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Measuring customer experience in banks: scale development and validation

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Abstract

Purpose – The paper aims to measure customer experience in Indian banks. This study examines the 14 factors of customer experience and identifies their impact on customer satisfaction.

Design/methodology/approach – In this study, psychometric scale development procedure is followed comprising with the steps of item generation and selection, scale refinement and scale validation. A one-way ANOVA test is applied to identify the relationship between 14 experience factors and demographics of respondents.

Findings – The findings of the study present a 41-item 14 factor reliable and valid customer experience scale among which "convenience" appears as the most significant among all the factors.

Research limitations/implications – This study concentrates on a sector-specific scale, whereas a generalized scale that can be applied in other service sectors should be developed. In comparison with previous studies, the results of the current study provide a more absolute coverage and understanding of various touch points used in measuring customer experience in banks.

Practical implications – By this reliable and valid scale, bank managers can identify the current and expected experiences of the customers and can build up effective strategies for the utmost satisfaction of the customers.

Originality/value – To the best of the authors' knowledge, this study represents the foremost studies for developing a validated tool to measure the experiences of banks' customers.

Keywords Customer experience, Banks, Scale development, Validation

Paper type Research paper

Introduction

A deliberate effort to study customer experience issues can be traced back to mid-1980s. However, the importance of this subject has acquired substantial momentum in the last two decades (Gentile *et al.*, 2007). The reasons are that on the one hand, positive customer experience offers an opportunity for long-term competitive advantage to the firms and on the other hand, it also results in the form of satisfied and loyal customers with positive word-of-mouth, improved retention and reduced complaints. Therefore, firms in the twenty-first century have started paying attention from service-based to experience-based economy (Kim *et al.*, 2011). Consequently, along with the compelling attention of academicians and practitioners, customer experience has now become a critical measure in support of organizational performance.

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Now-a-days, customer experience has become the next battleground for the organizations. After commodities, goods and services; experiences acts as fourth economic offering for the organizations (Pine and Gilmore, 1998). The satisfaction-level of the customers primarily depends on their positive or negative experiences (Meyer and Schwager, 2007). These experiences play a vital role in the decision of purchasing process of the customer (Zeithmal *et al.*, 2011). The concept of customer experience is; the resultant that depends upon the set of interactions occurs between a customer and an organization, which creates a reaction. This experience is stringently personal to an individual and affects his/her emotional, rational, physical, spiritual and sensorial levels (Gentile *et al.*, 2007). The evaluation of this experience depends upon the comparison made by the customer between his/her expectations and the stimuli arising from the interface with the organization and its offerings in association with different instants of touch or contact points (LaSalle and Britton, 2003; Gentile *et al.*, 2007).

In the time span of last 30 years, several researchers and scholars attempted to define the term "customer experience" which have provided the better understanding of what customer experience is all about. The definitions of customer experience are summarized in Table I. The crux of all these definitions is that, first customer experience is an emotional connection between the customer and the organization. Second, it is completely internal to a customer. Last, it largely depends on the moments of contact. But, this non-figurative and elusive notion (Knutson *et al.*, 2007) of customer experience arises some questions as, what are the factors of customer experience? How customer experience can be measured? Does customer experience affect customer satisfaction or not? These questions led to the development of the managerially functional and psychometrically sound instrument which aims to measure customer experience.

To develop, test and validate a measurement scale, Indian retail banking sector has been considered as a case in point. It is because a lack of such type of instrument has been found in the existing body of literature, which can be used for measuring the banking experiences of the customers. So, this study attempts to fill this major research gap, by developing a scale which will assess the experiences of the retail banks' customers. For such purpose, this paper is organized into five major sections. First, the prior literature that has been carried out in this arena has been reviewed. Second, the factors of customer experience used in this scale development process have been discussed. Third, a standard scale development procedure is applied to develop the scale. In the fourth section, the effect of customer experience on customer satisfaction has been assessed. In the last section, the study has been concluded with the discussion of the result's implications along with the limitations and directions for future research.

Background and review of literature

In the growing body of existing literature, researchers have developed various sector-specific and generalized scales for the measurement of customer experience. These scales have been used to measure customer experience in different application areas. As Otto and Ritchie (1996) developed a six-dimensional (hedonic, interactive, novelty, comfort, safety and stimulation) scale for measuring the tourism experience of customers. Novak *et al.* (2000) proposed an instrument in order to measure customer experience in online environment with constructs as web usage, arousal, challenge, control, exploratory behaviour, flow, focused attention, interactivity, involvement,

