

A review of dining experience dimensions over two decades

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Abstract

The purpose of this study is to provide a progress review of consumer dining experience dimensions and to provide suggestions on future research directions. A range of studies that have formulated and adapted dining experience dimensions are compared, and the most relevant information on the consumer dining experience is highlighted. These studies were selected from databases that have been accredited by the South African Department of Higher Education and Training over the last 20 years (namely, journals in the DHET, ISI and IBSS databases). In the majority of the studies, factor analysis was employed to reduce the number of items that can be utilised to measure dining experience dimensions. The dining experience dimensions differed depending on the country and the type of restaurant. The choice of dining experience dimensions has changed over the last few decades. The initially accepted dining experience dimensions were tangibles, responsiveness, reliability, assurance and empathy. The current research focus has changed, however, with dining experience being regarded as a combination of the most common dimensions such as food, service and atmosphere/physical environment dimensions. Since 2005, price, health/cleanliness and social dimensions have been added as dining experience dimensions. The growing recognition of the importance of dining experience dimensions has renewed the interest of academics and practitioners in reformulating the dining experience dimensions. This review study opens up a new way of easily analysing and visually displaying the literature trends.

Keywords: consumer needs, restaurant quality, consumer dining satisfaction, hospitality

Introduction

A sustainable amount of research over the past two decades has been devoted to the development of measures of consumer dining experience quality. In order to increase service quality in the restaurant industry, Pizam, Shapoval and Ellis (2016) state that the industry should “create a challenge of maintaining high levels of service, awareness of consumer expectations and improvement in service and products offered”. Some researchers developed new scales, while others applied the existing dining experience dimensions as quality indicators. Only a few researchers succeeded in developing a method of measuring dining experience dimensions for restaurant quality. The sheer volume of information can be confusing and overwhelming to young researchers. The service quality to be rendered in the restaurant industry differs from that in other types of service industries, which influences the way the service is delivered as well as the consumer’s expectations and perceptions (Crick and Spencer, 2011). These dimensions of the dining experience have continued to attract attention from researchers over the past two decades. However, no study has attempted to review and integrate this overabundance of research on dining experience dimensions. The present study addresses this gap in the literature. Against this background, the aim of the present paper is to provide a review spanning two decades

(1995–2015) during which the main dimensions for evaluating a dining experience quality were developed.

Following this introduction, the theoretical background on the dining experience and dining experience dimensions provides a brief description of the concept. The paper then presents a summary of 50 industry-specific studies that used dining experience dimensions as a measure to determine the quality of a dining experience. A discussion of the findings of the review and suggestions for future research are then presented. Finally, the conclusion of the paper and managerial implications are noted.

Theoretical background

The field of hospitality has become more sophisticated in recent years, thus the understanding of modern consumers' expectations when dining out tends to become more important (Yoo, Lee and Bai, 2011). Although consumers tend to view quality as an essential and important aspect of their lives, they also have specific personal needs that need to be satisfied (Ramphal and Nicolaidis, 2014). The hospitality industry has experienced radical changes in demographics, new technologies, globalisation, consumer lifestyle as well as economic upheavals (Barrows and Powers, 2009; Kuen and Voon, 2007; Mhlanga, 2015). These have led to an increased demand for restaurants in a competitive environment where consumer needs for and expectations of a unique dining experience can be satisfied (Namkung and Jang, 2010a).

Dining experience

The restaurant sector is part of the leisure service industry, with unique characteristics that place this sector apart from other areas of the service sector. The consumer makes a choice with respect to food and quality, but would also like to have a complete dining experience to which many other factors could contribute. The dining experience is thus the core concept in the catering industry due to the fact that a restaurant employs a variety of dimensions to influence consumer behaviour in favour of the type and nature of the offering (Kivits, Stierand and Wood, 2011). The dining experience consists of more than just the food (Johns and Pine, 2002; Sparks, Wildman and Bowen, 2001).

A dining experience is “a complex phenomenon, with many interrelated components” (Meiselman, 2003). Meyer and Schwager (2007:116) define the dining experience as “the subjective response evoked in an individual based on the interactions both direct and indirect with the service provider”. The overall evaluation of the dining experience thus rests on a combination of tangible and intangible dimensions (Mhlanga, 2015; Santos, 2002). Due to the perishability, intangibility, heterogeneity and inseparability of the outputs of a restaurant, dining as a product and service is experienced individually by each consumer (Jain and Gupta, 2004). This makes it difficult to explain the dining experience from an operational perspective or from the point of view of the consumer (Zeithaml, Parasuraman and Berry, 1990).

Campbell-Smith (1967:71) was the first researcher to study dining as a complex phenomenon with different meal facets, known as a “meal experience”. A number of other researchers have also addressed the meal experience (Cresswell, 2002; Hanefors and Mossberg, 2003; Hansen, Jensen and Gustafsson, 2005; Kivits, Stierand and Wood, 2011; Meiselman, 2003; Mhlanga, 2015; Pantelidis, 2010). They identify the key dimensions of restaurants, namely quality of food and drink, and ambience of the restaurant and service, which influence the choice of meals and determine consumer satisfaction and future behaviour with respect to the restaurant. However, researchers differ in their names for this experience. Consumers do not eat out only to satisfy their basic hunger needs regardless of

the atmosphere/physical environment of the restaurant. The experience involves more than just eating. Consumers dine out to celebrate special occasions, relax or refresh themselves from their normal lives with this “memorable” experience (Abdelhamied, 2011:2; Meiselman, 2003:322). Furthermore, researchers have various terms for this experience. The meal experience in a restaurant has also been referred to as a “restaurant experience” or “catering experience” (Zeithaml and Birtner, 2003), and even as a “consumption experience” (Hyun and Han, 2012; Ponnampalani and Balaji, 2014).

