
Development of conceptual framework for internet banking customer satisfaction index

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Abstract: Previous researchers have extensively studied the application of customer satisfaction index (CSI) models. The American customer satisfaction index (ACSI) was one of early customer satisfaction scale launched in the early 1990s. After the success of ACSI, various researchers came up with country-specific CSI. However, there are hardly any industry-specific CSI. This paper attempts to review the various CSI models and build a conceptual framework for internet banking customer satisfaction index (IBCSI). The IBCSI, a new index proposed for the banking industry, would measure CSI for internet banking customers. This study is pertinent due to the exponential growth in e-banking. The study also highlights the emerging areas of research in internet banking domain.

Keywords: customer satisfaction index; CSI; internet banking; conceptual model; customer satisfaction.

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1 Introduction

Customer satisfaction has been a key research area for the marketing researchers. Fornell (1992) in his seminal paper reported that productivity and customer satisfaction were key strategic parameters – both for industries and organisations. These parameters included the quantitative and qualitative aspects of business performance. This study also emphasised that customer satisfaction was one of the important components for both pre-consumption and post-consumption scenarios. Various scholars (Sikdar et al., 2015; Srivastava et al., 2009; Fornell et al., 1996) mentioned that needs of modern consumers were heterogeneous and hence these consumers preferred augmentation in case of both products and services. Fornell et al. (1996) also highlighted that to address this heterogeneity; the organisations had introduced customisations and augmentations in their offerings. The service sectors like banking were no exception to these changes and hence understanding, modelling and measuring customer satisfaction had become essential in this context. For fulfilling this research purpose, this study has formulated following research questions (RQ) that will help in understanding the evolution of customer satisfaction index (CSI).

RQ1 How the customer satisfaction was defined and measured by the past researchers?

RQ2 Which were the prominent causal relationships considered by the past researcher?

RQ3 Which could be the appropriate and relevant components for proposing a causal model that would estimate CSI in the internet banking sector?

A set of research objectives was also formulated for addressing aforementioned RQs. These objectives were:

- 1 to conduct a detailed literature review of existing national CSI models
- 2 to identify the antecedents and consequents of customer satisfaction in the banking industry from the research conducted in internet banking
- 3 to propose a CSI in internet banking and formulate hypotheses for testing it in future.

After formulating the RQ and objectives, the structure for the study was prepared. The first part of the study covered extensive literature review on the evolution and development of various CSIs. The second part focused on developing the conceptual framework and justification for the incorporation of the specific factors considered in the CSI model proposed for internet banking industry. The third part covered the conclusions and further implications of the study.

2 Literature review

Johnson et al. (2001) reported about the evolution and limitation of CSI models used by past researchers. This study mentioned about the evolution of customer satisfaction models starting from Swedish customer satisfaction barometer (SCSB) in 1991 to European customer satisfaction index (ECSI) in 2000. Johnson et al. (2001) mentioned that the SCSB provided a theoretical basis for developing American customer satisfaction index (ACSI). The ACSI was used as a basis for the models proposed for measuring satisfaction from Norway and countries belong to EU. Various researchers (Keskar and Pandey 2018a; Johnson et al., 2001; Fornell et al., 1996) suggested to evaluate the previously established customer satisfaction models for their further development. Therefore a systematic review of the past literature was conducted. On basis of the theoretical justifications, analysis and the outcomes of literature review an appropriate model that considered online banking customer satisfaction context was proposed.

2.1 Evolution of CSI

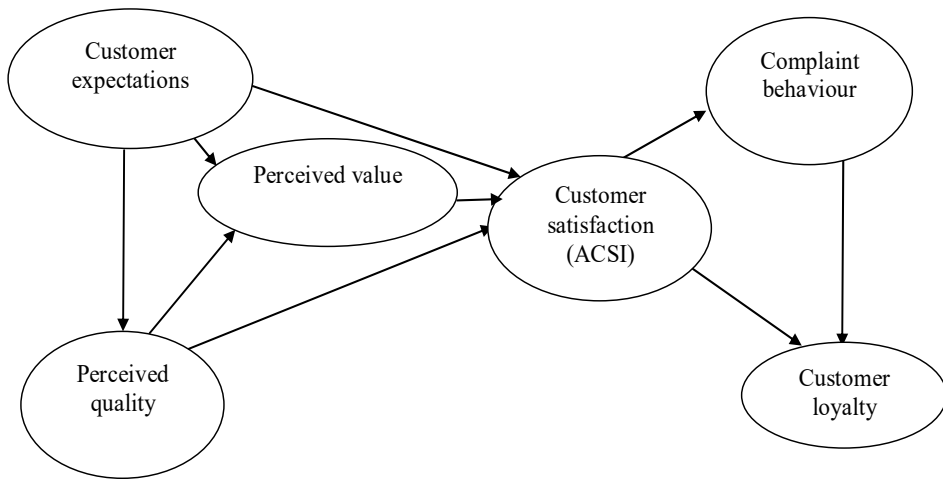
The relationship between antecedents of customer satisfaction and consequences of customer satisfaction are predominantly examined and tested in the developed countries like Sweden, the USA, Norway, New Zealand, Austria, Korea and European Union. These indices were never proposed or tested at the global level or for industry or sector (Johnson et al., 2001). The seminal study by Johnson et al. (2001) highlighted that even though the cause-effect system was an appropriate system used for CSI, there were still certain limitations which need to be addressed. This study confirmed customer loyalty as a key dependent variable of the CSI models. The measurement of the customer satisfaction considers two measures namely transaction-specific satisfaction and cumulative satisfaction (Johnson et al., 1995). Out of these measures, the marketing researchers have emphasised more on transaction-specific measures and the relationship between perceived quality and satisfaction. According to Johnson et al. (2001), the cumulative satisfaction construct measures predicted the repurchase behaviour and economic performance in a better way than transaction specific measures of satisfaction. Further, Johnson et al. (2001) reported that the prominent models of customer satisfaction had considered overall satisfaction as an outcome of quality.

