EVOLUTION OF CUSTOMER SATISFACTION INDEX AS A PERFORMANCE METRIC: A COMPREHENSIVE REVIEW

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Abstract - The gradual transformation of the global economy into a more customer-centric and service-oriented one has led to the emergence of the National Customer Satisfaction Index (CSI) as a potential customer-based performance evaluation metric for firms, industries, economic sectors, and national economies. This research reviews the popular national CSIs developed till date and presents it in an organized pattern which combines both summary and synthesis of related literature in order to trace the intellectual progress in the field of CSIs. This documentation will serve as a platform for developing new indigenous CSIs by way of identifying existing gaps, developing new conceptual frameworks, and formulating future research directions.

Keywords - Customer Satisfaction Index, Financial Measures, Business Performance Evaluation

I. INTRODUCTION

The performance evaluation system of business has traditionally been based on financial indicators which often face criticism for being historic and lacking futuristic outlook (Ragu Prasadh and Suresh, 2017). With the global economy transforming into more service and customer-oriented one, there is a need to augment the conventional financial metrics with customer-based measures to facilitate a more integrated and balanced approach to performance measurement (Bititci et al., 2012). Of the various non-financial customer metrics used by firms, customer satisfaction is the most widely applied metric, since it is generic and universally measurable (Ittner and Larcker, 1998; Gupta and Zeithaml, 2006). Customer Satisfaction Index (CSI), which is a customer-based non-financial metric, is a measurement system for estimating & monitoring customer satisfaction over time across firms & industries (Fornell et al., 1996). It acts as a complement to the conventional indices such as productivity and price indices (Fornell et al., 1996). CSIs have been established as the key indicators of customer loyalty, retention, revenue growth and financial performance of businesses (Fornell, 1992; Zairi, 2000; Bei and Chiao, 2001).

Importance of Customer Satisfaction Indices

The current finance and accounting-based measures present the picture of the past performance rather than the future (Anderson and Fornell, 2000; Anand et al., 2005). Hence, these traditional performance measures based on quantity and financial indices need to be replaced with quality and customer oriented measures like CSI (Fornell et al., 1996; Joshi, 2001; Farris et al., 2010), because what is significant in the ultimate breakdown is not how much a nation manufactures, supplies or consumes, but how its economy satisfies its consumers.
Contrary to this view, some researchers, financial analysts, and industry experts argue that unconventional metrics like customer satisfaction is not all that useful and fails to offer a tangible contribution in evaluating business and financial performance (Hilsenrath, 2003). However, Webster et al. (2003) and Aksoy et al. (2008) posit that CSIs can be made more relevant and useful by understanding the relationship between marketing investments and financial performance. According to Ngobo et al. (2012), since analysts generally respond to positive changes in customer satisfaction, it is essential that the managers enrich the analysts with information on customer satisfaction metrics and scores. This information will help the analysts to understand the growth of the companies and to make accurate forecasts or predictions thereby contributing to a better image for marketing investments among top management like CFOs and CEOs. Gupta and Zeithaml (2006) validated the impact of customer metrics like customer satisfaction on the firm’s financial performance, profitability, and market value. If business firms incorporate CSI as a tool of performance evaluation and satisfied customers as a quantifiable asset, it can facilitate improved appraisal of the connection between the firm’s present state and its future scope of growth (Hallowell, 1996; Anderson et al., 1994; Anderson and Fornell, 2000; Gruca and Rego, 2005; Rego et al., 2013). Thus, these customer satisfaction scores act as a complementary to the traditional productivity metrics (Fornell, 1992).

A national customer satisfaction index contributes to a greater and holistic view of economic output, which helps in monitoring and improving the standard of living and economic policy decisions (Anderson and Fornell, 2000). The national CSIs provide supplementary benefits to various stakeholders, including greater entities such as government, economists and business stakeholders at the macro level and the customers at the micro level who can use it to make purchase decisions (Bruhn and Grund, 2000). It is not possible to manage economic policies without precise inclusive performance measures and hence customer satisfaction is considered to be of incredible value as a supplement to the conventional measures (Anderson and Fornell, 2000). The productivity, price or cost indices are not capable of functioning effectively as standalone metrics without comprehending the qualitative and customer-centric aspects (Fornell et al., 1996). Thus, a national customer satisfaction index is a key factor in presenting a better reliable image of the economic performance, which eventually guides in improved economic decision making. Numerous national customer satisfaction indices have been established in the past three decades such as ACSI and ECSI which have been extensively applied in consumer product and service industries (Johnson et al., 2001). This study aims to comprehensively review these national CSIs established in the past.

