customer participation

Most of the interviewees did not experience other forms of customer participation behaviors apart from actions, information, and attitude. Many of the interviewees mentioned that several customers frequently participated in the services, and these customers ultimately became their friends. The close relationships between customers and these interviewees lead to the customers'

contributing more actions, information, or emotion in services than the other forms of participation behaviors. The relationship building of customers, identified by Kellogg et al. (1997) as a dimension of customer participation, was evident in customers' actions, information exchange with employees, and attitudes. For example, an interviewed manager stated that numerous customers exchanged name cards with him in his work, which could be one of customers' participating actions that can bring about excellent services.

Therefore, three forms of customer participation (i.e., actions, information, and attitude) were confirmed by the interviewees. Using the summative content analysis, the researcher attempted to determine keywords of the interviews and derive possible items. Based on the 12 interviews, 7 new items apart from those in Table 3.5 were added to the measurement of employees' perceived customer participation, which are listed as follows:

1. Customers take some responsibilities for their actions.
2. Customers spend time to learn how to use a service they are unfamiliar with.
3. Customers pay attention to the instruction of the service (if there is) before asking questions.
4. Customers ask about my personal information (e.g., where I come from).
5. Customers respect the policies of the restaurant (e.g., non-smoking, not taking others' reserved seats).
6. Customers are willing to wait for a while when a service is not ready.
7. Customers show their understanding of problems that are out of my control.

3.6.3 Content validity verification

The 32 items generated in Section 3.4.2 were assessed to ensure the content

validity. The content validity of the items, which refers to the evidence that the content of a test corresponds to the content of the construct it is designed to cover, was evaluated with an expert panel (Churchill, 1979). Seven experts were asked to assess the representativeness of each item following the procedure used by Zaichkowsky (1985), including five academic experts in the service marketing field from the School of Hotel and Tourism Management at the Hong Kong Polytechnic University (PolyU), and two F&B managers in restaurants (one in Shenzhen, another in Hong Kong). The experts were provided with the definition of employees' perceived customer participation, and they were asked to evaluate to what extent a certain item represents perceived customer participation using a three-point Likert-type scale (3="clearly representative"; 2="somewhat representative"; 1="not representative") (Appendix I). Whether a certain item should be retained is determined based on the following rules (Ap & Crompton, 1998):

1) If an item was evaluated by four or more experts as "clearly representative," it was retained.

2) If an item was viewed as "clearly representative" or "somewhat representative" by five or more experts, it was also retained.

3) If the items did not meet the standards for 1) or 2), they were removed.

Based on the expert assessment, the items with low representativeness were eliminated. After this process, 18 items were retained (Table 3.7).

In addition, the experts were asked to revise the items, if necessary, to enhance their clarity, readability, and content validity and provide specific suggestions to improve the measurement scale. If a revised item was given by one expert, it was then assessed by other experts to ensure that it had the same meaning as the original one. If an item was revised by the researcher based on the comments of experts, it

was sent to all seven experts. If four or more experts agreed the revised item was better than the original one in terms of clarity or validity, the revised item was adopted. Five items were revised based on the suggestions of experts and confirmed by the panel. The results after this process are shown in Table 3.7. These items were eventually adopted in the questionnaire for pilot study.

Table 3.7 Items of perceived customer participation after expert panel

Items unchanged	
Customers do things to make my job easier.	
Customers ask me for information on what a service offers.	
Customers clearly explain what they want me to do.	
Customers provide necessary information so that I can perform my duties.	
Customers answer all my service-related questions.	
Customers spend time to learn how to use a service they are not familiar with.	
Customers smile at me and offer me words of kindness.	
Customers ask for me by name.	
Customers are courteous to me.	
Customers try to be cooperative with me.	
Customers are friendly to me.	
Customers are willing to wait for a while when a service is not ready.	
Customers show their understanding of problems that are out of my control.	
Items revised	
Revised	**Original**
Customers engage in diagnosing and resolving service-related problems.	Customers involve themselves in problem diagnosis and resolution in my service.
Customers save my time by serving themselves.	Customers save my time by helping themselves.
Customers pay attention to how others behave in order to make effective use of the service.	Customers pay attention to how others behave to use the services well.
Customers pay attention to any service related instructions that are provided before asking questions.	Customers pay attention to the instruction of the service (if there is) before asking questions.
Customers respect restaurant policies such as no-smoking, avoiding taking the reserved seats of others.	Customers respect the policies of the restaurant (e.g., non-smoking, not taking others' reserved seats).

Chapter 4: Pilot Study

4.1 Introduction

This chapter reports the process and analysis of the pilot study. A Chinese version of the questionnaire was designed, and the data were collected in Shenzhen. Over 100 questionnaires were completed. The demographic descriptive statistics are provided (in Section 4.3). Based on the pilot survey data, the purification of the measurement scales was accomplished using reliability test and factor analysis. Exploratory Factor Analysis (EFA) was conducted for perceived customer participation, employee innovative behavior, interpersonal trust and job complexity. The sample size was also determined based on Section 3.3.3 and the results of the pilot study.

4.2 Data collection process

A pilot study was carried out to test the reliability of the survey instrument and evaluate the readability and effectiveness of the Chinese version of the measurements. This study focuses on the restaurant service setting in China; hence, the questionnaire was administered in Chinese using the back-translation technique to ensure that the Chinese and English versions of the questionnaire are identical in meaning (Brislin, 1970). Two Chinese persons, A and B, both proficient in English, were asked to do the translation. The questionnaire items were first translated into Chinese by A; this Chinese version was then translated into English by B. Subsequently, this English version was compared with the original English one by the researcher. If these two English versions were not the same, the researcher identified the areas that were different and requested the translators to use other

expressions. The process was repeated until the meaning of the second English version is comparable with the original version (i.e., items in Appendix II). For this study, in the second version, the back-translation items were the same in meaning as the original items, and the final Chinese version (see Appendix III) was used for the study.

In this pilot study, the respondents are frontline employees in restaurants, including both hotel restaurants and freestanding restaurants. However, only employees in restaurants where employee innovative behavior is valued are the target of this study because it regards employee innovative behavior as an endpoint of relationships. If innovation is not encouraged or accepted in a restaurant, the measurement of the employee innovative behaviors in the restaurant is futile. There is no previously defined criterion or method to measure how innovative a restaurant is or to what extent a restaurant highlights employee innovation. But, hospitality firms with better performance tend to rely more on innovation (Enz & Siguaw, 2003). Thus, the researcher selected restaurants with high performance for the survey. Meanwhile, statements and questions were included in the questionnaire to identify the managers' attitude toward innovation (see Appendix II). For example, respondents were asked to give their agreement with the statements such as "Innovation is regarded as important in your restaurant." If most of the respondents in a restaurant at least slightly agree with the statements (i.e., Mean>=5), innovation is regarded as important in the restaurant. This is a confirmatory method of identifying the attitude of restaurant management towards innovation.

The pilot study was conducted in Shenzhen, China, because of the high service performance of the restaurants and diverse background of employees in Shenzhen. Nearly all well-known restaurant groups or hotel groups that have a presence in

China own or operate restaurants in Shenzhen, and the restaurants in this city are known to provide good customer service and employee management. Shenzhen ranks high in restaurant customer satisfaction, and the restaurants promote considerable innovation in operations (Yang, 2013). In addition, restaurant employees in Shenzhen have a diverse background. According to the Bureau of Statistics of Shenzhen (2014), the foreign population in Shenzhen from other places all over China accounts for 15.33 million in 2013, which is nearly five times as the number of Shenzhen permanent residents. As a result, similar to Beijing, the restaurants in Shenzhen have employees with diverse geographic backgrounds. Although the pilot study was conducted in Shenzhen, the results can still be utilized to refine the questionnaire to be used in Beijing because of the similarities in their hospitality industry development. For one thing, the hotels in both cities cover the most well-known hotel groups in China. The percentages of F&B revenue in total hotel revenue are similar (approximately 35% in Beijing and 40% in Shenzhen). The hotels in these two cities also both perform well in operation, with the RevPAR of the hotels amounting to ￥315.06 and ￥307.86 in Beijing and Shenzhen, respectively (CTHA, 2014). The hotel industries in both cities are rapidly developing, and numerous new hotels are under construction, including several mid-scale business hotels. For another, most of the top restaurant groups highlight the importance of the two cities and have restaurants in the two cities. Finally, customers and employees of restaurants in these two cities share similar characteristics because of the cultural, economic, and social similarities between the two cities (Shen, 2002).

The sample size for this pilot study is considerably smaller than that for the main survey. In previous studies, a sample size of 30, 60, 100, or 200 observations

are commonly used in the social science field (Westland, 2010). Basically, the sample size should be more than 30, and the number should be over 60 if a paired study is to be conducted (Anderson et al., 2011). As a rule of thumb, at least five questionnaires per measurement item are needed for factor analysis (Hair, Black, Babin, & Anderson, 2009). The perceived customer participation includes the most items after the expert panel review. Thus, the number of items for this construct (18) was used to derive the sample size. As such, at least 18 × 5=90 questionnaires are required. Therefore, a sample size of 100 observations were adopted, which was appropriate also because of the time and budget. Based on this principle, the data collection was conducted in September, 2014. Department managers of 10 restaurants were first contacted. Half of them showed interest in the research and agreed to arrange a schedule for data collection. After obtaining the approval, the researcher went to Shenzhen to deliver the questionnaires in person. Finally, a total of 114 questionnaires were collected, of which 108 were found to be valid and usable.

4.3 Descriptive statistics

Among the 108 responses, 64 respondents are from hotel restaurants (e.g., "Zijingge" restaurant in Wuzhou Hotel) and 44 from freestanding restaurants (e.g., Kung Fu Fast Food Chain in Shenzhen). No significant differences exist in the profile of the respondents (e.g., gender, age) from the two groups. Thus, the two groups are not analyzed separately.

The profiles of the 108 respondents are shown in Table 4.1. Over half (51.85%) of the respondents are female, while the male participants account for 48.15% of the total respondents. No participant is older than 55 years, and the number of

participants in younger age groups is larger than that in older ones, with the age group 16–25 years accounting for the majority (69%). This finding is reasonable because this study focuses on frontline employees, who may be the junior members of the restaurants. Hence, the researcher combined the last two options of the question ("46–55" and "56 or older") into "46 or older" in the main survey questionnaire (Appendix IV). Some participants suggested setting the lowest age at 18 because only those aged more than 18 can become regular employees. This revision was also made for the main survey questionnaire. Most of the respondents graduated from high school or college (93.52%). The majority of the participants have a monthly income below ¥ 3,000 (accounting for 64.82%). Eighteen participants (approximately 16.67%) have a monthly income of " ¥ 5,000 or more," whereas another 18 respondents reported a monthly income between ¥ 3,000 and ¥ 4,999 per month. Among these high-salary participants are four managers.

Regarding the positions of the participants, the most common (38.89%) are servers. The total number of positions is larger than 108 because many participants tick more than one answer for this question. This finding indicates that many employees are not assigned to one particular position. Meanwhile, some of the participants chose "other" as their positions. Among them, two are restaurant managers—one is a deputy manager and the other simply specified "management." The other participants did not specify what "other" meant. Based on this issue, additional choices are given for this question (i.e., position) and respondents are allowed to choose multiple alternatives; thus, the question was revised as "Your main job/duty is (select all that apply): A. Host/Hostess; B. Order taker; C. Table

service; D. Food runner; E. Bartender; F. Busser; G. Maitre; H. Cashier; I. Reservation and sales; J. (Deputy) manager; K. Other, please specify." Eight (deputy) managers participated in the survey in the pilot study, and all of them must interact with customers in their work.

Table 4.1 Sample profile of the pilot study (n=108)

Demographic variables	Value	Number of responses	Percentage (%)
Gender	Male	52	48.15
	Female	56	51.85
Age	16-25	69	63.89
	26-35	31	28.70
	36-45	4	3.70
	46-55	1	0.93
	Missing values	3	
Education	Primary/elementary school	2	1.85
	Secondary/high school	19	17.59
	College/university	82	75.93
	Postgraduate	2	1.85
	Missing values	3	
Income	Less than ¥ 2,000	35	32.41
	¥ 2,000-2,999	35	32.41
	¥ 3,000-3,999	12	11.11
	¥ 4,000-4,999	6	5.56
	¥ 5,000 or more	18	16.67
	Missing values	2	
Position	Host/Hostess	14	12.96
	Sever	42	38.89
	Food runner	8	7.41
	Bartender	3	2.78
	Busser	8	7.41
	Maitre	13	12.04
	Cashier	6	5.56
	Other	21	19.44
	Missing values	3	

Most of the respondents often serve repeat customers (M=5.47, SD=1.44). Approximately 28.70% of the participants "almost always" serve repeat customers,

27.78% of them “usually” encounter repeat customers, and 21.30% “often” do so. Only one respondent “never” serve repeat customers.

Considering the focus of the study, the target restaurants should be those that attach importance to innovation. Thus, four innovation-related statements were included in the questionnaire, involving four aspects, namely, the importance of innovation, managers’ attitude to knowledge acquirement, reward for innovation, and understanding for innovation failure (see questions 1 to 4 in Appendix II). Employees were asked to express their extent of agreement or disagreement. The statements received an average mean of agreement higher than 5, which represents slight agreement. More than 85% of the respondents agree or strongly agree with the statement about the importance of innovation in their restaurants. Thus, the importance of innovation is valued by the restaurants (M=6.06, SD=1.39).

Meanwhile, the second statement about the initiatives of managers to encourage employees to learn new things and use knowledge and skills also received a high level of agreement from the employees (M=6.35, SD=1.21). Nevertheless, the question has been found to be a confusing one. Thus, the question was rephrased as “Managers in the restaurant encourage you to learn new knowledge and skills.” In the restaurants these employees worked, managers also reward those who suggest new products/services or contribute new ideas to work (M=5.77, SD=1.52). As for the statement about managers’ understanding and forgiveness for employees’ failure in attempting new things, the average level of agreement (M=5.80, SD=1.53) indicated that managers in these restaurants encourage employees’ risk-taking behaviors for the benefit of customers/the firm. Thus, innovation is regarded as important in the restaurants.

4.4 Measurement analysis

The pilot study mainly aimed to test whether the measurement scales of the constructs in Figure 2.5 can be considered reliable and refine the measurements. The reliability statistics for the constructs as well as their corresponding measurement items were calculated to achieve this purpose. As a rule of thumb, the Cronbach's α of a construct should be higher than 0.7 and the mean inter-item correlations be more than 0.4 (Cortina, 1993). The corrected item-total correlation (CITC) was also adopted, and a reliable construct should have a CITC higher than 0.3 (Cortina, 1993). Some items may be deleted during the preliminary stage, if the CITCs of these items were lower than 0.3 and deleting the items can increase the reliability of the measurement.

Factor analysis is strongly suggested for measurement purification by Churchill (1979). According to Field (2013), principal component analysis (PCA) is designed mainly for data reduction with a focus on the minimum number of factors, whereas EFA is used for identifying latent dimensions. Thus, EFA is preferable for the purification of perceived customer participation. The scale of interpersonal trust in this study was based on McAllister (1995); however, compared with the one provided by McAllister (1995), certain adjustments have been made to measure employees' perceptions. Moreover, the context in the present study (trust between customers and employees) differs from that in McAllister's (1995) (trust between coworkers). Therefore, EFA was adopted in the current study to analyze the measurement of interpersonal trust (Hair et al., 2009). In addition, the scales of employee innovative behavior and job complexity used in this study were adopted from previous studies. These two constructs had not been adopted in the F&B service context, so EFA was also conducted for these constructs (Hair et

al., 2009). Results of EFA in the pilot study lay the foundation for Confirmatory Factor Analysis (CFA), which was used to confirm whether the measurement models are consistent with the empirical data in the main survey (Hair et al., 2009).

4.4.1 EFA for perceived customer participation

The pilot data are suitable for factor analysis for perceived customer participation. Results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests indicate that the KMO measure of sampling adequacy is 0.831, which is considerably higher than the required 0.6 (Hair et al., 2009); moreover, the Bartlett's test of sphericity is significant at $p<0.001$. The 18-item scale of perceived customer participation has been found reliable because the Cronbach's α equals 0.894. All of the items also obtain CITC more than 0.3.