The past researchers had developed national CSI models considering the relevance of various product and services, but the development of industry-specific CSI models like for banking sector was never taken into consideration. Therefore, it is important to understand how customer satisfaction was being examined by the past researchers in order to propose a framework for the banking sector in general and for the internet banking context in specific. In order to understand the research context in a better way this study analysed the prominent CSI models like SCSB, ACSI, Switzerland customer satisfaction index (SWICS), Norwegian customer satisfaction index (NCSI), ECSI, Russian CSI, Hong Kong customer satisfaction index (HKCSI), Kanji CSI, electronic commerce customer satisfaction index (ECCSI) and electronic customer satisfaction index (e-CSI). This section explores the evolution of customer satisfaction indices and evaluates their development parameters.

2.1.1 Swedish customer satisfaction barometer

The SCSB was the first model proposed by Fornell (1992). It built upon the theoretical contributions by Hirschman (1970) and Oliver (1980). This index proposed the perceived performance (value) and customer expectations as antecedents of the customer satisfaction. This study assumes direct relationship between perceived value, customer expectations and customer satisfaction. Hirschman (1970) mentioned that the dissatisfied customers respond in two ways. The customer may exist or voice their complaints. The final outcome was taken as customer loyalty. According to Hirschman (1970), customer loyalty was an intention of consumption or actual repurchase of product or services. Fornell (1992) mentioned that this study is a pioneering study that explored the relationship between customer complaint and customer loyalty (Figure 1).

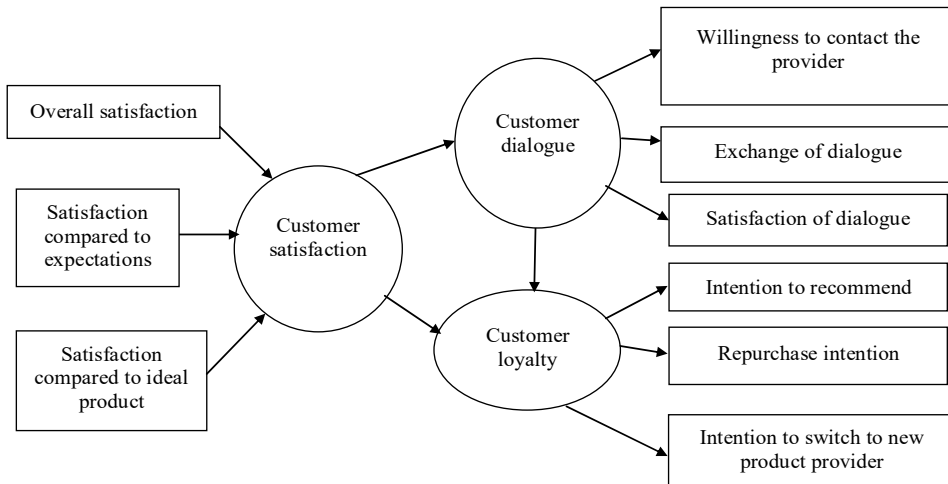
Figure 1 ACSI model



Source: Fornell et al. (1996)

2.1.2 American customer satisfaction index

The ACSI, one of the popular national indicators, was developed by Fornell et al. (1996). This study was a pioneering study conducted for measuring customer satisfaction as the changes in the economy had reduced the satisfaction among US consumers. This index measured customer satisfaction regarding the quality of various products and services consumed by US consumers. This model considered perceived value as a function of perceived quality and customer expectation. Further, perceived value, customer expectation, and perceived quality were considered as antecedents of customer satisfaction. This model treated perceived quality as expected by the customer was dependent on the extent of customisation and reliability of services provided by manufacturer and service provider. This model also considered overall customer satisfaction as an antecedent of customer complaints and customer loyalty. This means that level of customer complaints and customer loyalty were the outcomes of customer satisfaction (Figure 2).

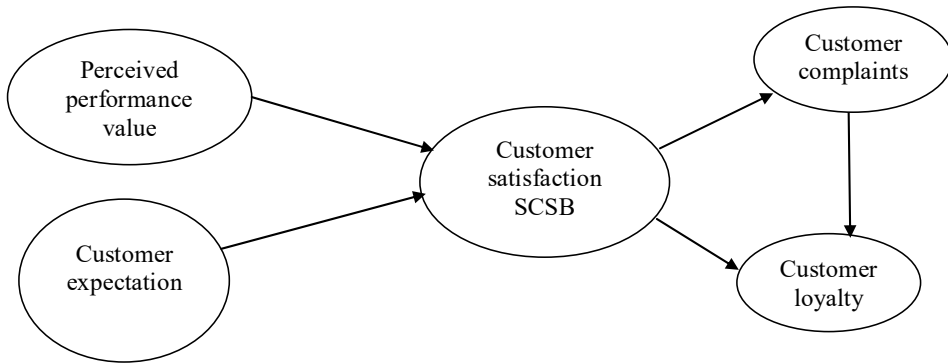
Figure 2 SWICS model

Source: Bruhn and Grund (2000)

This model also considered perceived quality which is an additional construct added to the SCSB. Fornell et al. (1996) had used the reflective indicators for measuring the latent constructs considered in the model. The ACSI model viewed the perceived value from both price and quality aspects and hence treated it as an outcome of expectation and quality. ACSI was also considered an indicator of financial soundness (Fornell et al., 1996). The ACSI was helpful in SWOT analysis of the company besides being used in benchmarking of firms over a period of time. The ACSI also provided an independent and reliable source of market research to provide rankings for product/service performance from the customer's perspective. This was better than product ratings published by magazines and private research firms.