References	Definitions of customer experience
Holbrook and Hirschman (1982)	Consumption experience has been seen "a steady flow of fantasies, feelings, and fun"
Carbone and Haeckel (1994)	The experiences are a "take-away impression form by people's encounters with products, services, and businesses – a perception produced when humans consolidate sensory information"
Otto and Ritchie (1996)	During a service encounter, experience can be defined as "the subjective mental state felt by participants"
Pine and Gilmore (1998)	"Experiences are a distinct economic offering, as different from services as services are from goods. An experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event"
Schmitt (1999)	Experiences are the "result of encountering, undergoing, or living through situations. They are triggered stimulations to the senses, the heart, and the mind. Experiences also connect the company and the brand to the customer's lifestyle and place individual customer actions and the purchase occasion in a broader social context. In sum, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values"
Bergmann (1999)	"Experience is specific knowledge that has been acquired by and agent during past problem solving. Experience is therefore always situated in a certain, very specific problem solving context. Therefore, experiences are stored knowledge"
Gupta and Vajic (2000)	"Experience is an emergent phenomenon. It is the outcome of participation in a set of activities within a social context"
Lewis and Chambers (2000)	Consumer experience is "the total outcome to the customer from the combination of environment, goods and services purchased"
Seybold *et al.* (2001)	"A total customer experience is a consistent representation and flawless execution, across distribution channels and interaction points, of the emotional connection and relationship you want your customers to have with your brand"
Haeckel *et al.* (2003)	"By 'total experience' we mean the feelings customers take away from their interaction with a firm's goods, services, and 'atmospheric' stimuli"
Harris *et al.* (2003)	"Total customer experience emphasises the importance of all contacts that a consumer has with an organisation and the consumer's holistic experience"
Poulsson and Kale (2004)	Customer experience acts as "an engaging act of co-creation between a provider and a consumer wherein the consumer perceives value in the encounter and in the subsequent memory of that encounter"
Hogan *et al.* (2005)	"A brand is the sum of the customer's experiences with the product of a company [. . .] An effective customer experience programme analyses rich customer feedback to determine not just what customers say, but also what they do"
Shaw (2005)	"A customer experience is an interaction between an organization and a customer. It is a blend of an organization's physical performance, the senses stimulated and emotions evoked, each intuitively measured against customer expectations across all moments of contact"

(*continued*)

Table I.
Definitions of customer experience

References	Definitions of customer experience
Mascarenhas *et al.* (2006)	Total customer experience "is a totally positive, engaging, enduring, and socially fulfilling physical and emotional customer experience across all major levels of one's consumption chain and one that is brought about by a distinct market offering that calls for active interaction between consumers and providers"
Ghose (2009)	Customer experience acts "as the user's interpretation of his or her total interaction with the brand"
Meyer and Schwager (2007)	"Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth"
Gentile *et al.* (2007)	"The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual). Its evaluation depends on the comparison between a customer's expectations and the stimuli coming from the interaction with the company and its offering in correspondence of the different moments of contact or touch-points"
Frow and Payne (2007)	The perfect customer experience addresses that "advocacy typically implies achieving a very high score on customer satisfaction"
Sundbo and Hagedorn-Rasmussen's (2008)	The customer experience is "a mental journey that leaves the customer with memories of having performed something special, having learned something or just having fun"
Verhoef *et al.* (2009)	Customer experience is "holistic in nature and involve(ing) the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those factors that the retailer can control (e.g. service interface, retail atmosphere, assortment, price), but also by factors outside of the retailer's control (e.g. influence of others, purpose of shopping)"
Walter *et al.* (2010)	"A customer experience is defined as the customer's direct and indirect experience of the service process, the organization, the facilities and how the customer interacts with the service firm's representatives and other customers. These in turn create the customer's cognitive, emotional and behavioral responses and leave the customer with memories about the experience"

Table I.

playfulness, positive effect, skill, telepresence and time distortion. Similarly, Greenwell *et al.* (2002) constructed a scale to assess the experiences of the sports fans.

Grace and O'Cass (2004) dealt with the post-consumption experiences of the bank customers and identified the effect of constructs (core service, employee service and services cape) on feelings, satisfaction and brand attitude of the customer. Similarly, Knutson *et al.* (2007) created a seven-factor (environment, benefits, accessibility, convenience, utility, incentive and trust) scale to measure the experiences of the

hospitality sector customers. Further, Kim *et al.* (2011) constructed and validated a generalised scale on the same factors and developed a customer experience index (CEI).

To evaluate the experiences of bed-and-breakfast industry customers, Oh *et al.* (2007) generated a scale which was based on the four realms of Pine and Gilmore (1998). On the similar steps, Hosany and Gilbert (2009) have developed a measuring instrument for the sake of measuring the cruise experiences of the customers. Likewise, the scale developed by Slatten *et al.* (2009) was used to assess the atmospheric experiences which emotionally touch visitors at a winter park. Similarly, Hosany and Gilbert (2009) examined the constructs of tourist's emotional experience in relation to hedonic holiday destinations and developed a destination emotion scale (DES) with three significant dimensions as joy, love and positive surprise.

Brakus *et al.* (2009) have distinguished many experience dimensions and constructed a four dimensional brand experience scale with the dimensions as sensory, affective, intellectual and behavioural. They also highlighted the relationship of brand experience with brand personality, satisfaction and loyalty. In the meanwhile, Knutson *et al.* (2009) proposed a four-factor 18-item measuring instrument for the assessment of hotel industry's customer experience resulting as hotel experience index (HEI). Wu and Liang (2010) developed a scale to measure the antecedents of experience and to identify their impact on rafting satisfaction and rafting loyalty.

