Testing the Fit of the BANKSERV Model to BANKPERF Data

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Abstract

To date, financial institutions have no recognised publicly available and standard scale to measure the quality of their services (Bahia and Nantel, 2000). Much of the service quality literature has focused on two measures, SERVQUAL and SERVPERF. Although debate continues about the pros and cons of these individual measures, the reality is that neither is industry specific. The BANKSERV instrument was developed to measure service quality in retail banking as perceived by customers. It was designed to allow customers to reflect on their expectations and perceptions in single statements. This paper reports the results of a confirmatory factor analysis conducted to test the fit of the BANKSERV model to data collected using a perceptions-only measure (BANKPERF). Data were collected via questionnaire, with a sample of 348 banking customers being obtained. Findings suggest that the 'goodness of fit' of the BANKSERV model to the observed data was 'marginal'.

Introduction and Research Objective

Service quality is a critical issue in the service industry and of particular importance for financial service providers who characteristically offer products that are homogeneous in nature (Stafford, Stafford and Wells, 1998). Furthermore, service quality is both directly and indirectly related to bank loyalty via satisfaction (Bloemer, De Ruyter and Peters, 1998). A telephone survey conducted throughout the state of Victoria identified poor customer service as the most commonly given reason by consumers for considering switching accounts (Quadrant Research Services, 1992).

The BANKSERV model was developed in Australia by Avkiran to measure service quality in retail banking as perceived by customers (1994). BANKSERV adopts a 'perception-expectation' approach to the measurement of service quality. The objective of this research is to test the fit of the four-factor BANKSERV model to data that is solely perception-based i.e., data that excludes any reference to expectations.

Service Quality (SERVQUAL)

There is neither an accepted nor a best definition of service quality, although the most popular definition of service quality relates to meeting/exceeding expectations (Bennington and Cummane, 1998). To date, banks have tended to use more general instruments that measure service quality across a broad range of services, or scales contextually developed by a particular bank to cope with a specific problem (Bahia and Nantel, 2000). SERVQUAL is the most widely used and tested general measure of service quality (Bennington and Cummane, 1998). This instrument has been widely adopted by both managers (Parasuraman, Zeithaml and Berry, 1991) and academics (Babakus and Boller, 1992; Cronin and Taylor, 1992; Carman, 1990; Crompton and MacKay, 1989) to evaluate customer perceptions of service quality for a variety of services.

SERVQUAL measures service quality from the perspective of the consumer, as opposed to objective or technical quality. It asks customers to compare their **perceptions** of the service process and outcome against what they **expected** to receive from the service encounter. There are five dimensions by which consumers evaluate service quality: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml and Bitner, 1985; 1988). Reliability deals primarily with the outcome of service delivery, whilst the other four dimensions concern the process of service delivery. In total, 22 attributes are used to describe the five determinants and respondents are asked to rate (on a seven-point scale from "Strongly Disagree" to Strongly Agree") what they expected from the service and how they perceived the service. An overall quality score is calculated based on the discrepancies between expectations and perceptions over the 22 attributes.

Notwithstanding its popularity and widespread application, the SERVQUAL approach has been the subject of numerous theoretical and operational criticisms (see Buttle, 1996, for an overview of many of the criticisms). For example, an application of SERVQUAL in retail banking found problems with its dimensionality and the usefulness of expectation scores (Lam, 1995).

Alternative Conceptualisations of Service Quality

The numerous criticisms have given rise to the introduction of new service quality measures. The SERVQUAL model remains the cornerstone of a majority of all other works, however, researchers have incorporated other constructs and measures along with SERVQUAL dimensions in order to enrich and extend the explanatory power of this model. Cronin and Taylor (1992) developed a **performance-based** measure of service quality labelled SEVPERF following on from their beliefs that the conceptualisation and operationalisation of service quality (SERVQUAL) were inadequate. They argue that '**performance**' rather than '**perception-expectation**' determines service quality and provide substantial evidence to show expectations have little or no impact on the evaluation of consumers, particularly in relation to service quality (Cronin and Taylor, 1992). Cronin and Taylor concluded that the SERVQUAL measurement (1988) appeared to have a good fit in only two of the industries examined, whereas SERVPERF had an excellent fit in all four industries examined.