2.1.3 Switzerland customer satisfaction index

The SWICS was developed by Bruhn and Grund (2000). It surveyed 20 different industries in Switzerland to examine the relationship between customer satisfaction dialogue and loyalty. This study emphasised on the intense competition and dynamic developments happening across the industry and companies. The changes related to marketing strategies emphasising on customer satisfaction and customer loyalty were also considered by Bruhn and Grund (2000). This study mentioned that the increased customer loyalty resulted in enhanced repurchase and cross-buying potential of the customer and consumer. The willingness to pay a higher price (Pandey et al., 2019), willingness to recommend and reduced switching behaviour were outcomes of customer loyalty. The customer satisfaction was a precursor of customer loyalty and hence analysing preconditions for both customer satisfaction, and customer loyalty was necessary (Fornell, 1992; Fornell et al., 1996). This study mentioned a chain of success that was interlinkages between constructs. These linkages started at the quality and ended with economic success. Unlike the previous study, this study had not considered the preconditions of customer satisfaction. This study treated customer satisfaction as a consequence of customer dialogue and customer loyalty (Figure 3).

Figure 3 Swedish customer satisfaction barometer

Source: Johnson et al. (2001)

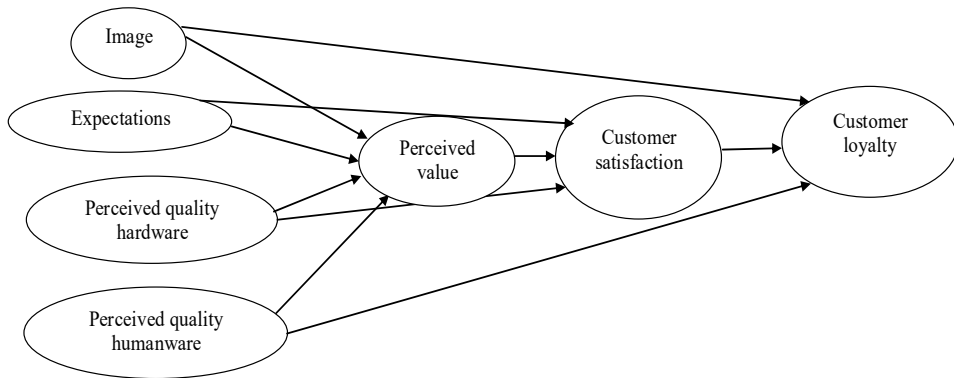
2.1.4 Norwegian customer satisfaction barometer

The CSI was measured at a national level initially to enhance the generalisability of the model. The researchers from different countries like the USA, Sweden, and Norway collaborated and proposed new Norwegian customer satisfaction barometer (NCSB). This collaboration focused on the development of many customer satisfaction indices. The NCSB model considered the role of corporate image and its interrelationship with customer satisfaction and loyalty in the model (Johnson et al., 2001). The corporate image helped form a positive attitude and impacted customer satisfaction. NCSB considered commitment as one of the antecedent. This study proposed a new NCSB model using the partial least squares (PLS) method as Swedish, American and European CSIs have all been estimated by using casual modelling procedure. This study substituted construct of customer expectations with the construct of corporate image. The corporate image was an outcome of consumer satisfaction rather than as a driver of consumer satisfaction. The complaint behaviour was substituted with complaint handling in this model. It recommended the use of perceived price construct instead of perceived value construct. Further, it proposed customer loyalty as the standard of customer satisfaction as loyalty will directly emerge as an after effect of price and or quality.

2.1.5 European customer satisfaction index

ECSI considered image, expectations, perceived value, customer satisfaction, customer loyalty and perceived quality in the proposed structural model. This model treated the perceived quality in the form of hardware and humanware which involved the product and service dimensions related to customer satisfaction and customer loyalty (Figure 4). According to Eklöf (2000), the ACSI model had not considered the corporate image as a factor for deriving consumer satisfaction. Kristensen et al. (2000) explained the methodology of ECSI. The ECSI methodology was applied to measure the customer satisfaction in Denmark. Golovkova et al. (2019) have found a positive correlation between CSI measurements and financial performance of banks in Europe.

Figure 4 ECSI model

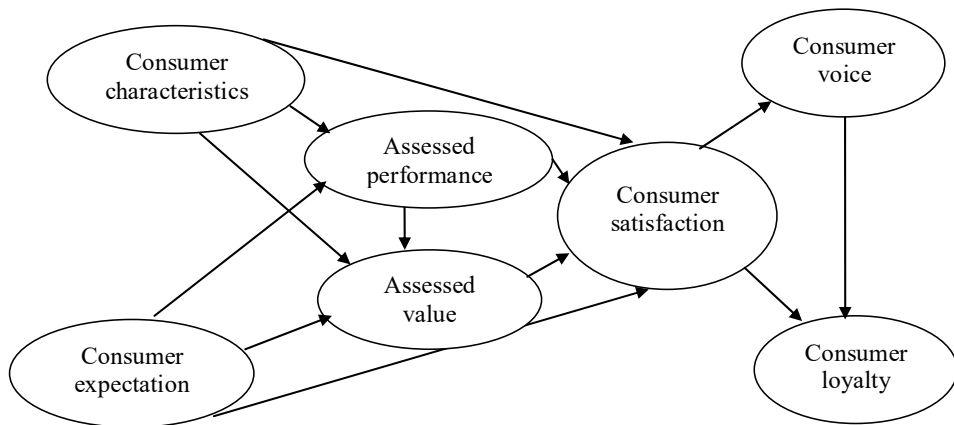


Source: Kristensen et al. (2000)

2.1.6 Russian CSI

Dermanov and Eklöf (2001) studied the challenges and problems of comparison of CSIs in different countries especially concerning Russia. CSI studies were started in Russia in 1999. Eight thousand personal interviews were conducted in five different sectors (eight industries) including processed food, retail clothing, telecommunications, media, and household appliances in Saint Petersburg. The main criteria for customer satisfaction measurement were perceived quality, retention, and loyalty. The authors concluded that any cross country/industry comparison of CSI should consider the character of product/service, state of the economy, market environment, level of disposable income, etc. The researcher’s concluded that in future researchers should focus on finding out drivers for the satisfaction of different products or services and reasons for dissatisfaction.