Theories of Customer Satisfaction

Since the inception of the concept of customer satisfaction, a number of different theories have been postulated for explaining the same. Some of these theories include the Expectancy-Disconfirmation Paradigm (EDP), the Value-Precept Theory, the Equity Theory and the Performance-Importance model.

Oliver (1977; 1980) proposed the Expectancy-Disconfirmation Paradigm (EDP) as one of the most promising theoretical frameworks for the measurement of customer satisfaction. The theory states that consumers have some prior expectations about the anticipated performance during purchase of products or services. This expectation becomes the baseline for judging the performance of the product or service. After use or consumption, their outcomes are compared against prior expectations. If it matches the expectations, there is confirmation; else there is disconfirmation due to difference in actual performance and expectations. A consumer is satisfied or dissatisfied depending on the positive and negative discrepancy between the expectations and perceived performance.
However, there are few limitations in the EDP theory and many researchers have analyzed and criticised these problems. The first limitation is that customers with little or no experience or knowledge of products and services may not provide a valid expectation (Haistead et al., 1994). On the other hand, experienced customers may have better awareness and knowledge which may result in more accurate expectation (Day, 1977). The second limitation is that the post-purchase evaluation may not be based on pre-purchase expectations. According to Whipple & Thach (1988), it is proven that there is high chance of the evaluating criteria changing over time with learning or circumstances which renders the initial expectation framework illogical. The third limitation is that the meaning of expectation is not the same for everyone and respondents may perceive it differently (Yuksel and Yuksel, 2008). Given these problems, the EDP theory for assessing customer satisfaction has to be used with caution and appropriate assumptions.

Since a number of researchers criticized the EDP paradigm on the grounds that using predictive expectations as primary determinant of customer satisfaction is not viable, Westbrook and Reilly (1983) proposed the Value-Precept Disparity theory where values have been used as a better comparative standard than expectations. According to this theory, satisfaction is an emotional response triggered by a cognitive evaluative process in which post-purchase perceptions are compared to one's values, needs or desires (Westbrook & Reilly, 1983). A high disparity between one's values and one's perceptions indicates high dissatisfaction. However, this theory was also criticized based on the fact that value alone is not sufficient and it requires realistic expectations (Yuksel and Yuksel, 2008).

Barsky (1992) used the Importance-Performance model to measure customer satisfaction which was originally proposed by Martilla and James (1977). This model states that satisfaction is a function of customer perceptions of performance by attributes and importance of that attribute. Thus, satisfaction is influenced by the customer's perceived importance of specific characteristics of product or service and how well these characteristics meet their expectations. According to Hemmasi et al. (1994), this is an effective futuristic technique which provides a direction and identifies areas to focus for improvement.

Another popular theory for assessing customer satisfaction is the Equity theory originally proposed by Adams (1963). Equity theory states that satisfaction exists when consumers perceive their output-to-input ratio as being fair (Swan & Oliver, 1989). The output and input analysis relate to the benefits received compared to the sacrifices made during the purchase of a product or service. A consumer feeling equitably treated depends upon a number of factors such as price paid, psychological costs, time and effort spent compared to the benefits obtained (Woodruff et al., 1983).
Some of the popular theoretical frameworks developed to assess customer satisfaction have been discussed. A commonly accepted notion among these theories is that satisfaction is an evaluative judgement which results from comparison to some standard. While several comparison standards have been proposed, there is no general consensus on which is the most appropriate to predict customer satisfaction (Yuksel and Yuksel, 2008).

II. OBJECTIVE OF THE STUDY

The rationale for this review is based on the premise that research integration and synthesis constitute an imperative step in every scientific study (Palmatier et al., 2018). The purpose of the review is to thoroughly study and synthesize literature related to various national CSIs by evaluating their theoretical approaches, frameworks, methodology and diverse results. The objective of this study is to present the evolution of the national CSIs by exploring and comparing their conceptual frameworks, methodology and major findings. The present study provides an understanding of CSIs that serves as a guide for developing new conceptual frameworks, identifying research gaps and formulating future research directions.

