

Structuring Technology Applications for Enhanced Customer Experience: Evidence from Indian Air Travellers

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Abstract

The objective was to study the influence of self-service technology on customer experience and the attributes that constitute customer experience. The study was conducted in the airline industry. The respondents were airline travellers who were surveyed to understand the relationship between self-service technology and customer experience. As customer experience is defined through the sensory, affective, behavioural and relational context, the measurement tools were designed accordingly. The data were collected through personal interview, focus group and survey method. The results of the study show that there is a significant positive relationship between self-service technology and customer experience. This study highlights that customer empowerment through self-service technology has today fundamentally changed the dynamics of the marketplace. Technology interface of the traveller did not vary due to varying income levels and hence had no bearing on his customer experience. A traveller's usage of self-service technology was not affected by the purpose of travel (leisure or business). The study highlights the importance of usage of self-service technology in creating a customer experience for the traveller. Self-service technology facilitates the customer interaction with the service provider, thereby helping the airline serve the customer faster and better. The service provider's introduction of self-service technology at various touch points in the customer's journey enhances customer experience.

Keywords

Customer experience, self-service technology, purpose of travel, income

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Introduction

Increasingly, products and services are becoming deeply intertwined with each other and their effects on customer experience (CE) cannot be separated (Grönroos, 2000; Gummesson, 1995; Kotler, 1977; Vargo & Lusch, 2004). Drawing from a survey of 606 airline customers in India, we investigate how technology applications pertaining to booking of tickets and check-in before the journey impact overall CE.

Earlier studies have called for paying attention to the effect of online CE with respect to the stages of the customer journey (Klaus, 2013). The sequential stages of the customer journey are search for information, evaluation of information, choice, transaction and evaluation of outcome. Customers evaluate their experiences by means of the customer journey, which is described as the customer's sequence of touch points with the firm in buying and obtaining the service (Voss, Roth & Chase, 2008). While earlier studies have focused on the relationship between online CE and online customer buying (Klaus, 2013), we focus on how an online interface in the 'prior to' phase of the customer journey influences experience of a service, which itself is not web based, but involves the fulfilment of concrete customer needs such as travel. We are therefore interested in studying how technology application-based interfaces, including web interfaces prior to the delivery of service, impact the actual CE of the service.

It has been argued that online platforms must meet customer requirements and business processes need to cater to these requirements (Mahadevan, 2000). While it has been argued that CE goes beyond the dimensions of online service quality (Klaus & Maklan, 2012), the effect of the usage of self-service technology (SST) on CE needs to be explored. In addition, in the context of airline travel, the effect of usage of mobile applications, kiosks and call centres on CE needs to be explored.

Customer experience is context specific (Maklan & Klaus, 2011), and it is interesting to examine the impact of online CEs on offline CEs involving the actual consumption of the service, in the context of air travel. It is interesting to examine how online CEs structure, anticipate and influence perceptions regarding the actual consumption of service. This will help service providers in integrating their customer interface strategies prior to service delivery, better with their overall business processes.

Technology is becoming important for service provision (Bateson & Hoffman, 2011), and therefore, it is necessary to understand the impact of technology applications on CE (Verhoef et al., 2009). As these technology applications have changed the marketing environment, it is necessary to understand consumer behaviour in the light of these changes (Bolton & Saxena-Iyer, 2009). This study contributes to the body of knowledge which examines the impact of technology applications on post-purchase stages such as fulfilment (Collier & Bienstock, 2006; Fassnacht & Koese, 2006; Parasuraman, Zeithaml & Malhotra, 2005).

In order to predict CE (Grönroos, 1983; Lehtinen & Lehtinen, 1982; Oliver, 1980), it is necessary to focus on its determinants. There exists a debate on the conceptualization of the service quality of technology applications, which is one of the determinants of CE. One school of thought suggests that since customers evaluate quality according to discrete stages (Bauer, Falk & Hammerschmidt, 2006), it is necessary to narrowly conceptualize the quality of technology applications, as the perception of customers is restricted to the technology-person interface (O'Cass & Carlson, 2012). Another school of thought suggests that technology applications are relevant only in the context of overall CE emerging after the purchase, and therefore, the quality of technology applications must be conceptualized in the light of post-purchase consumer experience (Collier & Bienstock, 2006; Fassnacht & Koese, 2006; Parasuraman et al., 2005). We contribute to this debate by examining the impact of the quality of technology applications during the technology-person interface on the post-purchase CE. If there exists a significant relationship between the quality of technology applications and CE, it may not be very

useful to conceptualize technology applications in a narrow way only to examine the quality of the technology–person interface. Then, it may be more relevant to conceptualize technology applications taking into account post-purchase CE.

It is necessary to evaluate service quality (Parasuraman, Berry & Zeithamal, 1988) from the perspective of outcomes, interactions and physical environments which structure the consumption of the service (Pollack, 2009). Previous studies have focused on service recovery to ensure that customer satisfaction is achieved even after service failure (Barlow & Møller, 1996; Boshoff & Leong, 1998; Bowen & Johnston, 1999; Brown, Cowles & Tuten, 1996; Halstead, 1989; Johnston, 1998, 2001; Johnston & Fern, 1999). Customer satisfaction can be achieved if failures are explained adequately, thus outlining the quality of interactions as an important determinant of CE (Bradley & Sparks, 2012).

The percentage contribution of services sector to gross domestic product GDP in India for the past 4 years till 2011 has been in the range of 53–55 per cent. In China, the contribution of services to GDP for the same time period has been in the range of 41–43 per cent (World Bank, 2011). In the sector-wise share of GDP for agriculture, industry and services, for the period 2001–2002 to 2012–2013, the share of agriculture was reduced from 22 to 14 per cent; for industry, it has remained more or less constant at 27 per cent and for services, it has grown from 51 to 59 per cent over a decade and more (GDP at Factor Cost, 2013).

Vargo and Lusch (2004) advocate that the strategy of differentiating services from goods should be abandoned and replaced with a strategy of understanding how they are related. Service is the common denominator in exchange, not some special form of exchange (i.e., what goods are not); as a number of scholars (Gummesson, 1995; Kotler, 1977) have noted, both goods and services render service.

The global services era is characterized by economies and labour force figures that are dominated by the service sector, more customer involvement in strategic business decisions, products that are market focused and much more responsive to the changing needs of the market place, the emergence of technology for service provision and employee empowerment (Bateson & Hoffman, 2011).

The current services literature is implicitly mired in the paradigm of ‘low tech and high touch’ (Bitner, Brown & Meuter, 2000). Due to the high levels of human interaction, some writers have explicitly downplayed the potential contributions of technology to services marketing (Lovelock, 1999). New technology is helping empower service employees by giving them more information more quickly for use in deciding how best to serve customers. The impact of technology on the entire service industry and organizational structures and business methods demands further research as well (see Quinn, 1992).

We cannot have CE only been looked at from one channel (e.g., a store); in fact, we need to look at a multichannel environment and how it affects the CE. The other element that needs special focus and attention, which has not been looked at in earlier research, has been SST.

The Indian domestic market was increasingly turning low cost. An operating model that did not exist in the Indian market until 6 years ago could account for almost 70 per cent of domestic capacity within the next 2–3 quarters. The major carriers then reconfigured their offering to operate all-economy, no-frills service. Low-cost carriers (LCCs) have become the major focus this year.

These studies are particularly relevant in the airline industry especially in the Indian context. The civil aviation industry in India is on a path of development and growth. It has experienced both stagnation and unprecedented growth over the past two decades. There being a huge growth potential in this sector, it is imperative that CE of an airline traveller in the Indian context be well articulated and defined.