Figure 5 HKCSI

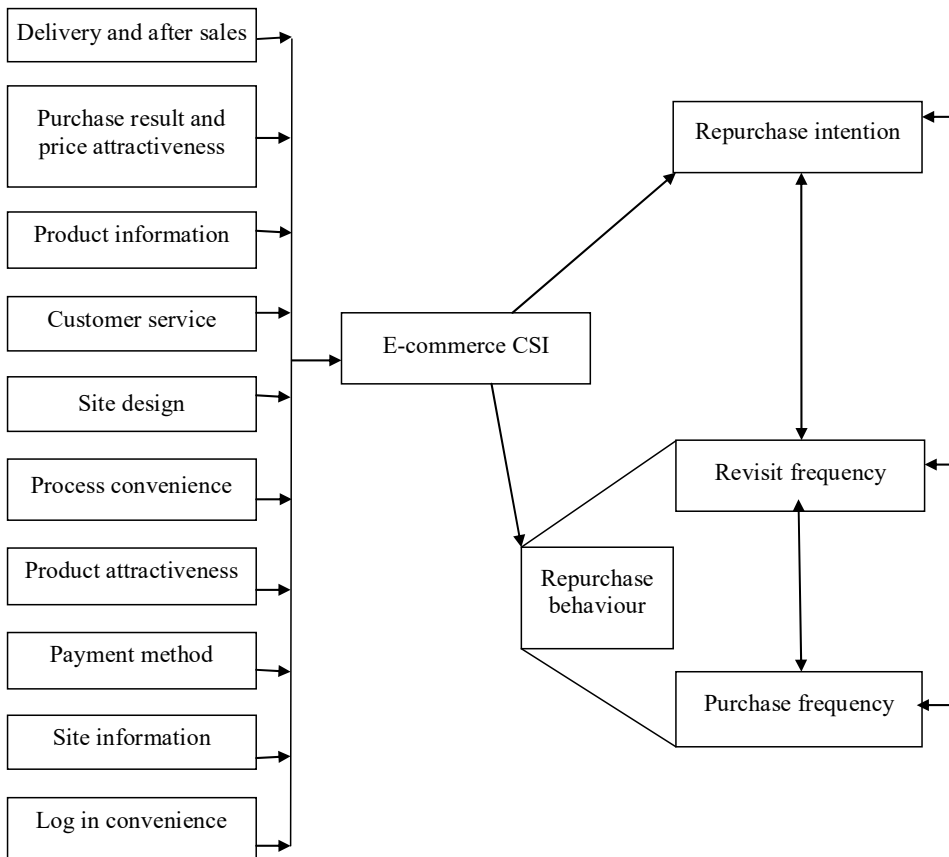


Source: Chan et al. (2003)

2.1.7 Hong Kong consumer satisfaction index

Chan et al. (2003) developed the HKCSI. This index was based on an extensive survey conducted in Hong Kong from the period 1998 to 2000. The researchers surveyed about 10,000 people by conducting telephonic interviews. The authors focused on quality of both goods and services. The numbers of products covered were about 60. The researchers have pointed out that since manufacturing facilities in Hong Kong were minimal; HKCSI laid more stress on services consumed by consumers. They specified that cumulative consumer satisfaction is evaluated by considering the overall purchase and consumption approach of a consumer towards a product or service utilised by them over a period of time. The HKSCI used criteria like extra purchase desire, substitution preference, consumer response to price variance and quality variations as a measurement of consumer loyalty arising from consumer satisfaction (Figure 5).

Figure 6 Electronic commerce customer satisfaction index



Source: Kim (2005)

2.1.8 Kanji CSI model

Winnie et al. (2001) studied customer satisfaction in retail banking in three commercial districts of Hong Kong with a sample size of 450 and proposed a CSI model. It was based on the ACSI model. They concluded that customer expectation and perceived quality were antecedents of perceived value. The fulfilment of perceived value and customer expectation led to customer satisfaction; and if a customer were satisfied, it would lead to customer loyalty.

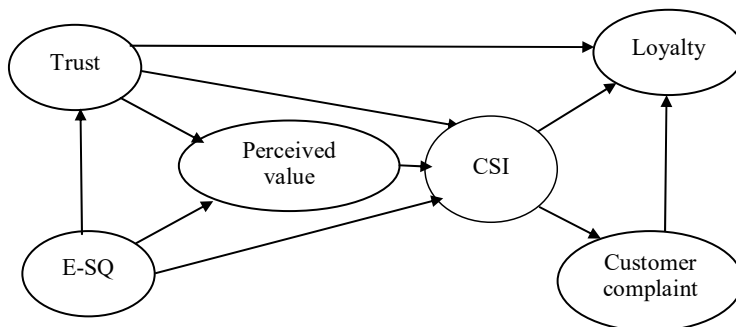
2.1.9 Electronic commerce customer satisfaction index

Kim (2005) leveraged research in the fields of management information system, marketing and e-commerce to explain e-customer satisfaction. He proposed an index called ECCSI by using a weighted sum model. ECCSI was tested using sample respondents from South Korea (Figure 6).