Three factors are identified through EFA, and all the eigenvalues for the factors exceed 1 (Table 4.2), which is the suggested cut-off point for factor extraction (Field, 2013). Based on the items attached to the factors, the three dimensions are called "emotional participation," "behavioral participation," and "information participation."

Generally, the factor loadings of items should be higher than 0.3 and preferably 0.5, and the cross loading should be lower than 0.3 (Hair et al., 2009). Thus, three items with factor loadings lower than 0.5 were removed. The α value of all three factors exceeds 0.7 (Table 4.2), and the α value of the scale after the deletion of the three items equals 0.884. After this process, all 15 items were reordered according to the three dimensions (see Appendix IV). The items were also renamed as EP1 to EP7 (emotional participation), BP1 to BP5 (behavioral participation), and IP1 to IP3 (information participation).

Table 4.2 EFA for perceived customer participation

Factor/item	Factor loading	Eigenvalue	Variance explained (%)	α
Factor 1: Emotional participation		6.149	34.162	.899
PCP11	.706			
PCP13	.710			
PCP14	.670			
PCP15	.949			
PCP16	.751			
PCP17	.659			
PCP18	.698			
Factor 2: Behavioral participation		2.180	12.113	.768
PCP1	.552			
PCP2	.565			
PCP3	.577			
PCP9	.705			
PCP12	.780			
Factor 3: Information participation		1.011	5.619	.820
PCP6	.666			
PCP7	.646			
PCP8	.529			
Total			**51.894**	**.884**

Note: PCP stands for perceived customer participation. PCP11 means the eleventh item in the measurement, which can been seen in Appendix II (Section II).

Three dimensions of perceived customer participation have been identified; hence, the hypotheses that involve customer participation are divided into specific ones. Hypothesis 1 is thus tested by AMOS using the following hypotheses (Section 5.5):

Hypothesis 1a. Customers' emotional participation in services will have a positive effect on employee innovative behavior.

Hypothesis 1b. Customers' behavioral participation in services will have a positive effect on employee innovative behavior.

Hypothesis 1c. Customers' information participation in services will have a

positive effect on employee innovative behavior.

The mediating effects of interpersonal trust (i.e., affective trust and cognitive trust), which are indicated in Hypotheses 2 and 3, also involve customer participation. Thus, these are further divided into the following hypotheses:

Hypothesis 2a. Affective trust mediates the relationship between customers' emotional participation and employee innovative behavior.

Hypothesis 2b. Affective trust mediates the relationship between customers' behavioral participation and employee innovative behavior.

Hypothesis 2c. Affective trust mediates the relationship between customers' information participation and employee innovative behavior.

Hypothesis 3a. Cognitive trust mediates the relationship between customers' emotional participation and employee innovative behavior.

Hypothesis 3b. Cognitive trust mediates the relationship between customers' behavioral participation and employee innovative behavior.

Hypothesis 3c. Cognitive trust mediates the relationship between customers' information participation and employee innovative behavior.

The three factors of customer participation are identified in the pilot study, and they have not been further studied. Whether all of them interact with job complexity remains uncertain. Thus, all of the factors are proposed as applied to Hypothesis 5. The following hypotheses are presented.

Hypothesis 5a. Job complexity will moderate the effect of emotional participation on employee innovative behavior such that the effect will be stronger with moderately complex jobs compared to jobs with low or high complexity.

Hypothesis 5b. Job complexity will moderate the effect of behavioral

participation on employee innovative behavior such that the effect will be stronger with moderately complex jobs compared to jobs with low or high complexity.

Hypothesis 5b. Job complexity will moderate the effect of information participation on employee innovative behavior such that the effect will be stronger with moderately complex jobs compared to jobs with low or high complexity.

Additional hypotheses were thus derived because of the identification of the dimensions of customer participation. Therefore, the conceptual model in Figure 2.5 was revised (see Figure 4.1), which would be tested in Structural Equation Modelling (SEM) with AMOS (see Chapter 5).

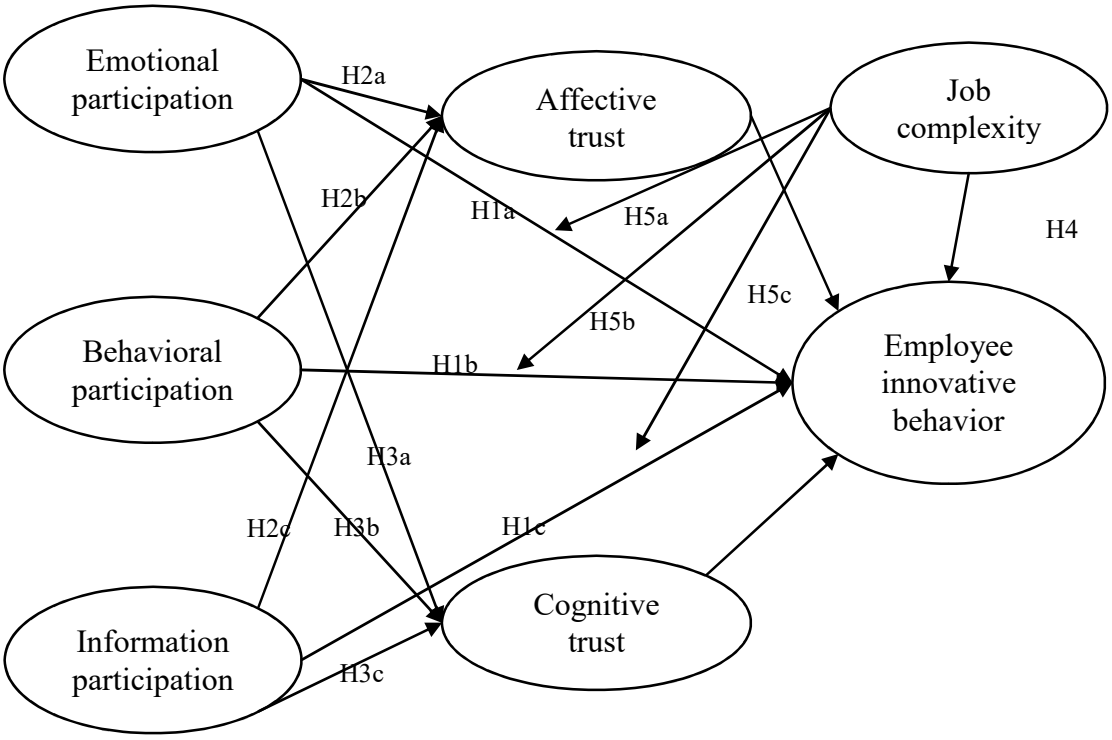

Figure 4.1 The conceptual model to be tested

4.4.2 EFA for employee innovative behavior

The scale of employee innovative behavior in this study is found to be reliable

because α equals 0.950. The item-scale correlations are also high; the CITC of all items is higher than 0.6. The EFA test for employee innovative behavior exhibits high KMO (0.922) and significant Bartlett's test of sphericity ($p<0.001$). The result of EFA indicates that employee innovative behavior is a single dimension construct, which is different from Janssen's (2000) study in which the scale is adopted. According to Janssen (2000), employee innovative behavior is explained by three dimensions, namely, idea generation, idea promotion, and idea implementation. In the present study, the reliability and validity of the scale are supported by the data given that α is equal to 0.950 (> 0.7) and the average factor loadings are as high as 0.845 (> 0.7) (Table 4.3). However, only one factor is identified with an eigenvalue of 6.453, and this factor explains more than 70% of the variance. Thus, this study used the scale in the survey but regarded the construct as one factor.

Table 4.3 EFA for employee innovative behavior

Factor/item	Factor loading	Eigenvalue	Variance explained (%)	α
Factor 1		6.453	71.70	.950
EIB1	.753			
EIB2	.759			
EIB3	.811			
EIB4	.853			
EIB5	.908			
EIB6	.911			
EIB7	.906			
EIB8	.873			
EIB9	.829			

4.4.3 EFA for interpersonal trust

The scale of interpersonal trust used in this study enjoys high reliability (α=0.912), and all of the items obtain CITCs higher than 0.5. A pre-analysis test indicates the suitability of the data for factor analysis because of the high KMO

(0.900) and significant Bartlett's test result ($p<0.001$).

Table 4.4 presents the main results of EFA for interpersonal trust. Two factors have been identified, and each includes five items. As can be seen, the outcomes are similar to the results of McAllister's (1995) research in which the scale is adopted. Thus, the two factors of interpersonal trust are cognitive trust and affective trust as suggested by McAllister (1995). The results indicate that the scale provided by McAllister (1995) can also be used in the context of this study. For the data in this pilot study, "cognitive trust" explains approximately 56.910% of the variance, which is considerably more than "affective trust" (10.697%). The reliabilities of both dimensions are also high because α equals more than 0.8.

Table 4.4 EFA for interpersonal trust

Factor/item	**Factor loading**	**Eigenvalue**	**Variance explained (%)**	**α**
Factor 1: Cognitive trust		5.691	56.910	.861
IT6	.551			
IT7	.571			
IT8	.883			
IT9	.762			
IT10	.862			
Factor 2: Affective trust		1.070	10.697	.884
IT1	.627			
IT2	.679			
IT3	.836			
IT4	.806			
IT5	.538			
Total			**67.607**	**.912**

Note: IT stands for interpersonal trust. IT6 means the sixth item in the measurement, which can been seen in Section II in Appendix II.

4.4.4 EFA for job complexity

The construct reliability of job complexity is marginally low compared with

that of employee innovative behavior. The Cronbach's α equals 0.693, which is slightly lower than 0.7. The CITC of all items are higher than 0.3, and deleting any item can decrease Cronbach's α. Hence, the scale cannot be improved by simply removing items.

The EFA test further explains why the α value is low. All factor loadings are higher than 0.5 (see Table 4.5), but the first and second items (JC1 and JC2) have lower factor loadings than the third and fourth items (JC3 and JC4). The inter-item correlations indicate that both the correlations between the first two items (Pearson Correlation r=0.580) and between the last two items (r=0.564) are significant, with coefficients higher than 0.5. However, the other inter-item correlations are lower than 0.5. For example, the coefficient of correlation between JC1 and JC3 is only 0.244. Therefore, the low reliability is due to the lower factor loadings of the first two items (JC1 and JC2) and their correlations with the last two items (JC3 and JC4).

Table 4.5 EFA for job complexity

Factor/item	Factor loading	Eigenvalue	Variance explained (%)	α
Factor 1		1.460	36.50	.693
JC1	.555			
JC2	.556			
JC3	.691			
JC4	.590			

The extreme words ("particularly" and "very") in JC1 and JC2 may have led the participants to lower their ratings (i.e., toward "strongly disagree"). Given that the responses to the items of job complexity are based on degree of agreement, using the extreme words in the items is unnecessary. For example, if an employee's job is particularly difficult, even without the word "particularly," it can be reflected

in the response “strongly agree.” Thus, JC1 (“I receive assignments that are extraordinary and particularly difficult”) is revised as “I receive assignments that are extraordinary and difficult”, and JC2 (“I often have to make very complicated decisions in my work”) is revised as “I often have to make complicated decisions in my work.”

In summary, the measurements of interpersonal trust and employee innovative behavior have been tested and proven to be reliable and valid in reflecting the constructs. The three factors of perceived customer participation have been identified and named, and the scale has been purified. Owing to the relatively low reliability of the instrument of job complexity, two items were thus adjusted. The purified scales were used in the main survey, which would be further analyzed in Chapter 5.

4.5 Sample size determination based on the pilot study

As discussed in Section 3.3.3, the coefficient of variation (CV) is required to determine the sample size using Cochran's (1977) formula. Table 4.6, which is based on the pilot study, shows that the CVs of the 38 variables range from 0.25 to 0.51. Thus, 0.51 was input into the formula provided by Cochran (1977), and the minimum sample size is 400. The rules by Cochran (1977) are useful because the factors that influence the validity and reliability were considered when determining a roughly estimated sample size. However, Cochran's (1977) formula is for reference only in this study. Cochran's (1977) research is actually based on the precondition of random sampling, while the present study adopts a quota (non-random) sampling. In addition, this study analyzes multiple relationships among the

constructs using SEM as well as tests the mediating and moderating effects, which

Table 4.6 The coefficient of variation of the variables

Variables	Mean	Std. Deviation	CV
PCP1	4.06	1.61	0.40
PCP2	3.88	1.48	0.38
PCP3	3.17	1.57	0.50
PCP6	4.68	1.59	0.34
PCP7	4.73	1.69	0.36
PCP8	4.26	1.84	0.43
PCP9	3.30	1.67	0.51
PCP11	4.85	1.50	0.31
PCP12	3.92	1.78	0.45
PCP13	5.00	1.43	0.29
PCP14	4.50	1.54	0.34
PCP15	5.06	1.36	0.27
PCP16	4.89	1.62	0.33
PCP17	4.71	1.49	0.32
PCP18	4.52	1.59	0.35
EIB1	4.90	1.43	0.29
EIB2	5.13	1.42	0.28
EIB3	4.68	1.46	0.31
EIB4	4.84	1.56	0.32
EIB5	4.83	1.50	0.31
EIB6	4.81	1.62	0.34
EIB7	4.75	1.67	0.35
EIB8	4.69	1.67	0.36
EIB9	4.69	1.55	0.33
IT1	4.93	1.56	0.32
IT2	4.92	1.58	0.32
IT3	4.73	1.76	0.37
IT4	4.80	1.58	0.33
IT5	4.68	1.58	0.34
IT6	5.24	1.36	0.26
IT7	5.11	1.41	0.28
IT8	5.16	1.32	0.26
IT9	5.27	1.32	0.25
IT10	4.79	1.55	0.32
JC1	4.18	1.61	0.39
JC2	4.22	1.72	0.41
JC3	5.39	1.57	0.29
JC4	5.79	1.49	0.26

Note: (1) PCP (perceived customer participation), EIB (employee innovative behavior), JC (job complexity), IT (interpersonal trust). (2) PCP4, PCP5 and PCP10 have been removed after EFA.

usually require a large sample size (Byrne, 2013). Therefore, the sample size for this study should be considerably larger than 400.

The number of latent constructs reaches seven because three factors of customer participation have been identified, leading to increasingly complicated SEM models. In a SEM study, the sample size should meet the following criteria: (1) it must be at least 10 times the largest number of variables/items used to measure one construct; and (2) at least 10 times the largest number of structural paths directed at a particular latent construct in the structural model (Hair, Ringle, & Sarstedt, 2011). The structural paths in Figure 4.1 involve 15 paths in total. That means at least 150 questioannaires are needed to meet the criteria by Hair et al (2011). Based on this, the current study should collect at least 450 questionniares for the SEM analysis because group comparison (three groups) for moderating effect testing is required and several hypotheses are added (Section 4.4.1). The questionnaires would come from two types of restaurants (hotel restaurants and freestanding restaurants); therefore, more questionnaires are needed in case the two groups exhibit certain differences. Thus, the researcher set 500 as the sample size for the main survey. In the data collection process, the number of questionnaires collected may be larger considering the recovery rate and invalid questionnaires.

Chapter 5: Main Survey

5.1 Introduction

This chapter covers the main survey process and data analysis. First, the main survey was conducted in Beijing based on the instruments that have been purified after the pilot study. The process is introduced in Section 5.2. Second, the descriptive analysis of the respondent profile and data screening of the variables were carried out. The results are provided in Section 5.3. The measurement model should be confirmed before hypotheses testing; thus, the Confirmatory Factor Analysis (CFA) model involving seven variables was tested. The results are reported in Section 5.4. Finally, the hypotheses, including direct, mediating, and moderating effects, were tested based on the structural models. The findings are listed in Sections 5.5 and 5.6.