Therefore, the purpose of this study is to understand what constitutes CE of an airline traveller in the Indian context. The relationship of SST usage to CE is also explored. The moderating role of the type of travel (for leisure or business purposes) and income on CE has been studied.

Literature Review

Customer Experience

Creating superior CE seems to be one of the central objectives in today's retailing environments. Retailers around the globe have embraced the concept of CE management, with many incorporating the notion into their mission statement, for example, Valero Energy Corporation is committed to ensuring a positive retail experience for customers by focusing on convenience, value and quality. In a study conducted by Kaura, Prasad and Sharma (2013), service convenience of public sector and new private sector banks was studied and that service convenience comprises decision convenience, access convenience, transaction convenience, benefit convenience and post-benefit convenience. Dell computers focuses on delivering the best CE in the markets where the firm serves, while Toyota's mission statement is to sustain profitable growth by providing the best CE and dealer support (Verhoef et al., 2009).

An organization will emerge as a market leader if it focuses on delivering a desirable CE by using information technology, brands, integrated marketing communications and entertainment. Experiences occur as a result of encountering, undergoing or living through situations. They are triggered stimulations to the senses, the heart and the mind. They replace functional values and provide sensory, emotional, cognitive, behavioural and relational values.

The concept of CE was firstly conceived in the mid-1980s when, along with the mainstream literature in consumer behaviour that deemed customers as rational decision makers, a new experiential approach offered an original view to consumer behaviour (Holbrook & Hirschman, 1982). Addis and Holbrook (2001) brought to the fore the importance of emotions they state 'the role of emotions in behavior; the fact that consumers are feelers as well as thinkers and doers; ... the roles of consumers, beyond the act of purchase, in product usage as well as brand choice'. Pine and Gilmore's book on experience economy (1999) presents the 'experiences' as a new economic offering, which emerges as a next step after commodities, goods and services in what they call the 'progression of economic value'.

In the years to follow, different contributions focused their attention on CE, which looked at creating customer value for both the firm and the customer (Addis & Holbrook, 2001; Carù & Cova, 2003; Ferraresi & Schmitt, 2006; LaSalle & Britton, 2003; Prahalad & Ramaswamy, 2004; Schmitt, 1999, 2003; Shaw & Ivens, 2005; Smith & Wheeler, 2002). The most fruitful model is that proposed by Csikszentmihalyi (1997) and recently taken up by consumer behaviour research (Arnould, Price & Zinkhan, 2002; Novak, Hoffman & Yung, 2000) that underlines the specific case of 'flow experiences', in which maximum psychic energy is required. Two main dimensions differentiate the types of experience (Csikszentmihalyi, 1997): the skills and the challenge. The flow occurs when the skills and the challenge are both at a maximum.

It is this flow experience with its idea of total immersion or plunge which has most attracted researchers, in particular those working on consumer behaviour (Arnould & Price, 1993) compared to the peak experience conceptualized by Maslow (1964) in the 1960s with reference to religious ecstasy. The experience has also been compared (Arnould & Price, 1993) to the epiphanic experience described by Denzin (1992) and the extraordinary experience introduced by Abrahams (1986). For Denzin (1992, p. 26), 'epiphanic experiences rupture routines and lives and provoke radical redefinitions of the self. In the moments of epiphany, people redefine themselves. Epiphanies are connected to turning-point experiences.'

The researcher has chosen to look at CE (Table 1) as defined by Schmitt (1999) through the different dimensions of sense, feel, think, act and relate which are explained herewith.

In the context of this study, the researcher aims to understand what constitutes CE for an airline traveller. It is hence attempted to validate the dimensions of CE for an airline traveller.

Table 1. Different Dimensions of Customer Experience

| Strategic Classification | Appeal Objects | Appeal Methods |
|--------------------------|---|--|
| Sense | To differentiate, to motivate, and to provide value to customers by focusing on the senses | The S–P–C (stimuli, processes and consequences) for achieving sense impact through sight, sound, scent, taste and touch. And to provide aesthetic pleasure, excitement, beauty and satisfaction through sensory stimulation |
| Feel | To appeal customers' inner feelings and emotions | To understand what stimuli can trigger certain emotions to engage in perspective taking and empathy. As we will see, most effects occurs during consumption |
| Think | To encourage customers to engage in elaborative and creative thinking that may result in a reevaluation of the company and products | To appeal the intellect with the objective of creating cognitive, problem-solving experience that engage customers creatively as well as appeal customers' convergent and divergent thinking through surprise, intrigue and provocation |
| Act | To affect bodily experiences, lifestyles and interaction | To enrich customers' lives by enhancing their physical experiences, showing them alternative ways of doing things, alternative lifestyles and interactions |
| Relate | To add individual experiences and relate the individual to his or her ideal self, other people or other cultures | To appeal the individual's desire for self-improvement, to appeal the need to be perceived positively by individual others, and relate the person to a broader social system, thus establishing strong brand relations and brand communities |

Source: Schmitt (1999).

Self-service Technology

Advances in information technology are fundamentally changing the marketing of goods and services (Vargo & Lusch, 2004). One noticeable trend is the increasing use of SSTs by businesses. According to Meuter, Ostrom, Rountree and Bitner (2000, p. 50), SSTs are 'technological interfaces that enable customers to produce a service independent of direct service employee involvement'. The services that SST's provide are surprisingly varied, including monetary transactions (e.g., retail purchases), self-help (e.g., distance learning) and customer services (e.g., hotel checkout) (George & Kumar, 2013). Companies are drawn to SSTs by their promise of greater cost-efficiencies, enhanced service quality and attraction of new customers over in-person services (Parasuraman & Grewal, 2000).

Self-service technologies exist across all industries today, they include telephone-based information lines, banking by telephone, automated teller machines (ATMs), pay-at-the-pump gas terminals, movie ticket kiosks, bill-paying kiosks, automated hotel checkout and Internet transactions, such as online shopping and brokerage services. This list is not exhaustive, but the three reasons stated by Bitner, Ostrom and Meuter (2002) on why organizations are introducing SSTs at a rapid pace are firstly to reduce costs. Introducing SST's is a potential cost saving. From the organization's perspective, there is a saving of labour costs when technology solutions, either automated voice response systems or web-based services, are substituted for personal care (Bitner et al., 2002). It is also equally important that the customer sees a benefit to him as a user after implementing the SST and not merely a tool for cost saving by the organization (Meuter et al., 2000).

Second, it leads to an increase in customer satisfaction and loyalty. Customers demand technology-based alternative and will demonstrate their displeasure by going to a competitor if it is not provided (Bendapudi & Berry, 1997). In fact, if the technology delivery is better than the customer interface,

there will be an increase in customer satisfaction and loyalty. This was exactly what happened at Cisco Systems where it was practically impossible to provide a human intervention to the customer queries and hence they devised an online customer service system which ultimately led to an increase in customer satisfaction. Third, SSTs enable the organization to reach an audience which was previously inaccessible due to geographic boundaries or lack of physical infrastructure but thanks to these technological interfaces new customers can be tapped (Berry, Seiders & Grewal, 2002).

Marketing theory recognizes the increasing importance of customer collaboration in service provision (Vargo & Lusch, 2004). Through customer collaboration, organizations learn and meet customer requirements better and improve their performance (Prahalad & Ramaswamy, 2004). Research on customer collaboration has investigated customer coproduction (Bendapudi & Leone, 2003), the use of SSTs (Dabholkar & Bagozzi, 2002; Meuter, Bitner, Ostrom & Brown, 2005) and customer voluntary behaviour (Bettencourt, 1997) to demonstrate how customer and company roles converge. Knowledge coproduction by customers pertains to more than simply providing customer's access to an organization's knowledge base or seeking their involvement in innovation (Sawhney & Prandelli, 2000). Consistent with Lusch and Vargo's (2006) conceptualization, knowledge coproduction is the degree to which customers and companies create new knowledge through mutual interactions.