2.1.10 E-CSI model (e-commerce transactions)

Hsu (2008) studied online shopping behaviour of consumer shopping on PChome Online; the largest online retailer in Taiwan for a period of one month. The researcher proposed and tested a new e-CSI model based on ACSI model. This model used PLS method for testing proposed an e-CSI model and finding out its score. The latent variables used for testing the e-CSI model were electronic service quality (e-SQ), trust, perceived value, customer complaint and customer loyalty. It concluded that online retailers should invest in strong and quick customer handling grievance mechanism to leverage on increased customer loyalty resulting from satisfied customers (Figure 7).

Figure 7 E-CSI model (e-commerce transactions)



Source: Hsu (2008)

2.2 Customer satisfaction and internet banking

The researchers referred various reputed databases like EBSCO, Science Direct, Jstor, Proquest and studied 81 research papers emphasising on customer satisfaction and

internet banking. During the review, it was noted that the researchers (Hogarth et al., 2008; Keskar and Pandey, 2018b) emphasising on banking sector have also considered the role customer satisfaction and customer loyalty. Casaló et al. (2008a) discussed the effect of satisfaction and usability of the website on the loyalty of customers and the positive effect of word-of-mouth in the e-banking-based services. The construct usability of the website was a contextual factor in the study. The authors opined that the banks should develop websites that were user-friendly. This would lead to positive word of mouth publicity by the satisfied customers, thereby leading to increased loyalty.

Lim et al. (2019) found that the customer satisfaction is highly correlated with the future cost to serve to customers. Loonam and O'Loughlin (2008) studied the e-banking service quality and the e-banking attributes in Spain. They described e-service as "content centered and internet-based customer service driven by the customer with the goal of strengthening customer service provider relationships." This study proposed ten dimensions of e-SQ viz. reliability, access, responsiveness, web usability, trust, security, information quality, service recovery, customisation, and flexibility. This study concluded that web usability and security issues affected the adoption and usage of internet banking.

Zavareh et al. (2012) examined the utility of e-servqual scale developed by Parasuraman et al. (2005). They suggested that dimensions and items of e-servqual should be modified by including the factors of site aesthetics and customisation for the internet banking sector. Ariff et al. (2013) examined the applicability of e-servqual scale for determining the factors that affect e-SQ of internet banking in Malaysia. They developed a model having eight dimensions viz. fulfilment, privacy, contact, system availability, responsiveness, assurance, website, and aesthetics.

Marinkovic and Obradovic (2015) tested a three-tier model based on intangible drivers affecting long-term relationship in the banking industry. It was proved that behavioural intentions (word-of-mouth publicity and repurchase intentions) were influenced by customer satisfaction. Trust affects both customer satisfaction and affective commitment. Hult et al. (2019) showed that customers were more demanding when purchasing a product or a service online. Sikdar et al. (2015) developed and validated a five-factor model on adoption of online banking in India. Trust, intention to use, accessibility, ease of use and usage constraints were the constituents of the model. Pandey and Gudipudi (2019) and Sikdar et al. (2015) concluded that customers were worried about their online privacy issues. The outcomes of studies suggested that design of websites should be such that they provide a sense of security to the users and are self-explanatory.

3 Analysis and outcomes of literature review

The literature was analysed using a three-step methodology. Initially, as a first step, the various elements considered in different CSI models were listed. Secondly, the relationships considered in the previous studies were analysed. The third step was to provide literature support for the variables included in the proposed CSI model for internet banking industry. The literature review indicated that CSI models had treated customer satisfaction as a mediator which has antecedents of the customer satisfaction at the left side and consequences of customer satisfaction at the right side. Table 1 provides

an overview of aforementioned description; Table 2 presents the analysis based on constructs considered by past researchers and Table 3 presented the relationships considered by the past researchers for measuring CSI. Based on these outcomes propositions are prepared to conceptualise a new model. The various propositions proposed in the following sections.

Table 1 CSI models

<i>Model</i>	<i>Customer satisfaction</i>	<i>Antecedents of customer satisfaction</i>	<i>Consequences of customer satisfaction</i>
American customer satisfaction index (ACSI)	Mediator	Customer expectation, perceived quality, perceived value	Complaint behaviour, customer loyalty
Switzerland customer satisfaction index (SWICS)	Antecedents	NA	Customer dialogue, customer loyalty
Swedish customer satisfaction barometer (SCSB)	Mediator	Perceived performance value, customer expectation	Customer complaint, customer loyalty
Norwegian customer satisfaction index	Mediator	Price index, quality driver(s), complaint handling	Calculative commitment, affective commitment, image, customer loyalty
European customer satisfaction index	Mediator	Customer expectation, perceived quality, perceived value	Customer loyalty
Russian CSI	NA	NA	NA
Hong Kong customer satisfaction index (HKCSI)	Mediator	Consumer characteristics, consumer expectations, accessed performance. accessed value	Consumer voice, consumer loyalty
Kanji customer satisfaction index	Mediator	Expectations, perceived quality (hard and soft), perceived value	Loyalty
Electronic commerce customer satisfaction index (ECCSI)	Antecedent	NA	Repurchase intention, repurchase behaviour
Electronic customer satisfaction index (e-CSI)	Mediator	Trust, perceived value and e-service quality	Loyalty, customer complaint

3.1 Perceived quality

The construct 'perceived quality' emphasises on customisation and reliability of product and/or services (Fornell et al., 1996). Further, the customisation is defined as the degree to which the company's products and services are aligned with customer's personal needs and the reliability as standardisation and minimisation of the defect. In case of internet banking services, 'reliability of service' is essential to gain customer confidence. Perceived quality is considered in both, ACSI and ECSI. Therefore following proposition is setup on the basis of theoretical support (Table 2).

