Li-Min Chuang (Taiwan), Ming-Tien Tsai (Taiwan), Ze-Xiong Wu (Taiwan), Jung-Jeng Shiu (Taiwan)

The impact of customer interaction on customer loyalty in Taiwan’s international tourist hotels: the mediating effect of service quality and trust

Abstract
This study aimed to explore the relationships among customer interaction, service quality, trust, and customer loyalty. Based on 318 data from Taiwan’s international tourist hotel customers, result reveal that: (1) trust has the biggest direct impact on customer loyalty, followed by service quality and customer interaction; (2) service quality has a positive impact on customer loyalty and is also an important intervening variable derived from customer interactions that affects customer loyalty; (3) trust has a positive impact on customer loyalty and is also an important intervening variable derived from customer interactions that affects customer loyalty.

Keywords: customer interaction, service quality, trust, customer loyalty, international tourist hotels.

Introduction
Companies must find and strengthen their competitive advantages to survive in the intensely competitive global market, which is characterized by frequent changes in the external environment, rapid changes in technology, and a diverse set of customer needs. A competitive strategy should be based on the premise of creating customer value and should continuously enhance the value and the creation of the product itself to meet customers’ needs. With rising customer awareness, both business operators and service personnel of food and beverage industry have to interact with and develop a good relationship with their customers to secure their companies’ competitive advantages and profits.

Taiwanese food and beverage industry has entered a golden era of opportunities and competitions. Food and beverage industry no longer acts as a simple supplier of food. Rather, it is now associated with various functions, such as festive social gatherings, meetings, and even leisure activities. Kotler (2003) pointed out that whereas past marketers emphasized attracting new customers, modern marketers also focus on maintaining and retaining their companies’ aging customer base by establishing long-term customer relationships. However, the marketing costs for maintaining the old customers are only approximately one-fifth of the costs to attract new customers.

As the business environment changes, small-scale independent operators gradually become large-scale restaurants and even enterprise chains. Restaurants must not only manage the quality of their ingredients and their meals but also must aim to monitor and improve the quality of their services and establish good relationships with their customers. All of these factors affect the reputations of international tourist hotels and the food and beverage industry. Taiwan’s service industry accounted for more than 70% of the country’s gross domestic product. This fact clearly shows that Taiwan has entered the service economy. After Taiwan joined the WTO, the structure of the food and beverage market has changed drastically. The food and beverage industry began trending toward gradual expansion from small-scale, independent, family-owned restaurants into large corporate chain operations.

Today, the food and beverage industry has to strengthen its image for customers. Most food and beverage vendors hope that their various products and services satisfy their customers and that these feelings maintain a long-lasting presence in their customers’ memories (Chen, 2000; Nancy et al., 2009). Companies need to use high-quality service methods with innovative business thinking and re-explore the nature and function of food and beverage services to create opportunities and competitive advantages in the food and beverage market. Trust is defined as the level of confidence that customers have in the quality and reliability of the products or services provided by an organization. Businesses that work to earn their customers’ trust will be rewarded by the customers’ increased loyalty to them (Garbarino and Johnson, 1999; Singh and Sirsheshmukh, 2000).

This study analyzes the concepts of customer interactions, quality, and trust in the food and beverage industry. In addition, the correlations among customer interaction, service quality, trust, and customer loyalty are explored. In doing so, this study provides a reference for the employees of the food and beverage industry who wish to understand whether the products and services they provide meet the diverse needs of today’s customers, and then to formulate a future business strategy. The aims of this research are as follows: (1) to explore the correlations among customer interaction, service quality, trust, and...
customer loyalty; (2) to explore the causal relationship between customer interaction, which involves the creation of quality services or trust to create customer loyalty, and explore the mediate effects between customer interaction and customer loyalty; (3) to provide the food and beverage industry and future researchers with feasible suggestions and comments based on the findings.

1. Literature review and hypotheses development

1.1. Literature review. 1.1.1. Customer interaction. Customer interaction is a perception link generated by two or more people who interact with others to achieve a common goal through their reactions (e.g., language or emotion). Schutz (1966) pointed out that customer interaction is demanded by customers and has three types of requirements: acceptance, control, and emotion.

Reichheld & Sasser (1990) stated that the most important intangible asset of a business is the customer relationship. In addition, they argued that business managers must face numerous important issues, including providing high-quality enterprise products and services, retaining existing customers and generating profits, and maintaining profitability through customer relations and operational growth. To discuss the differences existing between service and manufacturing in a few specific areas, customer interaction with the production process is one of the most often cited (Kotler, 1983; Normann, 1984; Skaggs and Younudt, 2004).

Schutz (1966) claimed that all customers have a need for interaction and that the relationship between a business and its customer, which may be at the initiation, establishment, or maintenance phase, depends on both the business and its customers' compliance with the interpersonal level of demand. In 1977, Murstein proposed the theory of stimulus-value-role, in which the customer interaction develops from the stimulus stage to the value stage before finally reaching the role stage. Swift (2000) proposed a four-stage cycle of activities with respect to customer relationship management. These stages included knowledge mining, market planning, customer interaction, and analysis and correction.