Blazevic and Lievnes (2008) have identified three roles customers play during knowledge coproduction: passive user, active informer and bidirectional creator. In the current research, the consumer is a passive user where there is a very low level of knowledge coproduction, which mainly occurs in electronic self-service channels.

In the airline industry, a number of SSTs are used which are online booking through the web and on the mobile (smart phone), interactive voice response and kiosk. The airline customer uses a plethora of SSTs to make his booking or print his boarding pass or for that matter get updated information on the flight status on his mobile.

Studies looking at the effect of SSTs on CE are few and far between. Dabholkar and Bagozzi (2002) have investigated the moderating effects of consumer traits and situational factors on the relationships within a core attitudinal model for technology-based self-service. Their study focuses on the effect of perceived ease of use, perceived performance and perceived fun on the attitude towards technology-based self-service.

Bitner's (1992) seminal research on 'servicescapes' (i.e., the impact of physical surroundings on customers and employees) created a significant conceptual typology of environmental items that included ambient conditions, space and functions, signs, artefacts, symbols and social interactions.

Technology-based service delivery systems are becoming an integral part of shopping and hence are critical to examine in terms of their impact on CE. Much of the research till date has focused on the determinants of customers' intentions to adopt and use SSTs. Insights from extant research suggest that it is best for retailers to offer a blend of employee-based and SST-based service options (e.g., Parasuraman et al., 2005; Reinders, Dabholkar & Frambach, 2008; Selnes & Hansen, 2001). It may also be the case that customers' technology readiness, which is their inherent propensity to embrace and use technology to accomplish their goals (Parasuraman, 2000), might influence the use and quality of the experience with SSTs.

Moderating Variables

The relationship between the SST and CE is moderated by income and purpose of travel. Mitchell (1994) found that higher income earners were more technologically savvy than lower income earners. Similarly,

income was found to have a significant effect on the adoption of Internet banking so that over 30 per cent of the wealthy use e-banking as their primary mode of making payment (Mattila, Karjaluoto & Pento, 2003). Income is used as a proxy for education and, thus, as an indicator of the potential for in-depth information processing (Homburg & Giering, 2001).

Prior research suggests that purpose of travel (business versus leisure) is an important market segmentation variable in the lodging and travel industries because customers exhibit different characteristics and evaluate attributes of service differently based on purpose of travel (Kashyap & Bojanic, 2000; Yavas & Babakus, 2003). Yavas and Babakus (2003) show that business travellers generally have lower ratings on service attributes (e.g., room amenities, bed comfort, lounge and service) than leisure travellers. Similarly, the study of Kashyap and Bojanic (2000) suggests that leisure travellers and business travellers place different weights on dimensions of quality and price, and it reveals that business traveller's value the quality of public areas more, while leisure travellers place more importance on quality of room and price. Business travellers are more constrained on time and will deeply value SST initiatives taken by the service provider to make it convenient and hassle-free. Leisure travellers, however, are predisposed to being happy (because they are on vacation) and may be willing to spend the time to go through all the formalities of travel irrespective of the presence of SST.

Hence, the researcher aims to study the moderating effects of income in the relationship. At the same time, a business traveller and a leisure traveller will have different expectations from the airlines and hence the study of its moderating effect on the relationship between SST and CE.

The researcher aims to focus on the understanding of the CE of an airline traveller and study the moderating effect of income and type of travel on the relationship.

Therefore, this research would like to study the degree to which CEs of airline travellers would vary because of the usage of SST and income levels. It would also like to delve on the differences between the CEs of business and leisure travellers.

Method

Research Design

A purposive convenience sampling was adopted for this study where the sampling frame included executives working in various organizations in Mumbai, India, who in the past year had undertaken at least three round trips. The data were collected over a span of 6 months. A pilot study was undertaken with 68 respondents to pretest the survey on a sample of customers who were considered representative of the study population and minor modifications were made.

Table 2 contains the demographic characteristics of the respondents. A total of 700 questionnaires were distributed, of which 627 questionnaires were returned, of which only 606 usable questionnaires were obtained. Out of the total samples, there were 471 males and 135 females. A group of 348 respondents were in the age group of 21–30 years, and 192 respondents were in the age group of 31–40 years, and there were 66 respondents over the age 40. The sample consisted of 328 graduates and 278 postgraduates. There were 99 respondents who earned less than 4.5 lakhs p.a., 277 respondents earning between 4.5 and 10.5 lakhs p.a. and 230 respondents earning above 10.5 lakhs p.a. In the consideration set, we had 246 frequent flyers and 360 non-frequent flyers. Of the sample surveyed, 41 per cent were frequent flyers and 59 per cent were non-frequent flyers. The Cronbach's α for CE is 0.896 and the Cronbach's α for SST is 0.943.

The demographic characteristics given in Table 2 have shown that 77.6 per cent of the respondents are male and 22.4 per cent of the respondents are females. A total of 57.4 per cent of the respondents are

Table 2. Demographic Characteristics

| Variables | No. of Respondents | Percentage |
|---------------------------------------|--------------------|------------|
| Gender | | |
| Male | 471 | 77.6 |
| Female | 135 | 22.4 |
| Age | | |
| 21–30 | 348 | 57.4 |
| 31–40 | 192 | 31.7 |
| 41–50 | 57 | 9.4 |
| 51–60 | 9 | 1.5 |
| Education Level | | |
| Graduate | 328 | 54.1 |
| Post-graduate | 278 | 45.9 |
| Income (per annum) | | |
| Less than 4.5 lakhs p.a. | 99 | 16.3 |
| 4.5–6.5 lakhs p.a. | 116 | 19.1 |
| 6.5–8.5 lakhs p.a. | 104 | 17.2 |
| 8.5–10.5 lakhs p.a. | 57 | 9.4 |
| Above 10.5 lakhs p.a. | 230 | 38.0 |
| Whether Frequent Flyer or Not? | | |
| Frequent Flyer | 246 | 40.6 |
| Non-frequent Flyer | 360 | 59.4 |

Source: Authors' own research.

in the age group 21–30 years with 54.1 per cent being graduates. A total of 38 per cent of the respondents earn an income of more than 10.5 lakhs p.a.

Measures

Quantitative data analysis was undertaken through structured questionnaire which was a combination of open-ended and close-ended questions. A standardized, self-administered questionnaire was developed from an extensive literature review and pretested as a pilot study. A survey method was undertaken to collect data both at the pilot and the final stage. All measures used a seven-point Likert scale, where 1 stands for strongly disagree and 7 stands for strongly agree with the exception of demographic items. The study was based on the premise of deductive reasoning/positivist method where survey was undertaken to test the hypotheses. The variables of SST and CE were conceptualized at the theoretical plane and operationalized and measured at the empirical plane. The moderating effect of the type of travel and income was studied on these relationships.

Both primary and secondary data were collected. Primary data were collected through the administered questionnaires. Various secondary reports on the airline industry helped understand industry trends and focus on the challenges that the industry faces. Some of the noted reports are 'Market Share of Domestic Scheduled Airlines', from the Director General of Civil Aviation 2012, CAPA Indian Aviation Outlook 2011; World Bank report, 2011 on 'Services and their value added % of GDP'; White Paper on 'Information Technology in Indian Aviation' CAPA-SITA, March 2010; 'Indian Aviation—Flying through Turbulence', KPMG, June 2008; 'Indian Airline Industry Consolidates but Change is still

in the Air', Wharton, April 2008; and the OECD Global Forum on International Investment, 2008 on 'Contribution of Services to Trade'.