III. EVOLUTION OF CUSTOMER SATISFACTION INDICES

Recognizing its importance, marketing, and consumer behaviour researchers have conducted comprehensive studies on customer satisfaction for several decades (Spreng and Mackoy, 1996). Many individual companies and marketers track customer satisfaction on a one-time or continual basis. However, the research on customer satisfaction took a great leap with the introduction of customer satisfaction indices at the national level (Ragu Prasadh and Suresh, 2017). In an effort to promote quality and competitiveness of its market and industry, Sweden became the first country to establish a national economic indicator reflecting customer satisfaction in the year 1989 (Fornell, 1992). The idea was to develop an index to gauge how effectively companies and industries satisfy their customers. The CSI intended to provide customers’ evaluation of the quality of products and services at the company level and also facilitate a cross-company and industry level comparisons (O’Loughlin and Coenders, 2004).

A Customer Satisfaction Index (CSI) represents a uniform and comparable measurement system for measuring, monitoring and improving customer satisfaction across firms and industries (Fornell et al., 1996). As the economy changes, theories and measures for performance evaluation must also change. The present financial indices or measures such as market share, profitability, productivity, etc. cannot be used effectively as standalone metrics without taking into account the quality of output and customer satisfaction. Hence, CSI acts as a complement to these conventional indices (Fornell et al., 1996). It provides an established system for systematic benchmarking over time across firms and a gauge of how well companies satisfy their customers (Fornell, 1992). The national CSIs provide benefits to various stakeholders, from customers at the micro level who can use it to make purchase decisions to greater entities such as government, economists and business stakeholders at the macro level (Bruhn and Grund, 2000). This distinct idea of developing and implementing a standard metric based on customer satisfaction at national level served as an inspiration for this research. Hence, it is worthwhile to review the evolution of the national customer satisfaction indices.

3.1. Swedish Customer Satisfaction Barometer (SCSB)

The Swedish Customer Satisfaction Barometer (SCSB) was the first national customer satisfaction index for consumer products and services developed in 1989 (Fornell, 1992). The original SCSB
model shown in Figure 1 consists of two antecedents of customer satisfaction i.e. perceived performance and customer expectations.

Perceived performance refers to the perceptions of customers regarding the product or service while expectations refer to the anticipated performance by the customers. Perceived performance represents perceived value i.e. perception of quality received compared to the price paid (Johnson et al., 2001). Fornell (1992) contended that when perceived performance i.e. value perceived by the customer increases, customer satisfaction increases. Similarly, based on Oliver (1980) model, expectations serve as the cognitive anchor in purchase decisions and hence, alleged to positively affect customer satisfaction.

The consequences of customer satisfaction are based on Hirschman's (1970) exit-voice theory. According to this theory, when a customer is dissatisfied with the firm or its products/services, the feedback is provided via two ways i.e. exit and voice. Exit refers to the state where customer exits or stops buying from the company, while voice refers to customers' complaining about their dissatisfaction. Accordingly, the outcomes of satisfaction in SCSB model are customer complaints and customer loyalty. With higher satisfaction, there will be lower customer complaints and consequently higher customer loyalty (Fornell, 1992). The rise in satisfaction level also increases customer loyalty. Loyalty refers to the customers' psychological predisposition to repurchase from the company, which is the ultimate dependent variable in the model (Johnson et al., 2001).

The index was computed using the data collected from a survey of customers of about 100 major firms from more than 30 industries in Sweden. The intention was to include a sufficient number of companies in each industry so that their combined sales would represent 70 percent of the Swedish market. The findings from the testing of SCSB model indicated that customers in Sweden were not very satisfied with many of their products and services. The results also revealed that homogeneity of demand and supply was responsible for variation in satisfaction across industries i.e. industries selling homogeneous products to a homogeneous market or differentiated products to heterogeneous markets typically had higher CSBs than other industries (Fornell, 1992). It was also found that monopolistic markets experienced lower satisfaction than competitive industries.

3.2. American Customer Satisfaction Index (ACSI)

The American Customer Satisfaction Index (ACSI) was developed in 1994 based on inspiration from the original SCSB. The ACSI represents a customer-based satisfaction measurement system for measuring and monitoring the performance of firms, industries, economic sectors, and national economy (Fornell et al., 1996).

The original SCSB model was used as the base to build the ACSI model (see Figure 2). The major distinction between ACSI and SCSB was the additional antecedents used in the ACSI. The SCSB model had two antecedents i.e. perceived performance and customer expectations, while the ACSI model has three antecedents i.e. perceived quality, customer expectations, and perceived value.