SERVPERF is composed of the same 22 perception items included in SERVQUAL. It excludes any consideration of expectation, which makes SERVPERF a more efficient measure in comparison to SERVQUAL (Lee, Lee and Yoo, 2000; Buttle, 1996). SERVPERF has been empirically tested on a number of occasions and found to explain more variance in overall service quality than SERVQUAL (Cronin and Taylor, 1992; Lee, Lee and Yoo, 2000; and Quester *et al*. 1995, in Robinson, 1999). McAlexander, Kaldenberg, and Koenig (1994) demonstrate the superiority of SERVPERF over SERVQUAL in dental care, whilst a SERVPERF type instrument is also preferred over SERVQUAL by Hahm, Chu, and Yoon (1997) for the telecommunications industry. Churchill and Suprenant (1982) conclude that for some products, particularly those with high credence properties, perceived performance was the only accurate measure of satisfaction.

BANKSERV

The BANKSERV instrument, developed by Avkiran (1994), was adapted from SERVQUAL to specifically suit the Australian banking industry. It is an instrument, designed to allow customers to reflect on their expectations and perceptions in single statements. This "avoids

the potential psychometric problems associated with SERVQUAL" (Avkiran, 1999, p. 62). The scale also avoids the negatively worded questionnaire items found in the SERVQUAL instrument (refer to Babakus and Boller, 1992). The 17 service quality items that make up BANKSERV have factor loadings of .05 or greater and encompass four dimensions. The operational definitions of the four dimensions and the individual 17 service quality indicators are presented in Table 1. The instrument's reliability, dimensionality and validity were all empirically tested and the results were "encouraging both in their own right and when compared with other studies" (Avkiran, 1994, p. 16).

Table 1: BANKSERV - Operationalisation of Service Quality

Dimension 1 - Staff Conduct: Responsiveness, civilized conduct and presentation of branch staff that will project a professional image to the customers.

1. "Willingness of branch staff to help me" is [help]
2. "Promptness of service from branch staff" is [prompt]
3. "Branch staff greeting me when it's my turn to be served" is [greet]
4. "Expression of genuine concern if there is a mistake in my account" is [concern]
5. "Politeness of branch staff" is [polite]
6. "Neat appearance of branch staff" is [neatness]
7. "Ability of branch staff to apologise for a mistake" is [apology]

Dimension 2 - Credibility: Maintaining staff-customer trust by rectifying mistakes, and keeping customers informed.

8. "Branch staff keeping me informed about matters of concern to me" is [informed]
9. "Ability of branch staff to put a mistake right" is [mistake]
10. "Feeling of security in my dealings with the branch staff" is [security]

Dimension 3 - Communications: Fulfilling banking needs of customers by successfully communicating financial advice and serving timely notices.

11. "Branch staff helping me learn how to keep down my banking costs" is [learn]
12. "Branch staff's knowledge of bank's services and products" is [knowledg]
13. "Quality of advice given about managing my finances" is [advice]
14. "Branch staff telling me about the different types of accounts and investments available" is [acctypes]
15. "Branch staff telling me when services will be performed" is [servwhen]

Dimension 4 - Access to Teller Services: The adequacy of the number of staff serving customers throughout business hours and during peak hours.