Proposition 1: Perceived quality has a positive influence on customer satisfaction in internet banking.

Table 2 Constructs considered for conceptualising the model

<i>Constructs</i>	<i>ACSI</i>	<i>ECSI</i>	<i>SCSB</i>	<i>SWICS</i>	<i>HKCSI</i>	<i>Kanji</i>	<i>Others</i>	<i>E-CSI</i>
Customer satisfaction	X	X	X	X	X	X	X	
							CSI – retail banking	
Perceived quality	X	X						
Customer expectations	X	X	X	X	X	X	X	
							CSI – retail banking	
Perceived value	X	X	X	X	X	X	X	X
							CSI – retail banking	
Price							X	
							NCSB	
Customer complaints	X		X	X	X		X	X
							NCSB	
Customer loyalty	X	X	X	X				X
Corporate image		X						
E-customer satisfaction, trust, e-service quality								X
Website design, product and services, e-service delivery							X	
							ECCSI	

3.2 Perceived value

Perceived value is defined as a relative assessment of service received compared to value paid (Parasuraman et al., 2005). The value assessment impacts consumer buying decision more than service quality (Cronin and Taylor, 1992). Perceived value was included in service quality models developed by Mattsson (1992) and Sweeney and McFarlin (1997). Thus all the prominent CSI models like ACSI, ECSI, HKCSI, SCSB, e-CSI and Kanji satisfaction index have included perceived value as an antecedent of customer satisfaction (Tables 2 and 3). Therefore it is proposed that perceived value needs to be included in the proposed model for developing internet banking customer satisfaction index (IBCSI).

Proposition 2: Perceived value influences the customer satisfaction in internet banking.

3.3 Customer expectations

The analysis presented as Table 3 highlighted that the prominent CSI models had considered customer expectations as predictor of customers' satisfaction (Boulding et al., 1993; Johnson et al., 2001). Therefore this item is also considered in the proposed model for developing IBCSI:

Proposition 3: Customer expectations influence customer satisfaction in internet banking.

Table 3 Relationships considered in previous CSI model

<i>Relationship</i>	<i>ACSI</i>	<i>ECSI</i>	<i>SCSB</i>	<i>SWTCS</i>	<i>HKCSI</i>	<i>Kanji</i>	<i>NCSB</i>	<i>E-CSI</i>
Perceived value → customer satisfaction	X	X	X	X	X	X		X
Perceived quality → customer satisfaction	X	X						
Customer expectations → customer satisfaction	X	X	X	X	X	X		
Customer complaint/complaint behaviour → customer satisfaction							X	X
Trust → e-customer satisfaction								X
E-service quality → e-customer satisfaction					X		X	
Consumer characteristics → customer satisfaction					X			
Price → customer satisfaction					X			
Assessed performance → consumer satisfaction					X			
Assessed value → consumer satisfaction					X			
Customer expectations → perceived value	X	X	X					X
Trust → perceived value	X	X						
Perceived quality → perceived value	X	X						X
e-Service quality → perceived value								
Corporate image → perceived value		X						
Customer satisfaction → customer loyalty	X	X	X	X	X		X	X
Customer complaint/complaint behaviour → customer/consumer loyalty	X	X	X		X		X	X
Corporate image → customer loyalty							X	
Price → customer loyalty							X	
Assessed performance → assessed value					X			
Customer expectations → perceived quality	X							
Customer expectations → assessed performance, assessed value					X			
Customer satisfaction → complaint behaviour/customer complaint/customer dialogue/consumer voice	X		X	X	X		X	X
Customer satisfaction → corporate/bank image							X	
E-service quality → trust								X
Consumer characteristics → assessed value					X			
Consumer characteristics → assessed performance					X			
Customer dialogue → willingness to contact the provider				X				
Customer dialogue → exchange of dialogue				X				
Customer dialogue → satisfaction of dialogue				X				
Customer loyalty → intention to recommend				X				
Customer loyalty → re-purchase intention				X				
Customer loyalty → intention to switch to new product provider				X				

3.4 *Trust*

The construct 'trust' has been defined as the willingness to rely on an efficient service provider (Floh and Treiblmaier, 2006; Moorman et al., 1992). Customer trust is very important in internet banking adoption and development (Marinkovic and Obradovic, 2015; Suh and Han, 2002). The customer trust also influences customer relationship management (Marinkovic and Obradovic, 2015; De Ruyter et al., 2001). The enhanced trust also resulted in increased satisfaction and affinity towards a particular bank (Marinkovic and Obradovic, 2015; Al-Hawari, 2011). In the internet banking context, the customers' perceived trust is represented as an assurance to maintain the confidentiality of personal information and secured banking network. Thus it is posited to include trust in the IBCSI model.

Proposition 4: Trust influences customer satisfaction in internet banking.

3.5 *Corporate image*

Corporate image plays an important role in attracting and retaining customers as it addresses customer concerns about security, confidentiality, reliability, trust related to internet banking. The corporate image also treated as a predictor of customer satisfaction in ECSI as well as NCSB (Johnson et al., 2001; Bruhn and Grund, 2000). It is an outcome of the evaluation of past purchase experience with the present one (Marinkovic and Obradovic, 2015; Aydin and Özer, 2005). The corporate image provides an advantage over competitors and helps in fulfilment of long-term objectives (Flavián et al., 2005). Loonam and O'Loughlin (2008) concluded that excellent e-service delivered by internet banking creates a better purchase experience end hence better corporate image. Therefore corporate image is included in the proposed model for developing IBCSI.

Proposition 5: Corporate image influences customer satisfaction in internet banking.