5.2 Data collection process

The data collection process started in October 2014 and lasted for nearly three months. Prior to the questionnaire delivery, department managers (or deputy managers) of target restaurants in Beijing were first contacted by phone call or email to avoid interfering with their respective F&B operations. Approximately 80 (deputy) managers or employees in 65 restaurants were contacted, and 34 of them (in 25 restaurants) agreed to cooperate by encouraging employees to participate and arranging their work schedules. The employees in these 25 restaurants were thus recruited to complete the questionnaire. The questionnaires were delivered by hand to the employees working in front-of-house positions. More than half of the questionnaires were completed on the spot, whereas others were retrieved after around three–six days. To reduce non-response caused by possible refusals during

the questionnaire distribution, a PolyU canvas tote bag (HK$15) was given to each respondent as an incentive. In 10 of the restaurants, one employee in each restaurant was commissioned to issue and collect the questionnaires. Shopping coupons were given to these employees (￥100 each). The commissioned individuals were trained on the purpose of the research and the requirements of the data collection in detail. For the other 15 restaurants, the researcher reached the employees and delivered the questionnaires. All of the questionnaires were completed anonymously, but the names of restaurants where the respondents worked were identified.

A total of 528 questionnaires were collected. Among these questionnaires, 14 were removed because either these questionnaires had more than five answers missing or the same option (e.g., “strongly agree”) was selected for all the questions. After the removal, 514 questionnaires were retained. Among the 514 respondents, 56.4% (n=290) are from hotel restaurants, such as restaurants in Park Hyatt (n=22), Crown Plaza “Xin Yun Nan” (n=25), and (Shangri-la) “China World Summit Wing” (n=19), whereas 43.6% (n=224) are from freestanding restaurants, such as Hai Di Lao Hot Pot (Beijing) (n=19) and Kings Joy Beijing (n=36). The name list of the (hotel) restaurants is shown in Table 5.1.

The two groups (employees in hotel restaurants and freestanding restaurants) show no significant difference in all the variables according to the t-test by SPSS. This study aimed to focus on the relationships among the constructs (shown in Figure 2.5) rather than the differences between hotel restaurants and freestanding restaurants. Therefore, the questionnaires from hotel restaurants and freestanding restaurants were not separated.

Table 5.1 Surveying restaurants and the number of completed questionnaires

	Name of Hotels	No.	Star-rating
H1	Jinlongtan Hotel	28	★★★★
H2	Crown Plaza "Xin Yun Nan"	26	IHG
H3	China World Hotel	25	Shangri-la
H4	Park Hyatt	22	★★★★★
H5	Ruyi Business Hotel (如意商务）	22	★★★★
H6	Ziyu Hotel	20	★★★
H7	Renaissance Beijing Capital Hotel	20	Marriott
H8	Beijing Hotel	20	★★★★★
H9	"China World Summit Wing"	19	Shangri-la
H10	Zhongyi Pengao Hotel	19	★★★★
H11	The Westin Beijing Financial Street	18	Starwood
H12	The Peninsula Beijing	18	Peninsula
H13	Zhongyu century Hotel (中裕世纪）	17	★★★
H14	Jianguo Hotel Beijing	16	★★★★
	Name of freestanding restaurants	**No.**	**Award**
F1	Kings Joy Beijing	30	Best Environmental Design
F2	Chi Restaurant	24	Best creative restaurant
F3	Cheap Corner	23	Excellent Northern cuisine
F4	Hai Di Lao Hot Pot	21	Excellent Hot Pot
F5	Hoi Tien Mansion	20	Best Cantonese restaurant
F6	Hanshe Xihe	20	Best business restaurant
F7	Din Tai Fung	20	Best chain restaurant
F8	Kong Yiji restaurant	18	Excellent Huaiyang cuisine
F9	Nice Rice	17	Best Szechuan Restaurant
F10	Tanwan Japanese Cuisine	16	Best Japanese Cuisine
F11	Huai Yang Fu	15	Best Huaiyang cuisine

Note: (1) The hotels who do not provide the star rating (3-5 star) are listed with the name of hotel management companies. (2) The awards for freestanding restaurants are provided by Da Zhong Dian Ping (http://www.dianping.com/). (3) Two hotels do not provide English names. The names were translated by the researcher and the Chinese names were also provided.

5.3 Data screening

5.3.1 Missing data and outliers

Among the 514 questionnaires, 86 missing values were found, comprising 50 values of demographic variables (e.g., age, gender) and 36 values of other construct variables (e.g., EIB1 [employee innovative behavior]). The gender of the respondents has the most missing values (21, 4%). In order to run structural equation models (SEM), the data should be complete (Byrne, 2013). In this study, the demographic variables and four innovation-related questions (Q1 to Q4) were not analyzed in the SEMs. Thus, the missing data of these variables do not have to be handled. In terms of the other 38 variables (from BP1 to JC4 in Appendix IV), the missing data were distributed randomly among the employees in different restaurants; the data account for less than 1% of these variables. Among them, the variable EIB3 have the most missing values (4, 0.78% of all respondents). The distribution of the missing data does not display a pattern, so this type of missing data is missing completely at random (MCAR) (Hair et al., 2009). Many kinds of methods can be used to handle MCAR data, such as complete case approach, which refers to the use of observations with complete data, and regression imputation, which means the use of regression analysis to calculate the missing value based on its relationships with other variables (Hair et al., 2009). The present study simply used the mean substitution approach to handle the MCAR data (Hair et al., 2009) because of the small percentage of missing data involved. For example, the two missing values of the item BP4 were replaced with 3.95, which corresponded to the mean of the other 512 values.

Outliers should also be identified from a univariate or multivariate perspective before the data analysis (Hair et al., 2009). Univariate outliers are identified as

observations with z-scores greater than 3 in absolute value (Hair et al., 2009). For example, the mean and standard deviation of BP1 are 4.19 and 1.57, respectively; hence, the outliers are the observations with the value lower than -0.52 (=4.19–3*1.57) and higher than 8.9 (=4.19+3*1.57). The probability of univariate outliers is low because most of the variables in this study are measured with seven-point Likert scales (1–7). No univariate outliers are actually noted after examining all the data.

Multivariate outliers are those that have an unusual combination of values for several variables (Hair et al., 2009). Multivariate outliers can be identified by Mahalanobis D^2, which measures the distance of each observation from the centroid (multidimensional mean) in a multidimensional space given the covariance of the distribution (Hair et al., 2009). An observation with higher Mahalanobis D^2 indicates a farther distance away from the centroid in the multidimensional space; thus, such observation tends to be an outlier. The multivariate outlier identification is done using SPSS 20.0 software. First, the variables of a construct were selected as independent variables, such as the five variables of behavioral participation (BP1 to BP5). The fifth question Q5 ("How often do you serve repeat customers?") was selected as a dependent variable, although this variable is not an item of any construct and would not be used in CFA or SEM. According to Hair et al. (2009), the dependent variable can be any variable except those that have been set as independent ones. Linear regression analysis was then conducted, arriving at Mahalanobis D^2 as a new variable. The results indicate that the highest value of Mahalanobis D^2 is 18.9969. Based on the values of Mahalanobis D^2, statistical tests were conducted in the chi-square distribution (1–CDF.CHISQ(MAH D^2,5)) and the level of significance was set at 0.001 (Hair et al., 2009). The results indicate that no

Mahalanobis D^2 had a probability lower than 0.001. Thus, no outlier is noted in the five variables (BP1 to BP5). The same process was carried out for all the other constructs. Similarly, no multivariate outlier is identified.

5.3.2 Descriptive statistics

The descriptive statistics were analyzed using SPSS 20.0 to generate the profile of the respondents as well as basic information of all the variables (or items). The first four questions in the questionnaire measured whether managers in the restaurant support employee innovative behavior (Table 5.2). The mean values are higher than 5 for all four questions, with the first two being nearly 6 (see Table 5.2).

Table 5.2 Responses to innovation related items (n=514)

Statements	Strongly agree ←- - - → Strongly disagree						
	7	6	5	4	3	2	1
Q1: Innovation is regarded as important in your restaurant.	39.1%	32.3%	15.2%	8.4%	1.9%	1.8%	1.4%
Q2: Managers in the restaurant encourage you to learn new knowledge and skills.	41.1%	26.3%	19.3%	8.2%	3.9%	0.6%	0.6%
Q3: Managers in the restaurant reward those who suggest new products/services or bring new ideas to work.	33.7%	28.8%	16.7%	12.6%	4.1%	2.1%	1.8%
Q4: Managers show understanding and forgiveness for the failure in trying new things for the benefit of customers/the firm.	28.0%	26.8%	16.5%	15.2%	6.8%	3.5%	3.1%

All the innovation statements were answered with agreement (5–7) by more than 70% of the participants; the disagreements (1–3) account for less than 15% (Table 5.2). Thus, most of the respondents tend to agree that the managers in the restaurants encourage them to innovate in their work.

The profiles of the respondents were also collected (see Table 5.3 for the results). As can be seen, approximately 57.59% of the respondents are female, while the male participants account for 38.33%. The gender of 21 employees is unknown.

Table 5.3 Profile of the respondents (n=514)

Demographic variables	Value	Number of responses	Percentage (%)
Gender	Male	197	38.33
	Female	296	57.59
	Missing values	21	
Age	18-25	298	57.98
	26-35	172	33.46
	36-45	29	5.64
	46 or older	10	1.95
	Missing values	5	
Education	Primary/elementary school	2	3.31
	Secondary/high school	19	28.60
	College/university	82	64.01
	Postgraduate	2	1.56
	Missing values	13	
Income	Less than ￥2,000	89	17.32
	￥ 2,000-2,999	178	34.63
	￥ 3,000-3,999	156	30.35
	￥ 4,000-4,999	39	7.59
	￥ 5,000 or more	48	9.34
	Missing values	4	
Main job/duty	Host/Hostess	90	17.51
	Order taker	106	20.62
	Table service	137	26.65
	Food runner	49	9.53
	Bartender	39	7.59
	Busser	51	9.92
	Maitre	36	7.00
	Cashier	48	9.34
	Reservation and sales	17	3.31
	(Deputy) manager	20	3.89
	Others	12	2.33
	Missing values	7	

Most of the respondents are aged between 18 and 35 (more than 90%); the

others (older than 35) account for less than 8%. The participants mainly graduated from secondary schools or colleges/universities (92.61%).

In addition, the monthly income of more than one-third (34.63%) of the respondents fall under the range of ￥2,000–2,999. The next largest group (30.35%) is the ones earning ￥3,000–3,999. In addition, the respondents with a monthly income of less than ￥2,000 (17.32%) are more than those earning more than ￥4,000. Only four participants did not report their income although it appeared to be a private issue that people do not want to share. Thus, income has the least missing values among all of the five demographic variables in Table 5.4. With regards gender, this variable had the most missing values (n=21).

The question of "main job/duty" was asked, which replaced "positions" in the pilot study questionnaire, because this study analyzes the influence of jobs on employee innovative behavior. For this question, the respondents were told that could select more than one answer. The results indicate that the main job duties of the participants are "order taker," "table service," and "host/hostess," accounting for 26.65%, 20.62%, and 17.51%, respectively. Twenty respondents are (deputy) managers (less than 4%). A follow-up inquiry of the managers indicated that they are all frontline managers; they perform service jobs such as table service as well. Thus, they are still regarded as customer contact employees. Twelve respondents selected "others." Six of these respondents specified their jobs as "chef," whereas the other six did not specify "others."

Descriptive statistics of Q1–Q5 and all of the construct measurement items are shown in Table 5.4. The frequency of serving repeat customers was asked in Q5.

Table 5.4 Descriptive statistics for variables in the survey

Variables	N	Mean	SD	Skewness	Kurtosis	KS	Shapiro-Wilk
Q1	514	5.88	1.29	-1.484	2.394	.250	.797
Q2	513	5.88	1.23	-1.112	1.008	.228	.823
Q3	513	5.62	1.42	-1.106	.885	.230	.844
Q4	514	5.31	1.59	-.877	.091	.217	.871
Q5	514	5.08	1.48	-.720	.035	.189	.908
EP1	514	4.46	1.66	-.274	-.740	.140	.942
EP2	513	4.50	1.70	-.267	-.867	.152	.936
EP3	512	4.43	1.62	-.229	-.701	.130	.944
EP4	514	4.51	1.65	-.312	-.772	.148	.937
EP5	513	4.36	1.81	-.230	-.985	.140	.931
EP6	514	4.25	1.66	-.199	-.793	.152	.945
EP7	514	4.27	1.63	-.150	-.668	.130	.947
BP1	514	4.19	1.57	-.156	-.512	.157	.947
BP2	514	4.03	1.51	-.161	-.528	.159	.948
BP3	514	3.80	1.60	.060	-.621	.133	.950
BP4	512	3.95	1.76	-.005	-.960	.136	.942
BP5	514	4.04	1.68	-.021	-.860	.116	.948
IP1	513	4.19	1.63	-.116	-.713	.123	.950
IP2	510	4.17	1.68	-.079	-.872	.118	.946
IP3	513	4.14	1.65	-.122	-.788	.127	.948
EIB1	513	4.28	1.53	-.121	-.699	.135	.948
EIB2	513	4.29	1.57	-.222	-.607	.170	.946
EIB3	510	4.15	1.53	-.236	-.590	.171	.944
EIB4	513	4.26	1.54	-.207	-.533	.149	.947
EIB5	512	4.27	1.58	-.211	-.648	.153	.947
EIB6	513	4.25	1.65	-.204	-.760	.156	.945
EIB7	513	4.24	1.62	-.203	-.715	.158	.945
EIB8	513	4.19	1.64	-.152	-.777	.138	.946
EIB9	513	4.24	1.61	-.225	-.678	.143	.945
AT1	513	4.26	1.55	-.130	-.532	.144	.948
AT2	514	4.19	1.59	-.104	-.638	.140	.948
AT3	514	4.25	1.64	-.183	-.670	.133	.947
AT4	514	4.20	1.57	-.115	-.625	.132	.951
AT5	514	4.19	1.56	-.036	-.584	.130	.951
CT1	513	4.32	1.64	-.189	-.761	.148	.945
CT2	514	4.32	1.60	-.163	-.719	.132	.948
CT3	512	4.31	1.60	-.204	-.640	.144	.946
CT4	514	4.39	1.66	-.145	-.831	.131	.943
CT5	513	4.23	1.65	-.180	-.704	.144	.945
JC1	513	3.99	1.50	-.204	-.545	.159	.947
JC2	513	4.01	1.60	-.128	-.681	.128	.950
JC3	513	4.53	1.77	-.408	-.745	.148	.927
JC4	513	4.58	1.92	-.399	-.955	.149	.911

Note: (1) The degree of freedom for the Tests of Normality (Kolmogorov-Smirnov and Shapiro-Wilk) is 492; "KS" represents Kolmogorov-Smirnov; all variables show significant at $p<0.001$. (2) BP: Behavioral Participation; IP: Information Participation; EP: Emotional Participation; EIB: Employee Innovative Behavior; AT: Affective Trust; CT: Cognitive Trust; JC: Job Complexity.

The results indicate that most of the respondents "often" serve repeat customers (M=5.08, SD=1.475). As discussed previously in Section 3.5, all of the variables were measured with a seven-point Likert scale. In the scales of interpersonal trust and job complexity, 1 represents "strongly disagree" and 7 represents "strongly agree" for the four innovation-related questions. Nevertheless, the fifth question (Q5), items of customer participation and employee innovative behavior are measured with the scale from "never" (1) to "almost always" (7).

5.3.3 Normality tests

The normality tests for the variables were conducted with SPSS. According to Hair et al. (2009), SEM analysis can be easily influenced by the distributional characteristics of the data, especially the departure from multivariate normality. If the data are not normally distributed, the chi-square statistics may be inflated, and bias may exist in the key values that determine coefficient significance (Hair et al., 2009). Both the skewness and kurtosis equal 0 for the data that satisfy standard normal distribution. Nevertheless, the data with the values ranging from 1.50 to +1.50 can be considered as approximately normally distributed (Hair et al., 2009). The skewness of all variables are higher than –1.50 and lower than 1.50 (see Table 5.4). Only Q1 is an exception in terms of kurtosis. The skewness of this variable equals -1.484, but the kurtosis equals 2.394, which indicates that the data of this variable are far from normal distribution. However, Q1 to Q5 were only used for profiling purpose; they were not analyzed in CFA or SEM. Further testing with Kolmogorov-Smirnov and Shapiro-Wilk (see Table 5.4) indicates the same conclusion: the data are approximately normally distributed (df=492, $p<0.001$). These normality tests provide the basis for further analysis by AMOS.