Moreover, in case of service research, "customer experience" has been merged with service quality which evaluates the resultant of the service process recognized by the customers. To measure service quality, a widely acceptable measuring instrument, i.e. SERVQUAL has been proposed by Parsuraman *et al.* (1988). But this scale is not sufficient to measure the experiences of the customers at every touch point with the organization. Its main reason is that, in service quality studies customers are treated as passive observers, who just process the information and later assess the service interactions as a resultant outcome. But their interactions with the organization (in a social context) and the entire customer process has not been explicitly considered and empirically investigated (Walter *et al.*, 2010; Lindquist and Persson, 1997; Williams, 2000; Stauss and Weinlich, 1996; Verhoef *et al.*, 2009).

Therefore, a need has been found to develop a comprehensive scale in order to measure the banking experiences of customers. The reasons being, first, after examining the existing scales with the help of experts and bank managers, the crux of the observation is that most of the developed instruments were industry-specific which were designed while concentrating on the sector-specific requirements of the customers. Therefore, these existing scales cannot be fully applied in case of banking experiences. Second, in the existing studies, the researchers have developed a scale either in online settings or in offline settings. None of the existing scales have considered both these elements in a combined way. However, day-by-day as there is a vast and fast paced expansion of e-banking services, developing a measuring instrument by considering either the online elements or the offline elements is not worthwhile. The appropriate evaluation of banking experiences can only be done when both these elements are considered in the collective manner. Third, a lack of such scales was found in the Indian context, as none of the above mentioned studies has been carried out in India.

Therefore, to overcome these limitations, it is imperative to develop a systematic and psychometric scale to measure the banking experiences of the Indian customers. Different researches have attempted to make out factors which can be used for the

evaluation of customer experience. But, today in this internet savvy environment, no business can survive without going online. A customer avails his/her experiences in both ways, i.e. through direct interaction with the organization and through the web site of the organization. So, to deliver total customer experience it has become imperative to take both the online and offline factors collectively. Garg *et al.* (2012) have identified and described 14 factors of customer experience comprising both online and offline elements in detail. They identified the weightages of the factors through analytic hierarchy process (AHP) and laid the foundation for formal empirical evaluation. For further validation, without loss of generality we have adopted all the 14 factors from the study done by Garg *et al.* (2012). These factors are: servicescape, core service, customization, value addition, convenience, marketing-mix, employees, speed, service process, customer interaction, presence of other customers, online aesthetics, online hedonic elements and online functional elements. The description and literature evidence of these factors is depicted in Table II.

Scale development

In this study, the well-accepted scale development paradigm given by Churchill (1979) has been applied further augmented by Anderson and Gerbing (1982), Bentler and Bonnet (1980), Bagozzi *et al.* (1991), Nunnally and Bernstein (1994) and Hinkin (1995). The scale development procedure (Arnold and Reynolds, 2003) is shown in Figure 1.

Phase I: item generation and selection

Aiming to generate specific items that comprise the proposed factors of customer experience (as discussed in Table II) in retail banking sector, an extensive review of literature dealing with these factors was conducted. The articles reviewed to gather the items for each factor are shown in Table III.

From this extensive literature search, a total number of 234 items were selected, These 234 items refer to servicescape (18 items); core service (20 items); customization (14 items); value addition (17 items); convenience (21 items); marketing-mix (14 items); employees (22 items); speed (16 items); service process (19 items); customer interaction (12 items), presence of other customers (16 items); online aesthetics (15 items); online hedonic elements (13 items) and online functional elements (17 items). After assembling these items, in an initial screening 218 items were retained.

In the next stage, a panel of six experts (professors/bank managers) reviewed this initial item pool and the resultant of a close scrutiny appears as the deletion of 39 overlapping items. In the third stage, panel was asked to retain the clearly worded items. After a long discussion, due to lack of clarity and possibility of misinterpretation (Babin *et al.*, 1994), panel agreed to deduct 33 of 179 items. On steps similar to Lin and Hsieh (2011), experts were requested to rate items in one out of three categories, i.e. "not representative", "somewhat representative" or "clearly representative". "Only items rated clearly and somewhat representative by at least 80 per cent of the judges were retained" (Lin and Hsieh, 2011). A substantial amount of items were deleted at this stage, resulting in 84 items. On the basis of expert's feedback, the remaining items were further evaluated on several occasions in an iterative process and 13 more items were eliminated. Finally, a pool of 71 items were retained which was again reviewed by four external experts. None of the items was deleted at this stage, but the experts suggested incorporating more familiar item wordings.