Dining experience dimensions

Johns and Pine (2002) confirm that consumers value the dining experience as a combination of desirable characteristics, which are also known as dining experience dimensions, attributes or variables. Several definitions of these dining experience dimensions/attributes or variables have been formulated. In this study, the term ‘dining experience dimensions’ was used. According to Johnsson and Gustafsson (2000), these dining experience dimensions are the variables of an offering/product that constitute a particular dining experience. Each group of dining experience dimensions has a different level of importance. These dining experience dimensions are the building blocks that are used by the consumer to assess quality and when making a buying decision (Smith and Deppa, 2009). The overall quality of a restaurant setting will therefore be assessed according to the prevalence of certain dining experience dimensions and the rating of each by the consumer (Park, 2004). The dining experience dimensions can also be regarded as the main factors that motivate quality improvement and ensure consumer satisfaction (Anderson and Mittal, 2000).

There is a relationship between the dining experience and the assessment of the dining experience dimensions (Johns and Pine, 2002; Park, 2004). The choice of a dining-out environment is influenced by consumers’ assessment of certain dining experience dimensions. The dining experience is subsequently evaluated according to the applicable dining experience dimensions and the importance of these dimensions to the consumer in decision-making regarding a restaurant choice (Chen and Hu, 2010; Ponnampalani and Balaji, 2014). Crick and Spencer (2011:463) confirm that there are different ways of rating dining experience dimensions in the restaurant industry. A quality dining experience is referred to as a process in which the consumers’ expectations are monitored throughout the service experience process, and these could meet and possibly exceed their expectations. According to Antun, Frash, Costen and Runyan (2010), none of the dining experience dimension instruments developed over this period has been commonly implemented or set as a general industry standard. This is due to the complexity of the dining experience.

The dining experience starts when consumers experience all their senses even prior to enjoying the food and beverages of a particular restaurant (Kleynhans, 2003). The importance and prioritisation of various restaurant dining experience dimensions are unique to each consumer’s choice (Koo, Tao and Yeung, 1999; Raajpoot, 2002). However, there is still no agreement on the number and the nature of the combination of dining experience dimensions and service quality that could be experienced by a particular consumer (Antun *et al.*, 2010; Chowdhary and Prakash, 2007). All these variables contribute to the choice of dining experience dimensions when dining out and to the development of a valid and reliable scale for assessing the quality offered by restaurants. Restaurant managers rely on this information to establish for themselves a unique combination of dining experience dimensions that will differentiate them from other restaurants (Raajpoot, 2002). The worldwide trend is to use dining experience dimensions as a critical success element when a company endeavours to differentiate itself from its competitors. Research has concluded that good dining experience dimensions ensure the retention of existing consumers and the attraction of new ones, reduced costs, enhanced corporate image, positive word-of-mouth recommendation, and ultimately, increased profit (Berry, Bennett and Brown, 1989; Cronin, Brady and Hult, 2000; Kang and James, 2004; Ladhari, 2009; Reichheld and Sasser, 1990;

Rust, Zahorik and Keiningham, 1995; Yoon and Suh, 2004). According to the literature, considerable debate rages on the nature of the basic dining experience dimensions (Brown, Churchill and Peter, 1993; Cronin, Steven and Taylor, 1992) and those dining experience dimensions that may be common or distinctive across services (Carman, 1990; Cronin, Steven and Taylor, 1992; Levesque and McDougall, 1996; McDougall and Levesque, 2000; Taylor and Baker, 1994; Teas, 1993; Zeithaml, Berry and Parasuraman, 1996).

Methodology

Ladhari (2009:172) confirms that several themes have been researched on restaurant dining experience quality and dining satisfaction. These were used to underpin the compilation of criteria for Table 1 in this study. The researcher used this review as a source to build the restaurant dining experience dimensions for this study. The growth of the restaurant industry and the needs of the modern consumer have forced researchers to address the important dining experience dimensions.

According to Jang, Kim and Bonn (2011), consumers take into account a diverse group of dining experience dimensions that signify a certain level of dining experience quality when they choose a restaurant. It is therefore important to recognise the unique combination of dining experience dimensions that consumers take into account when selecting a restaurant. The number and nature of items vary in the restaurant industry due to the choices of consumer groups and changing circumstances (Ladhari, 2009). In this study, a review of important dining experience dimensions and items of importance used by researchers over a period of 20 years was done to assist other researchers in improving and exploring the field of service marketing.