Perceived quality refers to the degree to which the product or service offers key customer requirements i.e. customization and how reliably these requirements are delivered i.e. reliability (Johnson et al., 2001). The perceived value construct is evaluated using similar measurement items used in SCSB i.e. rating of the quality for the price paid and price paid for the quality. Moreover, perceived value is used as the mediator for both perceived quality and customer expectations towards customer satisfaction.
Fornell et al. (1996) claimed that addition of the two variables i.e. perceived quality and value improves the explanatory power and diagnostic capacity of the ACSI model. Similar to SCSB, the consequences of customer satisfaction in the ACSI model is based on Hirschman's exit-voice theory and consists of two variables i.e. customer complaints and customer loyalty.

The ACSI was designed to be representative of the entire U.S. economy, which covered more than 200 firms from over 40 industries of seven vital sectors of the economy. The index was computed using the survey data from a large representative sample of around 40,000 customers of major firms from different industries (Fornell et al., 1996). The national ACSI scores were then published on a quarterly basis during the study. The overall ACSI score was 74.5 in 1994, which then reduced to 72.4 in 1996 (Q2). The results of the ACSI model testing showed that the variance explained for customer satisfaction i.e. average $R^2$ was 0.75; while for customer loyalty, it was 0.36. It was found that the effect of quality on customer satisfaction was greater than perceived value across all sectors. However, the effect of customer expectations on customer satisfaction was not significant and high enough, as expected (Fornell et al., 1996).

The National Quality Research Centre (NQRC), Michigan Ross School of Business collects yearly customer survey data and publishes annual reports on ACSI. It is one of the popular and widely used models for measuring and monitoring customer satisfaction on a yearly and quarterly basis by companies, marketers, analysts, government, and academicians (ACSI Methodology Report, 2005). Thus, the development of ACSI marked a significant step ahead in the evolution of national satisfaction indices.

3.3. European Customer Satisfaction Index (ECSI)

Inspired by the successful development of SCSB and ACSI, a European feasibility study was coordinated in 1997-98 and the ECSI model was proposed. As presented in Figure 3, the model contains seven interrelated variables i.e. perceived quality, expectations, image, perceived value, customer satisfaction, complaints and customer loyalty (Eklöf et al., 1999).

According to Johnson et al. (2001), the ECSI model varies from the ACSI in two aspects. The first is the addition of corporate image variable which is conceptualized to be an antecedent of customer satisfaction, and loyalty. The second difference is the exclusion of customer complaints as a consequence of satisfaction. According to Bayol et al. (2000), image, and customer complaints are two optional variables which are represented in dotted lines in the ECSI model.

In 1999, the study was implemented in 11 European countries based on data from over 100,000 customer interviews across 10 industries (EPSI Report, 2007). The study measured the satisfaction index for three consecutive years. It was found that customers in Finland were the most satisfied, followed by Iceland, Ireland, Greece, and Portugal. Denmark, Sweden, and Russia had lower scores. The study revealed that for some industries like electricity, the expectations were higher than perceived quality. Hence, the expectations in terms of quality were not fulfilled. It was also noted that the perceived value was given the lowest rating. Thus, a large gap between the expectations and quality or value resulted in a severe drop in customer satisfaction. The loyalty indices of most countries were around 0.7 (Eklöf and Westlund, 2002).

Currently, an umbrella of European non-profit organization manages the EPSI (Extended Performance Satisfaction Index) rating initiative which collects, analyzes and disseminates
information about customer satisfaction and how organizations are perceived by their stakeholders (EPSI Report, 2007).

3.4. **Norwegian Customer Satisfaction Barometer (NCSB)**

The first NCSB model was similar to the ACSI model with an exception that it included corporate image and its relationship with customer satisfaction and customer loyalty (Johnson et al., 2001). The perceptions of an image of the company held in the consumer's memory positively affect customer satisfaction (O'Loughlin and Coenders, 2004; Sondoh et al., 2007; Bayol et al., 2000). Hence, image was predicted to be an antecedent of customer satisfaction in the NCSB model. To keep in trend with the shift towards more focus on customer relationship, the model was improvised by including the relationship commitment construct.

Johnson et al. (2001) comprehensively reviewed all national CSIs, analyzed their strengths and weaknesses and proposed a new NCSB model which was an improvisation on the limitations and flaws of the previous CSIs. The new model eliminated customer expectations and instead included corporate image. Due to the cross-sectional nature of the survey data collected after purchase, the data related to the corporate image are actually the post-purchase perception of the consumers. Based on this rationale, it was incorporated as a consequence of customer satisfaction in the new NCSB model.