5.4 Measurement model testing

5.4.1 Individual measurement model testing

Individual measurement model testing is not necessary for employee innovative behavior and perceived job complexity. Both have already been identified as one-dimensional constructs in the pilot study, and the reliabilities of the constructs were supported by previous studies (Hair et al., 2009; Janssen, 2000; Zacher & Frese, 2011) as well as the EFA in this study. Thus, only perceived customer participation and interpersonal trust were subjected to the individual CFA.

CFA for perceived customer participation

CFA results for perceived customer participation indicate that the measurement model mainly fits the data. First, the model indices exhibit acceptable model fit: chi-square=635.0, *df*=87, Nonnormed Fit Index (NNFI)=0.896, Comparative Fit Index (CFI)=0.909, Root Mean Square Error of Approximation (RMSEA)=0.080. For a measurement model to be considered valid, the NNFI and CFI should be higher than 0.9 (Hair et al., 2009). In addition, if the value of RMSEA is lower than 0.05, it signifies a good fit; an RMSEA value in between 0.05 and 0.08 indicates an acceptable model fit; if RMSEA is higher than 0.08, it means a mediocre fit and errors of approximation in the population are possible; and RMSEA greater than 0.1 implies a poor model fit (Hair et al., 2009). Thus, 0.08 was set as the cut-off point of RMSEA by numerous researchers (Fan et al., 1999). Only NNFI is slightly below the cut-off point 0.9 (0.896) in this CFA model; thus, it is regarded as acceptable nevertheless.

Additionally, the factor loadings and t-values suggest that the factors explain the construct well. All factor loadings are higher than the cut-off point 0.5 (Hair et

al., 2009) (Table 5.5). In addition, the t-values are all above 1.96 (because this study sets the confidence level at 95%), indicating a significant relationship between the items and the factors. Thus, the individual measurement model for customer participation is acceptable. The reliability and validity tests of the construct are repeated for overall measurement model in the next section (Section 5.4.2).

Table 5.5 Results of CFA for customer participation

Constructs /Factors	Factor loadings	t-value
Emotional participation		
EP1	.873	NA
EP2	.906	29.835
EP3	.861	26.886
EP4	.902	29.618
EP5	.730	20.163
EP6	.750	21.046
EP7	.692	18.569
Behavioral participation		
BP1	.807	16.445
BP2	.848	17.142
BP3	.833	16.908
BP4	.735	15.132
BP5	.687	NA
Information participation		
IP1	.839	NA
IP2	.846	22.344
IP3	.828	21.720

Note: All factor loadings are significant at $p<0.001$. "NA" means that this regression weight was fixed at 1.000, not estimated (e.g., when "Behavioral participation" goes up by 1, BP5 goes up by 1).

CFA for interpersonal trust

The goodness-of-fit indices of CFA for interpersonal trust (chi-square=200.2, *df*=34, NNFI=0.957, CFI=0.976, RMSEA=0.079) suggest that the measurement model of this construct fits the data well. Additionally, the factor loadings of all items are higher than 0.8, and the t-values are all above 20, thus indicating significant relationships among the items, factors, and the construct. Therefore, the measurement scale represents the construct, and it can be applied to structural

equation modeling.

Table 5.6 Results of CFA for interpersonal trust

Constructs /Factors	Factor loadings	t-value
Affective trust		
AT1	.829	24.538
AT2	.852	25.817
AT3	.806	23.336
AT4	.875	27.140
AT5	.869	NA
Cognitive trust		
CT1	.902	NA
CT2	.903	32.386
CT3	.912	33.222
CT4	.877	30.098
CT5	.809	25.288

Note: All factor loadings are significant at $p<0.001$.

5.4.2 Overall measurement model testing

CFA was also used to confirm the adequacy of the overall measurement model of the constructs (Hair et al., 2009). The results of CFA shown in Table 5.7 indicate that most of the factor loadings of the items (except JC1 and JC2) are higher than 0.6. Therefore, the constructs/factors describe the variables well (Hair et al., 2009). Meanwhile, the Cronbach's α values of the variables all exceed 0.7 (Table 5.8), indicating an acceptable level of reliability for each construct (Tavakol & Dennick, 2011). Simultaneously, all AVEs of the constructs are higher than 0.5, and the AVE for each construct is greater than the squared correlation coefficients for the corresponding inter-constructs (Table 5.8). Therefore, all constructs exhibit a high convergent validity (Fornell & Larcker, 1981).

Table 5.7 Results of overall CFA

Constructs /Factors	Factor loadings	t-value
Emotional participation		
EP1	.871	NA
EP2	.908	29.855
EP3	.860	26.737
EP4	.904	29.612
EP5	.731	20.171
EP6	.749	20.922
EP7	.689	18.426
Behavioral participation		
BP1	.807	16.700
BP2	.841	17.296
BP3	.830	17.111
BP4	.743	15.488
BP5	.694	NA
Information participation		
IP1	.844	NA
IP2	.851	23.096
IP3	.819	21.888
Employee innovative behavior		
EIB1	.842	28.589
EIB2	.845	28.890
EIB3	.875	31.408
EIB4	.905	34.462
EIB5	.915	NA
EIB6	.906	34.620
EIB7	.900	33.913
EIB8	.861	30.227
EIB9	.849	29.164
Affective trust		
AT1	.831	24.880
AT2	.851	25.963
AT3	.807	23.597
AT4	.871	27.171
AT5	.871	NA
Cognitive trust		
CT1	.903	NA
CT2	.902	32.423
CT3	.910	33.171
CT4	.883	30.709
CT5	.806	25.184
Job complexity		
JC1	.453	NA
JC2	.473	7.878
JC3	.919	10.390
JC4	.893	10.339

Table 5.8 Correlations (squared correlations), reliability and AVE

		EP	BP	IP	EIB	AT	CT	JC
1	EP	1						
2	BP	.485(.235)	1					
3	IP	.702(.493)	.580(.336)	1				
4	EIB	.639(.408)	.465(.216)	.614(.377)	1			
5	AT	.607(.368)	.493(.243)	.643(.413)	.747(.558)	1		
6	CT	.630(.397)	.370(.137)	.635(.403)	.752(.566)	.831(.691)	1	
7	JC	.525(.276)	.287(.082)	.476(.227)	.651(.424)	.616(.379)	.669(.448)	1
8	**α**	**.934**	**.889**	**.876**	**.968**	**.927**	**.946**	**.795**
9	AVE	**.672**	**.616**	**.702**	**.771**	**.717**	**.777**	**.518**

Note: All correlations are significant at p<.01. Values in parentheses represent squared correlations.

The factor loadings of the first two items of job complexity (JC1 and JC2) are lower than 0.5, thus resulting in the relatively lower α and AVE of job complexity than those of the other constructs. Similar to the situation in the pilot study, the interrelations between JC1 and JC2 and JC3 and JC4 are strong (r>0.6), but the other relationships between these items are relatively weak (see Table 5.9). Therefore, the adjustments made after the pilot study analysis did not effectively solve the problem. However, the α value had significantly increased (from 0.693 in the pilot study to 0.795 in the main survey). Meanwhile, the value of AVE (.518) is higher than all the squared correlation coefficients with a maximum value of 0.448; these coefficients are shown in parentheses in the seventh row of Table 5.8. In addition, the whole CFA model is good, which will be reported in the next paragraph. Thus, the scale of job complexity in this study remains regarded as reliable.

Table 5.9 Pearson correlation for the items of job complexity

	JC1	JC2	JC3	JC4
JC1	1			
JC2	.607**	1		
JC3	.389**	.434**	1	
JC4	.351**	.363**	.829**	1

** Correlation is significant at the 0.01 level (2-tailed).

Considering the covariances of the constructs, the following goodness-of-fit indices are derived: χ^2=2475.7, *df*=644, RMSEA=.074, NNFI=0.907, CFI=0.916. All the indices in this CFA model meet the suggested criteria (Section 5.4.1), indicating an acceptable model fit. The values of χ^2 and *df* also indicate a p value of lower than 0.001. The CFA model fits the data well based on these analyses.

5.5 Direct and indirect effect testing

As explained in Section 3.4.3, three models are needed to test the mediating effect of interpersonal trust: from predictor (customer participation) to outcome (employee innovative behavior), from predictor to mediator (interpersonal trust), and from predictor and mediator together to outcome. Table 5.10 provides fit results of the three models, while Table 5.11 presents the path coefficients and t-values of the models. The NNFI and CFI of all the three models are higher than 0.9 (cut-off point). The RMSEA of Models 2 and 3 are lower than the cut-off point of 0.08. Thus, Models 2 and 3 fit the data. For Model 1, the RMSEA is slightly higher than 0.08, but it is far away from 0.1. Considering the other indices and significance of the model ($p<0.001$), the model remains regarded as acceptable.

Table 5.10 Fit results for structural equation models

	Fit indices				
	$\chi 2$	*df*	RMSEA	NNFI	CFI
Model 1	1281.8***	246	.081	.902	.913
Model 2	2159.5***	516	.079	.900	.908
Model 3	2116.4***	513	.078	.902	.910

***p<.001

The standardized coefficients and t-values in Model 1 (Table 5.11) indicate that customers' emotional and information participation in services have a significant positive effect on employee innovative behavior. However, the positive effect of behavioral participation on employee innovative behavior is not supported (β=0.092, t=1.791, p=0.073>0.05). Thus, Hypothesis 1 (customer participation→employee innovative behavior) is partially supported as Hypotheses 1a and 1c are supported, but Hypothesis 1b is not. Behavioral participation is not significantly associated with employee innovative behavior; therefore, the mediating effect of interpersonal trust between these two constructs does not have to be tested. Hypotheses 2b and 3b are thus not supported.

Models 2 and 3 are analyzed to examine whether interpersonal trust mediates the relationship between the other two dimensions of customer participation and employee innovative behavior. Model 2 illustrates that all of the three dimensions of customer participation are significantly related to interpersonal trust. Meanwhile, the path coefficients to employee innovative behavior from both affective trust (β=0.478, t=6.731, p<0.01) and cognitive trust (β=0.357, t=5.126, p<0.01) are significant. These significant relationships are preconditions for the mediating effect of interpersonal trust. The results of Sobel test given in Table 5.12 show that affective trust mediates the relationship between information participation and

employee innovative behavior (z=2.039, p<0.05) as well as that between emotional participation and employee innovative behavior (z=1.961, p<0.05). The indirect effect values (0.476 and 0.177) in both cases lie between 0 and 1, which indicate acceptability (Sobel, 1982). Therefore, Hypotheses 2a and 2c are supported.

Table 5.11 Structural equation path coefficients

	Standardized path coefficients and (t-values)		
	Model 1	Model 2	Model 3
EP → EIB	.358 (6.422**)		.015 (1.082)
BP → EIB	.092 (1.791)		.163 (.88)
IP → EIB	.336 (4.724**)		.251 (.763)
EP → AT		.721 (5.799**)	.751(5.653**)
BP → AT		.386 (5.759**)	.706(5.853**)
IP → AT		.194 (9.316**)	.229 (9.874**)
EP → CT		.315 (4.946**)	.770(5.027**)
BP → CT		.081 (7.003**)	.133(7.056**)
IP → CT		.124 (9.304**)	.265 (9.354**)
AT → EIB		.478 (6.731**)	.489 (2.089 *)
CT → EIB		.357 (5.126**)	.682 (1.413)

Note: (1) BP: Behavioral Participation; IP: Information Participation; EP: Emotional Participation; EIB: Employee Innovative Behavior; AT: Affective Trust; CT: Cognitive Trust; JC: Job Complexity. (2) Model 1 = direct effects; Model 2 = full mediation; Model 3 = partial mediation. (3) Values in parentheses represent t values. (4) **p<.01, *p<.05.

The chi-square of Model 2 (χ^2=2159.5, *df*=516) is higher than that of Model 3 (χ^2=2116.4, *df*=513) (Table 5.10), although these two values are not significantly different ($\Delta\chi^2$=43.1, Δdf = 3). Hence, the addition of three hypothesized paths does not improve the fit of Model 3 compared with that of Model 2 (full mediation). Additionally, the paths from information and emotional participation to employee innovative behavior in Model 3 are not significant. Considering the lack of difference in fit, the non-significant paths in the partial mediation model, and its greater parsimony, Model 2 (full mediation) was accepted as a better choice than Model 3. In other words, interpersonal trust may have full mediation between information/emotional participation and employee innovative behavior. Moreover,

customers' information participation significantly influences employee innovative behavior in Model 1 (β=0.336, t=4.724, p<0.01). Nevertheless, when all of the variables, including interpersonal trust, are combined in Model 3, the effect becomes insignificant (β=0.251, t=0.763). Thus, affective trust is a perfect mediator. Similarly, affective trust is a perfect mediator between customers' emotional participation and employee innovative behavior (Model 1: β=0.358, t=6.422; Model 3: β=0.015, t=1.082). Hence, customer's emotional participation influences employee innovative behavior entirely via affective trust.

In comparison, the results of Sobel test (Table 5.12) indicate that cognitive trust does not act as a mediator in the relationship between emotional participation and employee innovative behavior (z=1.359, p>0.05) or the relationship between information participation and employee innovative behavior (z=1.400, p>0.05). Thus, Hypotheses 3a and 3c are not supported.

Table 5.12 Results of Sobel test

Relationships	Effect	Z	p
EP → AT→ EIB	0.177	1.961	0.050
IP → AT→ EIB	0.476	2.039	0.041
EP → CT→ EIB	0.373	1.359	0.174
IP → CT→ EIB	1.092	1.400	0.162

Note: (1) "EP → AT→ EIB" means the mediating effect of affective trust between customers' emotional participation and employee innovative behavior. The other three relationships also represent mediating effects. (2) The indirect "Effect" is calculated by the formula provided in Section 3.4.3. (3) *z*-value is calculated by $z= a*b/\mathrm{SQRT}(b^2*s_a^2 + a^2*s_b^2)$.

Meanwhile, the positive relationship between job complexity and employee innovative behavior has been studied by previous researchers (Shalley et al., 2009). The data in the present study also indicate a significant relationship between job

complexity and employee innovative behavior (β=0.197, t=5.584, p<0.01). Based on the data, in the context of F&B services, employees that work in jobs with high complexity tend to show increasingly innovative behaviors. Thus, Hypothesis 4 is supported. The model that reflects the relationship among the constructs based on the above analysis is summarized in Figure 5.1.

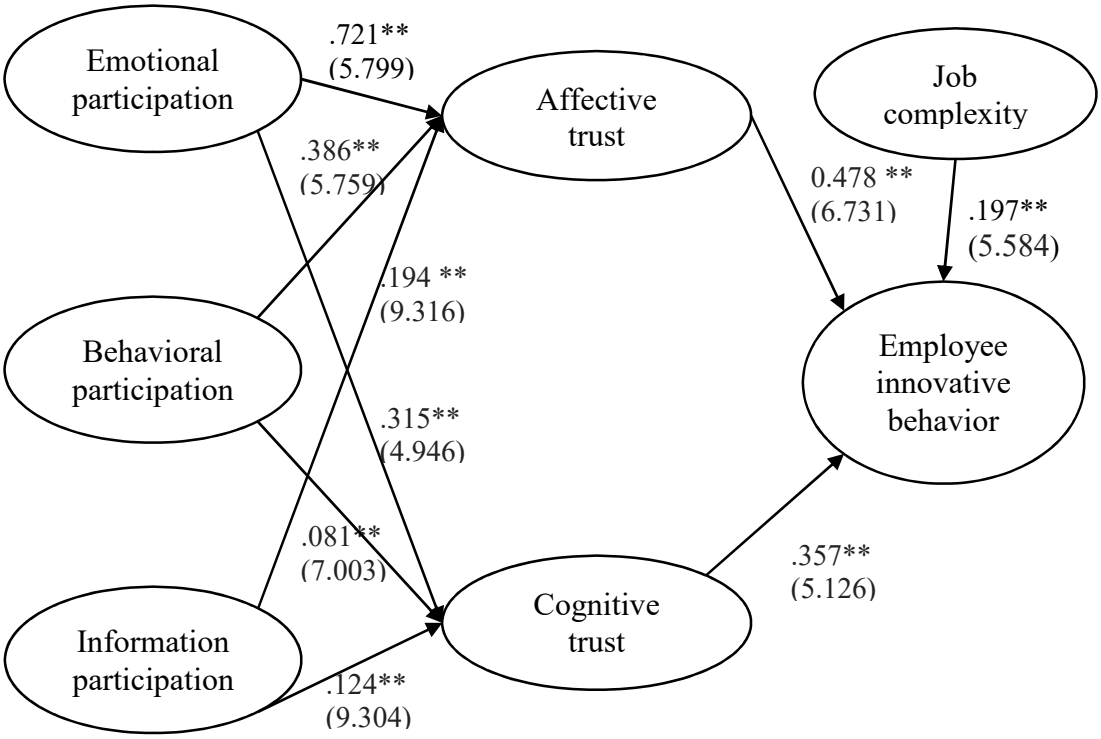

Figure 5.1 Overall structural model of the study

Note: Values in parentheses are t-values; ** represent significant relationships at .01.