The basic terms used included 'dining experience dimensions', 'consumer expectations of restaurants' and 'restaurant service quality'. Initially, 130 studies were retrieved for the period between 1990 and 2015. To ensure the quality of the findings, studies were selected that were published in journals accredited by the South African Department of Higher Education and Training (namely, journals in the DHET, ISI and IBSS databases). Several research engines were identified that have proved to be most popular when articles on dining experience dimensions for restaurants are sought (EBSCOhost, ProQuest, ElsevierBV, Emerald Group Publishing Limited, Sage and Scopus). Forty-eight studies were selected that were considered to be the most important to analyse and discuss. Several studies published in the Journal of Foodservice Business Research were also considered, due to the fact that these researchers had contributed to scale development in the restaurant industry. Figure 1 explains the processes of elimination, so that the most applicable studies (50) in this field of study could be analysed.

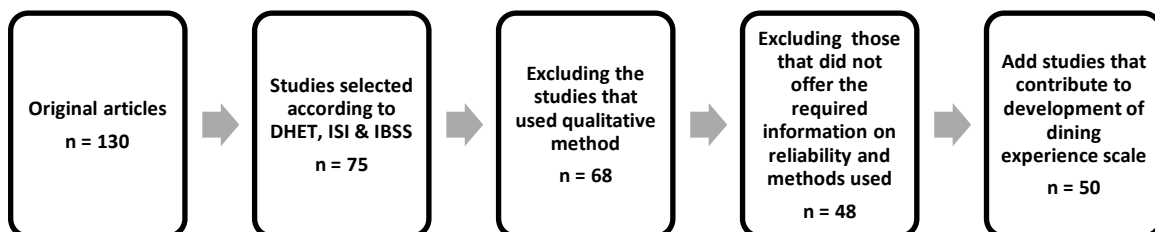


Figure 1: Process of elimination to select valid studies for analysis

FINDINGS

According to Ladhari (2008), alternative scales have been developed to measure quality in the service industry and specifically in the restaurant industry. To review the selected studies

as mentioned in Figure 1, these studies were tabulated to separate the dining experience dimensions from the other variables in the studies. Comparisons were done on:

- dimensions;
- country;
- type of restaurant;
- sample size and consumer characteristics;
- method of data collection;
- data analysis procedure; and
- reliability coefficient.

From Table 1, it can be deduced that due to the complexity of the dining experience as a multidimensional construct, the selection of dining experience dimensions cannot be generalised to the restaurant industry. Most of the studies have to some extent used the consumer's perspective of the dining experience. Some researchers tried to cover more than one aspect (Antun *et al.*, 2010), while Roberson (2015) assessed observations of dining experiences from the restaurateur's perspective.

Table 1: Summary of important dining experience dimensions

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Stevens, Knutson and Patton, 1995)	200 fine-dining, 198 casual dining, 198 quick service Restaurant users	Fine dining, casual dining, quick service restaurants	US	Telephone interviews	Confirmatory factor analysis	Tangibles, reliability, responsiveness, assurance, empathy (29 items)	Vary from 0.89 - 0.92
(Kivela, Inbakaran and Reece, 2000)	861 Restaurant users	Theme/ ambience restaurants	Hong Kong	Questionnaires	Exploratory factor analysis	Food, service, ambience, product, convenience (28 items)	Vary from 0.83 – 0.95
(Winsted, 2000)	424 Students	Restaurants	USA	Questionnaires	Exploratory factor analysis	Concern, civility, congeniality (59 items)	Vary from 0.92 – 0.97
(Raajpoot, 2002)	234 Restaurant users	Restaurants	Not known	Focus groups and questionnaires	Exploratory and confirmatory factor analysis	Layout/design, Building, Product/service, ambience/ social, employees, cleanliness, interior/decorations (26 items)	Vary from 0.73 – 0.80
(Gilbert, Veloutsou, Goode and Moutinho, 2004)	5136 Restaurant users	Fast-food restaurants	Jamaica, Scotland, USA and Wales	Questionnaires	Exploratory factor analysis	Reliability, responsiveness, assurance, empathy, price, service time (18 items)	Highly reliability
(Park, 2004)	279 Restaurant users	Fast-food restaurants	Korea	Questionnaires	Exploratory factor analysis	Hedonic values, utilitarian values, restaurant attributes (11 items)	Vary from 0.64 – 0.73

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Reimer and Kuehn, 2005)	580 retail banking 565 Restaurants	Restaurants in general	Switzerland	Questionnaires	Exploratory and confirmatory factor analysis	Overall service quality, servicescape, reliability, responsiveness, assurance, empathy, tangibles (22 items)	Vary from 0.80 – 0.91
(Andaleeb and Conway, 2006)	119 Consumers visited restaurants	Full-service restaurants	USA	Questionnaires	Exploratory factor analysis	Food quality and physical design and appearance, service quality/ responsiveness, price, satisfaction	Vary from 0.78 – 0.93
(Chow, Lau, Lo, Sha and Yun, 2007)	284 Restaurant users	Full-service restaurants	China	Questionnaires	Confirmatory factor analysis	Interaction quality, physical environment, outcome quality	Highly reliability
(Goyal and Singh, 2007)	171 Restaurant users (20 – 27 years)	Fast-food restaurants	India	Questionnaires	Exploratory factor analysis	Variety of food, food taste and quality, ambience and hygiene, service speed, price, location	Highly reliability
(Ryu and Jang, 2007)	253 Restaurant users	Upscale restaurants	USA	Questionnaires	Confirmatory factor analysis	Facility aesthetic, lighting, ambience, layout, dining equipment, employees, pleasure, arousal, behavioural intention (31 items)	Vary from 0.80 – 0.93
(Ladhari, Brun and Morales, 2008)	338 Undergraduate business students	Restaurants	Canada	Questionnaires	Structural equation modelling	Tangibility, reliability, responsiveness, assurance, empathy, positive emotions, negative emotions and	Vary from 0.76 – 0.94

