

Integrating SERVQUAL with National Customer Satisfaction Indices

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ABSTRACT

The focus of this study is to integrate SERVQUAL with a national customer satisfaction index in this context the EPSI Rating framework. The data for this study comes from the Danish Customer Satisfaction Index 2007. Here app. 1700 customers have evaluated their preferred bank. The questionnaire consists of two parts: the basic EPSI statement as well as 15 statements covering the 5 dimension from SERVQUAL. The results show that the importance of the 5 dimensions differs substantially among the different companies and that there is a clear link to overall satisfaction.

Keywords: EPSI Rating, SERVQUAL

1.0 Introduction

The popularity of customer satisfaction measurements in general and the EPSI Rating framework in particular has grown considerably over the last few years and more and more companies are using this sort of information in their strategic planning process. The primary result of interest for businesses is the level of the seven indices in the EPSI Rating framework and we know quite a lot about the behavior of the EPSI Rating framework with respect to the index values (Eskildsen et al., 1999, Selivanova et al., 2002, Eskildsen et al., 2003, Juhl et al., 2002, Fornell, 1992, Fornell et al., 1996, Kristensen et al., 2001, Kristensen and Westlund, 2003) as well as the structure of the framework (Eskildsen et al., 2004). However we know very little about integrating EPSI Rating with other measurement instruments.

In the EPSI Rating framework service quality plays an integral part in explaining customer satisfaction but little has been done with respect to integrating previously established measurement systems such as SERVQUAL. The SERVQUAL instrument was developed in the mid-eighties by Zeithaml, Parasuraman & Berry and widely recognized as providing a disaggregation of the concept of service quality (Bebko, 2000, Parasuraman, 1998, Parasuraman et al., 1988, Parasuraman et al., 1994, Parasuraman et al., 2005, Lassar et al., 2000). It consists of the following 5 dimensions:

- Reliability
- Responsiveness
- Assurance
- Empathy
- Tangibles

It does however not incorporate a notion of overall satisfaction. Through the traditional use of SERVQUAL we are left with some sort of evaluated importance in to the estimated importance measures from a national customer satisfaction index. This has various disadvantages that are well-documented in the literature.

The focus of this study is therefore to integrate SERVQUAL with a national customer satisfaction index in this context the EPSI Rating framework. The data for this study comes from the Danish Customer Satisfaction Index 2007. Here app. 1700 customers have evaluated their preferred bank or property insurance company. The questionnaire consists of two parts: the basic EPSI statement as well as 15 statements covering the 5 dimension from SERVQUAL.

2.0 EPSI Rating & SERVQUAL

In 1989, Sweden became the first country in the world to establish a uniform, cross-company and cross-industry methodology for measuring customer satisfaction and customer loyalty. The Swedish Customer Satisfaction Barometer (SCSB) was adopted and adapted for use in the American Customer Satisfaction Index (ACSI) in 1994 and the successful experiences of the Swedish and American customer satisfaction

indices inspired moves towards establishing a uniform methodology for measuring customer satisfaction and customer loyalty in Europe. Based on the recommendations from a feasibility study and by the work provided by the ECSI Technical Committee the EPSI Rating framework for measuring customer satisfaction and customer loyalty was designed (Eskildsen et al., 2004).

A pilot study was conducted in 1999 and measurements have so far been implemented in a small set of industries in a sample of the European countries. EPSI rating is a trademark of, and managed by, the European Foundation for Quality Management (EFQM), the European Organization for Quality (EOQ), and the academic network International Foundation for Customer Focus (IFCF) (Kristensen and Westlund, 2003). The EPSI Rating framework is shown in Figure 1.