Customer Experience

'Customer Experience' was measured by sense, feel, think, act and relate. The items were adapted from the scale developed by Lin (2006). The second-order construct reliability (CR) was 0.95 and the second-order average variance extracted (AVE) was 0.87 as reported from Lin's study. The goodness of fit (GFI) was 0.90, standardized root mean square residual (SRMR) was 0.043 and root mean square error of approximation (RMSEA) was 0.062.

'Sense' of the airline customer was measured by a 13-item scale. The sample items included 'The check-in process was swift' and 'The food in the aircraft was fresh and delicious'. The items were adapted from the scale developed by Lin (2006). Its CR was 0.85 and the AVE was 0.53.

'Feel' of the airline customer was measured by a seven-item scale. The sample items included 'The flight atmosphere made me relax and enjoy the flight' and 'In-flight entertainment was appropriately chosen'. The items were adapted from the scale developed by Lin (2006). Its CR was 0.89 and the AVE was 0.66.

'Think' of an airline customer was measured by a three-item scale. The sample item included 'The air travel helps me focus and think about my life and work better'. The items were adapted from the scale developed by Lin (2006). Its CR was 0.86 and the AVE was 0.56.

'Act' of the airline customer was measured by a three-item scale. The sample items included 'The service provided by the airline attracted me to join the frequent flyer club' and 'I would like to further explore the other activities of the airline'. The items were adapted from the scale developed by Lin (2006). Its CR was 0.84 and the AVE was 0.52.

'Relate' of the airline customer was measured by only one item. The item included 'I would not hesitate to select the provider again'. The item was adapted from the scale developed by Lin (2006). The CR was 0.83 and the AVE was 0.58.

Self-service Technology

Self-service technology of the airline customer was measured by a 16-item scale. The items were adapted from the scale developed by Parasuraman et al. (2005). The four dimensions of the scale were efficiency, system availability, fulfilment and privacy. The sample items included 'It makes it easy to find what I need' and 'It makes accurate promises about the delivery of products'. The Cronbach's α for efficiency, system availability, fulfilment and privacy are 0.94, 0.83, 0.89 and 0.83, respectively, and the GFI statistics are as follows: CMIN/DF (chi square/degree of freedom) is 4, CFI is 0.99, NFI is 0.98, RFI is 0.98, TLI is 0.98 and RMSEA is 0.7.

The descriptive statistics given in Table 3 has shown that the mean of the variable sense is 5.072 and the standard deviation is 0.863. The mean for feel is 4.969 and the standard deviation is 1. The mean for act is 4.665 and standard deviation is 1.253. The mean for relate is 5.274 and the standard deviation is 1.470. The mean for CE is 4.9 and the standard deviation is 0.9. For the variable SST, the mean is 4.16 and standard deviation is 1.3. The mean of all the variables are above the average 3, which reflects that the respondents are favourably inclined towards all the items of the questionnaire. The data show normal distribution since the standard deviation is not more than three times the mean. If standard deviation is more than three times of its mean, it is a skewed distribution, which is not so in this case.

Table 3. Descriptive Statistics of All the Factors

| | Minimum | Maximum | Mean | Std Dev. |
|-------------------------|---------|---------|--------|----------|
| Sense | 1.00 | 11.62 | 5.072 | 0.863 |
| Feel | 1.00 | 9.14 | 4.968 | 1.000 |
| Act | 1.00 | 8.33 | 4.665 | 1.254 |
| Relate | 1.00 | 8.00 | 5.274 | 1.471 |
| Customer Experience | 1.00 | 7.00 | 4.995 | 0.909 |
| Efficiency | 1.00 | 7.00 | 4.3418 | 1.386 |
| System Availability | 1.00 | 7.00 | 4.1310 | 1.448 |
| Fulfilment | 1.00 | 7.00 | 4.1685 | 1.442 |
| Privacy | 1.00 | 7.00 | 4.0342 | 1.496 |
| Self-service Technology | 1.00 | 7.00 | 4.169 | 1.339 |

Source: Authors' own research.

Table 4. KMO and Bartlett's Test

| KMO and Bartlett's Test | Customer Experience | Self-service Technology |
|---|---------------------|-------------------------|
| Kaiser–Meyer–Olkin Measure of Sampling Adequacy | 0.927 | 0.89 |
| Bartlett's Test of Sphericity (<i>p</i> value) | 0.000 | 0.000 |

Source: Authors' own research.

Factor Analysis

Exploratory factor analysis was conducted to confirm the factor structure of CE and SST in the pilot phase. Factor analysis was conducted using SPSS Version 19, and the principle axis factoring was applied with varimax rotation. Items which had a factor loading less than 0.4 or which cross-loaded on another factor were dropped. The items of the variable Think did not meet the 0.4 mark and hence were dropped. To determine if the data were suitable for EFA, the correlation matrices were examined and the Kaiser–Myer–Olkin (KMO) measure of sampling and Bartlett's test of sphericity were computed.

Table 4 gives the KMO values and the Bartlett's test of sphericity for all factors. The KMO values range from 0 to 1 and any value over 0.6 indicates good factor analysis. For Bartlett's test of sphericity, the value needs to be significant ($p < 0.05$). The KMO values for both the variables were above 0.8, which is above the recommended value, and the p value is significant below 0.05. Hence, the data are suitable for factor analysis.

The Cronbach's α values for CE are 0.896 and for SST is 0.943.

Customer Experience Items

The CE variable had 24 items with the following dimensions: Sense, 13 items; Feel, 7 items; Act, 3 items and Relate, 1 item.

Table 5 shows that factor 1, Sense, had two sub-factors. The items measuring swift explained 53.32 per cent of the variance and items measuring entertainment explained 51.8 per cent of the variance. After the factor analysis, four items were retained to measure swift and three items were retained to measure entertainment.

Factor 2, Feel, had two sub-factors. The items measuring comfort explained 44.17 per cent of the variance and items measuring joyful explained 59.01 per cent of the variance. After the factor analysis, three items were retained to measure comfort and three items were retained to measure joyful.

Table 5. Exploratory Factor Analysis: Underlying Items (*n* = 606)

| | Eigen Value | Cumulative (%) | Factor Loadings |
|--|-------------|----------------|-----------------|
| Customer Experience | | | |
| Factor 1: Sense | | | |
| Swift | 2.548 | 53.32 | |
| The baggage handling was done swiftly | | | 0.50 |
| Waiting time at check-in counter was bearable | | | 0.70 |
| Check-in process was swift | | | 0.85 |
| Overall check-in process was smooth | | | 0.81 |
| Entertainment | 2.02 | 51.8 | |
| The interior decor of the airplane was very attractive | | | 0.63 |
| The music in the aircraft was entertaining and had a wide selection | | | 0.81 |
| The food in the aircraft was fresh and delicious | | | 0.71 |
| Factor 2: Feel | | | |
| Comfort | 1.79 | 44.17 | |
| Overall airport experience was great | | | 0.46 |
| The whole atmosphere in the aircraft made me comfortable | | | 0.89 |
| The flight atmosphere made me relax and enjoy the flight | | | 0.57 |
| Joyful | 2.176 | 59.01 | |
| The flight atmosphere made me joyful | | | 0.76 |
| The comfort of the seats and the leg space made me comfortable | | | 0.72 |
| Overall in-flight experience was great | | | 0.82 |
| Factor 3: Act | | | |
| I will be willing to share the experiences with relatives and friends | 1.872 | 44.17 | 0.60 |
| The service provided by the airline attracted me to join the frequent flyer club | | | 0.75 |
| I would like to further explore the other activities of the airline | | | 0.64 |
| Self-service Technology | | | |
| Factor 1: Efficiency | | | |
| It makes it easy to find what I need on the website | 2.28 | 44.35 | 0.42 |
| It makes it easy to find what I need on the mobile | | | 0.71 |
| It makes it easy to find what I need on the kiosk | | | 0.76 |
| It makes it easy to find what I need on the IVR | | | 0.71 |
| Factor 2: System Availability | | | |
| It launches and runs right away on the website | 2.44 | 49.32 | 0.49 |
| It launches and runs right away on the mobile | | | 0.75 |
| It launches and runs right away on the kiosk | | | 0.77 |
| It launches and runs right away on the IVR | | | 0.76 |
| Factor 3: Fulfilment | | | |
| It makes accurate promises about the delivery of the products on the website | 2.48 | 50.66 | 0.50 |
| It makes accurate promises about the delivery of the product on the mobile | | | 0.75 |
| It makes accurate promises about the delivery of the product on the kiosk | | | 0.78 |
| It makes accurate promises about the delivery of the product on the IVR | | | 0.78 |
| Factor 4: Privacy | | | |
| It protects my personal info from other sites on the website | 2.56 | 53.89 | 0.49 |
| It protects my personal info from other sites on the mobile | | | 0.80 |
| It protects my personal info from other sites on the kiosk | | | 0.81 |
| It protects my personal info from other sites on the IVR | | | 0.79 |