Factors	Relevance in customer experience	Literature evidence
Servicescape (SS)	It is the physical environment which is shared by the employees and customers of any organization. The responses of the customers are affected by the three dimensions of physical environment. These are artifact and symbols, ambient conditions and space and function and signs	Bitner (1992), Pine and Gilmore (1998), Grace and O'Cass (2004), Knutson *et al.* (2007), Jain and Bagdare (2009), Walter *et al.* (2010)
Core service (CS)	It is the fundamental service due to which an organization positions itself in the market	Grace and O'Cass (2004), O'Cass and Grace (2004), Walter *et al.* (2010), Jain and Bagdare (2009)
Customization (CUS)	It is an extent up to which the services are customized for a particular customer. These are the particular requisites of the customers according to which an organization tailors its products or services	Addis and Holbrook (2001), Haeckel *et al.* (2003), Olorunniwo and Hsu (2007), Zhang (Jane) *et al.* (2008)
Value addition (VA)	These are the supplementary services which are delivered in addition to the core service; creates an exclusive and unforgettable feeling in the minds of the customers	Lovelock (1996), Schmitt (1999), Berry *et al.* (2002), Lexhagen (2005), Knutson *et al.* (2007), Zhang (Jane) *et al.* (2008), Slatten *et al.* (2009), Jain and Bagdare (2009), Walter *et al.* (2010)
Convenience (CON)	It acts as one of the main constituents in building the experiences of customers. The reason is that the customers require an ease at their every single contact point with the organization	Rowley (1994, 1999), Constantinides (2004), Arnold *et al.* (2005), Knutson *et al.* (2007), Mahfouz *et al.* (2008), Jain and Bagdare (2009)
Marketing mix (MM)	In an organization, marketing-mix strategies of all P's are planned in such a manner that they can fulfill the requirements of their customers. It is a salient tool, which to a certain extent affects customer's buying behaviors and decisions	Tsai (2005), Constantinides (2004, 2010)
Employees (EM)	In any organization, employees are the basic source of delivering services to the customers. In such case, they ought to be friendly, helpful, time committed, competent and capable of sustaining interpersonal distance	Sarel and Marmorstein (1999), Sun (2002), O'Cass and Grace (2004), Arnold *et al.* (2005), Rahman (2006), Zhang (Jane) *et al.* (2008), Verhoef *et al.* (2009), Sheu *et al.* (2009)
Speed (SPE)	It is the rapidity of any organization, which it shows in delivering the responses against the requirements of the customers	Sarel and Marmorstein (1999), Grove and Fisk (1997), Berry *et al.* (2002), Flanagan *et al.* (2005), Jain and Bagdare (2009)

(*continued*)

Table II.
Critical factors of customer experience

Factors	Relevance in customer experience	Literature evidence
Service process (SP)	It is the combination of the series and steps of activities, the flow and interface among these activities, and the requirement of resources which are used to produce and deliver the outcome of the service	Tseng *et al.* (1999), Grace and O'Cass (2004), Bigne *et al.* (2008), Walter *et al.* (2010)
Customer interaction (CI)	It is an interface which exists between a customer and an organization. In any organization, a customer interacts with its different parts as with its servicescape, with its products/ services, with its other customers, etc.	Tsai (2005), Nagasawa (2008), Zhang (Jane) *et al.* (2008), Verhoef *et al.* (2009), Sheu *et al.* (2009), Slatten *et al.* (2009)
Presence of other customers (POOC)	The perception related to presence of other customers differs from industry to industry. In some types of service settings such as at athletic events, at cinema halls, in amusement parks, presence of others gives a social surrounding to any individual, while in service settings where reservation lines exist such as in banks, at reservation counters, the presence of other customers is perceived to be a crowd	Grove and Fisk (1997), Arnold *et al.* (2005), Nagasawa (2008), Verhoef *et al.* (2009), Walter *et al.* (2010)
Online aesthetics (OA)	The aesthetic attributes of any organization's web site aim; to attract the web-user in a very short duration of time and to leave a positive impression about its products/services in the mind of the customer	Sun (2002), Sheu *et al.* (2009), Constantinides (2004, 2010)
Online hedonic elements (OHE)	These elements help the user to escape from its real-life surroundings by immersing him/her into the online environment, where he/she feels more delighted in contrast to reality	Mathwick and Rigdon (2004), Takatalo *et al.* (2008), Bridges and Florsheim (2008), Sheu *et al.* (2009)
Online functional elements (OFE)	These elements basically deal with the functionality aspect of the web site, its usability and interactivity components highly affect the web-experience of the user	Constantinides (2004), Mathwick and Rigdon (2004), Takatalo *et al.* (2008), Sheu *et al.* (2009)

Table II.

Further, on the similar steps of Brakus *et al.* (2009), 44 management graduates were requested to take part in a study on customer experience. After clearing up the concept of customer experience, they were asked to assess the degree to which the 71 items described their banking experiences, using a five-point Likert scale where 1 – highly non-descriptive and 5 – highly descriptive. We retained the items whose mean value was greater than 3 and standard deviation was less than 2. According to this criterion, ten out of 71 items were deleted, hence the final set contains 61 items. The refinement and validation of these items were described in the subsequent phases.