As this study collected data from two types of restaurants (hotel restaurants and freestanding restaurants), it may be valuable to examine the differences between the two groups and possible implications. Thus, the dataset was devided into two based on the restaurant type and analyzed using regression models. Results of the model estimations are shown in Table 5.13. The relationships in Model 2 were all

significant and the parameters were quite close between the two datasets. Thus, results of Model 2 were not listed in Table 5.13 (also because of the limited space). The fit indices of the other 4 models (Table 5.13) approximately meet the criteria (RMSEA<0.08, NNFI, CFI>0.9), and there are no significant differences between the two groups. For either hotel restaurants or freestanding restaurants, customers' emotional and information participation significantly relate to employee innovative behavior. Also, when the "mediating effect" of trust is considered (Model 3), these relationships are no longer significant. The results of Sobel tests indicated that affective trust perfectly mediates the relationship between emotional/information participation and employee innovative behavior, the same as the conclusion based on the whole dataset (n=514). There is only one difference when it comes to another dimension of customer participation (behavioral participation): for hotel restaurants, behavioral participation does not significantly influence employee innovative behavior (β=0.060, t=1.099, p=0.272) (similar to the aforementioned conclusion, see Table 5.11), but for freestanding restaurants, customers' behavioral participation positively affects employee innovation (β=0.272, t=2.201, p=0.028). As mentioned before, most of the interviewees in the qualitative pre-study views customers' behavioral participation as an intervention to their work. This factor might be a handicap to their innovation. However, this may not be applicable to freestanding restaurant employees (all interviewees are from hotel restaurants). For freestanding restaurants, affective trust also mediates the relationship between behavioral participation and employee innovation (z=1.994, p=0.046). Because of this difference, the relationship between behavioral participation and employee innovative behavior may need further investigation.

Table 5.13 Results of structural equation models between restaurant groups

	Standardized path coefficients and (t-values)			
	Hotel restaurants data (n=290)		Freestanding restaurants data (n=224)	
	Model 1	**Model 3**	**Model 1**	**Model 3**
EP → EIB	.499(5.912***)	.214(.182)	.214(2.760**)	.235(.107)
BP → EIB	.060(1.099)	.132(.236)	.272(2.201*)	.242(.105)
IP → EIB	.263(2.875**)	.003(.001)	.263(2.354*)	.169(.105)
EP → AT		.246(3.398***)		.693(3.763***)
BP → AT		.476(3.030***)		.582(3.974***)
IP → AT		.313(5.223***)		.852(5.880***)
EP → CT		.930(2.813**)		.947(3.677***)
BP → CT		.627(4.149***)		.295(3.836***)
IP → CT		.120(5.268***)		.684(5.033***)
χ^2	835.1	1942.0	770.3	1388.9
df	246	513	246	513
RMSEA	0.081	0.080	0.084	0.082
NNFI	0.901	0.895	0.907	0.898
CFI	0.903	0.899	0.916	0.904

Note: Values in parentheses represent t values. **p<.01, *p<.05.

5.6 Moderating effect testing

As discussed in Section 2.7.4, employees on jobs with low, medium, or high complexity are hypothesized to innovate differently. Thus, all of the respondents are divided into three groups according to the values of job complexity. The mean of the four items was used to represent the values of the construct because the weights of the four items (JC1–JC4) of job complexity are not provided in previous studies. Grand mean is commonly used as a method to divide data into different groups (Field, 2013). However, no agreement has been reached in terms of how the data can be divided into three groups. For job complexity, although many studies regarded jobs having three levels of complexity: simple, complex and overly complex (Eisingerich & Bell, 2006), no categorization standard existed. In this study, the mean ± 0.5 SD was used as demarcation points for the three groups (for job complexity, M=4.28, SD=1.34), as this categorization makes the number of

cases evenly distributed among the three groups (Field, 2013). The results are shown in Table 5.14. The number of respondents in the three groups is extremely similar. The high complexity group has the most number (n=186), the medium complexity group has the mean closest to the 514 respondents, and the low complexity group has the highest standard deviation (0.74).

Table 5.14 Three groups based on job complexity

Groups	Minimum	Maximum	Mean	SD	N
Low complexity	1	3.6	2.6	0.74	149
Medium complexity	3.61	4.95	4.26	0.33	179
High complexity	4.96	7	5.64	0.59	186

Before testing the differences among the structural models, the invariance of the measurement model should be met (Steenkamp & Baumgartner, 1998). Measurement invariance means that the measurement models reflect the same constructs no matter under what conditions (Steenkamp & Baumgartner, 1998). The measurement models of the constructs should not be significantly different although the data have been divided into three groups; otherwise, the results of group comparison are not reliable (Steenkamp & Baumgartner, 1998). A previous research has suggested testing measurement invariance across groups to identify the chi-square differences between the non-restricted measurement models and the full metric invariance models (Yoo, 2002). An insignificant difference between two models showed by the chi-square difference test indicates that the measurement model is invariant across the two groups (Yoo, 2002). The process involves the steps outlined below.

1) Establish the measurement model (includes four constructs: three

dimensions of customer participation and employee innovative behavior), run the model, and record the results (χ^2=2002.3, *df*=738). The regression weights of the four variables are fixed to 1 automatically by Amos 20.0.

2) Set the regression weight of one item to a fixed value and run the model again. For example, the researcher set the regression weight of BP1 (the first item of behavioral participation) as r1 and obtained a new chi-square value (χ^2=2004.6, *df*=740). The chi-square difference test results indicate that the two models for three groups have no significant difference ($\Delta\chi^2$=2.3, Δdf=2, the different chi-square for 2 at 0.05 level is 5.99>2.3). Thus, this regression weight (r1) is retained (Yoo, 2002). However, the regression weight should be removed if the difference is significant (Yoo, 2002).

3) Set the regression weights of the other 19 variables (from BP2 to EIB9) one by one (out of the 23 variables, the regression weights of four variables are set as 1 automatically by Amos 20.0) and conduct the chi-square difference test following the previous step. The results of the analysis indicate that the measurement model is invariant across the three groups.

The multi-group invariance analysis on measurement model is invariant across the groups (the measurements are reliable and valid for all data groups). For this reason, the regression analysis for the different groups was performed. The results are shown in Table 5.15. Interestingly, as discussed in Section 5.5, customers' behavioral participation does not significantly influence employee innovative behavior. However, a significant relationship between behavioral participation and employee innovative behavior exists among the "low complexity" group (β=0.178, t=2.212). In comparison, no significant relationship exists between behavioral participation and employee innovative behavior for the medium and high

complexity groups. For all three groups, customers' information participation positively and significantly influences employee innovative behavior, especially for the medium complexity group (β=0.384, t=2.286). Meanwhile, the differences of β and t values among the three groups are not extremely obvious. Hence, adding the variable "job complexity" does not greatly enhance or relieve the relationship between customers' information participation and employee innovative behavior. Customers' emotional participation also positively and significantly influences employee innovative behavior for low and high complexity groups. However, the relationship is not significant for the medium complexity group. Thus, the relationship varies among the three groups, but the variation needs to be further examined, which is analyzed in the following paragraphs.

Table 5.15 Path coefficient from PCP to EIB among three groups

	Standardized path coefficients and (t-values)		
	Low complexity	Medium complexity	High complexity
Behavioral Participation	.178(2.212*)	.134(1.049)	.114(1.163)
Information Participation	.347(3.276**)	.384(2.286*)	.253(2.020*)
Emotional Participation	.307(3.489**)	.016(.142)	.341(3.537**)

Note: Dependent variable is employee innovative behavior; * significant at the 0.05 level; ** significant at the 0.01 level.

Similar to testing for measurement invariance across groups, the structural multi-group invariance test is also based on the chi-square difference test (Yoo, 2002). The baseline structural model (from the three dimensions of customer participation to employee innovative behavior) was established, with χ^2 equals 2051.3 and *df* equals 778. The chi-square statistics would changed after the regression weight for behavioral participation was set to rw1 ($\Delta\chi^2$=0.1, Δdf=2).The chi-square difference test was conducted based on these values, and the results indicate invariance [CHIINV (5%, 2)=5.99>0.1]. That means the effects of

behavioral participation on employee innovative behavior do not differ among the three groups. Thus, Hypothesis 5b is not supported.

The same process is applied to information and emotional participation. The regression weight for behavioral participation was removed and then the weight for information participation was set to rw2. The results of chi-square difference test showed no significance ($\Delta\chi^2$=0.7, Δdf=2, CHIINV (5%, 2)=5.99>0.7). In other words, Customers' information participation significantly influenced employee innovative behavior among all three groups (Table 5.15) and the relationships have no significant differences; thus, Hypothesis 5b is not supported. For emotional participation, the results also indicate invariance ($\Delta\chi^2$=5.1<5.99, Δdf=2), although the differences are significantly larger than those of behavioral and information participation. Therefore, job complexity does not moderate the relationship between customers' emotional participation and employee innovative behavior. Hypothesis 5a is not supported.

The results for the conditional effect of behavioral participation on employee innovative behavior using the process suggested by Johnson and Neyman in 1936 (as cited in Field, 2013) provide more specifical details about the moderating effect, which are listed in Table 5.16 after running the Hayes's program in SPSS 20.0. Both job complexity and behavioral participation significantly influence employee innovative behavior (Table 5.16). However, the interactive effect of job complexity and behavioral participation on employee innovative behavior was insignificant (t=0.0709, p=0.9435). Similar results are obtained for the other two dimensions of customer participation (Tables 5.17 and 5.18, respectively). These results reveal the relationships among customer participation, job complexity and employee innovative behavior and also incate that job complexity is not a moderator.

Table 5.16 The interactive effect of BP and JC on EIB

	b	SE B	t	p
Constant	4.2333	.0471	89.8616	.0000
	[4.1407, 4.3258]			
JC	.5948	.0391	15.2001	.0000
	[.5179,.6717]			
BP	.3180	.0400	7.9519	.0000
	[.2394,.3965]			
JC× BP	.0020	.0286	.0709	.9435
	[-.0542,.0583]			

Note: (1) JC: Job Complexity; BP: Behavioral participation: EIB: employee innovative behavior. (2) b represents coefficient. The figures in brackets show the lower and upper values of the coeffecients. SE B: Standard error of the coefficient estimate.

Table 5.17 The interactive effect of IP and JC on EIB

	b	SE B	t	p
Constant	4.2706	.0510	83.6682	.0000
	[4.1758, 4.3663]			
JC	.4831	.0423	11.4177	.0000
	[.3999,.5662]			
IP	.3816	.0403	9.4588	.0000
	[.3023,.4608]			
JC× IP	-.0385	.0240	-1.6003	.1102
	[-.0857, -.0088]			

Note: IP represents information participation.

Table 5.18 The interactive effect of EP and JC on EIB

	b	SE B	t	p
Constant	4.2455	.0532	79.8241	.0000
	[4.1410, 4.3500]			
JC	.4575	.0452	10.1243	.0000
	[.3687,.5463]			
EP	.4098	.0460	8.9150	.0000
	[.3195,.5001]			
JC× EP	-.0112	.0198	-.5659	.5717
	[-.0502,.0277]			

Note: EP represents emotional participation.

Based on the output of Hayes's program, figures can be created following the process suggested by Field (2013) to illustrate the potential moderating effect vividly. Using information participation as an example, Figure 5.2 demonstrates

that regardless of the level of job complexity, the relationship between information participation and employee innovative behavior is significant and positive. Similar results can be reached for the potential moderating effect of job complexity on behavioral/emotional participation and employee innovative behavior. Thus, the analysis is omitted. In summary, the moderation of job complexity between customer participation and employee innovative behavior is not supported. When influencing employee innovative behavior, customer participation and job complexity do not interact with each other.

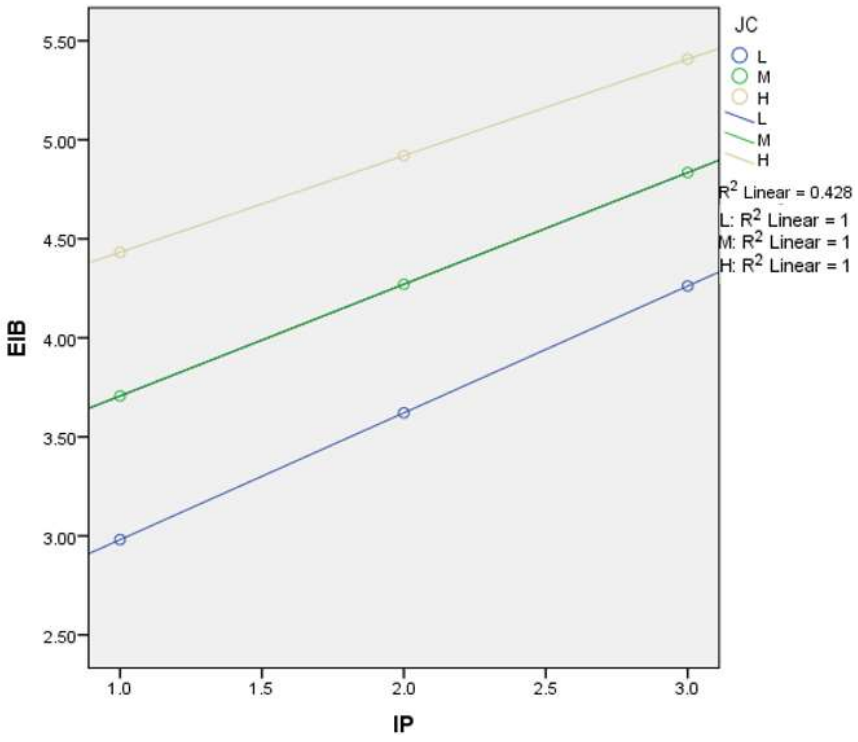

Figure 5.2 The conditional effect of IP on EIB

Note: (1) IP: Information Participation; EIB: Employee Innovative Behavior; JC: Job Complexity; L, M, H represent low, medium and high. (2) The three lines show the relationship between information participation and employee innovative behavior at the conditional values of job complexity (L, M and H). (3) The small circles in the figure represent the value of "visualizing conditional effect", and the lines indicate the effect of information participation on employee innovative behavior at different levels of job complexity (Field, 2013).

Based on the above analysis, the results of hypothesis testing are summarized

in Table 5.19. Thus, the effect of customer participation on employee innovative behavior is partially supported; the mediating effect of interpersonal trust between this relationship is also partially supported. However, the moderation of job complexity is not supported.

Table 5.19 Hypotheses testing results

Hypothesis	Standard path coefficient	t-value (/z-value)	Result
H1a: EP→ EIB	.358	6.422**	Supported
H1b: BP→ EIB	.092	1.791	Not supported
H1c: IP→ EIB	.336	4.724**	Supported
H2a: EP→ AT→ EIB		1.961*	Supported
H2b: BP→ AT→ EIB			Not supported
H2c: IP→ AT→ EIB		2.039*	Supported
H3a: EP→ CT→ EIB		1.359	Not supported
H3b: BP→ CT→ EIB			Not supported
H3c: IP→ CT→ EIB		1.400	Not supported
H4: JC → EIB	.197	5.584**	Supported
H5a: EP×JC → EIB			Not supported
H5b: BP×JC → EIB			Not supported
H5c: IP×JC → EIB			Not supported

Note: **p<.01, *p<.05

5.7 Further analysis

Although it is not the main purpose of this study, the respondents' ratings of employee innovative behaviors across different groups are also compared to provide additional insights because the current study regards employee innovative behavior as an endpoint. The scale of employee innovative behavior involves nine items. The t-tests or ANOVAs for the nine items were conducted one by one in SPSS 20.0. The results indicate that innovative behaviors between male and female respondents have no significant difference ($0.729 \leq F \leq 3.296$, $p > 0.05$).