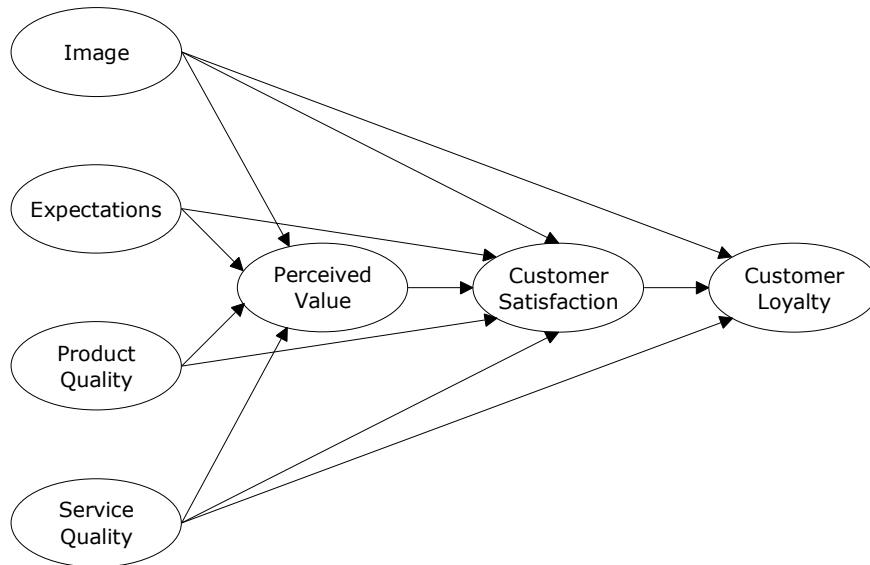


Figure 1: The EPSI Rating Framework

The EPSI Rating framework is a structural equation model. The model stipulates that perceived value, customer satisfaction and customer loyalty are driven by company image, customer expectations, product quality and service quality. Each of these seven variables is seen as latent, i.e. non-observable, variables.

Another quality measurement model that has been extensively applied is the SERVQUAL model (Bebko, 2000, Parasuraman, 1998, Parasuraman et al., 1988, Parasuraman et al., 1994, Parasuraman et al., 2005, Lassar et al., 2000). SERVQUAL is the most popular approach for measuring service quality and is used to compare customers' expectations before a service encounter and their perceptions of the actual service delivered. The SERVQUAL instrument has the following five generic dimensions (see table 1):

1. Reliability: ability to deliver the promised service.
2. Responsiveness: willingness to provide prompt service.
3. Assurance: ability to inspire trust and confidence.
4. Empathy: individualized attention to customers, caring about the customer.
5. Tangibles: appearance of physical facilities, personnel, and materials.

SERVQUAL has been criticized on a number of theoretical and operational aspects (Buttle, 1996). Some of the critique points out that SERVQUAL's 5 dimensions are not necessarily universal, that the construct validity is in doubt and that the model fails to draw on established economic, statistical and psychological theory (Buttle, 1996). Still the instrument is widely used in published and modified forms to measure customer expectations and perceptions of service quality.

Reliability	Responsiveness	Assurance	Empathy	Tangibles
<ul style="list-style-type: none"> • Providing services as promised • Performing services right the first time • Keeping customers informed about when services will be performed 	<ul style="list-style-type: none"> • Prompt service to customers • Willingness to help customers • Readiness to respond to customers' requests 	<ul style="list-style-type: none"> • Employees who instill confidence in customers • Making customers feel safe in their transactions • Employees who have the knowledge to answer customer questions 	<ul style="list-style-type: none"> • Giving customers individual attention • Employees who deal with customers in a caring fashion • Having the customer's best interest at heart 	<ul style="list-style-type: none"> • Employees who have a neat, professional appearance • Visually appealing materials associated with the service • Convenient business hours

Table 1: SERVQUAL items

3.0 SERVQUAL and the EPSI Rating Service Dimension

Before moving into a more detailed analysis of the possible integration of SERVQUAL into EPSI Rating it will be natural to perform a more detailed investigation of SERVQUAL and the EPSI Rating service dimension. When setting up a PLS structural equation system with the five SERVQUAL dimensions as latent exogenous variables and the EPSI Rating service dimension as a latent endogenous variable we find that for this dataset SERVQUAL explains 62% EPSI Service ($R^2 = 0,62$). The two dimensions Reliability and Assurance are not significant and among the remaining three dimensions Responsiveness is by far the most important. Responsiveness has a coefficient of 0.42 on EPSI Service, while the coefficients of Empathy and Tangibles are 0.18 and 0.14 respectively.