1.1.2. Quality of service. Service quality can be a key factor that influences business continuity (Brady, Cronin and Hult, 2000; Parasuraman, Zeithaml & Berry, 1985, 1988, 1991). In 1985, Parasuraman et al. defined service quality as “the gap between the expectations of the customer service and the perception of the actual service experience, where service quality equals the cognitive services minus the expectations of service.” In 1988, MacKay and Crompton, defined service quality as “the difference between what is expected from each of the service dimensions and what a consumer perceives he or she receives from them”.

Customers will have certain expectations of quality before receiving services, and after receiving the services, they will have experienced the services’ quality. If the experienced quality is greater than or equal to the expected quality, then the customers’ overall judgement of quality is good. Otherwise, their awareness of quality is poor. After consuming the service, the customers will decide whether to consume again (Bitner, 1990; Gronroos, 1990).

Service and consumption usually occur simultaneously. Therefore, the source of services cannot be determined in a simple way. Brady and Cronin (2001) believed that the level of service quality exists in multiple dimensions: interactive quality, environmental quality, and result quality. In 1984, Gronroos proposed two-dimensional model which is composed of technical quality and functional quality. Lehtinen and Lehtinen (1991) offered a three-dimensional model of physical quality, interactive quality, and corporate quality. In 1994, Rust and Oliver introduced a three-dimensional model of service quality encompassing the service product, service delivery, and service environment. Dabholkar, Thorpe & Rentz’s (1996) three-dimensional model included physical aspects, reliability, and personal interactions. In 1985, Parasuraman et al. proposed their PZB service quality model, which had 10 key categories of the determinants of service quality. Parasuraman et al. followed this study in 1988 by conducting an empirical analysis of five different services through in-depth exploration. Afterwards, the researchers issued the Service Quality Assessment Scale (SERVQUAL scale), which has a high degree of reliability and a low degree of repeatability.

1.1.3. Trust scholars. Trust Scholars agree that positive expectations and suspension of uncertainty are the central elements of trust (Bart & Elfring, 2010; Mayer, Davis & Schoorman, 1995; Rousseau, Sitkin, Burt & Camerer, 1998). Trust can be defined as the belief that one’s partners will fulfill a commitment and achieve the required goals. McKnight, Choudhury, and Kacmar (2002) define trusting intention as people’s willingness or intention to depend on their interaction partners. With regard to the concept of relationships, individuals or enterprises become partners to establish predictable and necessary routines. Partners expect to have a high degree of trust in one another.

Trust includes the trading partner’s perceived reliability and kindness, the former of which pertains to the partner’s objective trustworthiness and the latter of which is related to the partner’s concerns about their counterpart’s benefits and willingness to pursue common benefits (Doney & Cannon, 1997). Relationships marked by a high degree of trust can increase the two sides’ efforts to establish long-term cooperative relations, increase their businesses’ competitiveness, and reduce transaction costs (Ganesan, 1994).

Coulter and Coulter (2002) pointed out that a service characterized by intangibility, heterogeneity, simultaneous production and consumption, perishability, and other features often induces the customer not to expect results until he or she measures the level of risk associated with the business by consuming its service. Luhmann (1979) distinguished between personal trust and system trust. Based on Luhmann’s argument, Nyhan and Marlowe (1997) then pointed out that trust in an organization could be further divided into trust between individuals and trust among the members of the organization as a whole. The former is equivalent to personal trust, whereas the latter is equivalent to system trust. To establish trust, businesses need to focus on building long-term relationship between their consumers and the industry because if both acknowledge the transactions and trust the trading partners, then successful transactions will be easier to make (Pavlou, 2003). Mayer, Davis and Schoorma (1995) used confidence, reliability, and care to measure trust.

1.1.4. Customer loyalty. Jones & Sasser (1995) pointed out that customer loyalty is the customer’s willingness to consume a particular product or service again in the future. Customer satisfaction with a company’s products or services leads customers to willingly generate positive publicity for the company and recommend the company to others. Singh and Sirdeshmukh (2000) pointed out that customer loyalty was the act of maintaining a positive relationship between customer satisfaction and the existing service providers. In the structure of a relationship, after customers purchase a company’s products or services, their evaluation of corporate trustworthiness will have a positive impact on the customers’ loyalty to the service providers. If a customer’s preference for a brand is always the same, then the customer is loyal to the brand (Zeithaml & Bitner, 2000). Kotler (2003) stated that after the development of marketing theory, many companies have focused on attracting new customers and have neglected to solidify good relationships with the existing customers, even though the cost of attracting new customers would be five times more than that of maintaining existing customers.

Based on the perspective of action inertia, Oliver (1999) divided loyalty into four stages: cognitive loyalty, affective loyalty, conative loyalty, and behavioral loyalty. Customer loyalty can be measured by four metrics: willingness to re-purchase, willingness to recommend a company or brand to others, price acceptance, and willingness to cross-buy (Gronholdt, Martensen & Kristensen, 2000). Fredericks and Salter (1995) argued that price, service quality, product quality, innovation, and image significantly affect the customers’ perceptions of the value of a business’s products or services. Jones and Sasser (1995) divided customer loyalty into three categories: intent to repurchase, primary behavior, and secondary behavior.