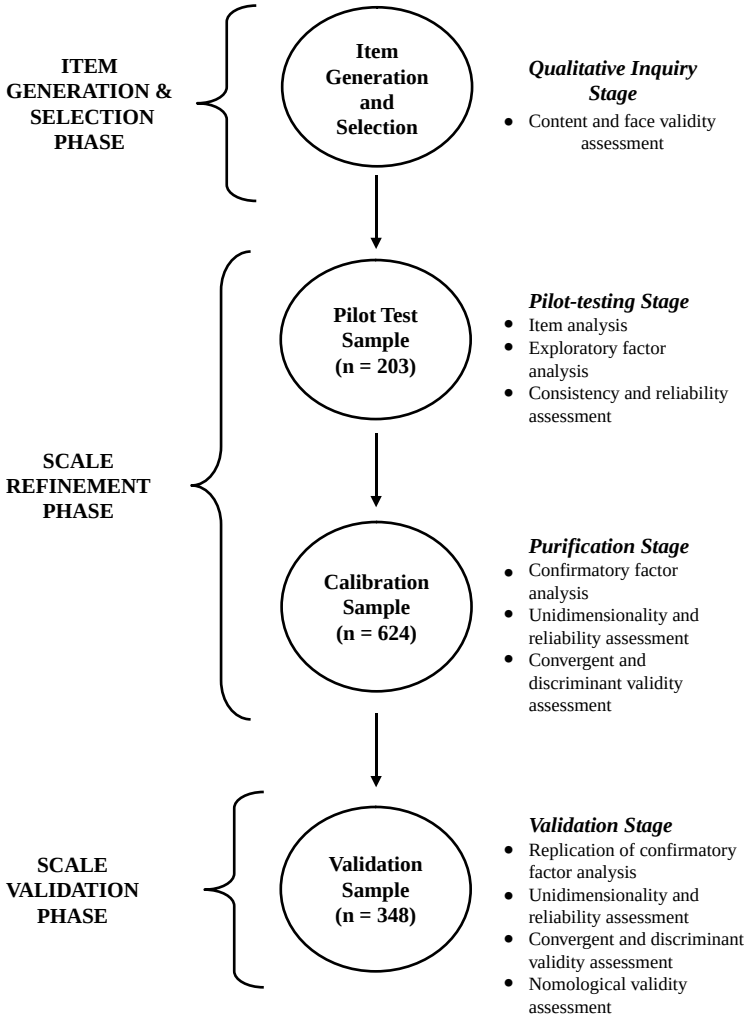

Figure 1.
Scale development procedure

Phase II: scale refinement

This phase covers the pilot-testing and purification stage as shown in Figure 1. For pilot-testing, a questionnaire of 61 customer experience items to be evaluated on a five-point Likert scale (where 1 – highly disagree and 5 – highly agree) was constructed. The questionnaire was divided into two sections, where first section dealt with the demographic profile of the respondents as gender, marital status, age, education-level and income. Second section, comprises 61 questions on customer experience.

For the preliminary refinement of 61-item instrument, similar to Brakus *et al.* (2009), Lin and Hsieh (2011), Froehle and Roth (2004) and Arnold and Reynolds (2003) the data was gathered on the new sample of doctoral and postgraduate students. The sample size of 203 customers was used for pilot-testing of the items which was inline with the

Factors	References
Customer interaction	Edris and Almahmeed (1997), Nagasawa (2008)
Presence of other customers	Naser *et al.* (1999), Zineldin (1996), Alfansi and Sargeant (2000)
Employees	Athanassopoulos *et al.* (2001), Grace and O'Cass (2004), Sureshchander *et al.* (2003), Foscht *et al.* (2009), Karatepe *et al.* (2005)
Servicescape	Al-Eisa and Alhemoud (2009), Foscht *et al.* (2009), Karatepe *et al.* (2005), Grace and O'Cass (2004), Athanassopoulos *et al.* (2001)
Convenience	Jabnoun and Al-Tamimi (2003), Edris and Almahmeed (1997), Karatepe *et al.* (2005), Rahman (2006)
Customization	Bick *et al.* (2004), Edris and Almahmeed (1997), Beerli *et al.* (2004), Foscht *et al.* (2009)
Value addition	Alfansi and Sargeant (2000), Foscht *et al.* (2009), Bick *et al.* (2004), Devlin and Gerrard (2005), Naser *et al.* (1999)
Speed	Chakravarty *et al.* (2004), Boyed *et al.* (1994), Jabnoun and Al-Tamimi (2003), Angur *et al.* (1999)
Core service	Grace and O'Cass (2004), O'Cass and Grace (2004), Zineldin (1996)
Service process	Sureshchander *et al.* (2003), Athanassopoulos *et al.* (2001), Angur *et al.* (1999), Beerli *et al.* (2004)
Marketing-mix	Athanassopoulos *et al.* (2001), Zineldin (1996), Sureshchander *et al.* (2003), Bloemer *et al.* (1998)
Online functional elements	Jun and Cai (2001), Khan and Mahapatra (2009), Devlin and Gerrard (2005), Aldas-Manzano *et al.* (2009)
Online hedonic elements	Jun and Cai (2001), Khan and Mahapatra (2009), Devlin and Gerrard (2005), Aldas-Manzano *et al.* (2009)
Online aesthetics	Jun and Cai (2001), Khan and Mahapatra (2009), Devlin and Gerrard (2005), Aldas-Manzano *et al.* (2009)