3.6 *Website design*

The new age technologies have changed the way customers interact with the service providers (Patwardhan et al., 2015). Website content is one of the sources used for seeking information and hence a key parameter that influences user's attitude towards the website (Mithas et al., 2006). Information updates help the customer in purchase decisions that result in attracting and retaining users (Pandey and Singh, 2012). The website design, layout and sequential arrangement of the content is an important part of perceived quality. This can be achieved through proper website structure and ease of navigation (Sikdar et al., 2015; Jayawardhena and Foley, 2000). According to Sikdar et al. (2015), Gupta and Kamilla (2014), and Chan et al. (2003) the internet banking adoption depends on website design, content, easy navigation, and security features. Culnan (1985) commented that accessibility and reliability of an internet banking website depend on the soundness of website design that is access, user interface and availability of necessary information respectively (Sikdar et al., 2015). Therefore it is important to include website design in the proposed IBCSI model.

Proposition 6: Website design influences customer satisfaction in internet banking.

3.7 *Products and services range*

The range of products and services offered is one of key success factor in case of internet banking. This aspect also helps in dealing with the competition. Therefore the internet banking websites offer an interesting range of products and service (Liébana-Cabanillas et al., 2013). Sikdar et al. (2015) and Mattila (2001) found that banks in India use different techniques for providing products and services as per customer needs. For example – HDFC Bank in India has introduced web links to the popular shopping sites like Flipkart, Amazon, etc. where customers can purchase and directly make payment from the banking site. The innovativeness of services also enhances adoption of internet banking and customer satisfaction (Pandey and Dharni, 2014; Floh and Treiblmaier, 2006). Therefore the proposed model included the aforementioned item in the IBCSI model.

Proposition 7: Products and services range influences customer satisfaction in internet banking.

3.8 *E-service quality*

E-SQ can be defined by ease of use and accessibility experienced by the customer. E-SQ deals with the aspects of responsiveness, flexibility and service recovery (Loonam and O’loughlin, 2008). Accessibility covers availability of internet connection as well as the capacity to use the internet banking system. It was stated that accessibility is indirectly proportional to efforts required for operating it (Karahanna et al., 1999). Therefore it is an important variable in the IBCSI model.

Proposition 8: E-SQ influences customer satisfaction in internet banking.

3.9 *Customer characteristics (demographics)*

Demographic variables are important for studying internet banking experience and satisfaction (McKinney et al., 2002). Demographic variables considered for previous studies on internet banking were age, income, education, gender, web skills, banking needs, personal income, family income, and family size (Katuri and Lam, 2007; Chan et al., 2003). Demographic variables are important because it is given and cannot be manipulated by management to achieve a certain effect. Many of the previous studies have used some of these demographic items as controlled variables. HKCSI has considered that customer characteristics affects customer satisfaction (Chan et al., 2003). Therefore it is proposed to include this variable in the IBCSI model.

Proposition 9: Customer characteristics influences customer satisfaction in internet banking.

3.10 *Pricing of services*

The price of services offered has always been an issue of importance in marketing studies as the perceived value is dependent on the price paid. In case of online banking, the price is an influencing factor that results in customer satisfaction. The usage of internet banking services vis-à-vis the retail and branch banking results in savings in terms of

time, energy and money. Therefore the banks are also trying to increase the number of customers utilising internet banking services. The NCSB has used price as a variable that results in creating an impact on customer satisfaction as well as customer loyalty (Johnson et al., 2001). Thus it is proposed that price should be included in the proposed IBCSI model.

Proposition 10: Price influences customer satisfaction in internet banking.

3.11 Customer satisfaction

Satisfaction is a phenomenon arising when customer experiences that his expectations are fulfilled by the service provider. The prominent models of ACSI, ECSI, SCSB, SWICS, e-CSI have included satisfaction as one of the main items. In case of internet banking, the customer satisfaction is all the more important as there is no direct contact with the customer. Therefore technology and services provided affect customer satisfaction (Zavareh et al., 2012). Therefore it is proposed that customer satisfaction should be included as a variable in the IBCSI model.

Proposition 11: Customer satisfaction influences complaint behaviour and customer loyalty in internet banking.

3.12 Customer loyalty

Customer loyalty is a psychological phenomenon that is a result of both transactional and cumulative satisfaction. Customer loyalty can be defined as repurchase intention resulting from the analysis that value derived from one seller is higher than that of its competitors (Casaló et al., 2008b; Hallowell, 1996). Customer loyalty follows Newton's action-reaction principle. If a company provides satisfactory service, i.e., action, the customer reacts by further repurchase behaviour and recommending to others, i.e., positive word of mouth. Therefore loyalty is considered to be important in company's success and facilitates it to sustain over a period of time. E-loyalty implies that a customer showing a positive disposition towards an e-commerce website shopping experience and hence develops future repurchase intentions (Cyr, 2014; Ariff et al., 2013). Considering the appropriateness of this item, it is included in the proposed IBCSI model.