1.2. Hypotheses development (correlations among customer interaction, service quality, trust, and customer loyalty). 1.2.1. Customer interaction and service quality. Gronross (1990) said that customers have expectations of quality before receiving a business’s services. After receiving the services and experiencing the services’ quality, if the experienced quality is greater than or equal to the expected quality, then the customer’s overall awareness of quality is good. Otherwise, the customer’s awareness is poor. Customer interaction is a perception link generated by two or more people who interact with others to achieve a common goal through their reactions, such as language or emotion. A customer will maintain a good relationship with a firm when the service provided is contingent with his perception of the benefits of a high-quality service (Carrillat, Jaramillo & Mulki, 2009; Patterson, Cowley & Prasongsukarn 2006; Sirdeshmukh, Singh & Sabol, 2002; Taylor, 1993). Therefore, this study proposes hypothesis 1.

Hypothesis 1: Customer interaction has a significant and positive impact on service quality.

1.2.2. The relationship between customer interaction and trust. Schutz (1966) indicated that customer interaction is demanded by customers and has three types of requirements: acceptance, control, and emotion. These requirements comprise the content of customer interaction. Trust is experientially a critical variable in relationships (Moorman, Rohit & Gerald, 1993; Morgan & Hunt, 1994; Orth & Green, 2009).

Luhmann (1979) argued that personal trust is the level of trust in the relationship produced by interpersonal interactions and that system trust is the medium of communication within political systems,
economies, and business organizations. The biggest difference between these two types of trust is that the object of system trust has nothing to do with personalities. Therefore, this study proposes hypothesis 2.

**Hypothesis 2**: Customer interaction has a significant and positive impact on trust.

1.2.3. The relationship between customer interaction and customer loyalty. Schutz (1966) claimed that everyone demands interactive communication and that the initiation, establishment, or maintenance of a relationship depends on both parties’ compliance with the interpersonal level of demand. After studying the impact of consumer inaction on consumer loyalty within the business community, Patrick and Vesna (2010) suggest that efforts to assure personal interaction quality with customers are needed to improve relationship quality as well as customer loyalty. The quality of interaction was an important factor that affected the priority of the relationship and indirectly affected the formation of community loyalty. Sanjaya, Yingzi, Ali & Swathi (2011) to examine how patients’ loyalty and confidence in their doctors are influenced by doctors’ interaction behavior, namely, listening and explaining behavior. Results confirm that the doctor-patient relationship is positively influenced by the interaction behavior of service providers, i.e. doctors. Effective interaction enhances patients’ loyalty to their service providers. Therefore, this study proposes that service quality has a significant and positive impact on customer loyalty. Accordingly, this study proposes hypothesis 3.

**Hypothesis 3**: The level of customer interaction has a significant and positive impact on customer loyalty.

1.2.4. The relationship between service quality and trust. Given the impact of the depressed global economy, if companies can generate high-quality services through innovative business thinking, then they can re-explore the nature and function of food and beverage services to create opportunities and competitive advantages in the food and beverage market. Those who trust follow the actions of those that are trusted. Doney & Cannon (1997) believed that trust included the perceived levels of reliability and kindness, the former of which pertained to the trading partner’s objective trustworthiness and the latter of which related to the trading partner’s concerns about its counterpart’s benefits and willingness to pursue common benefits. Therefore, this study proposes hypothesis 4.

**Hypothesis 4**: The quality of a service has a significant and positive effect on trust.

1.2.5. The relationship between service quality and customer loyalty. Service quality has been linked to outcomes such as customer satisfaction, customer loyalty (David & Packianathan, 2008; Ko & Pastore, 2004; Kandampully, 1998; Zeithaml, Parasuraman & Berry, 1990). Olive (1999) concluded that the willingness to recommend a business to others, the re-purchasing behavior of customers, and the customers’ perceptions of service quality directly affect the overall service satisfaction level and that overall service satisfaction affected customer behavior. Previous research has found support for the positive relationship between service quality and attitudinal loyalty (Bell, Auh & Smalley 2005; Wong & Sohal 2002). Birgit (2009) studied the correlations among service quality, customer satisfaction and loyalty. Customer service, pricing structure and billing system are the service quality dimensions that have the more significant positive influence on customer satisfaction, which in turn has a significant positive impact on customer loyalty (Ilias & Panagiotis, 2010). The results showed that service quality had a significant and positive impact on the customers’ willingness to buy a service again and recommend it to his/her friends and family. Therefore, this study proposes hypothesis 5.