16. "Number of open tellers during the busy hours of the day" is [tellers]
17. "Number of staff behind the counter serving customers" is [staffnum]

(Avkiran, 1994, p. 15)

Methodology

As previously mentioned, the objective of this research is to test the fit of the BANKSERV model to observed performance-based data. To this end, Avkiran's (1994) 17-item BANKSERV instrument was adopted with two modifications. Firstly, in preference to using a measure that allows respondents to reflect on both their perceptions and expectations in single

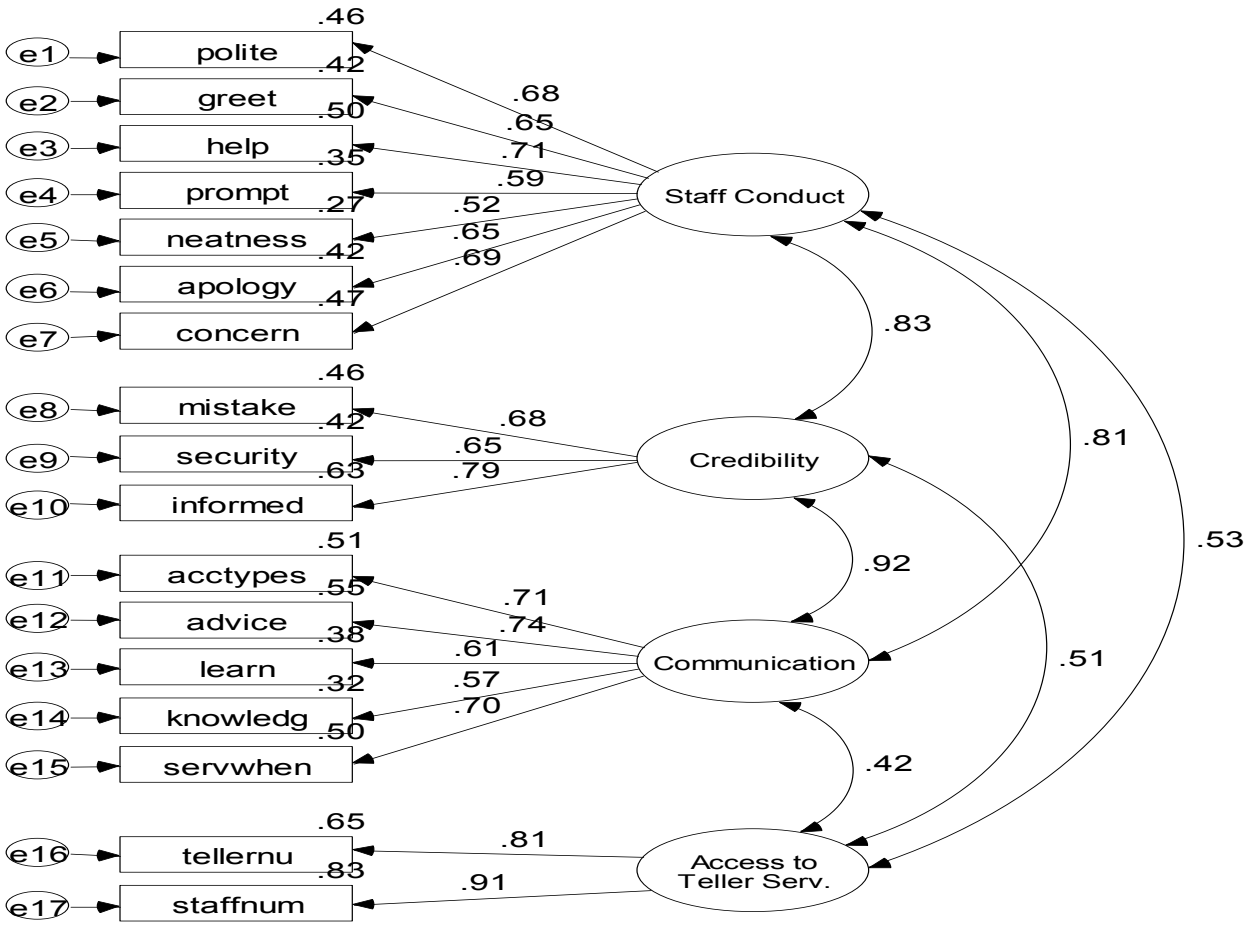
statements, a perceptions-only measure (similar to SERVPERF) was chosen. Secondly, a seven-point scale (1 indicating strongly agree and 7 indicating strongly disagree) was used in preference to a five-point scale to increase the sensitivity of the measure. This measurement instrument will hereafter be known as BANKPERF. Data was collected as part of an independent marketing research study conducted during 2001. Customers from two opposing banking segments were targeted, viz., retirees (people over the age of fifty-five who have retired from full-time employment) and university students, with a total of 348 completed questionnaires being collected.