However, employee innovative behaviors among different age groups have significant differences. All the items of employee innovative behavior significantly vary among the four age groups ($F \geq 2.737$, $p < 0.05$) (Table 5.20). For example, for EIB9 ("Evaluate the utility of innovative ideas"), the mean of employee innovative behavior in Group 1 (aged 18–25) is significantly lower than that of Group 2 (26–35) based on the results of post hoc multiple comparison in SPSS: Mean difference (MD)=-0.486, Standard Error (SE)=0.134, Sig.=0.040. Employees in Group 2 show the highest ratings of EIB9 (M=4.604, SD=1.509), and the mean of EIB9 of this group is significantly greater than that of Group 3 (36–45), with a mean difference of 1.323 (SE=0.281, Sig.=0.002). Meanwhile, employees in Group 3 exibit the least innovative behaviors (M=3.281, SD=1.850), and the mean of this group is not significantly different from Group 4 (aged >= 46): MD =-0.811, SE =0.495, Sig.=0.862. The same results can be obtained for the other items of innovative behavior (i.e., significant differences among all groups; Group 2 has the highest rating, whereas Group 3 has the lowest). Thus, young employees are more innovative; at least, they view themselves contribute the most innovation to their firms. As such, facilitating new ideas from young employees may be an effective means to improve innovation in service firms.

Table 5.20 Means of EIB among age groups

Variables	18-25	26-35	36-45	>= 46	F
EIB1	4.231	4.522	3.417	3.827	5.046**
EIB2	4.232	4.534	3.552	3.555	4.598**
EIB3	4.097	4.407	3.415	3.915	4.089**
EIB4	4.175	4.493	3.594	4.008	3.671*
EIB5	4.179	4.516	3.622	4.184	3.391*
EIB6	4.141	4.562	3.341	4.094	5.574**
EIB7	4.134	4.541	3.488	4.003	4.695**
EIB8	4.104	4.427	3.593	4.003	2.737*
EIB9	4.118	4.604	3.281	4.092	7.069***

Note: (1) Scale: 1 = Strongly Disagree, 7 = Stongly Agree. (2) The items of

employee innovative behavior (EIB1-EIB9) were listed in Table 3.3. (3) *p<.05, **p<.01, ***p<.001.

In addition, employees with different education background exhibit different innovative behaviors: $F>6$, $p<0.001$ (Table 5.21). Group 3 (respondents who have received university/college education) obtains the highest mean values for most of the items (except EIB1, EIB5 and EIB6), followed by those with secondary/high school education background (Group 2). Meanwhile, significant mean differences exist between Group 3 and Group 1 (employees with primary school education), who innovate the least often. For example, post hoc multiple comparison results for EIB2 ("Search out new working methods, techniques, or instruments") indicate that the mean of EIB2 in Group 3 is higher than that in Group 1(MD=1.652, SE=0.343, Sig.<0.001). The mean difference between Group 4 (employees with postgraduate education) and Group 1 is also significant (e.g., MD=0.870, SE=0.313, Sig.<0.001). Such differences of mean value among the four groups are also significant for EIB1, EIB5, and EIB6. Nevertheless, Group 2, rather than Group 3, obtains the highest mean value (e.g., for EIB1, M=4.367, SD=1.438). However, the mean difference between Groups 2 and 3 is actually small (e.g., for EIB1, MD=0.018, SE=0.149, Sig.=0.999). Group 1 also has the least mean value (e.g., for EIB1, M=2.768, SD=1.562). Generally, employees with higher education are, to a certain extent, more likely to innovate than those with lower education. Therefore, hiring employees with higher education level or encouraging employees to enhance their education level may increase innovative behaviors.

Table 5.21 Means of EIB among education groups

Variables	Primary/ Elementary school	Secondary/ High school	College/ University	Postgraduate	F
EIB1	2.768	4.367	4.349	3.638	7.603***
EIB2	2.712	4.295	4.364	4.255	9.541***
EIB3	2.296	4.107	4.291	3.634	6.573***
EIB4	2.477	4.298	4.353	3.136	6.245***
EIB5	2.479	4.352	4.348	3.136	10.255***
EIB6	2.412	4.333	4.308	3.883	10.149***
EIB7	2.473	4.267	4.321	4.007	7.344***
EIB8	2.357	4.121	4.322	3.882	8.331***
EIB9	2.356	4.229	4.354	4.006	8.649***

Note: (1) Scale: 1 = Strongly Disagree, 7 = Stongly Agree. (2) ***p<.001.

Based on all of these analysis results, the contributions and implications to the academia and industry will be presented (in Chapter 6).

Chapter 6: Discussion and Implications

6.1 Introduction

This chapter discusses the research findings reported in Chapter 5, extends the analysis, and provides academic contributions and practical implications. The research objectives are first evaluated individually. The significance of the findings is then revealed. Although a few of the hypotheses are not supported in the previous chapter, the possible reasons are explained in this chapter. Based on these explanations, the research implications of this study are presented from two aspects, namely, academy and industry practice. Finally, the limitations of this study and certain directions for future research are explained.

6.2 Evaluation of research objectives

This study mainly aims to examine the effect of customer participation in services on employee innovative behavior. Customers are one of the sources of innovation for service firms as well as the final evaluators of innovation outcomes (Lagrosen, 2005). Therefore, previous studies have regarded customers as potential innovators and mainly focused on customer participation in the innovation teams of firms (Baldwin & von Hippel, 2011). On the contrary, the influence of customer participation in services on employee innovative behavior has received limited attention from researchers. Nevertheless, examining this topic is valuable because customer participation in services is notably common, and it costs considerably less than inviting customers as innovation team members. Normally, customers are required to participate in services owing to the inseparability of service production and consumption, and employees interact with customers most of the time at work

(Chan et al., 2010). Therefore, the influence of customers' participation on employees' behaviors is unavoidable (Bendapudi & Leone, 2003). This notion has become the focus of the current study. The research objectives, which are evaluated in the following sections, are derived from this problem.

6.2.1 Instrument of perceived customer participation

This study investigated the effect of customer participation on employee innovative behavior from the employee perspective. The effect of customer participation on employee innovative behavior largely depends on how employees perceive customers' behaviors and how they respond to these participation behaviors (Yi et al., 2011). A basic component of customer participation is their interaction with employees (Ennew & Binks, 1999). As service providers, employees may foster or hinder customer participation by engaging customers in different behaviors, and these behaviors further influence the result of services (Chen et al., 2015). Thus, employees' perceived customer participation is significant to service quality and firm performance. In the current study, how employee perceive customer participation behaviors may influence their work motivation and their relationships with customers, which may then influence their innovative behaviors. However, employees' perceived customer participation has not been investigated empirically in previous studies, and the measurement scales of customer participation provided by the current literature may not be applicable for this study (Section 3.5.1). Thus, one of the objectives of the current study is to develop the scale of perceived customer participation.

The scale was developed following the process suggested by Churchill (1979). The researcher first specified the domain of the construct of customer participation and generated items based on the existing literature and in-depth interviews. A total

of 18 items were retained after an expert panel which aims to improve the construct validity and readability of the items. The scale was further refined with pilot study data (three items were removed owing to their relatively low factor loadings). The EFA indicates that three factors explain the data well. Meanwhile, the reliability and validity of the factors are all at high level. Next, this 15-item scale was further confirmed with the main survey data through CFA. Thus, the scale was used to measure employees' perceived customer participation in services. This process reveals that customers participate in services in three forms: behavioral participation, information participation, and emotional participation. Behavioral participation describes the physical actions customers exhibit in service production and delivery (e.g., customers serve themselves and spend time to learn how to use an unfamiliar service). Information participation involves the exchange of information about the services or firms between customers and employees. For example, customers answer service-related questions and provide necessary information for service transactions. As defined previously, "emotional participation" refers to the emotion and attitude customers develop toward employees/firms in service processes (e.g., showing friendliness and courtesy).

The results of factor analysis of perceived customer participation are consistent with the definition of customer participation by Rodie and Kleine (2000), although they did not provide measurements of the concept. According to the two researchers, customers participate in services via their physical, mental, and emotional input. Although behavioral participation describes the general actions and states (e.g., diagnosing and resolving service-related problems), the customers' behavioral participation identified in the current study involves physical input, which emphasizes the tangible forms of customer participation. Meanwhile, customers'

mental input is reflected in their behaviors of information participation. If the level of customers' information participation is high, they mentally contribute to the services they receive. In addition, the "emotional participation" identified in this study has the same definition as "emotional input" by Rodie and Kleine (2000). Therefore, the instrument of perceived customer participation developed by the present study measures the exact concept and this instrument supports the high validity of the scale.

6.2.2 Effect of customer participation in services on employee innovative behavior

The results of this study partly support the notion that customer participation in services leads to employee innovative behavior. If employees perceive that customers actively participate in service processes, they tend to perform additional innovative behaviors. However, this relationship may vary with different forms of customer participation.

Behavioral participation has been found not to affect employee innovative behaviors significantly. This finding may be related to the opinion reflected in the in-depth interviews conducted in Shenzhen (for item generation) at the beginning of 2014. Several interviewees, especially those in luxury hotels (e.g., Wuzhou Hotel), regard customers' serving themselves as unprofessional. They think that the best services are those provided by skilled employees, without any help from customers. Thus, they may perceive customers' excessive behavioral participation as interference to their work. In fact, some previous studies have argued that customer participation may cause uncertainty to service production; customer participation does not necessarily lead to high service productivity (Bendapudi & Leone, 2003). In theory, if the transaction of services requires additional time and

knowledge from the employees, the service cost on the firm inflates high (Cook, 2008). Customer participation may cause high role conflict and workload for employees (Hsieh et al., 2004); hence, it may increase the service cost as well as curtail employee performance. The positive influence of customer participation is supported by many researchers (Hu et al., 2009; Santos-Vijande et al., 2015); therefore, further analysis is required to explain such inconsistency. The conclusion that behavioral participation does not significantly affect employee innovative behavior may be only applicable to firms providing high-level services (e.g., the hotel restaurants in this study) where employees are proud of their professional service. Considering the differences of jobs among the respondents, another finding indicates that behavioral participation significantly affects employee innovative behavior when the job complexity is extremely low in the surveyed restaurants (shown in Table 5.15, Section 5.6). According to hypothesis 4, employees with lower job complexity may exhibit limited innovative behaviors. Since job complexity and customer participation have no interactive effect on employee innovative behavior, it is reasonable that behavioral participation may have a relatively stronger effect on employee innovative behavior if employees perform jobs with low complexity. Previous research has also mentioned the customers' negative effect on the service process (Kandampully et al., 2014). The present study determined that customers' behavioral participation specifically causes possible negative effects on employees, whereas other aspects of customer participation (i.e., information, emotion) may continue to encourage employees to perform active behaviors such as innovation.

Information participation is significantly related to employee innovative behavior. This finding indicates that the information exchange between customers

and employees is beneficial to employees' idea generation and implementation. Customers' information participation in this study is bidirectional, which means that it involves both providing information to and seeking information from employees/firms. Thus, the process of customers' information participation also includes employees' information/knowledge participation. In innovation-related research papers, information and knowledge are often considered as important factors for innovation (Kim & Lee, 2013). Thus, information input by customers may facilitate employee innovative behavior.

Emotional participation is also positively associated with employee innovative behavior. The emotions customers contribute to services can be positive or negative (Chen & Raab, 2014). The items measuring emotional participation are all stated positively, such as "Customers smile at me and offer me words of kindness." Nevertheless, they can also measure negative feelings if respondents disagree or strongly disagree with the statements. More than half of the employees in the current study acknowledge that customers show positive emotions in services (i.e., the means of emotional participation variables lie between 4.25 and 4.51, Table 5.4). The results also indicate that the positive emotions contributed by customers to services directly influence the tendency of employees to act out innovative behaviors.

Another objective of the current study is to investigate the mediating effect of interpersonal trust between customer participation and employee innovative behavior. Interpersonal trust between customers and employees can be categorized into two types, namely, affective trust and cognitive trust. Both types have been researched well, and many measurement scales have been developed (McAllister, 1995; Johnson & Grayson, 2005). Among many options, the scale of interpersonal

trust in this study is adopted from that proposed by McAllister (1995). The results of EFA and CFA for interpersonal trust, as well as the reliability and validity testing, reveal that the measurement originally based on the relationships between employees and managers can also be applied to the trust between customers and employees.

The main survey data support the positive relationship between customer participation and interpersonal trust. The effect of interpersonal trust on employee innovative behavior is also positive and significant. However, interpersonal trust does not necessarily act as a mediator. This study only supports affective trust as a mediator in two relationships (i.e., information/emotional participation and employee innovative behavior). A high-quality customer-employee relationship emerges when customers involve themselves in services with additional information and emotions; the two parties have an emotional commitment to each other. This affective trust further facilitates information or knowledge exchange and idea creation. Employees also perceive that they may obtain further support and resources from customers in the case of a high level of affective trust. As a result, employees would exhibit increased innovative behaviors. In contrast, cognitive trust does not mediate the relationship between customer participation and employee innovative behavior. Although cognitive trust is positively associated with employee innovative behavior in simple regression analysis, the relationship becomes insignificant when all the other variables are considered in the model. Hence, given the analysis reported in Chapter 5, cognitive trust plays a less important role in employee innovative behaviors than affective trust.

6.2.3 Role of job complexity

Another objective of the current study is to test the moderation of job complexity. The results of the study reveal that job complexity—be it of low, medium, or high complexity—does not influence the relationship between customer participation and employee innovative behavior. For example, customers' information participation leads to employee innovative behavior at all levels of job complexity and the effects among them have no significant difference (Figure 5.2). Thus, the relationship between customer participation and employee innovative behavior is not affected by jobs with different levels of complexity in restaurants. Customer participation and job complexity do not interact (although both lead to employee innovative behavior). Therefore, to facilitate employee innovative behavior, regardless of the level of job complexity, encouraging customers to participate actively in service processes is possible and beneficial.

When employee innovative behavior is treated as a dependent variable, employees' perceived job complexity at various levels of customer participation are all positively related to innovative behaviors. This finding is consistent with several other previous studies (Shalley et al., 2009). Specific complex tasks required by jobs are challenging to employees, but these challenges may drive employees to solve work-related problems innovatively. Learning new knowledge and skills and using these in their respective jobs are also important for employees, as indicated by the meaning of job complexity (Section 2.5.2) and its measurement items (JC3 and JC4). The motive behind the employees' behaviors is their interest for long-term development. If the jobs provide additional opportunities for their development, employees may show a high level of motivation and a high tendency to perform innovative behaviors.

6.3 Research implications

Although the role of customers to service firms' innovation is recognized by previous studies (Baldwin & von Hippel, 2011), studies on the effects of customer participation in services (but not in innovation team) on employee innovative behavior is extremely limited. Hence, the current study focuses on this gap, with the aim of providing valuable contributions to academic research and hospitality management practice.

6.3.1 Academic contributions

The scale of perceived customer participation in services in this current study was developed and tested empirically in a restaurant context. The largest possible number of items was created based on previous studies and in-depth interviews of employees and managers in hotel restaurants. These items were further improved by an expert panel, and the content validity of the remaining was confirmed. Three factors have been identified with the pilot study data. The survey data well supported the validity and reliability of the scale of perceived customer participation. Meanwhile, the measurement has been tested invariant across different job complexity groups (low, medium and high) and restaurant groups (hotel restaurants and freestanding restaurants). Thus, the cross validation further confirms the reliability of the scale. In this way, the scale may provide the foundation for related research in service marketing (especially in hospitality industry) in the future. This scale may also be valuable especially to employee-related research. For example, this measurement scale is applicable when examining the effects of customer participation in services on employee role stress because of its employee perspective and high validity. However, culture may

influence the applicability of the scale. If the scale is to be used in a non-Chinese cultural background, factors including culture differences, locus of control (over inputs in services), and perceived risk (of their behaviors) (Lloyd, 2003) need to be considered.