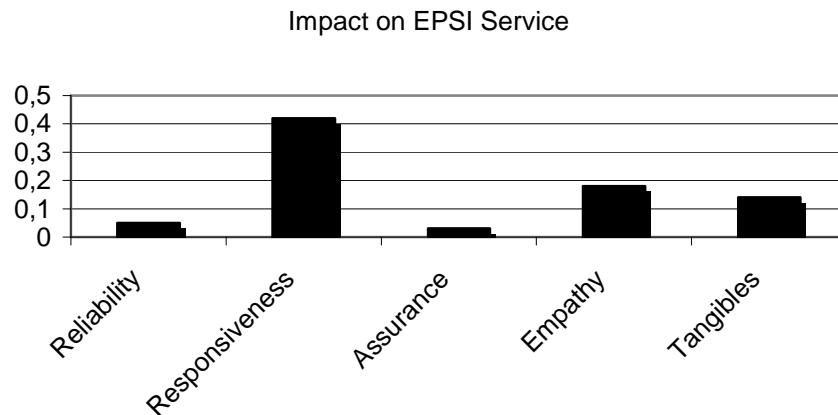


Figure 2: SERVQUAL dimensions and EPSI Service

This Indicates that SERVQUAL includes other dimensions than EPSI Service. The latter is highly related to Responsiveness and to a smaller extent Empathy and Tangibles. Furthermore an R^2 equal to 0.62 indicates that other dimensions may be present. Thus, SERVQUAL is not simply an unpacking of EPSI Service. The two concepts are related but they are not congruent.

However, this does not mean that SERVQUAL is not worthwhile integrating into EPSI Rating. The SERVQUAL dimensions may still provide further insight into the interpretation of the customer satisfaction index. This is investigated in the following section.

4.0 Integrating SERVQUAL into EPSI Rating

Two models of integration were investigated:

- **MODEL 1 (Conservative integration):** In this model the EPSI Service Quality dimension of figure 1 is kept in the model and is now considered endogenous. The five SERVQUAL dimensions are added to the model as exogenous dimensions explaining EPSI Service. From the analysis above we know that this will not give a perfect description of EPSI Service, but on the other hand it will keep the EPSI structure and thus not affect traceability, and it will still add to the interpretation of the EPSI concept of service.
- **MODEL 2 (Radical integration):** In this model the EPSI Service Quality dimension of figure 1 is removed from the model and substituted by the five exogenous SERVQUAL dimensions. This means that the model will have eight exogenous variables instead of five. This type of integration is rather radical since it to a certain extent will make it difficult to compare new results with previous results. On the other hand the addition of the SERVQUAL battery may improve both the statistical and analytical properties of the model.

A comparison of the statistical properties of the two models is found in figure 3.

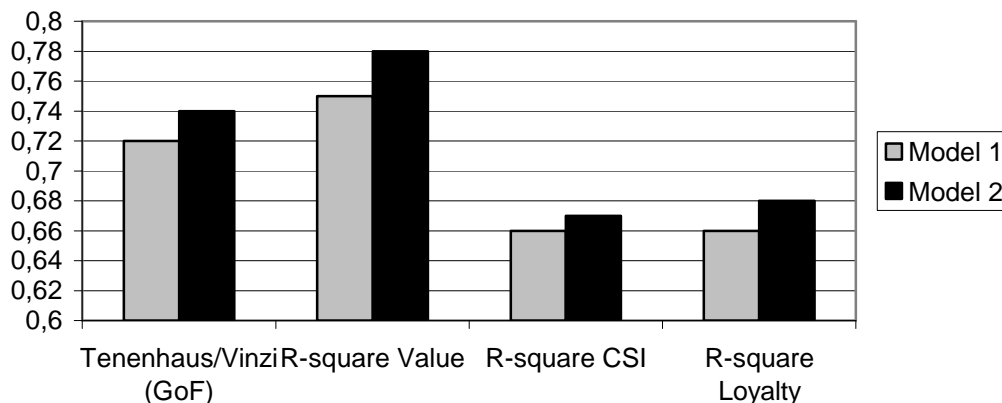


Figure 3: Statistical properties.