Table III.
Articles reviewed for the generation of items

sample sizes of other scale development studies such as Parsuraman *et al.* (1988), Karatepe *et al.* (2005) and Webster (1990). Among 203 respondents, 63 per cent respondents were male and 37 per cent respondents were female. In this phase, the steps suggested by Churchill (1979) were adopted for the complete refinement of the instrument. These are item analysis, exploratory factor analysis (EFA) (pilot-testing) and confirmatory factor analysis (CFA) (purification). The procedure for the scale refinement is as follows.

(i) Item analysis. As recommended by Churchill (1979), the first and the foremost step to refine the scale is the computation of coefficient α, i.e. Cronbach α. For all factors of customer experience, coefficient α was computed, that ranged from 0.67 to 0.85. But according to Nunnally's criterion, the minimum satisfactory value of Cronbach α is 0.7. Therefore, to improve the value of α, corrected item-to-total correlation for each cluster of items were computed. Items possessing very low correlations and/or items whose correlations produce sharp drop among the corrected item-to-total correlations and/or items whose removal improves the value of α, were deleted. This iterative sequence was repeated numerous times which resulted in the form of 56 items and five items being deleted. The improved values of α for all 14 factors ranged from 0.75 to 0.88. These values were servicescape (0.81); core service (0.82); customization (0.82); value addition (0.76); convenience (0.88); marketing-mix (0.81); employees (0.85); speed (0.83); service process (0.76); customer interaction (0.84), presence of other

customers (0.77); online aesthetics (0.79); online hedonic elements (0.75) and online functional elements (0.85).

(ii) Exploratory factor analysis. After item analysis, next EFA was applied on remaining 56 items. The aim of EFA was to determine the condition where links between the latent and observed variables are uncertain or unknown and principal component analysis (PCA) along with varimax rotation was executed for extracting factors (Costello and Osborne, 2005) through SPSS 19.0 software. A minimum cut off criteria for the deletion of the items was: factor loadings (< 0.50) (Karatepe *et al.*, 2005), cross loadings (> 0.40) or communalities (< 0.30) (Hair *et al.*, 1998). The appropriateness of the analysis was determined by the examination of Kaiser-Meyer-Olkin (KMO) statistic of sampling adequacy. For good factor analysis, the value of KMO must be at least 0.60 and above (Tabachnick and Fidell, 1996).

The results of the analysis revealed that eigen value of all 14 factors was greater than 1 (Kaiser, 1960), therefore, none of the factors can be eliminated from the study. These 14 factors accounted for 67.64 per cent variance in the analysed items and KMO measure was 0.84, indicated good factor analysis. All communalities ranged from 0.38 to 0.83. Six items were dropped after a close inspection as they could not fulfil the minimum cut off criteria mentioned above. The reliability coefficients of all the factors ranged from 0.75 to 0.88 specifying good internal consistencies among all the items. Further, the combined reliability was computed for all the 50-items (Nunnally, 1978) and it was found to be quite high, i.e. 0.93. Finally, total 50 items for all the 14 factors were retained in this phase as shown in Table IV.

(iii) Confirmatory factor analysis. After pilot-testing stage, next step was to purify the items as shown in Figure 1. In purification stage, CFA (Marsh and Hocevar, 1985) was performed on the remaining set of items. CFA is a special case of structural equation modeling (SEM), which is also known as linear structural relationship model (Joreskog and Sorbom, 2004) or covariance structure (McDonald, 1978). It is a multivariate technique applied when the researcher possesses some information about the underlying latent variable structure.

To test the stability of the 50-item 14 factor scale, a sample of bank customers was employed. For this sample, the top three banks from the list of "The Best Banks, 2010" rated by a reputed business magazine *Business Today, 2010* was selected. These three banks were Axis Bank Ltd, Punjab National Bank (PNB) and HDFC Bank. The ranking parameters adopted by *Business Today* were growth, size and strength of the banks. The data was collected from the capital city of India and the region nearby to it, i.e. Delhi and National Capital Region (NCR). There were a total of 921 branches, i.e. AXIS bank – 100, PNB – 592 and HDFC bank – 229 branches, in Delhi and NCR of the selected banks.

The number of target branches considered for this study was (0.15 of 921) following Lenka *et al.* (2009), i.e. 138 branches. Yet in some district regions, it was identified that after applying the formula of 15 per cent of the total number of branches approximately nil results appeared, in that case we considered the minimum one branch lying in that district region. In this manner, the number of sample branches has been exceeded from 138 to 156. Finally, through simple random sampling total 156 branches were considered for data collection. Using mall-intercept (branch intercept) survey method, data was collected from 624 customers. The demographic segmentation of these customers is shown in Table V.