The second modification was the replacement of the value construct with the pure price construct as an antecedent of both customer satisfaction and loyalty. Johnson et al. (2001) argued that since quality is a part of the value, the quality-value relationship is perplexed. Also, in the ACSI and SCSB models, the linkage between expectations and value is not clear. Hence, the value was replaced by pure price construct which is a comparison of product price vs. expected price and competitor's price.

The third change involved was the inclusion of relationship commitment and corporate image as predictors of customer loyalty. And final change was the addition of complaint handling as a predictor of both customer satisfaction and loyalty. Johnson et al. (2001) proposed that efficient complaint handling affects the probability of repurchase by customers or recommending it to others. Also, they measured the quality construct using SERVQUAL scale (Parasuraman et al., 1988), unlike the overall quality scales in other CSIs. Thus, the new NCSB model as shown in Figure 4 was vastly different from the previous CSIs.

The model was validated using customer data from various companies across five industries (airline, banks, service stations, bus transportation, and train transportations) in Norway. A total of 19 items from SERVQUAL (Parasuraman et al., 1988) to measure quality and 22 items to measure other constructs were used. The study results showed that the model successfully isolated all the constructs. Perceived price had a considerable effect on satisfaction, but not on loyalty across all industries. However, commitment variables showed a significant impact, where affective commitment had a stronger relationship with satisfaction and loyalty.

The effect of the corporate image was small but significant across all industries. The direct impact of satisfaction on loyalty was low but significant for each industry. It was greater where the customers had more alternatives such as banks, gas stations and airlines (Johnson et al., 2001). Since most of the dimensions of SERVQUAL did not have a significant effect on customer satisfaction, Johnson et al. (2001) proposed a recommendation that industry or company-specific drivers of customer satisfaction as proposed by Johnson and Gustafsson (2000) to improve the model explanatory power.
3.5. Swiss Index of Customer Satisfaction (SWICS)

Inspired by other CSIs, a national customer satisfaction index for Switzerland was developed by researchers from the Universities of Basel, Switzerland. The SWICS model as shown in Figure 5 was different from ACSI and SCSB with only three constructs in the model.

A new construct 'customer dialogue' was included apart from the traditional constructs of customer satisfaction and loyalty. It was conceptualized that customers with greater satisfaction are further interested in long-term dialogue and are more likely to be loyal to the firm (Bruhn and Grund, 2000). The model was tested based on the data collected in 1997 from a total of 3845 customers of various companies from 20 industries across 6 sectors. The model was validated with a good fit for all industries.

The results revealed that customers in Switzerland seemed to be more satisfied than other countries with an overall index of 81.8. The index for customer loyalty was 79.9 while that of customer dialogue was 85.5. The results showed that both customer satisfaction and dialogue had an impact on loyalty, but varied by industry. However, satisfaction had the greater impact than customer dialogue. The more comparable and similar the core products/services are the more important is customer dialogue for loyalty (Bruhn and Grund, 2000). The researchers received a positive feedback for the SWICS results which reflected the successful implementation and high interest of many stakeholders in measuring customer satisfaction.

3.6. Danish Customer Satisfaction Index (DCSI)

The Danish Customer Satisfaction Index (DCSI) was introduced in 2000 to understand customer perceptions, their level of satisfaction and their impact on future loyalty in Denmark. It was based on the ECSI model and the seven constructs from the ECSI were adopted in the DCSI model. The only difference was perceived quality divided into two components i.e. hardware/product quality and humanware/service quality (Martensen et al., 2000).

The DCSI was tested using data from over 8000 interviews with customers of 30 companies from 8 different industries. The results showed that there was a huge gap between the highest and lowest CSI scores of industries. The highest was for soft drinks (CSI = 77) and the lowest for net telecommunications (CSI = 61). A prominent finding was that expectations had nil or very limited influence on both customer satisfaction and loyalty. Hence it was recommended to modify or remove expectations from the model in the future studies. Image was found to be the main driver of satisfaction. Overall, it was observed that the drivers had more impact on loyalty than satisfaction. In nutshell, the DCSI study was a successful application of the ECSI methodology in Denmark (Martensen et al., 2000).