**Hypothesis 5**: Service quality has a significant and positive impact on customer loyalty.

1.2.6. The relationship between trust and customer loyalty. Coulter et al. (2002) pointed out a service characterized by intangibility, heterogeneity, simultaneous production and consumption, perishability, and other features induced the customer to not expect results until he or she measures the level of risk associated with the business by consuming its service. As a result, the customer must trust the service providers to deliver the expected service results. Jones and Sasser (1995) defined customer loyalty as the willingness to re-purchase a particular product or service in the future. Zeithaml and Bitner (2000) stated that a customer whose preference for a brand of product remains unchanged exhibits loyalty to the brand. Singh et al. (2000) believed that customer loyalty was the act of maintaining a positive relationship between customer satisfaction and the existing service providers. In the structure of a relationship, after customers purchase a company’s products or services, their evaluation of corporate trust will have a positive impact on their loyalty to the service providers. Several studies supported that trust play the role of a loyalty antecedent (Garbarino & Johnson, 1999; Orth et al., 2009; Singh & Sirdeshmukh, 2000; Sirdeshmukh et al., 2002). Therefore, this study proposes hypothesis 6.
Hypothesis 6: Trust has a significant and positive impact on customer loyalty.

1.2.7. Customer satisfaction. Customer satisfaction has mediation effect on the service quality and customer loyalty (Ilias et al., 2010). Customer satisfaction as a mediator of the effects of service environment, interaction quality, empathy and reliability on loyalty (Osman, 2011). Quality of service is the interaction process between service providers and customers in the service delivery process. During this process, customers measure the pros and cons of the companies’ services. In the food and beverage industry, service production and consumption occur simultaneously. During the service, a good interaction with the customer indicates that the customer will rate the service’s quality positively. Thus, the customer’s willingness to re-purchase the service will improve. In other words, customer brand loyalty has improved because of enhancements to service quality. Therefore, this study proposes hypothesis 7.

Hypothesis 7: Customer service quality affects customer loyalty through an interactive causal relationship, with a clear mediate result.

1.2.8. Customer satisfaction and customer trust. Customer satisfaction and customer trust has fully mediated the relationship between service quality and customer loyalty (Samer, Mamoun & Bayan, 2011). Good interactions with a customer will produce a relationship marked by higher levels of trust. If the customer trusts a service provider, then the customer’s future willingness to re-purchase the product improves, which, in turn, enhances the customer’s brand loyalty. Therefore, this study proposes hypothesis 8.

Hypothesis 8: Trust affects customer loyalty through customer interactions, which form a clear mediate result.

2. Methodology

2.1. Research framework. After conducting the relevant literature review, performing the analysis, and establishing the hypotheses, this study proposes the concept of customer interaction to measure service quality and trust and will explore the relationships among customer interaction, service quality, trust and loyalty. The research framework is shown in Figure 1.

![Fig. 1. Proposed research framework](image)

2.2. The research variables. At the questionnaire development stage, this study changed the design of a previously developed scale from the existing literature to better fit the objectives of the study. The research and operational definitions of the variables are listed in Table 1.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Operational definitions</th>
<th>Number of measurement items</th>
<th>Resources of literature references</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer interaction</td>
<td>Customer interaction is defined as the relationship among people. People perform face-to-face communication or share their thoughts and reactions through both verbal and non-verbal means, the interaction process itself, and influence.</td>
<td>13</td>
<td>Schutz (1966), Kofer (1983), Normann (1984)</td>
</tr>
</tbody>
</table>
### 3.3. Sample and data collection

To attain valid results in an international environment, this study used the customers of restaurants within international tourist hotels in Taiwan as the subjects. In accordance with the composition of the sample, this study utilized the Taiwan Tourism Bureau’s analysis of international tourist hotel operators, which includes 70 restaurants in their list. These 70 sample subjects were taken for screening, and a total of 10 restaurants responded to our call for assistance.

The questionnaire was developed in accordance with a scale used in the existing literature, including interpersonal relationship rating scales (interview with experts), service quality scale (Parasuraman et al., 1988), trust scale (May, Davis and Schoorma, 1995) and customer loyalty scale (Jones & Sasser, 1995).

In accordance with the research objectives, the design of the pre-test questionnaire was modified. This study sought to avoid presenting the data through a self-report scale because a single questionnaire was used to collect data from the same group of subjects, which may cause a common method variance (CMV) problem. Therefore, this study used a questionnaire with advanced preventive measures to address the layout design method, which hides the respondents’ information and the items’ meanings, incorporates a randomized design into the questions, and reverses the problem items. The study first pre-tested the questionnaire on 60 customers of international tourist hotel restaurants. After the project analysis, the authors of the study removed the items with poor discriminatory power and low correlations among the total scores of the items before distributing a formal questionnaire.

The questionnaires were distributed in person and by mail to the managers of the aforementioned 10 hotels. These hotel directors were informed by phone and e-mail to send the questionnaires back for collection. A total of 400 questionnaires were sent, and 358 were received back. After excluding 40 invalid questionnaires, a total of 318 valid questionnaires were accepted for a response rate of 89.50%. Of the 400 questionnaires sent, 79.50% of the subjects returned valid questionnaires. Because of the high response rate, so the non-response can not affect the results too much.

### 3. Analysis and findings

#### 3.1. Factor analysis

A factor analysis of the study’s variables was conducted by using principal component factor analysis and the maximum variance rotation method to determine the factors of each variable in the study’s questionnaire.