Items	CON	SS	EMP	OFE	POOC	OA	CUS	CS	VA	SPE	MM	SP	OHE	CI
1	0.79													
2	0.77													
3	0.77													
4	0.76													
5	0.72													
6		0.79												
7		0.78												
8		0.65												
9		0.57												
10		0.55												
11			0.77											
12			0.77											
13			0.64											
14			0.62											
15			0.59											
16				0.82										
17				0.78										
18				0.72										
19				0.64										
20					0.74									
21					0.71									
22					0.61									
23					0.58									
24						0.82								
25						0.81								
26						0.73								
27						0.72								
28							0.81							
29							0.79							
30							0.70							
31								0.79						
32								0.78						
33								0.76						
34									0.74					
35									0.72					
36									0.60					
37									0.59					
38										0.86				
39										0.82				
40										0.82				
41											0.79			
42											0.72			
43											0.72			
44												0.68		
45												0.63		
46												0.62		
47													0.81	
48													0.75	
49														0.81
50														0.72

Table IV.
EFA results for $n = 203$

Note: List of items is depicted in the Appendix

Demographic variables	Frequency	Percentage
Gender		
Male	329	52.7
Female	295	47.3
Marital status		
Married	439	70.4
Unmarried	185	29.6
Age (in years)		
Under 20	76	12.2
21-35	251	40.2
36-50	141	22.6
51-65	87	13.9
66 and over	69	11.1
Education level		
High school and below	134	21.5
Diploma	120	9.2
Bachelor degree	231	37.0
Masters degree	86	13.8
Professional degree	53	8.5
Income (monthly)		
<10,000	78	12.5
10,000-30,000	217	34.8
30,000-50,000	147	23.6
>50,000	113	18.1
None	69	11.1

Note: $n = 624$

Table V.
Demographic profile of the respondents

According to Bagozzi (1980), Anderson and Gerbing (1988) and Arnold and Reynolds (2003), in scale purification stage, improvement of the scale's psychometric properties depends upon the reiteration of CFA. A 50-item 14 factor confirmatory factor model was studied using AMOS 18.0. The indices of the model appear as ($\chi^2_{(1084)} = 1{,}998.86$, $p = 0.000$; $\chi^2/\text{df} = 1.84$; GFI = 0.88; AGFI = 0.86; NFI = 0.88; CFI = 0.94; RMSEA = 0.04; RMR = 0.04). This result reveals that some indices are below the acceptable threshold values. The squared multiple correlations (SMCs) ranged from 0.39 to 0.79 and modification indices ranged from 4.0 to 95.9. An inspection of both these parameters required the deletion of nine items. Further, the domain representativeness of each item was also inspected (Nunnally and Bernstein, 1994). For example, in online functional elements factor, the removed candidate item was "The functioning of the web pages is correct" tapped into same facet with the retained item "The links are accurate, problem-free and page downloads quickly". Therefore, due to the facet representation in the similar manner other eight candidate items were also removed. The complete process was repeated once more with no further deletion of the items.

The final confirmatory model appears with 41 items and the results of this 41-item 14 factor model demonstrated good model-fit indices as ($\chi^2_{(687)} = 1{,}020.7$ $p = 0.000$; $\chi^2/\text{df} = 1.48$; GFI = 0.93; AGFI = 0.91; NFI = 0.92; CFI = 0.97; RMSEA = 0.03; RMR = 0.035). All the modification indices appear significantly low and SMCs now

ranged from 0.46 to 0.81. After identifying the model-fit indices through CFA, the next step in the purification stage is to verify the unidimensionality, reliability, convergent validity and discriminant validity of the remaining set of items as shown in Figure 1.

(a) Unidimensionality and reliability. These results evidently prove the unidimensionality of the measures, as each item is related with one and only one fundamental construct (Gerbing and Anderson, 1988; Bollen, 1989). As depicted in Table VI, the values of coefficient α, range from 0.80 to 0.87, item-to-total correlation estimates range from 0.57 to 0.76, and values of composite reliability range from 0.80 to 0.88. It shows good construct reliability which ultimately indicates high internal consistency (Nunnally and Bernstein, 1994; Fornell and Larcker, 1981).

(b) Convergent and discriminant validity. From the measurement model, convergent validity can be examined by identifying whether the maximum likelihood loading of each indicator is significant to its underlying construct (Peter, 1981; Anderson and Gerbing, 1988; Arnold and Reynolds, 2003). As illustrated in Table VI, all CFA loadings exceed 0.68 and are significant with t estimates ranging from 12.93 to 22.30. Therefore, the convergent validity of all measures was evident. In addition, as suggested by Bagozzi *et al.* (1991) the average variance extracted (AVEs) of all the 14 factors ranging from 0.57 to 0.75 were above the minimum threshold value of 0.5. As recommended by Hair *et al.* (1998), composite reliability of all measures was above 0.80 (Table VI). All these estimates indicate the high degree of convergence between the items with their respective constructs.