This study incorporated the service marketing and organizational behavior concepts in the research model, leading to a multidisciplinary contribution to the research of customer participation as well as employee innovative behavior. Among the three dimensions of customer participation in services, customers' emotional participation significantly influences employee innovative behavior. This conclusion supplements the findings of the study on the relationship between emotion and employee innovative behavior, because previous studies have supported the effect of employees' positive emotions on their innovative behaviors (Amabile, Barsade, Mueller, & Staw, 2005). Thus, customers' emotional exchanges with employees may also possibly influence the latter's motivation to innovate.

In addition, customer and employee information exchanges are positively related to employee innovative behavior. Information exchange is a component of customer participation in services (Kellogg et al., 1997), and it is an important facilitator for employee innovative behavior. Previous studies have highlighted the importance of knowledge exchange and sharing among co-workers in promoting employee innovative behavior (Hu et al., 2009). The results of the present study could attract more attention to the research on exchanges between customers and employees in services.

This study further reveals the influence mechanism of customer participation to employee innovative behavior and contributes to the related research on customer-employee trust. The findings indicate that not only the trust between

employees and their co-workers or supervisors may foster employee innovative behavior (Carmeli & Spreitzer, 2009) but also the trust between employees and customers may lead to increased innovative behaviors. This type of trust is important because customer participation influences employee innovative behavior actually via the mediating effect of affective trust. Moreover, this study confirms that the scale of interpersonal trust developed by McAllister (1995) can be used to measure the trust between customers and employees with specific adjustments, which may provide implications for the future research on this type of trust.

The relationship between job complexity and employee innovative behavior is confirmed in this study. Employee innovative behaviors are workplace behaviors (Scott & Bruce, 1994) that are influenced by the jobs taken by employees. The job type should thus be considered as an important driving factor of employee innovative behavior in future research. However, the moderating effect of job complexity on the relationship between customer participation and employee innovative behavior is not supported. Therefore, job complexity may be viewed as antecedent (rather than a moderator) in future innovation research.

6.3.2 Practical implications

The current study is originally inspired by the demand of China's hospitality industry for employee innovative behavior (as stated in Chapter 1). This research incorporates the input from the hospitality industry (e.g., practitioners were included in the expert panel for the items of customer participation). Thus, the findings of this study can provide several managerial implications.

First, service firms can encourage customers to actively participate in service creation and provision to foster employee innovative behaviors. The findings that

customer participation acts as a facilitator for employee innovative behavior provides another customer-related means to foster employee innovation. Strategies and measures can be taken to encourage customer participation, such as organizational socialization and supportive behaviors (e.g., keeping promises and providing reliable services) (Kelley et al., 1990; Wu, 2011). Organizational socialization enables customers to understand and adapt to the values and behavior patterns of service firms; thus, it can induce increased customer participation (Kelley et al., 1990). Firms' supportive behaviors create an impression that customers are respected and valued and thus may encourage additional spontaneous behaviors of customers (Wu, 2011). In particular, encouraging customers to participate physically in services to increase employee innovative behavior is unnecessary. This is because several employees perceive customers' behavioral participation as interference and the behavior participation is not significantly related to employee innovative behavior. For freestanding restaurants, behavioral participation of customers could be encouraged; however, affective trust building may still be a better way.

Based on the positive relationship found between information participation and employee innovative behavior, service firms can encourage customers to participate actively in services in terms of information; they can train employees to regularly obtain useful information from customers and provide necessary information to customers as well. Meanwhile, establishing an appropriate climate for information exchange is equally important (Kellogg et al., 1997). Thus, it is imperative for firms to create a free and open environment. For example, soft lighting and music can be designed for customers and employees to feel comfortable in exchanging information in a casual environment. Interactive activities such as service contests

can also be provided to involve customers and encourage customer-employee information exchange.

Additionally, service firms must pay attention to customers' emotional participation in services. Managers can affect employee innovative behavior by showing empathy for customers and enhancing customer relationship management so that customers would feel positive emotions when they consume services (Rodie & Kleine, 2000). In turn, stimulating customers' positive emotions can be rewarded with increased employee innovative behaviors.

These suggestions to the firms may be chanllenging and may increase their costs, but the benefits are obvious. Innovation plays an important role in employees' personal development because it requires them to acquire knowledge and skills, and encourage them to make full use of what they have learned (Li & Hsu, 2016a; Quintane et al., 2011). Thus, encouraging employee innovative behavior is an effective method to strengthen human capital. One of the challenges facing hospitality firms nowadays is the high turnover of employees, which increases their operational costs and harms the long-term development of these firms (Kandampully et al., 2014). Innovative behaviors may make employees' work more meaningful and reduce their turnover intention (Bhatnagar, 2012). These benefits could encourage service firms to pursue measures that stimulate employee innovative behavior.

Second, the affective trust between customers and employees are significant to firms. Customers' information and emotional participation influence employee innovative behavior via the effect of affective trust. Customer participation is only a means to achieve affective trust. Building the affective trust between customers and employees is an effective approach to encourage employee innovative behavior.

Firms can train employees in communicating with customers effectively and managing their relationships with customers well (e.g., building personal relationships) or design specific activities (e.g., games, indoor performance) to increase the interaction frequency between their employees and customers to enhance affective trust (McAllister, 1995).

Furthermore, service firms can design jobs to facilitate employee innovative behaviors. Job designers are suggested to design jobs with high complexity and flexibility to challenge employees as well as participative customers because job complexity positively affects employee innovative behavior. Simultaneously, managers can give feedback to employees and encourage them to learn from others as well as the jobs and use what they have learned in their work. In addition, managers can empower employees to solve problems immediately to demonstrate their responsiveness to customers' needs and their genuine care of customer interest. Based on the results of the moderating effect testing, managers can encourage customers to participate in the services and build good relationships with employees, regardless of the levels of job complexity.

Finally, this study compares employee innovative behaviors among different groups, and the results have certain implications for managers. Although further research is required, this study suggests that young employees and employees with higher education background tend to show more innovative behaviors than older employees or those with lower education background. Encouraging young employees to innovate could be an effective strategy for managers to foster further innovation in the firm. In addition, hiring employees with higher educationals levels or encouraging existing employees to improve their educational levels may contribute to increased employee innovative behaviors.

6.4 Limitations of the research and directions for future research

Limitations and potential sources of bias are inevitable because of the nature and design of this study. These limitations must be identified and they may point to directions for future research. First, customers' perceptions of their participation in services are not discussed in this study. This study measures employees' perceived customer participation. The outcome or dependable variable is an innovative behavior, which is rated by employees themselves; thus, measuring customer participation from the employee perspective is reasonable. Moreover, a customer may be served by multiple employees in a restaurant, so using the method of paired customer (participation)-employee (innovative behavior) in the survey is rather impossible. However, employees' perceived customer participation may be different from actual customer participation, and potential bias may occur.

Another bias is from the assessment of employee innovative behavior, which does not involve supervisors' ratings. This study used self-reported employee innovative behavior, which may be exaggerated by some employees. In comparison, a more objective approach is supervisor-rated employee innovative behavior. Of course, there may also be problems with surveying supervisors. If employee innovative behavior is rated by their supervisors, the survey is no longer anonymous. In this situation, some employees may not be willing to participate in the survey and respondents may not be objective in answering other questions. Another possible bias could be respondents' varied interpretation of innovation. Additional measurement items with specific terms (e.g., new service development) may give rise to better understanding of respondents. A brief definition of innovation provided at the beginning of the questionnaire may also help ensure that all

respondents have the same understanding of innovation.

When employee innovative behavior is considered, their discretion in making decisions and initiatives to take actions are very important. In the present study, employee empowerment and engagement, as important factors for innovation, were not discussed. In future research, adding more leader factors, such as employee empowerment, into the model is necessary. These factors could act as antecedents of customer participation and employee innovative behavior (Bhatnagar, 2012).

Another limitation lies in the generalizability of the research findings given that the data come from a specific segment of the population. The pilot study was conducted in Shenzhen, but the main survey was carried out in Beijing. Although these two cities are similar in terms of the level of restaurant services offered and employee expertise, the profiles and perceptions of the employees in the two cities may be different. In addition, restaurant employees in Shenzhen and Beijing represent only a small percentage of those in China. As a result, the research findings may not be applicable to other relatively undeveloped areas or cities in China.

Another factor that may limit the generalizability is the sampling of employees in restaurants with high customer ratings (i.e., high-class restaurants with a high level of revenue, high quality, and high price), such as excellent freestanding restaurants and hotels restaurants in three-, four-, and five-star hotels. The generalizability of the research findings may thus be limited because the samples may not have broad representativeness of all the restaurants in China.

The instrument of job complexity is another limitation. Job characteristics involve at least five dimensions (Hackman & Oldham, 1975). This study only focused on the complexity dimension and selected a general and relatively simple

scale. As a result, although the reliability and validity of job complexity are greatly improved after the purification of the pilot study (α=0.693 in the pilot study), job complexity is relatively low (α=0.795, AVE=0.518) compared with other constructs. Future research can focus on other specific job characteristics, such as job autonomy and skill variety, and investigate their respective roles in customer participation and employee innovative behavior.

In terms of the measurement scale of employee innovative behavior, whether this construct is uni-dimensional or multi-dimensional has yet to be determined. Employee innovative behavior has been identified and measured with many dimensions by several researchers (Janssen, 2000; Kleysen & Street, 2001). However, the present study only supports one dimension of employee innovative behavior in both EFA and CFA. Based on the data analysis in this study, the scale developed by Janssen (2000) can be adopted in the hospitality industry. Nevertheless, the dimensionality of the construct requires further examination.

Furthermore, the different types of customers should be investigated. This study investigates employee innovative behavior in services while considering customers' influence. However, the degree of participation varies among different customers, especially between first-time customers and repeat customers. Generally, the level of participation in services of repeat customers is higher than that of first-time customers (Claycomb et al., 2001). At the same time, the relationships of these two types of customers with employees (e.g., characterized in the level of trust) may also differ. Thus, future research could use samples of different groups of customers with visiting experiences and examine their potential effects on employee innovative behaviors. In any case, employees' relationships with customers may be unstable because of the turnover of customers/employees. The participation of

customers with different visiting experiences may also influence employee innovative behaviors in varied ways. Thus, visiting experience should be examined specifically because the results of existing studies on the influence of co-workers on innovation may not be applicable to repeat customers (Bowers & Martin, 2005).

Finally, job complexity is noted to facilitate employee innovative behavior. This finding may elicit inquiries as to which between simple or complex jobs are more appropriate for service employees because simple jobs have been shown to lead to high efficiency and low job stress (Mohamed, 2015). For firms, the purpose of innovation is actually to increase their performance or competitiveness (Crossan & Apaydin, 2010). Job complexity may increase innovative behaviors, but it may also decrease efficiency. Does employee innovative behavior mediate the relationship between job complexity and firm performance? This question offers an important direction for future research.

Appendix Ⅰ. Questionnaire for Expert Panel Review

Please tick (√) the appropriate score to evaluate to what extent a certain item represents an employee's perceived customer participation based on the following definition and give your comments or suggestions to enhance the clarity or validity of items or the scale. (3= "clearly representative"; 2= "somewhat representative"; 1= "not representative")

Customer participation in services is a behavioral concept that refers to the actions and resources supplied by customers for service production and/or delivery, including customers' physical, mental and emotional input (Rodie & Kleine, 2000).This scale is about employees' perceived customer participation in a restaurant setting.

No.	Items	Score			Comments or suggestions
1	Customers involve themselves in problem diagnosis and resolution in my service.	1	2	3	
2	Customers perform all the tasks that are required.	1	2	3	
3	Customers help our restaurant with those things that are required.	1	2	3	
4	Customers adequately complete all the expected behaviors.	1	2	3	
5	Customers meet formal performance requirement.	1	2	3	
6	Customers fulfill responsibilities to our restaurant.	1	2	3	
7	Customers try to work cooperatively with me.	1	2	3	
8	Customers do things to make my job easier.	1	2	3	
9	Customers perform tasks that I would normally perform.	1	2	3	
10	Customers save my time by helping themselves.	1	2	3	
11	Customers take some responsibilities for their actions.	1	2	3	
12	Customers ask me for information on what a service offers.	1	2	3	
13	Customers pay attention to how others behave to use the services well.	1	2	3	

No.	Items	Score			Comments or suggestions
14	Customers clearly explain what they want me to do.	1	2	3	
15	Customers give me proper information.	1	2	3	
16	Customers provide necessary information so that I can perform my duties.	1	2	3	
17	Customers answer all my service-related questions.	1	2	3	
18	Customers spend time to learn how to use a service they are not familiar with.	1	2	3	
19	Customers pay attention to the instruction of the service (if there is) before asking questions.	1	2	3	
20	Customers ask about my personal information (e.g., where I come from).	1	2	3	
21	Customers smile at me and offer me words of kindness.	1	2	3	
22	Customers try to get to know me.	1	2	3	
23	Customers try to build contacts with me.	1	2	3	
24	Customers ask for me by name.	1	2	3	
25	Customers are courteous to me.	1	2	3	
26	Customers do not act rudely to me.	1	2	3	
27	Customers try to be cooperative with me.	1	2	3	
28	Customers are friendly to me.	1	2	3	
29	Customers respect me.	1	2	3	
30	Customers respect the policies of the restaurant (e.g., non-smoking, not taking others' reserved seats).	1	2	3	
31	Customers are willing to wait for a while when a service is not ready.	1	2	3	
32	Customers show their understanding of problems that are out of my control.	1	2	3	

Appendix Ⅱ. Questionnaire for Pilot Study

Dear Sir/Madam,

I am pursuing my PhD study on the topic of customer participation and employee innovation in restaurants. Your participation in the survey is very important to the completion of the study and much appreciated. Your responses will remain anonymous and strictly confidential, as only aggregate results will be reported in any publications. If you would like to have more information regarding this research, please feel free to contact me.

Sincerely,

Li Minglong, PhD candidate
School of Hotel and Tourism Management, The Hong Kong Polytechnic University
Tel: + (852) 5169
Email: minglong.li@

Section Ⅰ: Job related information

For the following statements or questions, please tick (√) the most appropriate option.

1. Innovation is regarded as important in your restaurant.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
2. Managers in the restaurant encourage you to learn new things and use your knowledge and skills in your work.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
3. Managers in the restaurant reward those who suggest new products/services or bring new ideas to work.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
4. Managers in the restaurant show understanding and forgiveness for the failure in trying new things for the benefit of customers/the firm.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
5. How often do you serve repeat customers?
   □Almost always □Usually □Often □Sometimes
   □Occasionally □Rarely □Never
6. You are a(n)
   □Host/Hostess □Sever □Food runner □Bartender
   □Busser □Maitre □Cashier □Other, please specify____

Section Ⅱ：Customer participation and employee innovation

Please carefully read all the statements below and tick (√) only one cell for each statement that best reflects your opinion based on your experience.

When you evaluate statements related to "customers", please consider customers as a group of people, not any one specific person. Your responses can be based on how most customers would act.

How often do your customers show the following behaviors?	Always ◄						► Never
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Customers engage in diagnosing and resolving service-related problems.							
2. Customers do things to make my job easier.							
3. Customers save my time by serving themselves.							
4. Customers ask me for information on what a service offers.							
5. Customers pay attention to how others behave in order to make effective use of the service.							
6. Customers clearly explain what they want me to do.							
7. Customers provide necessary information so that I can perform my duties.							
8. Customers answer all my service-related questions.							
9. Customers spend time to learn how to use a service they are not familiar with.							
10. Customers pay attention to any service related instructions that are provided before asking questions.							
11. Customers smile at me and offer me words of kindness.							
12. Customers ask for me by name.							
13. Customers are courteous to me.							
14. Customers try to be cooperative with me.							
15. Customers are friendly to me.							
16. Customers respect restaurant policies such as no-smoking, avoiding taking the reserved seats of others.							
17. Customers are willing to wait for a while when a service is not ready.							
18. Customers show their understanding of problems that are out of my control.							

How often do you perform the following work activities?	Always ←						→ Never
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Create new ideas for difficult issues.							
2. Search out new working methods, techniques, or instruments.							
3. Mobilize support for innovative ideas.							
4. Generate original solutions for problems.							
5. Acquire approval for innovative ideas.							
6. Make important organizational members enthusiastic for innovative ideas.							
7. Transform innovative ideas into useful applications.							
8. Introduce innovative ideas into the work environment in a systematic way.							
9. Evaluate the utility of innovative ideas.							