**3.1.1. Customer interaction**

The factor loading of “good interaction” lies between 0.919 to 0.920, with an eigenvalue of 1.729 and an explained variance of 43.222%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to establishing a good relationship with the restaurants’ staff and services. The factor loading of “emotional reaction” ranges from 0.837 to 0.844 with an eigenvalue of 1.408 and a cumulative explained variance of 78.413%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to the friendliness and the service quality of the restaurants.

**3.1.2. Quality of service**

The factor loading of “high-quality service” lies between 0.718 to 0.836, with an eigenvalue 5.988 and a cumulative explained variance of 46.059%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to the timeliness of the services provided by the service personnel, the potential of these services to satisfy diverse needs, and the trustworthiness of the customer service staff. The factor loading of “customer care” ranges from 0.603 to 0.788, with an eigenvalue 1.554 and a cumulative explained variance of 58.013%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to the service personnel, the billing details, and the promo-
tional materials. The factor loading of “physical facilities” ranges from 0.714 to 0.846, with an eigenvalue 1.27 and a cumulative explained variance of 67.74%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to the hotels’ appearances, the hotels’ physical facilities, and the trustworthiness of the service personnel.

3.1.3. Trust. The factor loading of “trust” lies between 0.738 to 0.832, with an eigenvalue of 5.554 and a cumulative explained variance of 61.716%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to the hotels’ overall operations, meals provided, service attitudes, and levels of service.

3.1.4. Customer loyalty. The factor loading of “customer loyalty” is between 0.824 to 0.878, with an eigenvalue of 2.939 and a cumulative explained variance of 73.471%. The higher the score of this factor, the higher the degree of attention paid by the international tourist hotel restaurants’ customers to other people’s positive recommendation of the hotels’ restaurants and the willingness to return to the hotel to dine. The results of the above analysis are shown in Table 2.

### Table 2. Factor, reliability and validity analysis

<table>
<thead>
<tr>
<th>Construct</th>
<th>Factor</th>
<th>Question numbers</th>
<th>Factor loading (rotated)</th>
<th>Eigenvalue</th>
<th>Cronbach’s $\alpha$</th>
<th>Cumulative explained variance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction customer</td>
<td>Good interaction</td>
<td>2</td>
<td>0.919–0.920</td>
<td>1.729</td>
<td>0.8220</td>
<td>43.222</td>
</tr>
<tr>
<td></td>
<td>Emotional reaction</td>
<td>2</td>
<td>0.837–0.844</td>
<td>1.408</td>
<td>0.5771</td>
<td>78.413</td>
</tr>
<tr>
<td>Quality of service</td>
<td>Customer care</td>
<td>5</td>
<td>0.718–0.836</td>
<td>5.988</td>
<td>0.6230</td>
<td>46.059</td>
</tr>
<tr>
<td></td>
<td>Physical facilities</td>
<td>3</td>
<td>0.714–0.8468</td>
<td>1.270</td>
<td>0.6230</td>
<td>67.740</td>
</tr>
<tr>
<td>Trust</td>
<td>Trust</td>
<td>9</td>
<td>0.736–0.832</td>
<td>5.554</td>
<td>0.8762</td>
<td>61.716</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>Loyalty</td>
<td>4</td>
<td>0.824–0.87</td>
<td>2.939</td>
<td>0.8762</td>
<td>73.471</td>
</tr>
</tbody>
</table>

According to the standard of Kaiser (1966), eigenvalue take greater than 1 and Factor loading take the absolute value greater than 0.6.

3.2. Reliability and validity. Reliability analysis measures the reliability of the questionnaire. This type of analysis determines whether similar measurements within the questionnaire reflect the same concept and identify the degree of stability or consistency of the measurements. Cronbach’s $\alpha$ coefficient is the most commonly used measure for this analysis. Guilford (1965) believed that a Cronbach’s $\alpha$ greater than 0.7 indicates a high level of reliability, a Cronbach’s $\alpha$ ranging from 0.35 to 0.7 indicates an acceptable level of reliability, and a Cronbach’s $\alpha$ less than 0.35 indicates a low level of reliability, in which case the measure should be rejected.

With regard to customer interaction, the Cronbach’s $\alpha$ for good interaction was 0.8220 and for emotional reaction was 0.5771. With regard to service quality, the Cronbach’s $\alpha$ for high-quality services was 0.8866, for customer care was 0.7394, and for physical facilities was 0.6230. The Cronbach’s $\alpha$ for trust was 0.9205, and the Cronbach’s $\alpha$ for customer loyalty was 0.8762. The results of the study’s variables are shown in Table 2. The results illustrate the dimensions of the study’s factors in their respective fields within the range of reliability. Validity refers to the degree to which the measurement tool can measure psychological or behavioral traits. Commonly used metrics to measure the validity include construct validity and content validity (Saraph et al., 1989; Madu, Kuei & Jacob, 1996). According to Kerlinger’s (1986) standards, construct validity refers to the coefficient of the correlation between the project’s scores and total score. If the coefficient is greater than 0.5, then the project has a high degree of construct validity. According to Table 3, the study found that the communality value of the scale issues is greater than 0.5, which indicates the initial construct validity of the questionnaire used in this study. With regard to content validity, this study conducted a literature review, built a research framework, and designed the research variables of the questions. When the first draft of the questionnaire was completed, it was modified several times to remove vague meaning and obscure words to improve the quality of the questionnaire. This study is now in accordance with the content validity of the questionnaire’s content.