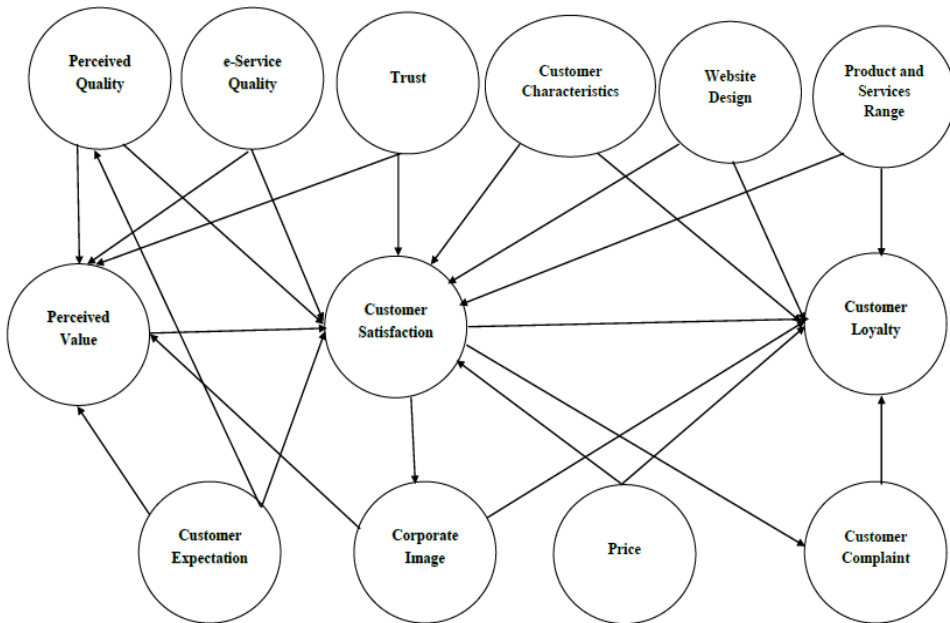
Proposition 12: Customer satisfaction influences customer loyalty in internet banking.

3.13 Customer complaint handling

Customer complaints arise if customers are dissatisfied with the services provided by the service provider. ACSI, NCSB, SCSB, SWICS, HKCSI, and e-CSI have all considered customer complaints as a variable in their respective CSI construct. Efficient complaint handling leads to customer satisfaction, loyalty, and retention (Levesque and McDougall, 1996). Hence, it is proposed to include complaint handling in the IBCSI model.

Proposition 13: Complaint handling influences customer satisfaction and customer loyalty in internet banking.

The proposed IBCSI model is presented in Figure 8.

Figure 8 Proposed IBCSI model

4 Managerial implications

The proposed IBCSI framework for internet banking will be of great use to academia, bankers, customers, and policymakers. The determinants of customer satisfaction in internet banking will assist the bankers to focus more on areas that have potential to increase customer satisfaction in internet banking industry. The academia can test and validate the proposed IBCSI by collecting the internet banking customer data. The IBCSI would also help to track the customer satisfaction of internet banking customers over the years. The longitudinal data would provide newer insights to the service providers (bankers and allied service providers), consultants, policy makers (government officials), and industry (banking, financial services, and insurance) for making necessary changes to make the internet banking services more customer-friendly and secure.

The IBCSI would help the bankers to increase customer satisfaction thereby leading to lesser customer complaints and higher customer loyalty. Internet banking has no geographical barriers and therefore can lead to increase in market share for respective banks (Agolla et al., 2018; Ansari, 2018). The IBCSI measures will be of help to customers as well as investors. They will be linked to bank image and thereby lead to increase in market price of the bank's share. The other stakeholders like government, the central bank, other banks and the general public will be able to judge individual bank performance.

The conceptual model of IBCSI proposed in this study includes various important constructs like security and trust, complaint handling mechanism, website design characteristics, customer loyalty and customer satisfaction. Future research should be undertaken for developing industry-specific CSI models, so that antecedents and

consequents of customer satisfaction of that industry may be identified. This would be helpful to the particular industry for increasing the customer satisfaction by providing better service to the customers based on the feedback from the customer in the form of CSI measurements.

5 Conclusions

The proposed IBCSI model would help the researchers to develop a data validated CSI for internet banking customers. The IBCSI would help in measuring and benchmarking the customer satisfaction levels of internet banking customer in the world. The findings are in line with conclusions of Golovkova et al. (2019) who showed that the regular CSI measurements helped in improving the performance of banks. However, development of various IBCSI's across different countries based on similar measurement norms is essential to encourage international comparisons. Various researchers (Pandey and Raina, 2019; Liébana-Cabanillas et al., 2013; Fornell et al., 1996) have suggested that the research on consumer satisfaction should focus on finding out the relationship between prices charged and consumer satisfaction. Askariyad and Babakhani (2015) suggested that there is need for developing CSI for B2B products also. ACSI was a pioneer model to be used as an indicator for evaluation, comparison and enhancement of customer satisfaction at corporate, industrial and national level. ACSI was also useful to measure the quality of products and services as experienced by consumers (Anderson and Fornell, 2000). Loonam and O'loughlin (2008) recommended that researchers should develop CSI model by including more number of industries and countries. They stated that validity and reliability of CSI's and its constructs might change with time. Sector-specific new CSI should, therefore, be developed for emerging economies like Brazil, China, India, etc. as developed nations like the USA, the UK and Switzerland had already developed an index for measuring various satisfaction parameters. The internet banking is one of the phenomena which has grown exponentially especially due to its accessibility, cost-effectiveness, 24*7 availability from any part of the globe and the internet savviness of the millennials. Further, there is hardly any academic literature on CSI that has been specifically developed for the internet banking industry. A basic CSI for retail banking industry has been proposed by Winnie et al. (2001). However, it did not cover the critical aspect of internet banking industry. National CSI's like ACSI, ECSI covered all industries; but a specific industry wise indicator for measuring customer satisfaction in internet banking does not exist. This study has fulfilled its objective of finding out the antecedents and consequents of proposed IBCSI based on exhaustive literature review and content analysis.

6 Limitations and scope for future research

One of the limitations of the study was that the IBCSI model developed in this study was based on literature review and content analysis, i.e., only the qualitative aspect was considered. The future researchers should plan to conduct a focus group discussion in order to check the context relevance and to develop a questionnaire for measuring and validating IBCSI. This would help to refine the items of the customer satisfaction construct and other IBCSI constructs identified during the process of conceptualisation.

The full model development of IBCSI may use statistical techniques like exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and path analysis using structural equation modelling (SEM). The future researchers may also benchmark IBCSI with other sector specific CSIs for further improving its parameters and process of index development.

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