IV. COMPARISON OF NATIONAL CUSTOMER SATISFACTION INDICES

The review of the popular national CSIs highlighted the importance of customer satisfaction measurement and its successful application by various countries. The evolution of the CSI models has emphasized the fact that researchers over the years have learned from the past, modified their CSI models accordingly and implemented them successfully. Researchers have introduced some new variables, modified or dropped certain variables in the latter CSI models to improve their diagnostic ability and explanatory power.
The CSIs have also evolved in terms of the conceptualization and measurement of its variables. For example, in SCSB, there is only perceived value and no perceived quality (Fornell, 1992). Later in ACSI, perceived quality was separated from the perceived value (Fornell et al., 1996). In ECSI, perceived quality was differentiated into two variables such as product quality (hardware) and service quality (humanware) (Eklöf and Westlund, 2002). In NCSB, the SERVQUAL instrument (Parasuraman et al., 1988) was used to evaluate quality (Johnson et al., 2001). Similarly, various national CSIs conceptualized the same latent variables with different manifest variables. However, it is important that the manifest variables represent the distinct characteristics of the latent variable which they represent (Yang et al., 2004). The summary of all variables and manifests of some of the popular national CSIs are presented in Table 1.

Customer expectation was measured in SCSB using a single manifest variable; while in ACSI, it was measured using three manifests similar to perceived quality i.e. overall expectation, the expectation for reliability and features of products or services. The empirical studies suggest that it has little or no influence on customer satisfaction in most circumstances. Though it was hypothesized as an antecedent of perceived quality and value in SCSB and ACSI, evidences from various studies showed that expectations had limited effect on other constructs. Hence, it was eliminated in the NCSB and SWICS models (Yang et al., 2004).

In earlier studies on ECSI model, the corporate image was posited as the antecedent of customer expectations, satisfaction, and loyalty. Later, the application of ECSI on Denmark i.e. Danish CSI by Martensen et al. (2000) proved that image was a significant driver of satisfaction and loyalty with greater impact than other variables. Corporate image or reputation was introduced in NCSB as an independent latent variable. However, in the new NCSB model, the corporate image was posited as an outcome of satisfaction and driver of loyalty which was found to be significant (Johnson et al., 2001). The conflicts regarding the roles of corporate image in CSI models arose from its varying conceptual assumptions and connotations (Yang et al., 2004).

Customer satisfaction, however, was uniformly measured across all national CSIs using three manifest variables i.e. overall satisfaction, fulfilment of expectation and comparison with ideal product or provider. On the other hand, customer loyalty was measured differentially for the various CSIs. In SCSB and ACSI, it was measured using two manifests i.e. repeat purchase intention and price tolerance (Fornell, 1992; Fornell et al., 1996). In ECSI, the customer word-of-mouth i.e. intention to recommend was included (Eklöf and Westlund, 2002). In NCSB, loyalty was represented as a behavioural and attitudinal entity with repurchase intention, intention to speak favourably about the company to others i.e. advocacy and intention to recommend (Johnson et al., 2001). The customer loyalty measure in SWICS included three manifests i.e. repurchase intention, intention to switch and intention to recommend (Bruhn and Grund, 2000). The researcher has derived certain interesting insights from comparison of the methodology and results of various CSIs. A detailed comparison of the CSIs based on their model composition, the sample used for validation and major findings are presented in Table 2.
# Table 1: Comparison of Latent and Manifest Variables of Various National CSIs