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
						satisfaction (44 items)	
(Ryu and Jang, 2008)	319 Restaurant users	Upscale restaurants	USA	Questionnaires	Exploratory and confirmatory factor analysis	Facility aesthetics, ambience, lighting, service product, layout, social factors (34 items)	Vary from 0.80 – 0.92
(Rye, Han and Kim, 2008)	341 Restaurant users	Quick-casual restaurants	USA	Focus group interviews Questionnaires	Confirmatory factor analysis	Restaurant image, perceived value, consumer satisfaction, behavioural intentions (18 items)	Vary from 0.70 – 0.93
(Han, Back and Barrett, 2009)	401 Restaurant users	Full-service restaurants	USA	Focus groups and questionnaires	Confirmatory factor analysis	Consumer satisfaction, excitement, comfort, annoyance, romance (55 items)	Vary from 0.71 – 0.98
(Hyun, 2009)	208 Restaurant users	Chain restaurants	USA	Questionnaires	Confirmatory factor analysis and Structural equation modelling	Food quality, service quality, price, location, environment, awareness of a restaurant, brand image of a restaurant, trust, affective commitment, satisfaction, conflict (29 items)	Vary from 0.56 – 0.90
(Jang and Namkung, 2009)	290 Restaurant users	Mid to upscale restaurants	USA	Questionnaires	Confirmatory factor analysis	Product quality, atmosphere, service quality, emotion (positive and negative), behavioural intentions (25 items)	Vary from 0.90 – 0.97

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Kim, Ng and Kim, 2009)	4659 College students	University dining facility	USA	Online questionnaires	Exploratory factor analysis	Food quality, service quality, price and value, atmosphere, convenience (18 items)	Vary from 0.56 – 0.89
(Liu and Jang, 2009b)	284 Restaurant users	Casual dining Chinese restaurants	USA	Questionnaires	Confirmatory factor analysis	Food, service, atmosphere and other (24 items)	Vary from 0.72 – 0.96
(Liu and Jang, 2009a)	348 Restaurant users	Casual dining Chinese restaurants	USA	Questionnaires	Confirmatory factor analysis	Interior design, Ambience, Spatial layout, human element (employee), perceived value, behavioural intentions, positive emotions, negative emotions (38 items)	Vary from 0.80 – 0.97
(Namkung, Jang, Almanza and Ismail, 2009)	326 Restaurant users	Casual dining restaurants	USA	Questionnaires	Confirmatory factor analysis	Distribution fairness, procedural fairness, interaction fairness, price fairness, interactional fairness, outcome fairness (24 items)	Vary from 0.78 – 0.91
(Antun <i>et al.</i> , 2010)	2500 Restaurant owners and operators and quests	Restaurants	USA	Focus groups and online questionnaires	Confirmatory factor analysis	Food, service, atmosphere, social connectedness, homophily (25 items)	Highly reliability

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Baloglu, Mao and Busser, 2010)	150 Senior students of a private university	Casual restaurants	Turkey	Questionnaires	Confirmatory factor analysis	Food and service, staff, ambiance and social, cleanliness, building, affect, intention (25 items)	Vary from 0.69 – 0.94
(Barber and Scarcelli, 2010)	339 Anonymous online consumers	Restaurants	USA	Online questionnaires	Exploratory factor analysis	Exterior of restaurant, restroom appearance, interior of restaurant, restroom personal hygiene, dining room personal health (32 items)	Vary from 0.85 – 0.89
(Chen and Hu, 2010)	834 Consumers from chain and independent coffee outlets	Coffee outlets	Australia	Questionnaires	Exploratory factor analysis	Food and beverage, coffee quality, service, atmosphere, extra benefits (23 items)	Vary from 0.84 – 0.88
(Ha and Jang, 2010)	607 Restaurant users	Casual dining restaurants	Korea	Online questionnaires	Factor analysis	Food quality, service quality, atmospherics, satisfaction, loyalty (17 items)	Vary from 0.84 – 0.97
(Namkung and Jang, 2010b)	326 Restaurant users	Casual dining restaurants	USA	Questionnaires	Confirmatory factor analysis	Price fairness, procedural fairness, outcome fairness, interactional fairness, emotions, behavioural intentions (21 items)	Vary from 0.78 - 0.94
(Han, Back and Barrett, 2010)	1040 Restaurant users	Full-service restaurants	USA	Focus groups and online questionnaires	Exploratory factor analysis	Excitement, comfort, annoyance, romance (32 items)	Vary from 0.90 – 0.96
(Hyun, 2010)	208 University students and staff	Chain restaurants	USA	Online questionnaires	Confirmatory factor analysis	Food quality, service quality, environment, satisfaction, trust, loyalty (21 items)	Vary from 0.80 – 0.92