Source: Authors' own research.

Note: IVR = Interactive voice response.

The three items measuring factor 3, Act, loaded on one factor and measured 44.17 per cent of the variance. For factor 4, Relate, factor analysis was not conducted as only one item is used to measure it.

Self-service Technology Items

The SST variable had 16 items. Table 5 shows that SST had four factors. The items measuring efficiency explained 44.35 per cent of the variance, items measuring system availability explained 49.32 per cent of the variance, items measuring fulfilment explained 50.66 per cent of the variance and the items measuring privacy explained 53.89 per cent of the variance. After factor analysis, four items were retained to measure efficiency, four items were retained to measure system availability, four items were retained to measure fulfilment and four items were retained to measure privacy.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a statistical technique used to verify the factor structure of a set of observed variables. It allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. The CFA model has the following characteristics: (i) each indicator is a continuous variable represented as having two causes, a single underlying factor that the indicator is supposed to measure and all other unique sources of causation that are represented by the error term; (ii) the measurement errors are independent of each other and of the factors and (iii) all associations between the factors are unanalyzed (Kline, 2005).

The CFA for each of the factors was conducted for the final data collected from 606 executives. In order to test the model fit, the following considerations were kept in mind. Marsh and Hocevar (1985) suggest that the χ^2/df ratio must be preferably less than two but ratios less than five are acceptable for a reasonable fit. Goodness of fit, normed fit index (NFI), comparative fit index (CFI) and Tucker and Lewis fit index (TLI) values must be preferably greater than 0.95, but values greater than 0.9 are acceptable for reasonable fit (Byrne, 2001). Root mean square error of approximation must be less than 0.05 to indicate a close fit and less than 0.1 to indicate a reasonable fit (Browne & Cudeck, 1993).

While the p value must be statistically insignificant to indicate a good fit, it is recognized in the structural equation modelling (SEM) literature that chi-square statistics is affected by the sample size, and there is known evidence that when sample size is far larger than 200, the estimation of the model tends to show significant chi-square result. This is why the mainstream literature and views are for using combined multiple criteria of the chi-square statistics in conjunction with model fit indices, especially RMSEA and CFI (Hu & Bentler, 1999).

The fit indices indicate that the factorial validity of CE was adequate. The factor loadings (standard regression weights) were above 0.5. Modification indices did not suggest any changes in the dimensionality of CE

The CFA for CE is presented in Figure 1. Swift has four observed variables, entertainment has three observed variables, comfort has three observed variables, joyful has three observed variables and act has three observed variables. Coefficients are fixed to a number (which is one) to minimize the number of parameters estimated in the model. The hypothesized model was tested to see how well it fits the observed data.

Customer experience was posited as the third-order latent variable, with sense and feel, which were posited as the second-order latent variables, and swift, entertainment, joyful, comfort and act, which

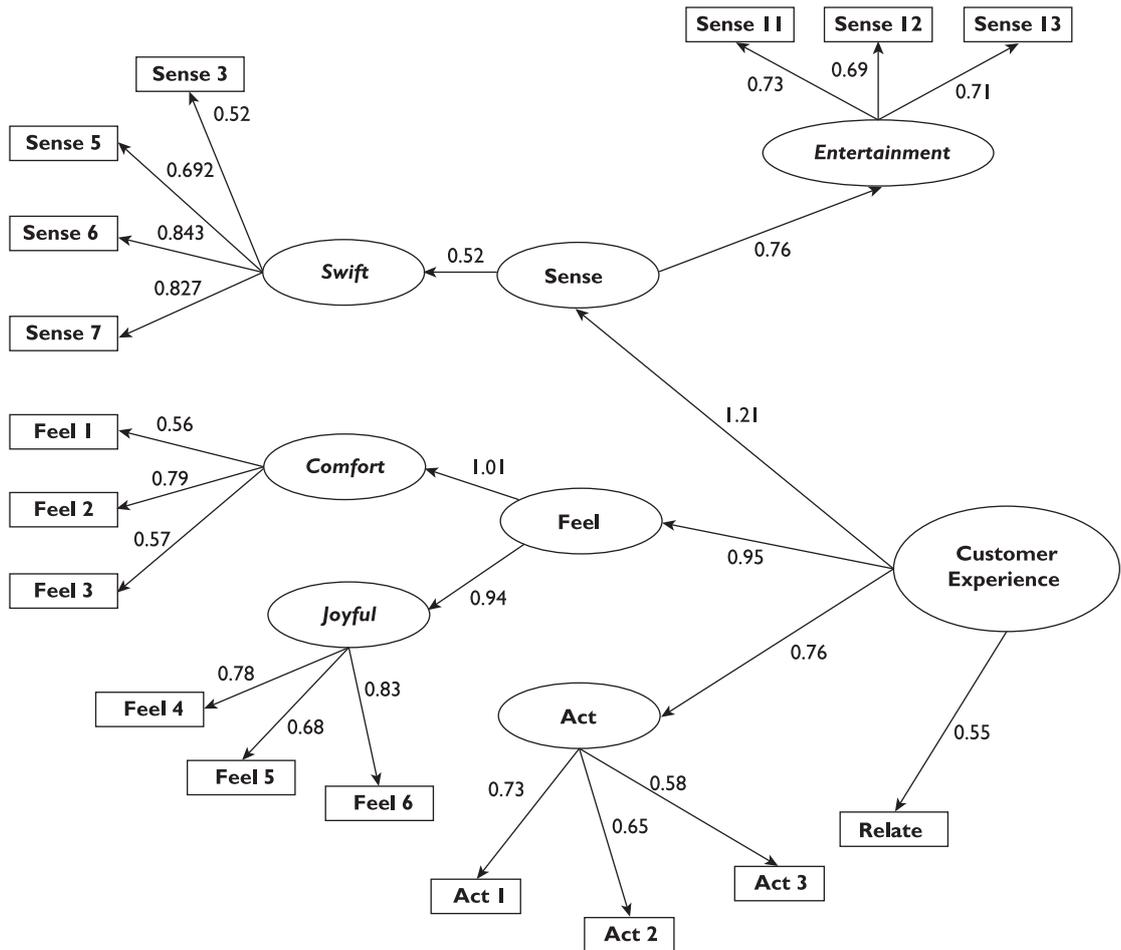


Figure 1. CFA for the Variable Customer Experience with Standard Regression Weights

Source: Authors' own research.

were posited as the first-order latent variables. The path diagram displayed the standardized regression weights (factor loadings) for the common factor and each of the indicators. The standardized regression weights are specified on the respective paths. Table 6 shows the fit indices for CE where CMIN/DF is 3.53, GFI was 0.928, NFI was 0.910, the TLI was 0.910, CFI was 0.933, RMSEA was 0.064 and SRMR was 0.051. These scores indicated a reasonable fit. The significant *p* value was justified due to the large sample size of 606 respondents. The combined multiple criteria of the chi-square statistics

Table 6. Fit Indices for Customer Experience (CE)

| | CMIN/DF | <i>p</i> Value | GFI | NFI | TLI | CFI | RMSEA | SRMR |
|---------------------|---------|----------------|-------|-------|-------|-------|-------|-------|
| Customer Experience | 3.532 | 0.00 | 0.928 | 0.910 | 0.919 | 0.933 | 0.065 | 0.051 |

Source: Authors' own research.

in conjunction with model fit indexes, especially RMSEA and CFI (Hu & Bentler, 1999), were used. The results supported that the EFA factor patterns were consistently found in CFA as well.