<table>
<thead>
<tr>
<th>Latent/Manifest Variables</th>
<th>SCSB</th>
<th>ACSI</th>
<th>ECSI</th>
<th>NSCB</th>
<th>SWICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Expectations</strong></td>
<td>Expectation for performance</td>
<td>Overall expectation; Expectation for reliability; Expectation for feature</td>
<td>Overall expectation; Interactive expectation</td>
<td></td>
<td>Tangibles; Reliability; Responsiveness; Assurance; Empathy</td>
</tr>
<tr>
<td><strong>Perceived Quality</strong></td>
<td>Overall perception of quality; Perception of reliability; Perception of features</td>
<td>Overall perception of quality; Meet requirements; Compared with competitors</td>
<td></td>
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<tr>
<td><strong>Perceived Value</strong></td>
<td>Quality given price; Price given quality</td>
<td>Quality given price; Price given quality</td>
<td>Quality given price; Price given quality</td>
<td></td>
<td></td>
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<tr>
<td><strong>Corporate Image/Reputation</strong></td>
<td>Overall image; Business practice; Ethics; Social responsibility</td>
<td></td>
<td>Overall image; Business practice; Ethics; Social responsibility</td>
<td></td>
<td>Overall image</td>
</tr>
<tr>
<td><strong>Customer Satisfaction</strong></td>
<td>Overall satisfaction; Fulfillment of expectation; Comparison with ideal</td>
<td>Overall satisfaction; Fulfillment of expectation; Comparison with ideal</td>
<td>Overall satisfaction; Fulfillment of expectation; Comparison with ideal</td>
<td></td>
<td>Overall satisfaction; Satisfaction compared to expectations; Satisfaction compared to ideal</td>
</tr>
<tr>
<td><strong>Customer Complaints</strong></td>
<td>Complaints to personnel; Complaints to management</td>
<td>Has the customer complained?</td>
<td></td>
<td></td>
<td>The compensation offered by the company; Employees treated you politely and with respect when you complained</td>
</tr>
<tr>
<td><strong>Customer Loyalty</strong></td>
<td>Repurchase intention; Tolerance of price</td>
<td>Repurchase intention; Intention to buy more; Intention to recommend</td>
<td>Repurchase intention; Intention to switch</td>
<td></td>
<td>Likelihood of retention; Likelihood of speaking favourably about the company to others; Likelihood of recommending</td>
</tr>
<tr>
<td><strong>Perceived Price</strong></td>
<td>Price compared to quality; Price compared to other companies; Price compared to expectations</td>
<td>Price compared to expectations</td>
<td></td>
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<tr>
<td><strong>Customer Dialogue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Willingness to contact the provider; Easiness of dialogue; Satisfaction with dialogue</td>
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Table 2: Comparison of Model, Methodology and Findings of Various National CSIs

<table>
<thead>
<tr>
<th>CSI</th>
<th>Variables in the Model</th>
<th>Sample Size</th>
<th>Findings</th>
</tr>
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</table>
| SCSB    | Customer expectations, Perceived performance (value), Customer complaints, Customer loyalty | 25,000 respondents 100 firms from 32 industries | • Customers in Sweden were not overly satisfied with many products and services  
  • Industries selling homogeneous products to homogeneous market or differentiated products (services) to heterogeneous market typically had higher CSB than other industries  
  • Monopolies experience lower CSB than competitive industries |
| ACSI    | Customer expectations, Perceived quality, Perceived value, Complaint complaints, Customer loyalty | 44,994 respondents 200 companies across 7 sectors | • The national ACSI score - 74.5  
  • Variance explained (R²) Customer satisfaction-0.75 Customer loyalty-0.36  
  • The impact of quality on customer satisfaction was greater than value  
  • The effect of customer expectations was not significant and high as expected |
| ECSI    | Customer expectations, Perceived quality, Perceived value, Image, Complaints, Loyalty    | Over 100,000 interviews 4 industries across 11 countries | • Customers in Finland were the most satisfied; whereas Denmark, Sweden and Russia were the least satisfied  
  • For some industries like electricity, expectations were higher than perceived quality. Thus, expectations in terms of quality were not fulfilled  
  • Larger gap resulted in a severe drop in customer satisfaction  
  • Perceived value was given the lowest rating  
  • Loyalty indices of most countries were around 0.7 |
| NCSB    | Quality, Price index, Corporate image, Complaint handling, Customer loyalty               | ~250 respondents per company 42 companies from 12 industries | • Corporate image and satisfaction were two important routes to customer loyalty for most service companies  
  • When quality differences are hard to detect for the customer, an improved corporate image may help to retain existing customers and attract new prospects |
| New NCSB| Quality, Price index, Corporate image, Complaint handling, Affective commitment, Calculative commitment, Customer loyalty | 2,755 respondents 5 industries | • This model explained more variance in loyalty than other national indices  
  • The quality dimensions (SERVQUAL) did not significantly affect satisfaction  
  • Effect of satisfaction on loyalty was greatest in those industries where customers had more choices such as banks, gas stations and airlines  
  • Recommendation - Employ overall, generic quality scale for national models  
  • Limitation - Based on data from small economy |
| SWICS   | Customer dialogue, Customer satisfaction, Customer loyalty                                | 3,845 respondents 20 industries across 6 sectors | • Both customer satisfaction and dialogue impact loyalty, but vary by industry  
  • However, satisfaction was more crucial  
  • The more comparable and similar the core products/services were, the more important was customer dialogue for loyalty |
| Danish CSI | Customer expectations, Perceived quality (hardware and software), Image, Perceived value, Complaints, Loyalty | 250 customers per company (8000 interviews) 30 companies 8 industries | • Expectations had nil or very limited impact on satisfaction and loyalty  
  • Image was the main driver of satisfaction  
  • Drivers had more impact on loyalty than satisfaction  
  • Recommendation - To change or remove expectations in future ECSI model |
Based on the learning from past CSIs, the latter CSIs were developed by introducing new variables, adapting existing variables, revising the interrelationships between variables and modifying the model composition. The aim was to improve the explanatory power of the CSI model by transforming it to be more relevant to their country and research context.