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Ryan, Han and Jang, 2010)	395 College students	Fast-food restaurants	USA	Focus groups and questionnaires	Confirmatory factor analysis	Consumer values regarding eating out (hedonic and utilitarian), consumer satisfaction, behavioural intention (16 items)	Vary from 0.70 -0.91
(Barber, Goodman and Goh, 2011)	280 Restaurant users	Full-service restaurants	USA	Questionnaires	Exploratory factor analysis	Building exterior, restaurant interior, employees, restroom (44 items)	Vary from 0.86 – 0.90
(Gracia, Bakker and Grau, 2011)	586 Hotel guests and 571 restaurant users	Restaurants and hotels	Spain	Questionnaires	Confirmatory factor analysis	Tangibles, reliability, responsiveness, assurance, empathy	Vary from 0.78 – 0.92
(Jang, Liu and Namkung, 2011)	College students	Quick service, mid-scale and up-scale restaurants	USA	Questionnaire	Confirmatory factor analysis	Food related lifestyles, green restaurant attributes, behavioural intentions	Vary from 0.81 – 0.97
(Jang, Kim and Bonn, 2011)	322 College students	Green restaurants	USA	Questionnaire	Factor analysis	Natural ingredients, value/service reliability, reputation, food quality, nutritional menu, atmosphere (34 items)	Vary from 0.73 – 0.89
(Jani and Han, 2011)	305 Restaurant users	Full-service restaurants (family, casual and upscale)	USA	Questionnaires	Confirmatory factor analysis	Service encounter performance, perceived price, affect, consumer satisfaction, trust, commitment, behaviour intentions (24 items)	Vary from 0.87 – 0.95

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Moolman, 2011)	590 Restaurant manager in mall	8 different restaurants	South Africa	Group interviews and questionnaires	Factor analysis	Food quality, service quality, ambience, facilities quality, management presence, overall dining satisfaction, return patronage	Vary from 0.58 – 0.65
(Tang and Bougoure, 2011)	300 Students	Fast-food restaurants	Malaysia	Questionnaires	Factor analysis	Tangibles, reliability, responsiveness, assurance, empathy (29 items)	Vary from 0.80 – 0.90
(Cheng, Chen, Hsu and Hu, 2012)	502 Consumers	8 fine-dining restaurants	Taiwan	Questionnaires	Confirmatory factor analysis	Tangible, reliability, responsiveness, assurance, empathy (29 items)	Vary from 0.82 – 0.95
(Ha and Jang, 2012)	607 Restaurant users	Ethnic restaurants	USA	Online questionnaires	Confirmatory factor analysis	food quality, service quality atmospherics, behavioural intentions (13 items)	Vary from 0.83 – 0.94
(Hyun and Han, 2012)	433 Restaurant users	Chain restaurants	Korea	Online questionnaires	Confirmatory factor analysis	Satisfaction with existing menu/food, brand attitude, trust, advertising effectiveness for the new menu, perceived risk in new menu trail, sales promotion effectiveness for new menu item, innovativeness toward a chain restaurant brand (29 items)	Vary from 0.83 – 0.98

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
<u>(Jang, Ha and Park, 2012)</u>	517 Restaurant users	Up-scale and casual Korean ethnic restaurants	USA	Online questionnaires	Exploratory factor analysis	Food quality, service quality, atmosphere, food authenticity, atmosphere authenticity, positive emotion, value, behaviour intentions (41 items)	Vary from 0.83 – 0.96
<u>Kim, Jeon and Hyun, 2012)</u>	433 Restaurant users	Chain restaurants	USA	Online questionnaires	Confirmatory factor analysis	Brand attitude, utilitarian value, hedonic value, consumer well-being perception, behaviour intentions, involvement (29 items)	All reliability above 0.7
<u>(Ryu, Lee and Kim, 2012)</u>	300 Restaurant users	Upscale Chinese restaurant	USA	Focus group interviews Questionnaires	Confirmatory factor analysis	Food quality, service quality, physical environment, restaurant image, consumer perceived value, consumer satisfaction, behavioural intentions (29 items)	Vary from 0.71 – 0.84
<u>(Cheng, Tsai and Lin, 2013)</u>	1002 Restaurant users	18 Casual dining restaurants	Taiwan	Questionnaires	Confirmatory factor analysis	Tangible, reliability, responsiveness, assurance, empathy	Vary from 0.83 – 0.91
<u>(Hwang and Ok, 2013)</u>	324 Casual, 310 Fine dining restaurant users (634 full-service restaurants)	Casual and fine dining	USA	Questionnaires	Confirmatory factor analysis	Physical environmental quality, interactional quality, outcome quality, utilitarian attitude, hedonic attitude, brand preference (27 items)	Vary from 0.85 – 0.95