Please rate your agreement with the following statements based on your experience serving customers:	Strongly Agree ←						→ Strongly Disagree
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Customers and I have sharing relationships. We can freely share our ideas, feelings, and hopes.							
2. Customers can talk freely to me about difficulties they have and they know that I will want to listen.							
3. Customers and I would feel a sense of loss if they are no longer served by me or they never come again.							
4. If customers share their problems with me, they know I would respond constructively and caringly.							
5. Customers would say that both customers and I have made emotional investments in our relationships.							
6. Customers perceive that I approach my job with professionalism and dedication.							
7. Given the track record of my performance, customers have no reason to doubt my competence and preparation for the job.							
8. Customers rely on me not to put them in difficult situations by careless work.							
9. Most people, even those who aren't close friends of mine, trust and respect me.							
10. If customers know more about me and my background, they would be more concerned and monitor my performance more closely.							

Please rate your agreement with the following statements about your work:	Strongly Agree ← → Strongly Disagree						
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. I receive assignments that are extraordinary and particularly difficult.							
2. I often have to make very complicated decisions in my work.							
3. I can use my knowledge and skills in my work.							
4. I can learn new things in my work.							

Section Ⅲ: Demographic information

Please check (√) only one box in front of the appropriate answer that applies to you.

1. Gender: □Male □Female

2. Age: □16-25 □26-35 □36-45 □46-55 □56+

3. Education: □Primary/elementary school □Secondary/high school
□College/university □Postgraduate

4. Your monthly income: □Less than ¥ 2,000 □ ¥ 2,000-2,999 □ ¥ 3,000-3,999
□ ¥ 4,000-4,999 □ ¥ 5,000 or more

Thank you very much!

Appendix Ⅲ.Questionnaire for Pilot Study (Chinese version)

顾客参与及员工创新调查问卷

尊敬的先生/女士：

非常感谢您参与本次以顾客参与及员工创新为主题的调查。这是我的博士研究课题，你的意见对我非常重要。本问卷匿名填写，所有信息仅用于学术研究和统计分析，请放心作答，如实填写。如有任何疑问和建议请与我联系。谢谢！

李明龙　（在读）博士研究生
香港理工大学 酒店及旅游业管理学院
电话: + (852) 5169
邮箱：minglong.li@

第一部分：工作相关信息

对于以下表述或问题，请在合适的选项上划√。

1. 在你们餐厅，创新被认为是重要的。
□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

2. 餐厅管理层鼓励你们学习新东西，并在工作中应用你们的知识和技能。
□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

3. 餐厅管理层奖励在工作中推出新产品（服务）或带来新想法的员工。
□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

4. 如果员工为了餐厅或顾客的利益尝试新东西但失败了，餐厅管理层会理解和包容。
□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

5. 你常服务回头客吗？
□总是　□通常　□时常　□有时　□偶尔　□很少　□从不

6. 你的主要工作：
□领位　□餐桌服务　□传菜　□酒吧员　□收拾碗碟　□领班
□收银　□其他____

第二部分：顾客参与与员工创新

根据你的经验，请对以下所有（左边的）表述进行评价打分：评价在右边，共 7 个选项，在每一题右边的 7 个框中选一个你的评价对应的框打√。

表述中的“顾客”泛指你所有的服务对象，你可以根据大多数情况下顾客的表现打分。

总是←——————→从不

你的顾客多常表现出以下行为?	7	6	5	4	3	2	1
1. 当服务出现问题时，顾客会参与问题的分析和解决。							
2. 顾客做一些有助于我工作的事情。							
3. 顾客通过自己动手来节省我的时间。							
4. 顾客询问我某项服务的具体信息。							
5.顾客参考餐厅中其他人的行为来更好地使用服务。							
6. 顾客清楚地解释他们要我做什么。							
7. 顾客提供必要的信息使我可以完成工作。							
8. 顾客回答所有我提出的有关服务的问题。							
9. 顾客花时间学习使用某项不熟悉的服务。							
10. 在提问之前，顾客关注相关服务的指示说明。							
11. 顾客向我微笑且言语和善。							
12. 顾客要我为他们服务，并叫出我的名字。							
13. 顾客对我有礼貌。							
14. 顾客努力配合我。							
15. 顾客对我友善。							
16.尊重餐厅的规定，如不抽烟，不占别人预订的座。							
17. 当一项服务还未就绪时，客人愿意等待。							
18. 顾客对于不在我控制范围的问题表示理解。							
你多常表现出以下行为?	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1. 产生新的想法应对工作中的困难。							
2. 找出新的工作方法、技巧或工具。							
3. 动员他人支持我的新想法。							
4. 为问题提出独创性的解决办法。							
5. 使创新想法获得认可。							
6. 激发组织中重要成员对创新想法的热情。							
7. 将创新想法转化成有益的应用。							
8. 以系统的方式将创新想法引入工作环境。							
9. 评估创新想法的效用。							

完全同意←——→完全不同意

基于你个人经验，请对以下表述的同意程度进行打分。	7	6	5	4	3	2	1
1. 我跟顾客之间是一种分享的关系，我们可以自由分享彼此的观念、情感和期望。							
2. 顾客可以自由地跟我谈论他们的困难，而且他们知道我愿意倾听。							
3. 如果我被调走或者顾客不再光顾，我们都会感到失落。							
4. 顾客与我分享他们的问题，他们知道我关心他们并提出有建设性的意见。							
5. 顾客会认为，在我与他们的关系中，我们彼此都投入了情感。							
6. 顾客觉得我工作很专业，有奉献精神。							
7. 根据我以前的工作表现，顾客没有理由怀疑我的工作能力。							
8. 顾客相信我不会因为工作粗心而给他们带来麻烦。							
9. 大多数人，即使那些跟我关系一般的人，也信任我、尊重我。							
10. 如果顾客更了解我和我所处的环境，他们会更关心我，更密切地监督我的表现。							
1. 派给我的工作任务很特别且难度大。							
2. 工作中我经常要做出复杂的决定。							
3. 工作中我可以用到我的知识和技能。							
4. 我可以从工作中学到新东西。							

第三部分：个人信息

请在合适的选项上打√。

1. 你的性别：　□男　□ 女

2. 你的年龄：　□16-25　□26-35　□36-45　□46-55　□56 以上

3. 你的学历：　□小学　□中学　□大学/大专　□研究生

4. 你的月收入：　□2000 以下　□2000-2999　□3000-3999　□4000-4999　□5000 或以上

谢谢！！

Appendix Ⅳ. Questionnaire for Main Survey

Dear Sir/Madam,

I am pursuing my PhD study on the topic of customer participation and employee innovation in restaurants. Your participation in the survey is very important to the completion of the study and much appreciated. Your responses will remain anonymous and strictly confidential, as only aggregate results will be reported in any publications. If you would like to have more information regarding this research, please feel free to contact me.

Sincerely,

Li Minglong, PhD candidate
School of Hotel and Tourism Management, The Hong Kong Polytechnic University
Tel: + (852) 5169
Email: minglong.li@

Section Ⅰ: Job related information

For the following statements or questions, please tick (√) the most appropriate option.

1. Innovation is regarded as important in your restaurant.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
2. Managers in the restaurant encourage you to learn new knowledge and skills.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
3. Managers in the restaurant reward those who suggest new products/services or bring new ideas to work.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
4. Managers in the restaurant show understanding and forgiveness for the failure in trying new things for the benefit of customers/the firm.
   □Strongly agree □Moderately agree □Slightly agre □Neither agree nor disagree
   □Slightly disagree □Moderately disagree □Strongly disagree
5. How often do you serve repeat customers?
   □Almost always □Usually □Often □Sometimes
   □Occasionally □Rarely □Never
6. Your main job/duty is (select all that apply):
   □Host/Hostess □ Order taker □Table service □Food runner
   □Bartender □Busser □Maitre □Cashier
   □Reservation and sales □(Deputy) manager □Other, please specify_____

Section Ⅱ：Customer participation and employee innovation

Please carefully read all the statements below and tick (√) only one cell for each statement that best reflects your opinion based on your experience.

When you evaluate statements related to "customers", please consider customers as a group of people, not any one specific person. Your responses can be based on how most customers would act.

How often do your customers show the following behaviors?	Always ←						→ Never
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Customers engage in diagnosing and resolving service-related problems.							
2. Customers do things to make my job easier.							
3. Customers save my time by serving themselves.							
4. Customers spend time to learn how to use a service they are not familiar with.							
5. Customers ask for me by name.							
6. Customers clearly explain what they want me to do.							
7. Customers provide necessary information so that I can perform my duties.							
8. Customers answer all my service-related questions.							
9. Customers smile at me and offer me words of kindness.							
10. Customers are courteous to me.							
11. Customers try to be cooperative with me.							
12. Customers are friendly to me.							
13. Customers respect restaurant policies such as no-smoking, avoiding taking the reserved seats of others.							
14. Customers are willing to wait for a while when a service is not ready.							
15. Customers show their understanding of problems that are out of my control.							

How often do you perform the following work activities?	Always ←						→ Never
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Create new ideas for difficult issues.							
2. Search out new working methods, techniques, or instruments.							
3. Mobilize support for innovative ideas.							
4. Generate original solutions for problems.							
5. Acquire approval for innovative ideas.							
6. Make important organizational members enthusiastic for innovative ideas.							
7. Transform innovative ideas into useful applications.							
8. Introduce innovative ideas into the work environment in a systematic way.							
9. Evaluate the utility of innovative ideas.							

Please rate your agreement with the following statements based on your experience serving customers:	Strongly Agree ←						→ Strongly Disagree
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. Customers and I have sharing relationships. We can freely share our ideas, feelings, and hopes.							
2. Customers can talk freely to me about difficulties they have and they know that I will want to listen.							
3. Customers and I would feel a sense of loss if they are no longer served by me or they never come again.							
4. If customers share their problems with me, they know I would respond constructively and caringly.							
5. Customers would say that both customers and I have made emotional investments in our relationships.							
6. Customers perceive that I approach my job with professionalism and dedication.							
7. Given the track record of my performance, customers have no reason to doubt my competence and preparation for the job.							
8. Customers rely on me not to put them in difficult situations by careless work.							
9. Most people, even those who aren't close friends of mine, trust and respect me.							
10. If customers know more about me and my background, they would be more concerned and monitor my performance more closely.							

Please rate your agreement with the following statements about your work:	Strongly Agree ← → Strongly Disagree						
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. I receive assignments that are extraordinary and difficult.							
2. I often have to make complicated decisions in my work.							
3. I can use my knowledge and skills in my work.							
4. I can learn new things in my work.							

Section Ⅲ: Demographic information

Please check (√) only one box in front of the appropriate answer that applies to you.

1. Gender: □Male □Female

2. Age: □18-25 □26-35 □36-45 □46 or more

3. Education: □Primary/elementary school □Secondary/high school
□College/university □Postgraduate

4. Your monthly income: □Less than ¥ 2,000 □ ¥ 2,000-2,999 □ ¥ 3,000-3,999
□ ¥ 4,000-4,999 □ ¥ 5,000 or more

Thank you very much!

Appendix Ⅴ. Questionnaire for Main Survey (Chinese version)

顾客参与及员工创新调查问卷

尊敬的先生/女士：

非常感谢您参与本次以顾客参与及员工创新为主题的调查。这是我的博士研究课题，你的意见对我非常重要。本问卷匿名填写，所有信息仅用于学术研究和统计分析，请放心作答，如实填写。如有任何疑问和建议请与我联系。谢谢！

李明龙　（在读）博士研究生

香港理工大学 酒店及旅游业管理学院

电话: + (852) 5169

邮箱：minglong.li@

第一部分：工作相关信息

对于以下表述或问题，请在合适的选项上划√。

1. 在你们餐厅，创新被认为是重要的。

□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

2. 餐厅管理层鼓励你们学习新东西，并在工作中应用你们的知识和技能。

□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

3. 餐厅管理层奖励在工作中推出新产品（服务）或带来新想法的员工。

□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

4. 如果员工为了餐厅或顾客的利益尝试新东西但失败了，餐厅管理层会理解和包容。

□完全同意　□比较同意　□有点同意　□中立
□有点不同意　□比较不同意　□完全不同意

5. 你常服务回头客吗？

□总是　□通常　□时常　□有时　□偶尔　□很少　□从不

6. 你的主要工作：

□领位　□餐桌服务　□传菜　□酒吧员　□收拾碗碟　□领班
□收银　□其他_____

第二部分：顾客参与与员工创新

根据你的经验，请对以下所有（左边的）表述进行评价打分：评价在右边，共 7 个选项，在每一题右边的 7 个框中选一个你的评价对应的框打√。

表述中的“顾客”泛指您所有的服务对象，请根据大多数顾客的表现打分。

你的顾客多常表现出以下行为？	总是 ◄——► 从不						
	7	6	5	4	3	2	1
1. 当服务出现问题时，顾客会参与问题的分析和解决。							
2. 顾客做一些有助于我工作的事情。							
3. 顾客通过自己动手来节省我的时间。							
4. 顾客询问我某项服务的具体信息。							
5.顾客参考餐厅中其他人的行为来更好地使用服务。							
6. 顾客清楚地解释他们要我做什么。							
7. 顾客提供必要的信息使我可以完成工作。							
8. 顾客回答所有我提出的有关服务的问题。							
9. 顾客花时间学习使用某项不熟悉的服务。							
10. 在提问之前，顾客关注相关服务的指示说明。							
11. 顾客向我微笑且言语和善。							
12. 顾客指名要我为他们服务。							
13. 顾客对我有礼貌。							
14. 顾客努力配合我。							
15. 顾客对我友善。							
16. 顾客尊重餐厅的规定，比如不抽烟，不占别人已预订的座。							
17. 当一项服务还未就绪时，客人愿意等待。							
18. 顾客对于不在我控制范围的问题表示理解。							
你多常表现出以下行为？	总是 ◄——► 从不						
	7	6	5	4	3	2	1
1. 产生新的想法应对工作中的困难。							
2. 找出新的工作方法、技巧或工具。							
3. 动员他人支持我的新想法。							
4. 为问题提出独创性的解决办法。							
5. 使创新想法获得认可。							
6. 激发组织中重要成员对创新想法的热情。							
7. 将创新想法转化成有益的应用。							
8. 以系统的方式将创新想法引入工作环境。							
9. 评估创新想法的效用。							

基于你个人经验，请对以下表述的同意程度进行打分。	完全同意 ← → 完全不同意						
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. 我跟顾客之间是一种分享的关系，我们可以自由分享彼此的观念、情感和期望。							
2. 顾客可以自由地跟我谈论他们的困难，而且他们知道我愿意倾听。							
3. 如果我被调走或者顾客不再光顾，我们都会感到失落。							
4. 顾客与我分享他们的问题，他们知道我关心他们并提出有建设性的意见。							
5. 顾客会认为，在我与他们的关系中，我们彼此都投入了情感。							
6. 顾客觉得我工作很专业，有奉献精神。							
7. 根据我以前的工作表现，顾客没有理由怀疑我的工作能力。							
8. 顾客相信我不会因为工作粗心而给他们带来麻烦。							
9. 大多数人，即使那些跟我关系一般的人，也信任我、尊重我。							
10. 如果顾客更了解我和我所处的环境，他们会更关心我，更密切地监督我的表现。							
基于你的工作，请对以下表述的同意程度进行打分。	完全同意 ← → 完全不同意						
	7	**6**	**5**	**4**	**3**	**2**	**1**
1. 派给我的工作任务很特别且难度大。							
2. 工作中我经常要做出复杂的决定。							
3. 工作中我可以用到我的知识和技能。							
4. 我可以从工作中学到新东西。							

第三部分：个人信息

请在合适的选项上打√。

1. 你的性别： □男 □ 女
2. 你的年龄： □18-25 □26-35 □36-45 □46-55 □56 以上
3. 你的学历： □小学 □中学 □大学/大专 □研究生
4. 你的月收入： □2000 以下 □2000-2999 □3000-3999 □4000-4999 □5000 或以上

谢谢！！

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