From this it is quite clear that Model 2 outperforms Model 1 (which has almost the same statistical properties as pure EPSI). The general goodness of fit is better, and the R-squares are in all cases higher for model 2. The differences are not in any way dramatic but they are large enough to go on investigating the properties of Model 2 in more detail.

A comparison of Model 2 with pure EPSI with regards to index scores and the overall effects on loyalty is given in the table below (table 2). It appears that the impacts of Expectation and Product Quality are almost unaltered when shifting from pure EPSI to Model 2. On the other hand the impact of Image, while still considerable, is reduced 30%. The aggregate impact of the new service dimensions is substantially larger than the impact of the old EPSI Service. The total effect is 0.66 compared to a value of 0.35. Hence a preliminary conclusion is that for the banking dataset a shift in model will mean that the importance of Image will be reduced while the importance of Service will be increased.

Looking at the individual SERVQUAL dimensions it appears that the results are quite different from the results in section 3. Now Empathy is by far the most important dimension followed by Reliability and Responsiveness. Assurance and Tangibles become insignificant. This is not at all unexpected, since both areas and especially Tangibles are partly covered by the Product Quality dimension of the EPSI model.

Compared to the analysis of the relationship between SERVQUAL and EPSI Service in section 3 these findings are very interesting and they suggest that there will be a considerable shift in the concept of service if SERVQUAL is introduced. Especially Empathy and Reliability will gain much stronger positions.

AREA	EPSI		Model 2	
	Impact	Score	Impact	Score
Image	0,65	77,0	0,43	77,4
Expectation	0,03	80,8	0,02	81,2
Product Quality	0,27	81,6	0,23	81,9
(Service)	0,35	81,9		
Reliability			0,21	82,8
Responsiveness			0,10	85,5
Assurance			0,02	84,2
Empathy			0,33	77,7
Tangibles			0,00	80,3
Satisfaction	0,97	77,4	0,84	77,6
Loyalty		76,7		76,5

Table 2: A comparison of the standard EPSI model and the model extended with the SERVQUAL dimensions (Model 2).

Looking at the index scores we see that the differences between the two models are in no way dramatic. For comparable indices the largest differences are 0.4. This means that a shift in model will probably not invalidate the possibility of doing comparisons over time.

5.0 Conclusions

The conclusions to this brief description of our EPSI/SERVQUAL analysis are:

- The SERVQUAL dimensions can successfully be integrated into the EPSI Rating framework.
- A direct estimation seems to be better than an indirect estimation when it comes to the statistical fit.
- It seems that Reliability, Responsiveness, and Empathy are the most promising dimensions.
- Especially Empathy will add a whole new dimension to the decision making in the banking sector.
- The introduction of SERVQUAL will not affect traceability.

Summing up these conclusions we believe that EPSI Rating will benefit from the inclusion of SERVQUAL dimensions. We still need to go into a detailed analysis of other industries before coming up with a general conclusion and recommendation, but the results from the banking sector are so promising and convincing that we expect to find similar conclusions from other sectors.

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Authors' Backgrounds

Prof. Kai Kristensen is full professor of applied statistics and member of the board of the Centre for Corporate Performance at the School of Business, University of Aarhus. He is the author of several books and more than 100 articles in international journals. He is co-founder of the Danish Quality Award and he serves on the prize committee for both the Danish Quality Award and the Danish Public Sector Quality Award. He is one of the founding fathers of the European Customer Satisfaction Program, and he is now a member of the board of EPSI Rating. Furthermore he is director of research of the International Foundation for Customer Focus and EPSI Rating.

Prof. Jacob Eskildsen is associate professor and a member of the Centre for Corporate Performance at the School of Business, University of Aarhus. He is the author of several articles in scientific journals such as *Measuring Business Excellence*, *TQM Magazine*, *Employee Relations*, *Total Quality Management* and *International Journal of Quality and Reliability Management*. He is in charge of "The Danish Customer Satisfaction Index" and member of the research projects, "The Danish Excellence Index" and "The European Employee Index".