### Table 3. The validity analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Questionnaire items</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good interaction</td>
<td>I will take the initiative to interact with the service personnel so that they will help me to establish good communication.</td>
<td>0.724</td>
</tr>
<tr>
<td></td>
<td>I will actively maintain good interactions with the service personnel so that they will help me.</td>
<td>0.718</td>
</tr>
</tbody>
</table>
Table 3 (cont.). The validity analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Questionnaire items</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional reaction</td>
<td>I will embarrass unfriendly service staff.</td>
<td>0.850</td>
</tr>
<tr>
<td></td>
<td>I will be irritable because of the unreasonable services from your hotel.</td>
<td>0.845</td>
</tr>
<tr>
<td>High quality of service</td>
<td>Your hotel staff is able to understand customer needs.</td>
<td>0.720</td>
</tr>
<tr>
<td></td>
<td>I think I can trust the hotel staff.</td>
<td>0.765</td>
</tr>
<tr>
<td></td>
<td>Your hotel staff will take the initiative to express concern for the customer.</td>
<td>0.638</td>
</tr>
<tr>
<td></td>
<td>Your hotel staff can provide heartfelt services to the customers.</td>
<td>0.609</td>
</tr>
<tr>
<td></td>
<td>Your hotel's food and beverage services meet customer needs.</td>
<td>0.543</td>
</tr>
<tr>
<td>Customer care</td>
<td>Your restaurant service staff has always been polite to me.</td>
<td>0.700</td>
</tr>
<tr>
<td></td>
<td>Your hotel chef occasionally chatted with me and inquired about the dishes’ taste.</td>
<td>0.634</td>
</tr>
<tr>
<td></td>
<td>Your restaurant bill correctly presented the items that I consumed.</td>
<td>0.715</td>
</tr>
<tr>
<td></td>
<td>I think the introduction to your hotel and the related brochures are fine.</td>
<td>0.778</td>
</tr>
<tr>
<td>Physical facilities</td>
<td>I think the appearance of your restaurant’s image is in accordance with that of an international tourist hotel.</td>
<td>0.780</td>
</tr>
<tr>
<td></td>
<td>I think your hotel facilities are attractive.</td>
<td>0.633</td>
</tr>
<tr>
<td></td>
<td>I can trust that your hotel staff responsible for checkout will not exhibit opportunistic behavior (credit card or cash over charge).</td>
<td>0.625</td>
</tr>
<tr>
<td>Trust</td>
<td>I think the hotel staff is responsible.</td>
<td>0.627</td>
</tr>
<tr>
<td></td>
<td>I think your hotel will take the initiative to take care of your customers’ welfare.</td>
<td>0.647</td>
</tr>
<tr>
<td></td>
<td>I think your hotel will prioritize the interests of your customers.</td>
<td>0.563</td>
</tr>
<tr>
<td></td>
<td>I have confidence in your hotel’s meals.</td>
<td>0.553</td>
</tr>
<tr>
<td></td>
<td>I think your hotel’s service staff is trustworthy.</td>
<td>0.599</td>
</tr>
<tr>
<td></td>
<td>I think your hotel’s service staff is honest and reliable.</td>
<td>0.693</td>
</tr>
<tr>
<td></td>
<td>I am willing to have your restaurant solely arrange future dining-related matters.</td>
<td>0.545</td>
</tr>
<tr>
<td></td>
<td>I consider dining in your restaurant to be a worthwhile experience.</td>
<td>0.671</td>
</tr>
<tr>
<td></td>
<td>I think your hotel is sustainable and has sound operations.</td>
<td>0.656</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>I would like to promote your hotel’s advantages to others.</td>
<td>0.679</td>
</tr>
<tr>
<td></td>
<td>I would recommend friends and family to dine at your hotel.</td>
<td>0.739</td>
</tr>
<tr>
<td></td>
<td>I am willing to consider your hotel as my first choice for dining in this region.</td>
<td>0.771</td>
</tr>
<tr>
<td></td>
<td>I am willing to come back to your hotel’s restaurant.</td>
<td>0.750</td>
</tr>
</tbody>
</table>

3.3. Structural equation model analysis. Tables 4 and 5 list the potential variables and the observable variables in the framework of this study. $\zeta$ represents the potential exogenous variables, and $\eta$ represents the potential endogenous variables. Among the observable variables, the variable $X$ is a potential measure. Figure 2 provides SEM-based studies of the theoretical models.