The fit indices indicate that the factorial validity of SST was adequate. The factor loadings (standard regression weights) were above 0.05. Modification indices did not suggest any changes in the dimensionality of SST.

The CFA for SST is reported in Figure 2. Efficiency had four observed variables, system availability had four observed variables, fulfilment had four observed variables and privacy had four observed variables.

Self-service technology was posited as the second-order latent variable with efficiency, system availability, fulfilment and privacy were posited as the first-order latent variables. The path diagram displayed the standardized regression weights (factor loadings) for the common factor and each of the

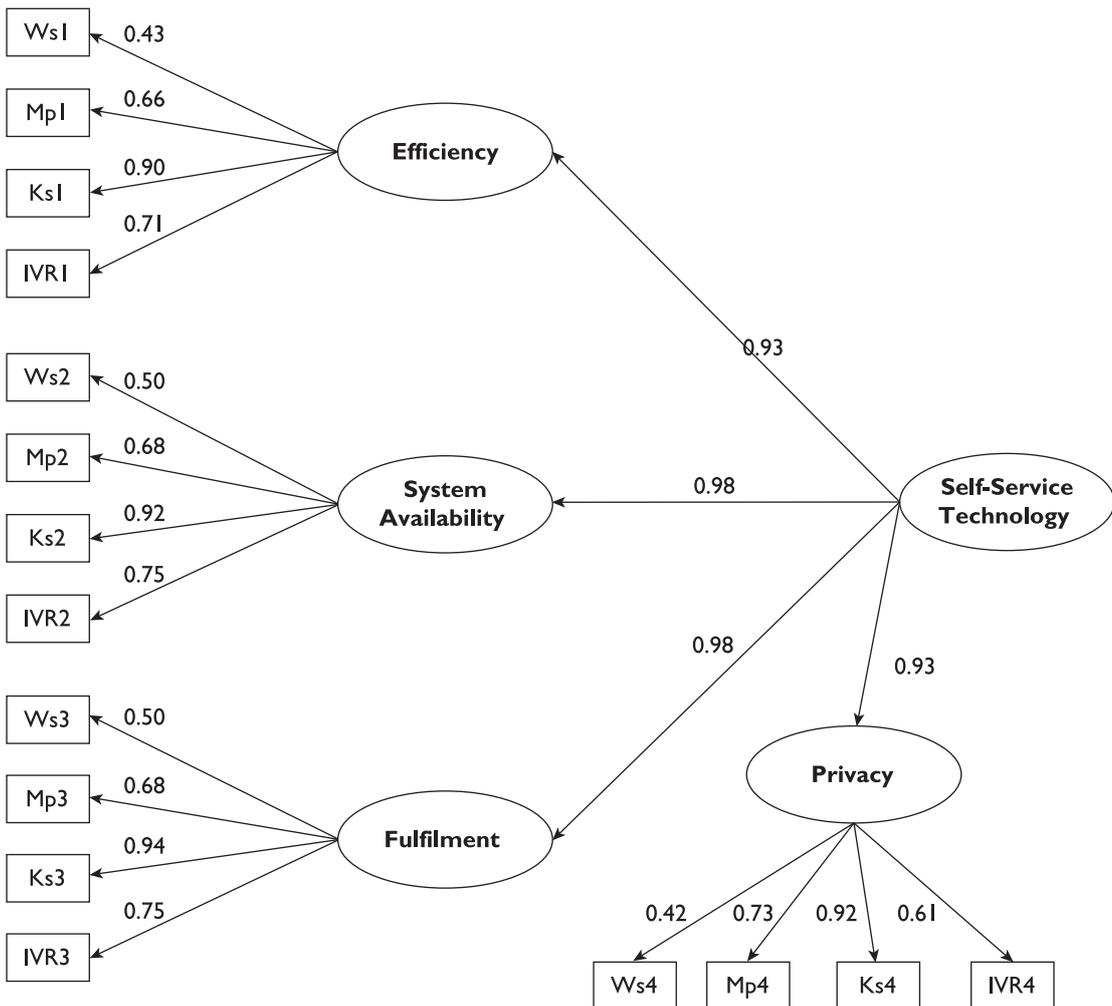


Figure 2. Confirmatory Factor Analysis for the Variable Self-service Technology with Standard Regression Weight

Source: Authors' own research.

Table 7. Fit Indices for Self-service Technology (SST)

| | CMIN/DF | <i>p</i> Value | GFI | NFI | TLI | CFI | RMSEA | SRMR |
|-------------------------|---------|----------------|-------|-------|-------|-------|-------|-------|
| Self-service Technology | 4.314 | 0.00 | 0.930 | 0.963 | 0.957 | 0.971 | 0.074 | 0.053 |

Source: Authors' own research.

indicators. The standardized regression weights are specified on the respective paths. Table 7 shows the fit indices for SST where CMIN/DF was 4.314, GFI was 0.930, NFI was 0.963, the TLI was 0.957, CFI was 0.971, RMSEA was 0.074 and SRMR was 0.053. These scores indicated a reasonable fit. The significant *p* value was justified due to the large sample size of 606 respondents. The combined multiple criteria of the chi-square statistics in conjunction with model fit indexes, especially RMSEA and CFI (Hu & Bentler, 1999), were used. The results supported that the EFA factor patterns were consistently found in CFA as well.

Assessing Measurement Model Validity

Convergent validity is the extent to which items of a specific construct converge or share a high proportion of variance in common. The indicators of convergent validity are AVE and CR. Average variance extracted is the average percentage of variation extracted (or explained) among the items of a latent construct. Construct reliability (CR) is a measure of reliability and internal consistency of the measured variables representing a latent construct (Hair et al., 2010). The criteria for establishing convergent validity are that AVE > 0.5 and CR > 0.6.

Discriminant validity is the extent to which each construct is truly distinct from other constructs. Discriminant validity is assessed by comparing the maximum-shared variance (MSV; squared correlation) between each pair of constructs against the minimum of the AVEs for those two constructs. Discriminant validity is established when MSV is less than AVE.

Table 8 shows the result of AVE, CR and MSV for all the constructs. The results show that AVE > 0.5 and CR > 0.6 for all constructs (Fornell & Larcker, 1981). The MSV results are lesser than AVE for all constructs. Hence, discriminant validity is proved.