Data Analysis and Research Findings

Using the confirmatory factor analysis (CFA) abilities of AMOS 4.0, BANKSERV's four-factor structure was imposed upon the observed BANKPERF data.

As recommended by Grimm and Yarnold (1998), the AMOS output files were inspected for any warnings related to under-identification, over-identification or non-admissibility. As no warnings were stated, we proceeded in interpreting the CFA results. The standardised results are presented in Figure 1.

Figure 1: Confirmatory Factor Analysis of the BANKPERF Structural Model



The results shown in Figure 1 display acceptable factor loadings and covariance's, with only the covariance between 'Communication' and 'Access to Teller Services' being low. The total factor variance defined by the 17 indicators equals 48 per cent.

Utilizing the structural equation modelling (SEM) abilities of AMOS, the CFA results were investigated for goodness-of-fit (GOF). The determination of model fit is not as straightforward as it is in other statistical approaches. Fit indices have no single statistical test of significance that identifies a correct model given the sample data (Schumacker and Lomax, 1996). There are a number of GOF indices with which to make comparisons, thus "fit should be simultaneously evaluated from the perspective of multiple fit statistics" (Campbell, Gillaspy and Thompson, 1995, p. 6). Many of the GOF criteria have been formulated to range in value from 0 (no fit) to 1 (perfect fit), with many researchers using a GOF value of .90 or higher as the criterion for acceptable fit (Denzine and Kowalski, 2002). Nevertheless, "no absolute test is available, and the researcher must ultimately decide whether the fit is acceptable" (Hair et al. 1998, p. 653).

The following GOF indices portray the degree to which the BANKSERV model fits the observed data. The GOF indices calculated through AMOS are as follows: $\chi^2 = 419.15$, $p < 0.001$, df = 113, GFI = 0.87, AGFI = 0.83, NFI = 0.84, TLI = 0.86, CFI = 0.88. On the basis of the afore-mentioned results, all the GOF results fall into a marginal level of fit (see Hair *et al*. 1998 or Schumacker and Lomax, 1996 for acceptable levels of fit). Thus, the BANKSERV model is a marginal contender for the causal structure underlying the BANKPERF data.

Conclusion

This paper has suggested an alternative scale for the measurement of service quality as perceived by customers of retail banks. BANKPERF's major advantage over BANKSERV is that there is strong theoretical support for a performance-only measure of service quality (Cronin and Taylor, 1992; 1994). Using CFA, a theory-testing procedure, the factor structure of the observed BANKPERF data has been tested against the predetermined BANSKSERV model. The results indicate that the BANKSERV model does not adequately fit the BANKPERF data. However, it would be unwise to conclude that the original BANKSERV dimensions are unstable. It is possible that the modifications made to the BANKSERV measuring instrument for the purpose of the study were sufficient to alter the factor structure of the observed variables. To this end, it is recommended that exploratory factor analysis be conducted on the BANKPERF data to explore the number and the nature of the factors that account for the covariation between variables. Exploratory factor analysis is thought of as a more theory-generating procedure (Stevens, 1996) and will enable the formulation of a new hypothesis about the number and nature of the factors underlying the observed data. It is vital that banks monitor service quality in retail banking as perceived by customers on a regular basis. Only then will they know if strategies in place to improve customer service levels are in fact effective. To this end, it would be beneficial to directly compare the capabilities of BANKPERF and BANKSERV in terms of their ability to adequately measure the service quality construct.

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