A classic example is the eventual elimination of the customer expectations variable which was a prominent antecedent in ACSI and ECSI, but later removed in NCSB, SWICS, etc. Based on the findings from ACSI, it was observed that the effect of customer expectations on customer satisfaction and loyalty was not significant and as high as expected. Despite satisfactory results in ECSI, the DCSI study in Denmark which was based on the ECSI model showed that expectations had nil or very limited impact on satisfaction and loyalty. Hence, the study strongly recommended a change or removal of expectations in future ECSI model.

With the transforming economy and greater competition, the perceptions of image of the company held in the consumer's memory became vital and corporate image emerged as a promising predictor of customer satisfaction and loyalty. ECSI, NCSB and DCSI employed corporate image which emerged as an important driver of customer satisfaction.

Despite perceived quality being a primary antecedent of customer satisfaction in most CSIs, there were variations in its effect and significance, thus offering some noteworthy insights. In ACSI and ECSI, perceived quality was measured using a generic quality scale and was found to have greater impact on customer satisfaction than other variables like value and expectations. In the new NCSB, the overall quality was replaced with five specific quality variables i.e. reliability, assurance, tangibles, empathy and responsiveness from SERVQUAL scale in an effort to improve the model explanatory power. However, these quality variables did not have a significant effect on satisfaction. Hence, it was recommended to adopt overall quality variable for national models and industry or company-specific quality variables for CSI studies on a smaller scale.

Thus, it is evident that knowledge gained from past CSIs, the changing economy, country background, regional culture and community perceptions together played a crucial role in determining the development and conceptualization of the CSI models.

V. CONCLUSION

In today’s highly competitive environment, companies need an extra edge to enhance and build upon customer relationships. Greater emphasis on customer satisfaction measurement can make the difference in winning and retaining customers or losing them. Since satisfied customers are the significant economic assets for any business, the development of a Customer Satisfaction Index (CSI) would enable continuous improvement and benchmarking against competitors. The CSI scores can help the firms to assess their strengths and weaknesses and thereby identify the areas of improvement to take better strategic decisions in order to achieve improved performance and increased customer satisfaction. Recognizing the multifaceted benefits and importance of CSI which has emerged as a potential performance evaluation metric, this study provides a valuable glimpse of the evolution of various popular national CSIs.

This comprehensive review of CSIs presents a wide range of implications for various stakeholders such as consumers, academicians, financial analysts as well as government officials. The review can serve as a guide for these stakeholders, which showcases the conceptual frameworks, execution and learning from various CSIs. Future researchers can take a cue from this study for developing new indigenous CSIs for various research contexts in their own countries. Further, researchers in collaboration with consulting firms and academic institutions can expand the CSI research by undertaking regular customer surveys and publishing yearly CSI reports for major firms and industries. In the long run, it has a great potential to improve the quality of consumer products and services, accelerate the national competitiveness, and ultimately enhance the standard of living and economic performance of the country.

The study reviewed the evolution of Customer Satisfaction Indices (CSIs) by evaluating the CSIs of various countries and by comparing their framework, methodology, and findings. The diligent review and synthesis of relevant literature on CSIs attempted in this study emphasizes a comprehensive, uniform and comparable satisfaction measurement system rather than an individual measurement of customer satisfaction to evaluate the performance of firms, industries, economic sectors, and national economies.

With the rising criticism of the current performance evaluation system of firms and industries using conventional financial measures, CSI is the way to go. The CSI is a gauge of how well a firm, industry or
economy satisfies their customers by identifying the major driving factors of customer satisfaction along with the specific factors causing dissatisfaction. The review further reiterates how the CSI can function as a key performance indicator in business scorecards and complement the conventional performance measures.

REFERENCES