Table 8. Results of Discriminant and Convergent Validity

| Constructs | AVE (average variance extracted) | CR (construct reliability) | MSV (maximum shared variance) |
|----------------------------|-------------------------------------|-------------------------------|----------------------------------|
| Sense | 0.55 | 0.7 | 0.31 |
| Swift | 0.54 | 0.82 | 0.08 |
| Entertainment | 0.94 | 0.98 | 0.08 |
| Feel | 0.96 | 0.98 | 0.56 |
| Comfort | 0.92 | 0.97 | 0.87 |
| Joyful | 0.95 | 0.98 | 0.87 |
| Act | 0.91 | 0.97 | 0.56 |
| Customer Experience | 0.76 | 0.93 | 0.54 |
| Efficiency | 0.58 | 0.73 | 0.04 |
| System Availability | 0.63 | 0.84 | 0.03 |

(Table 8 continued)

(Table 8 continued)

| Constructs | AVE (average variance extracted) | CR (construct reliability) | MSV (maximum shared variance) |
|--------------------------------|-------------------------------------|-------------------------------|----------------------------------|
| Fulfilment | 0.54 | 0.82 | 0.04 |
| Privacy | 0.67 | 0.8 | 0.02 |
| Self-service Technology | 0.97 | 0.98 | 0.04 |

Source: Authors' own research.

Table 9. Fit Indices for SST and CE Model

| | CMIN/DF | P Value | GFI | NFI | TLI | CFI | RMSEA | SRMR |
|--------|---------|---------|-------|-------|-------|-------|-------|-------|
| SST-CE | 3.14 | 0.950 | 0.949 | 0.958 | 0.989 | 0.968 | 0.059 | 0.052 |

Source: Authors' own research.

Table 9 shows the fit indices for the structural equation model where CMIN/DF was 3.14, GFI was 0.949, NFI was 0.958, the TLI was 0.989, CFI was 0.968, RMSEA was 0.059 and SRMR was 0.052. These scores indicated a reasonable fit. The significant *p* value was justified due to the large sample size of 606 respondents. The combined multiple criteria of the chi-square statistics in conjunction with model fit indexes, especially RMSEA and CFI (Hu & Bentler, 1999), were used.

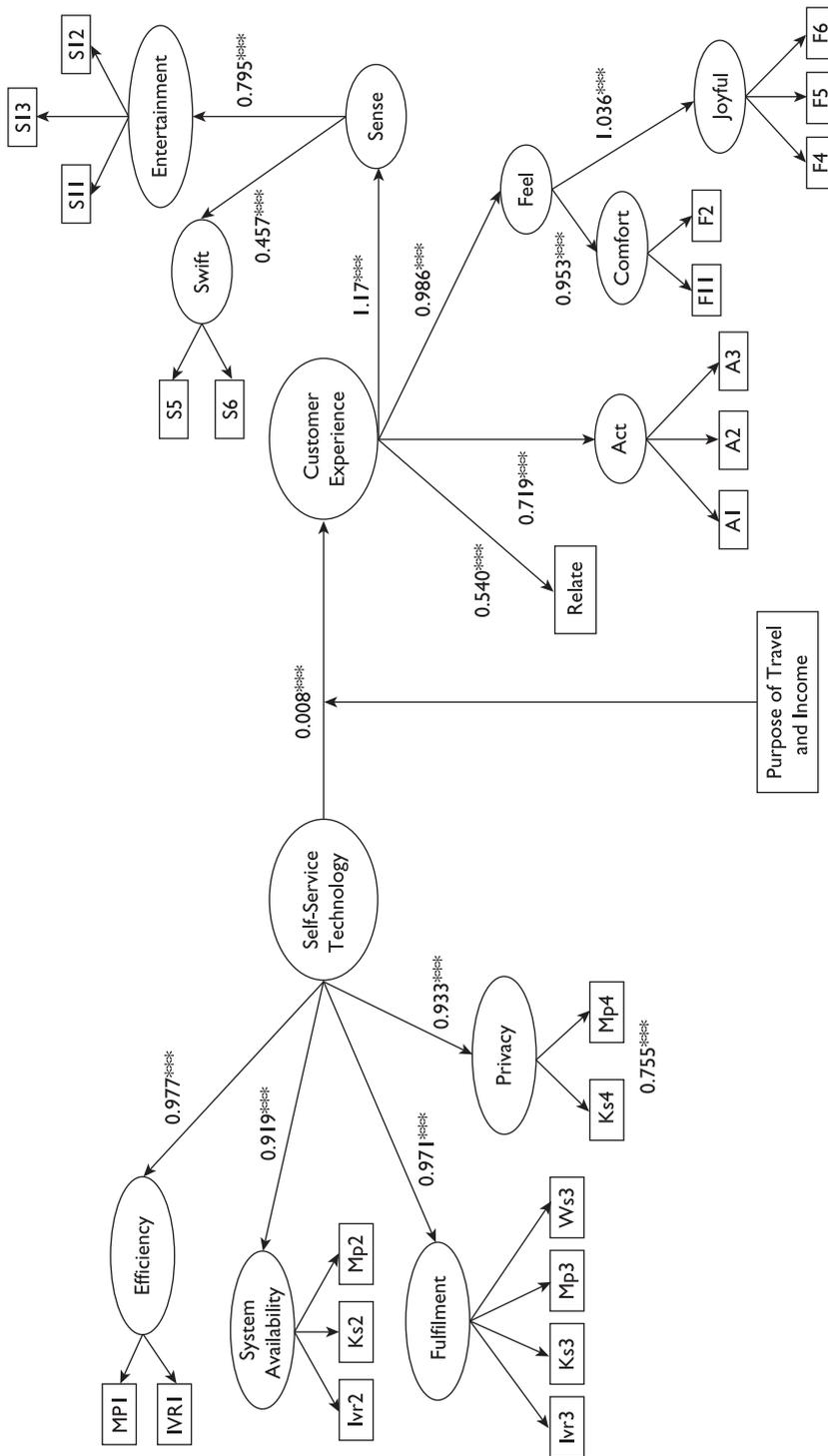
Moderating Regression

To study the moderating effect of purpose of travel (business and leisure) and income on the relationship between self-service technology and CE.

Multiple regression was used to investigate whether the association between SST and CE of an airline traveller depended on the purpose of travel (leisure). The interaction term was computed by multiplying SST by leisure travel ($SST \times \text{leisure travel}$). Self-service technology and leisure travel were centred (new values were created after subtracting the means from each value) (Aiken & West, 1991). The computation was done step by step; SST was entered in the first step, leisure travel was entered in the second step and the interaction term was entered in the third step. The results in Table 10 show that the interaction effect between self-service technology and leisure travel was non-significant. Hence, leisure travel did not moderate the relationship between SST and CE.

Multiple regression was used to investigate whether the association between SST and CE of an airline traveller depended on the purpose of travel (business). The interaction term was computed by multiplying SST by business travel ($SST \times \text{business travel}$). Self-service technology and business travel were centred (new values were created after subtracting the means for each value) (Aiken & West, 1991). The computation was done step by step; SST was entered in the first step, business travel was entered in the second step and the interaction term was entered in the third step. The results in Table 11 show that the interaction effect between self-service technology and business travel was non-significant. Hence, business travel did not moderate the relationship between SST and CE.

Multiple regression was used to investigate whether the association between SST and CE of an airline traveller depended on the income. The interaction term was computed by multiplying SST by



Significant at p level < 0.001

R^2 (Squared Multiple Correlations) for Customer Experience is 63%

Figure 3. Structural Model of Self-service Technology and Customer Experience

Source: Authors' own research.

Table 10. Multiple Regression Results for Moderating Effect of Leisure Travel on the Relationship between SST and CE

| Predictor | Customer Experience | | | | | |
|-------------------------------------|---------------------|-------|-----------|-------|-----------|-------|
| | Step 1 | | Step 2 | | Step 3 | |
| | β | se | β | se | β | se |
| Step 1: SST | 0.203 | 0.023 | | | | |
| Step 2: Leisure Travel | | | -0.032 | 0.007 | | |
| Step 3: SST \times Leisure Travel | | | | | 0.028 | 0.004 |
| R ² | 0.040*** | | 0.039 | | 0.038 | |
| R ² change | 0.041*** | | 0.001(ns) | | 0.001(ns) | |

Source: Authors' own research.