The discriminant validity can be examined by comparing the shared variance between measures with the AVEs of the individual measures (Fornell and Larcker, 1981). The comparison between the AVEs and shared variance is depicted in Table VII. The results revealed that the shared variance between the measures was less than the AVEs of the individual measures, which confirms discriminant validity.

Phase III: scale validation

The next step after the scale refinement phase was the validation of the developed scale as shown in Figure 1. The main reasons to validate the developed scale were: first, to fulfil the requirement of replicating the confirmatory factor model on an independent sample, thus reducing error which may occur by capitalization on chance (MacCallum *et al.*, 1992; Chin and Todd, 1995), and next, to check the nomological validity by examining the relationship between the factors of customer experience and a theoretically related variable, i.e. customer satisfaction (SAT) (Arnold and Reynolds, 2003). The steps of the scale validation phase are:

(i) Replication of CFA. In this phase, three items of customer satisfaction were added in the 41-item questionnaire. These satisfaction items were adopted from the studies done by Levesque and McDougall (1996), Grace and O'Cass (2004), Foscht *et al.* (2009), Beerli *et al.* (2004) and Karatepe *et al.* (2005). For the validation of 14 factor 41-item scale, data was collected on the new sample of customers of the same banks (surveyed in purification stage). A total 384 responses were gathered, out of which 348 responses, i.e. 90 per cent response rate were found usable. This sample size was at par with the inline studies done by Brakus *et al.* (2009), Lin and Hsieh (2011), Froehle and Roth (2004) and Arnold and Reynolds (2003). The demographic profile summary of the validation sample was approximately similar with the demographics of the calibration sample.

Table VI.
Scale/item measurement properties

Construct	Items	Coefficient α		Composite reliability (CR)		Average variance extracted		EFA item loading	Corrected item-total correlation		CFA item loading		Squared multiple correlation		Scale/item mean	
		S1	S2	S1	S2	S1	S2	S1	S1	S2	S1	S2	S1	S2	S1	S2
Convenience		0.80	0.84	0.81	0.84	0.58	0.64								9.8	9.4
	CON1							0.79	0.66	0.72	0.78	0.83	0.61	0.69	3.3	3.0
	CON2							0.72	0.61	0.67	0.70	0.73	0.49	0.53	3.0	3.3
	CON4							0.77	0.68	0.72	0.80	0.83	0.64	0.69	3.5	3.1
Servicescape		0.83	0.85	0.83	0.85	0.63	0.65								10.3	9.6
	SS2							0.79	0.71	0.74	0.83	0.84	0.69	0.71	3.3	3.4
	SS3							0.66	0.66	0.67	0.74	0.74	0.55	0.55	3.6	3.0
	SS4							0.78	0.71	0.74	0.80	0.83	0.65	0.70	3.4	3.2
Employees		0.80	0.81	0.80	0.83	0.58	0.62								11.0	10.3
	EMP1							0.77	0.66	0.68	0.77	0.77	0.60	0.60	3.6	3.4
	EMP2							0.77	0.69	0.71	0.81	0.83	0.65	0.69	3.7	3.4
	EMP3							0.63	0.59	0.67	0.70	0.75	0.49	0.57	3.7	3.5
Online functional elements		0.85	0.81	0.85	0.82	0.66	0.60								10.5	10.2
	OFE1							0.72	0.72	0.62	0.80	0.70	0.65	0.48	3.5	3.4
	OFE3							0.79	0.72	0.67	0.81	0.79	0.65	0.62	3.5	3.3
	OFE4							0.82	0.74	0.70	0.83	0.83	0.69	0.69	3.5	3.5
Presence of other customers		0.83	0.82	0.83	0.82	0.62	0.60								10.3	10.4
	POOC2							0.71	0.68	0.72	0.82	0.83	0.67	0.69	3.5	3.5
	POOC3							0.61	0.67	0.61	0.75	0.70	0.58	0.49	3.4	3.4
	POOC4							0.73	0.71	0.66	0.79	0.89	0.62	0.62	3.5	3.5
Online aesthetics		0.86	0.86	0.85	0.86	0.59	0.67								14.6	13.5
	OA1							0.72	0.71	0.61	0.73	0.65	0.53	0.43	3.6	3.3
	OA2							0.81	0.71	0.75	0.82	0.84	0.68	0.71	3.6	3.4
	OA3							0.72	0.68	0.70	0.69	0.76	0.47	0.58	3.5	3.4
	OA4							0.82	0.73	0.75	0.83	0.84	0.69	0.71	3.9	3.4
Customization		0.84	0.82	0.84	0.80	0.68	0.61								10.7	10.8
	CUS1							0.81	0.74	0.70	0.85	0.81	0.73	0.66	3.6	3.6
	CUS2							0.79	0.71	0.68	0.81	0.73	0.65	0.54	3.5	3.5
	CUS3							0.70	0.66	0.65	0.74	0.73	0.55	0.53	3.6	3.7

(*continued*)