![Fig. 2. The model of SEM](image)

Table 4. The latent variables of SEM

<table>
<thead>
<tr>
<th>Exogenous variables</th>
<th>Endogenous variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\zeta$: Customer interaction</td>
<td>$\eta_1$: Good interaction; $\eta_2$: Emotional reaction</td>
</tr>
</tbody>
</table>
Table 5. The observable variables of SEM

<table>
<thead>
<tr>
<th>Explainable potential variables</th>
<th>Observable variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>ŷ₁: Customer interaction</td>
<td>X₁: Good interaction; X₂: Emotional reaction</td>
</tr>
<tr>
<td>ŷ₂: Quality of service</td>
<td>Y₁: High-quality service; Y₂: Customer care; Y₃: Physical facilities</td>
</tr>
<tr>
<td>ŷ₃: Trust</td>
<td>Y₄: Trust</td>
</tr>
<tr>
<td>ŷ₄: Customer loyalty</td>
<td>Y₅: Customer loyalty</td>
</tr>
</tbody>
</table>

3.3.1. SEM model determination and analysis results.
To assess the degree of model fit, this study adapted the basic fitting standard, the overall model degree of fit, and the internal degree of fit based on Bagozi and Yi’s (1988) perspective. The basic fitting standard is used to detect the identification problems or input errors within the pattern. The measurement error of the measure indicators does not allow for negative values. The SEM model of this study shows no negative measurement error (Table 6), and as a result, the basic fitting standard is generally acceptable for this model.

Table 6. Degree of model fit: analysis results

<table>
<thead>
<tr>
<th>Analysis items</th>
<th>Analysis criteria</th>
<th>Analysis result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt; 0.9</td>
<td>0.957</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt; 0.9</td>
<td>0.902</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt; 0.9</td>
<td>0.923</td>
</tr>
<tr>
<td>RMR</td>
<td>&lt; 0.05</td>
<td>0.024</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt; 0.05</td>
<td>0.044</td>
</tr>
</tbody>
</table>

The overall degree of model fit
- Customer interaction → Quality of service: 0.424
- Customer interaction → Trust: 0.757
- Customer interaction → Customer loyalty: 0.412
- Quality of service → Trust: 0.639
- Quality of service → Customer loyalty: 0.575
- Trust → Customer loyalty: 0.687

The internal degree of fit
- All of significant level

For the overall degree of model fit, the measures of this study are AGFI, GFI, CFI, RMR, and RMSEA. Table 6 shows that the various measurements are at the desired level. Thus, the model shows a good fit.

For the internal degree of fit, the path coefficients can be found based on the analysis of the influence effect among all variables (Table 6). Customer interaction has a direct, significant, and positive effect on the quality of service (γ₁₁ = 0.424); customer interaction has a direct, significant, and positive effect on service quality (γ₁₁ = 0.757); customer interaction has a direct, significant, and positive impact on customer loyalty (γ₁₃ = 0.412); service quality has a direct, significant, and positive effect on trust (γ₁₂ = 0.639); service quality has a direct, significant, and positive impact on customer loyalty (β₁₃ = 0.575); and trust has a direct, significant, and positive effect on customer loyalty (β₁₂ = 0.687).

Integrating the analysis results from the basic fitting standard, the overall degree of model fit, and the degree of internal fit show that the degree of model fit is acceptable.

3.3.2. The analysis of the interactions among the variables. Among customer interaction, service quality, and trust (Table 7), customer interaction has significant and positive effects on service quality (γ₁₁ = 0.424). This finding indicates that international tourist hotels and food and beverage services that pay attention to customer interaction will improve the perceived quality of their customer services. Thus, this finding supports hypothesis 1. Customer interaction has a significant and positive effect (γ₂₁ = 0.757) on trust, which indicates that international tourist hotels and food and beverage services that pay attention to customer interaction will enhance their customers’ trust in the hotels’ and restaurants’ services. Thus, this finding supports hypothesis 2. Service quality has a significant and positive impact (β₁₂ = 0.639) on trust, which indicates that international tourist hotels and food and beverage services that provide high-quality service will induce their customers to trust in the hotels’ and restaurants’ services. Thus, this finding supports hypothesis 4.

Among customer interaction, service quality, and customer loyalty (Table 7), customer interaction has significant and positive effects (γ₁₃ = 0.412) on customer loyalty, which indicates that international tourist hotels and food and beverage services can induce their future customers to show a
high degree of willingness to dine in the hotels through good interactions with customers. The results of this study support hypothesis 3. Service quality has a significant and positive effect ($\beta31 = 0.575$) on customer loyalty, which indicates that international tourist hotels that provide delicious ingredients and a customer-oriented attitude will induce their customers to recommend the hotels to others and enhance the customers’ willingness to return to the hotel’s restaurant. Therefore, the results of this study support hypothesis 5. Between trust and loyalty (Table 7), trust has a significant and positive effect ($\beta32 = 0.687$) on customer loyalty, which indicates that tourist hotels catering to international customers with a high degree of trust in the future will be rewarded by these customers’ return to the hotels’ restaurants. Thus, the results of this study support hypothesis 6.