Study	Sample size and characteristics	Type of restaurant	Country	Method of data collection	Data analysis procedure	Dining experience dimensions	Reliability (Coefficient alpha)
(Chen, Yeh and Huan, 2014)	302 Restaurant users	Theme restaurants	Taiwan	Questionnaire	Confirmatory factor analysis	Nostalgic emotion, experiential value, restaurant image, consumption intention (22 items)	No detailed information
(Hyun and Kang, 2014)	379 Restaurant users	Luxury restaurants	USA	Online questionnaires	Confirmatory factor analysis	Restaurant environmental cues, non- environmental cues, emotional responses, motivational orientation, hedonism (26 items)	Reliability above 0.7
(Petzer and Mackay, 2014)	250 Restaurant users	Sit-down restaurants	South Africa	Questionnaires	Exploratory factor analysis	Food quality, service quality, dining atmosphere, consumer satisfaction (45 items)	Vary from 0.74 – 0.96
(Lee, Wang and Cai, 2015)	279 Restaurant users	Theme restaurants	Taiwan	Questionnaires	Confirmatory factor analysis	Aesthetics, ambient conditions, space, seating comfort, cleanliness (18 items)	Vary from 0.71 – 0.93
(Roberson, 2015)	303 Restaurateurs	Independently owned restaurant	South Africa	Online questionnaires	Exploratory factor analysis	Location, design factors (13 items)	Vary from 0.78 – 0.90

Each of these variables are discussed below:

Dimensional structure

Table 1 indicates that all the studies are multidimensional and measure both tangible and intangible dining experience dimensions. The number of dining experience dimensions differs from as few as two (Roberson, 2015) to as many as ten (Hyun, 2010). It is worth noting that the number and choice of dining experience dimensions differ according to country, type of restaurant, consumer group and circumstances.

Dining experience dimensions have been developed in various countries. These include:

- USA (Andaleeb and Conway, 2006; Antun *et al.*, 2010; Barber, Goodman and Goh, 2011; Barber and Scarcelli, 2010; Ha and Jang, 2012; Han, Back and Barrett, 2009; Han, Back and Barrett, 2010; Hwang and Ok, 2013; Hyun, 2010; Hyun, 2009; Hyun and Kang, 2014; Jang, Liu and Namkung, 2011; Jang and Namkung, 2009; Jang, Ha and Park, 2012; Jang, Kim and Bonn, 2011; Jani and Han, 2011; Kim and Lee, 2012; Kim, Ng and Kim, 2009; Liu and Jang, 2009a, 2009b; Namkung and Jang, 2008; Namkung and Jang, 2010b; Namkung *et al.*, 2009; Rye, Han and Kim, 2008; Ryu, Han and Jang, 2010; Ryu and Jang, 2007; Ryu, Lee and Kim, 2012; Stevens, Knutson and Patton, 1995; Winsted, 2000);
- Australia (Chen and Hu, 2010);
- Canada (Ladhari, Brun and Morales, 2008);
- China (Chow *et al.*, 2007);
- Hong Kong (Kivela, Inbakaran and Reece, 2000);
- India (Goyal and Singh, 2007);
- Korea (Ha and Jang, 2010; Hyun and Han, 2012; Park, 2004);
- Malaysia (Tang and Bougoure, 2011);
- Spain (Gracia, Bakker and Grau, 2011),
- Taiwan (Chen, Yeh and Huan, 2014; Cheng, Tsai and Lin, 2013; Cheng *et al.*, 2012; Lee, Wang and Cai, 2015);
- Turkey (Baloglu, Mao and Busser, 2010); and
- South Africa (Moolman, 2011; Petzer and Mackay, 2014; Roberson, 2015).
- Research was also done in geographical regions such as Jamaica, Scotland, USA and Wales (Gilbert *et al.*, 2004).

As is evident in Table 1, the most common types of restaurant chosen for the assessment of dining experience dimensions were full-service restaurants (casual/family restaurants, ethnic, fine-dining and upscale restaurants) and fast-food restaurants. Some of the studies did not specify the type of restaurant. When assessing selected restaurants in terms of specific dining experience dimensions, the number and choice of dimensions differed. It is clear that the dining experience dimensions common to full-service restaurants are food, service and physical design/ambience. Some minor dining experience dimensions that were commonly added to the full-service dining experience are hygiene/cleanliness, price and social factors. The dining experience dimensions of importance for fast-food restaurants are food, physical design/ambience, price and speed of service. A smaller number of researchers focused on tangibles, reliability, responsiveness, assurance and empathy as dining experience dimensions in both full-service and fast-food restaurants.

A large number of studies coupled the importance and prioritisation of various restaurant dimensions with other influencing factors such as:

- consumer satisfaction (Andaleeb and Conway, 2006; Baloglu, Mao & Busser, 2010; Barber, Goodman and Goh, 2011; Cheng, Tsai and Lin, 2013; Cheng *et al.*, 2012; Chow *et al.*, 2007; Gilbert *et al.*, 2004; Goyal and Singh, 2007; Hwang and Ok, 2013; Kivela, Inbakaran and Reece, 2000; Lee, Wang and Cai, 2015; Liu and Jang, 2009a; Namkung and Jang, 2008; Namkung *et al.*, 2009; Petzer and Mackay, 2014; Roberson, 2015; Tang and Bougoure, 2011; Winsted, 2000);
- dining measuring scales with a unique combination of dining experience dimensions (Antun *et al.*, 2010; Barber and Scarcelli, 2010; Raajpoot, 2002; Reimer and Kuehn, 2005; Ryu and Jang, 2008; Stevens, Knutson and Patton, 1995);
- other factors such as:
 - consumer values (Chen and Hu, 2010; Hyun and Kang, 2014; Park, 2004);
 - behavioural intentions and emotions (Ha and Jang, 2012; Han, Back and Barrett, 2009; Han, Back and Barrett, 2010; Jang, Liu and Namkung, 2011; Jang and Namkung, 2009; Jang, Kim and Bonn, 2011; Jani and Han, 2011; Ladhari, Brun and Morales, 2008; Liu and Jang, 2009b; Namkung and Jang, 2010b; Ryu and Jang, 2007);
 - perceived value and behavioural intentions (Ha and Jang, 2010; Ryan, Han and Jang, 2010; Rye, Han and Kim, 2008; Ryu, Lee and Kim, 2012);
 - consumption intention, emotion and value (Chen, Yeh and Huan, 2014);
 - return intentions (Kim, Ng and Kim, 2009; Moolman, 2011); and
 - loyalty (Gracia, Bakker and Grau, 2011; Hyun, 2010).