Notes: * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$.

Table 11. Multiple Regression Results for Moderating Effect of Business Travel on the Relationship between SST and CE

| Predictor | Customer Experience | | | | | |
|--------------------------------------|---------------------|-------|----------|-------|----------|-------|
| | Step 1 | | Step 2 | | Step 3 | |
| | β | Se | β | se | β | se |
| Step 1: SST | 0.199 | 0.023 | | | | |
| Step 2: Business Travel | | | 0.04 | 0.002 | | |
| Step 3: SST \times Business Travel | | | | | 0.033 | 0.001 |
| R ² | 0.040*** | | 0.039 | | 0.038 | |
| R ² change | 0.041*** | | 0.01(ns) | | 0.01(ns) | |

Source: Authors' own research.

Notes: * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$.

income (SST \times income). Self-service technology and income were centred (new values were created after subtracting the means for each value) (Aiken & West, 1991). The computation was done step by step; SST was entered in the first step, income was entered in the second step and the interaction term was entered in the third step. The results in Table 12 show that the interaction effect between self-service technology and income was non-significant.

Table 12. Multiple Regression Results for Moderating Effect of Income on the Relationship between SST and CE

| Predictor | Customer Experience | | | | | |
|-----------------------------|---------------------|-------|---------|-------|----------|-------|
| | Step 1 | | Step 2 | | Step 3 | |
| | β | se | β | se | β | se |
| Step 1: SST | 0.193 | 0.023 | | | | |
| Step 2: Income | | | 0.092 | 0.024 | | |
| Step 3: SST \times Income | | | | | -0.006 | 0.015 |
| R ² | 0.038*** | | 0.045** | | 0.044 | |
| R ² change | 0.040*** | | 0.008** | | 0.00(ns) | |

Source: Authors' own research.

Notes: * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$.

Hence, the purpose of travel (business and leisure) and income did not moderate the relationship between SST and CE.

Discussion

The notion of customers as active participants in the coproduction of service as a means to co-create value is fundamental to a service logic (Grönroos, 2006; Vargo & Lusch, 2004). In fact, Vargo and Lusch describe service as a process of 'doing things in interaction with the customer'. Both service providers and customers apply resources, such as skills and knowledge, to a service interaction to acquire benefits.

The airline traveller uses various forms of SST. He books his ticket online as per his schedule and requirement. Various travel portals give comparative figures of air travel which enable a traveller to make a judicious choice. For a low-cost airline, the passenger can even pre-book his meal. Once the formalities of booking a ticket are completed, the role of SSTs does not cease.

He can do a telephonic check-in. He can access the status of his flight by going on to the web portal from his smart phone or his PC. All this makes his life simpler and enables him to save time and resources. These activities and many more are characteristic of an airline customer. It is because of the user friendly interface that travellers find it convenient to book on the web. These events make the traveller feel in control of his travel.

When the customer is engaged in production, the firm must ensure that the process of production is involving and that of high quality. The process must provide psychic benefits to the customer in the form of enjoyment, accomplishment, self-confidence or control (Lusch, Brown & Brunswick, 1992).

As per the CAPA-SITA (2010) report, the five features that will enhance the passenger experience are all based on technology interface. The first being the use of the smart phone where you enable the passenger for mobile ticketing, check-in, etc. The second is the Web, where travellers can blog on their experience. The third feature is near field communications (NFC), for paperless tickets for automated check-in and boarding. The fourth feature is radio-frequency identification (RFID), for faster passenger and baggage processing, and finally, biometrics, which recognizes a passenger on one or more intrinsic physical or behavioural trait.

The airline traveller is also able to get updated details of flights and fares through various portals and this reduces customer dependence on any personnel (within his immediate surrounding or from the airline management). Ease of navigation, a sense of dependability and the speed of connectivity too enhance the CE. Travellers are comfortable doing transaction on websites where they feel their personal information is protected and there is privacy in all the transactions. KLM's Royal Dutch Airlines has started a new programme called Meet and Seat, which lets you find out about interesting people who will be on board your KLM flight, such as other passengers attending the same event as you at your destination for which the passenger needs to share his Facebook or LinkedIn profile details to check other participating passengers' details and where they will be sitting. In this case, the passenger participates and chooses his own seat by logging into his account through the website and then choosing the passenger he wants to sit with. This initiatives and more which are being introduced by various airlines make the journey an experience to remember.

The purpose of travel did not have a significant moderating effect on the relationship between SST and CE. For many a passenger travelling for business, the booking for his flight may have been done by the organization's administration or by his assistant. Generally, it is noticed that this activity is entirely handled by another person. In this case, there will be no effect of usage of SST on CE for the passenger travelling for business. It is also noticed that they would rather do a check-in at the counter and not at the kiosk. As he does not use most of the SSTs himself, it will not affect his CE.

A passenger travelling for leisure is usually going for a holiday to his hometown or touring a new place or visiting friends or relatives. He may have got all his bookings done by the travel agent. He may also have minimized the use of SSTs pre-flight and during the check-in process too.

Income did not have a moderating effect on the relationship between SST and CE. A higher income individual does not necessarily adapt to technology faster and use SST more and hence it does not moderate the relationship. This shows that high levels of income or low levels of income do not have any effect on the relationship. Hence, the relationship will not be stronger or weaker due to income.

Managerial Implications

The airline industry is continuously seeking ways to enhance the CE of its travellers. The service provider needs to bear in mind that the technology interface that the airline industry provides to its customer in booking his tickets online is going to be an important part of the customer journey—right from the ease of booking to protecting the privacy of the traveller is extremely important to the customer. Getting reminders on his mobile at regular interval concerning the flight is also essential. The services provided to the customer when he is doing a web check-in or kiosk check-in make his journey more comfortable.

Customer experience is multidimensional and can be delivered by the airline by focusing on the swiftness of the service at all touch points of the customer journey. The entertainment (movies, music, etc.) offered by the airline on the flight is equally important for the customer. The comfort of travel and the joy of having a relaxed travel give a feeling of satisfaction to the customer. This will then lead to the customer talking about the service positively to his friends and relatives. Hence, he may decide to travel again with the airline, thus leading to loyalty and a sense of trust with the airline.

The airline which aims at creating a CE through technology interface needs to develop easy navigability, minimum downtimes, provide fulfilment in delivery and maintain privacy of the customer.

Conclusion

Determining the antecedents of CE of airline travellers was the central focus of this research. A new measure for CE was developed with the sense, feel, act and relate framework. Usage of SST positively affects the CE of an airline traveller. The purpose of travel (business or leisure) and income did not have a moderating effect on the relationship. The research has highlighted that CE can be measured with the sensorial, affective, actionable and relational framework.

The researcher has developed a framework which will aid researchers in studying CE for different services. The framework of measuring SST can also be adapted for other service settings. An SST must provide efficiency, system availability, fulfilment and privacy to its users. Service providers need a holistic solution to providing superior CE. The antecedents of CE developed by the researcher in the model emphasize on the usage of SSTs. This will give the airline a sustainable competitive advantage over other airlines. The airline personnel will be better equipped to service customers once they know what they are looking for.

There is an emergence of virtual communities who blog and write about their experiences as a traveller. Research is needed in this area to develop and manage virtual communities and study their impact on CE. The research has focused on how SST influences the CE. It will be worthwhile to study if there is a difference in this influence for 'passive' systems where customers do not have to interact with technology but still they get the information vis-à-vis 'active' systems where participation from the customer is required.

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