3.3.3. Effectiveness analysis of the intervening variables of service quality and trust. Through the intermediary role of service quality, customer interaction positively impacted customer loyalty. In addition, though customer interaction has a direct impact on customer loyalty, customer interaction could also indirectly influence customer loyalty through service quality. The effect of the indirect impact is $0.244$ (Table 7), which indicates that customer interaction has a significant and positive impact on the quality of service and customer loyalty. Quality of service played an intermediary role that indirectly and significantly impacted customer interaction and customer loyalty. Thus, the results of this study support hypothesis 7.

Through the intermediary role of trust, customer interaction positively impacted customer loyalty. Though customer interaction has a direct impact on trust, customer interaction can also indirectly affect customer loyalty through trust. The effect of the indirect impact is $0.520$ (Table 7), which indicates that the customer interaction has a significant and positive impact on trust and customer loyalty. Customer interaction played an intermediary role that indirectly and significantly impacted customer interaction and customer loyalty. Thus, the results of this study support hypothesis 8.

Table 7. The effectiveness analysis of the latent variables and the observable variables

<table>
<thead>
<tr>
<th>Variable relationship</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer interaction → Quality of service</td>
<td>0.424</td>
<td>0.000</td>
<td>0.424</td>
</tr>
<tr>
<td>Customer interaction → Trust</td>
<td>0.757</td>
<td>0.000</td>
<td>0.757</td>
</tr>
<tr>
<td>Customer interaction → Customer loyalty</td>
<td>0.412</td>
<td>0.000</td>
<td>0.412</td>
</tr>
<tr>
<td>Quality of service → Trust</td>
<td>0.639</td>
<td>0.000</td>
<td>0.639</td>
</tr>
<tr>
<td>Quality of service → Customer loyalty</td>
<td>0.575</td>
<td>0.000</td>
<td>0.575</td>
</tr>
<tr>
<td>Trust → Customer loyalty</td>
<td>0.687</td>
<td>0.000</td>
<td>0.687</td>
</tr>
<tr>
<td>Customer interaction → Quality of service → Customer loyalty</td>
<td>0.424</td>
<td>0.424 * 0.575 = 0.244</td>
<td>0.668</td>
</tr>
<tr>
<td>Customer interaction → Trust → Customer loyalty</td>
<td>0.757</td>
<td>0.757 * 0.687 = 0.520</td>
<td>1.277</td>
</tr>
</tbody>
</table>

Conclusions and recommendations

The empirical results show that customer interaction had the greatest direct impact on trust, followed by service quality, and finally, customer loyalty. This conclusion is in accordance with Luhmann’s (1979) view. Luhmann stated that international tourist hotels and food and beverage services that recognized the importance of customer interaction would enhance their levels of customer trust in the companies’ services. Gronross (1990) concluded that if the quality of customer experience is greater than the cognitive quality, then the international tourist hotels and food and beverage services are paying attention to customer interaction by providing high-quality services, which will improve the customers’ recognition of the services’ quality. Additionally, the attitudes and behavior of the staff in international tourist hotels and food and beverage services have a significant and positive impact on the customers’ degree of willingness to dine in the hotels in the future. Service quality has a positive impact on trust, which shows that the international tourist hotels that utilize innovative modes of thinking and provide high-quality services will increase their customers’ level of trust in their services. In addition, the study found that quality of service showed a significant and positive impact on customer loyalty. This finding indicates that international tourist hotels that provide delicious ingredients and customer-oriented attitudes will induce their customers to recommend the hotels to others and show a greater willingness to return to the hotel’s dining services as well. In accordance with Coulter and Coulter’s (2002) view, trust has a positive impact on customer loyalty. Thus, establishing the customers’ trust in an international tourist hotel and food and beverage service will induce the customers to return to the hotel’s dining area in the future. Service quality, customer interactions, and trust play...
important intermediary roles in determining customer loyalty. If the customers come to an international tourist hotel’s restaurant, then they will show a high degree of recognition of the service quality provided by the staff. This conclusion is in accordance with Olive’s (1999) view that the customers’ perceptions of service quality will directly affect their assessment of the service’s overall satisfaction level.

By providing high-quality services, maintaining good customer interactions, promoting innovative business thinking, and providing delicious ingredients and customer-oriented service attitudes, the international tourist hotel industry will induce customers to trust international tourist hotels and enhance the customers’ willingness to recommend the food and beverage services offered by the hotels to others. In addition, the industry will enhance the customers’ willingness to return to the international tourist hotels’ restaurants. The staff’s attitude, behavior, and approach to customers will also affect the customers’ recognition of service quality and, thus, their willingness to return and dine in the international tourist hotel in the future. Therefore, interacting with and maintaining good communication with customers will enhance the customers’ trust in the international tourist hotel.

This study tried to be objective and complete in its selection of variables, data collection, and empirical analysis. However, the study was unable to avoid omissions during the questionnaire’s development and distribution processes. The study was unable to fully avoid the problems caused by common method variance. Future researchers should pay more attention to avoiding the CMV problem and try to use other research variables and dimensions as well as in-depth studies of different industries to identify the similarities and differences among the various industries and other more influential factors.

References