Number of items

The number of items under the dining experience dimensions varied from 11 (Park, 2004) to 59 (Winsted, 2000). The choice of dining experience dimensions for particular restaurant types did not remain consistent over the years. The numbers ranged from 13 (Ha and Jang, 2012) to 45 (Petzer and Mackay, 2014) in full-service restaurants. The number of items for fast-food restaurants ranged from 11 (Park, 2004) to 29 (Tang and Bougoure, 2011).

To determine the final number of items, most of the researchers compiled an initial group of scale statements from a review of the literature. These statements were then refined through focus groups (Antun *et al.*, 2010; Han, Back and Barrett, 2009; Han, Back and Barrett, 2010; Raajpoot, 2002; Rye, Han and Kim, 2008; Ryu, Han and Jang, 2010; Ryu, Lee and Kim, 2012) and individual interviews with users (Moolman, 2011; Rye, Han and Kim, 2008; Ryu, Lee and Kim, 2012). The remaining researchers used self-administered questionnaires, while a few used online web-based questionnaires to gather the necessary consumer information (Barber and Scarcelli, 2010; Ha and Jang, 2010, 2012; Hyun, 2010; Hyun and Han, 2012; Hyun and Kang, 2014; Jang, Ha and Park, 2012; Kim and Lee, 2012; Kim, Ng and Kim, 2009; Roberson, 2015).

Sample sizes

As shown in Table 1, the sample sizes ranged from 119 (Andaleeb and Conway, 2006) to 5 136 (Gilbert *et al.*, 2004). The studies that had a sample size larger than 1 000 were: 5136 (Gilbert *et al.*, 2004) 4 659 university diners (Kim, Ng and Kim, 2009), 2 500 restaurant guests (Antun and Gustafsson, 2005) and 1 002 restaurant users (Cheng, Tsai and Lin, 2013). No study had a sample size of fewer than 100, but five of the studies had a sample size of fewer than 250 restaurant users. Several studies did not provide details of their samples. Most of the respondents were general restaurant users or college students.

Method of analysis

In most studies, factor analysis was chosen as a statistical technique to reduce the number of items under each of the dining experience dimensions and to reflect the set of dining experience dimensions important to dining-out consumers. Three types of factor analysis were used, as shown in Table 1, namely confirmatory, exploratory and structural equation modelling. A total of 28 studies were cited in which confirmatory factor analysis was used to assess dining experience dimensions and items chosen to ensure service for the dining experience. Thirteen studies used exploratory factor analysis. Two studies used structural equation modelling as part of factor analysis. Some studies even used both exploratory and confirmatory methods to ensure and confirm applicable dining experience dimensions and items of importance (Raajpoot, 2002; Reimer and Kuehn, 2005; Ryu and Jang, 2008).

Reliability and validity

Cronbach's alpha was used to measure the reliability of the dining experience dimension. The measuring instruments featured in Table 1 exhibited good reliability (with Cronbach's alpha greater than 0.60). Baloglu, Mao and Busser (2010) established nine dining experience dimensions with reliability coefficients ranging from 0.69 to 0.94; Ha and Jang (2010) established five dining experience dimensions with reliability coefficients ranging from 0.84 to 0.97; Han, Back and Barrett (2009) established five dining experience dimensions with reliability coefficients ranging from 0.71 to 0.98.

Discussion

Over the past 20 years, several researchers have addressed various aspects of dining experience dimensions that need to be considered if a complete dining experience is to be achieved. International research demonstrates success when dining experience dimensions in a particular restaurant setting are applied.

It has become clear that dining experience dimensions differ between countries and within individual countries. In the USA, Stevens, Knutson and Patton (1995) proposed tangibles, reliability, responsiveness, assurance and empathy as dining experience dimensions. Gilbert *et al.* (2004) added two further dimensions, namely price and service time, to the same combination of dining experience dimensions. Studies by other US researchers (Ha and Jang, 2012; Hyun, 2010; Hyun, 2009; Kim, Ng and Kim, 2009) used the following selection as the main dining experience dimensions: food quality, service quality, atmosphere and price. Other US researchers focused on the dining experience dimensions of the physical facility (Barber, Goodman and Goh, 2011; Barber and Scarcelli, 2010; Hyun and Kang, 2014; Liu and Jang, 2009a). Researchers in several Asian countries, namely Hong Kong, China, India, Korea (Chow *et al.*, 2007; Goyal and Singh, 2007; Ha and Jang, 2010; Kivela, Inbakaran and Reece, 2000), focused on food, service and ambience as the main dining experience dimensions, while studies in Malaysia and Japan (Cheng, Tsai and Lin, 2013; Cheng *et al.*, 2012; Tang and Bougoure, 2011) selected reliability, tangibles, responsiveness, assurance and empathy as dining experience dimensions. In Taiwan, Lee, Wang and Cai (2015) assessed the SERVICESCAPE dining experience dimensions. The findings of studies in Australia differed altogether on the selection of dining experience dimensions and choice of restaurant (Chang, Kivela and Mak, 2011; Chen and Hu, 2010; Lee and Hing, 1995). Limited research on dining experience dimensions has been done in Europe and Africa. This is an under-researched area for prospective researchers in these areas.

Most of the research done in the USA assessed the dining experience dimensions of full-service restaurants (casual dining, fine-dining and upscale-dining), and there was also some research on fast-food restaurants. By contrast, the studies in Asian countries tended to focus more on fast-food restaurants. When restaurant choices and particular dining experience dimensions were compared, the number and choice of dimensions differed. Although the dining experience dimensions selected for restaurants showed some commonalities, the differences were obvious.

Despite the variations in dining experience dimensions, numerous studies confirm food quality/product quality, service quality and atmosphere/physical facilities as the most important dining experience dimensions. However, new dimensions have been added to the three basic dining experience dimensions for an assessment of a dining experience, namely price, health/cleanliness and social factors. A smaller number of researchers used the DINESERV dimensions, namely tangibles, reliability, responsiveness, assurance and empathy as important dining experience dimensions in both the full-service and fast-food restaurant assessment. The selection of dining experience dimensions has changed over the decades. The most well-known dining experience dimensions initially used were tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Berry and Zeithaml, 1991). Very few researchers currently deem these dimensions to be important in assessing the dining experience (Gilbert *et al.*, 2004). Due to limitations regarding these dining experience dimensions as part of a dining experience, researchers added more tangible dining experience dimensions. A number of researchers (Cheng, Tsai and Lin, 2013; Cheng *et al.*, 2012; Gracia, Bakker and Grau, 2011; Ladhari, Brun and Morales, 2008; Stevens, Knutson and Patton, 1995; Tang and Bougoure, 2011) agree that a dining experience should be a combination of service and product dining experience dimensions. A large number of researchers added tangible dining experience items such as food, physical environment and staff or employee dimensions, as mentioned particularly by Raajpoot (2002).

To measure the complete dining experience, Reimer and Kuehn (2005) affirmed the importance of tangible dining experience dimensions present in SERVICESCAPE when compared to other dining experience dimensions. Their dining experience dimension contains functional, aesthetic and social items. Since 2005, the three dining experience dimensions selected as the most important are food, service and atmosphere/physical environment. Ryu and Jang (2007) made a valuable contribution by adding hedonic or utilitarian purpose to the intention and emotions related to the dining experience. A number of researchers added consumer behaviour intention and its value to the dining experience intentions (Ha and Jang, 2010; Ryan, Han and Jang, 2010; Rye, Han and Kim, 2008; Ryu, Lee and Kim, 2012).

In conclusion, the researchers recognise that dining experience dimensions are unique to the setting and circumstances of each type of restaurant due to its unique multidimensional construct. Service providers should proceed cautiously before using a particular scale or combination of dining experience dimensions in another restaurant setting. The choice and trends of consumers should also be considered. The dining experience dimensions for a particular dining experience should not be replicated in other fields of study due to their complexity and uniqueness.

Conclusion and future research

Dining experience dimensions for the restaurant industry have been assessed by a large number of researchers. However, the type of dining experience dimensions and items of importance cannot be generalised. This review cited and discussed studies done over a period of 20 years with the purpose of guiding researchers and practitioners in the

application of different dimensions of the dining experience in a particular restaurant setting. It is important to note is that the number and nature of the dining experience dimensions differ widely within the restaurant industry and even among consumer groups in the same

country, depending on circumstances. The most frequently mentioned dining experience dimensions initially were tangibles, reliability, responsiveness, assurance and empathy. Due to the fact that a dining experience comprises a mixture of service and a product as a service, researchers suggested that both the tangible and intangible dining experience dimensions should be explored further. This resulted in new dining experience dimensions such as food, physical environment/ ambience and service. Other dimensions that have emerged and have been added over the last few years are price, health/cleanliness and social factors.

Implications for future research and management

This review of studies done on restaurant service quality could assist service marketers to identify the dining experience dimensions applicable to a particular restaurant setting or dining experience. Although both qualitative and quantitative methods are appropriate for developing dining experience dimensions, the researcher focused only on quantitative methods.

By employing qualitative methods, service marketers would be able to determine those dimensions that are common to dining-out experiences at restaurants in the same service industry. Personal interviews and focus groups are appropriate methods for gathering information on what consumers expect from a dining experience. Due to the number of changes in the service industry occasioned by specific consumer needs and trends, the use of a qualitative method could help service marketers to establish the influence of a set of dining experience dimensions on the dining experience. However marketers should realise that satisfying consumers does not necessarily ensure consumer retention, because the same consumers may require different dining experiences depending on the circumstances. Each experience should be approached and evaluated individually, but a mixed methods approach could assist researchers to identify and confirm relevant dimensions as well as important items.

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