Expectations, Perceived Performance, and Customer Satisfaction for a Complex Service: The Case of Bank Loans

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Abstract

The models currently used to describe customers' satisfaction with products and services presume that customers have well-formed performance expectations. The present study uses data from the Swedish Customer Satisfaction Barometer to show that these models fail to describe customer satisfaction with bank loans, a complex, heterogeneous, and infrequently purchased service. Performance expectations are more likely an artifact of performance in this case and have no effect on satisfaction. This is quite different from other products and services where expectations are a stronger predictor of performance and have a positive effect on customer satisfaction.

Introduction

Nearly all the services that a bank provides are based upon the storage and transfer of value. This transferring of value includes the lending of money, or making of loans, which accounts for a major portion of a bank's revenues (Shostack, 1977). The degree to which customers are satisfied with their loan experience plays a central role in their loyalty to the bank and its profitability (Nader et al.,

1995). Understanding the nature of customer satisfaction in this context is, therefore, critically important. Existing conceptual models of satisfaction suggest several possible scenarios. One model holds that customer satisfaction is the difference between perceived performance and customer expectations (i.e., disconfirmation; Anderson, 1973; Oliver, 1993). Another views perceived performance and expectations as having positive effects on satisfaction (Fornell, 1992; Westbrook and Reilly, 1983). Still another views market expectations and perceived performance as one in the same (Johnson and Fornell, 1991).

All of these scenarios presume that customers have well-formed expectations at the onset of the money lending process. The fact that bank loans represent a relatively intangible and complex service for which production and consumption are inseparable suggests another possibility. Unlike many traditional products and services, customer expectations may be more an artifact of the service production process and have no effect on satisfaction. Bank loans may be similar in this regard to other highly complex products or services with which customers have little or no experience, particularly where new technologies are employed and customer benefits are difficult to foresee (such as for video phones in homes or satellite navigation systems in automobiles).

The present paper explores this possibility by examining the nature of customer expectations, perceptions of performance, and satisfaction for bank loans as a complex service and comparing it to other goods and services. This comparison is made using data from the Swedish Customer Satisfaction Barometer (SCSB) which tracks customer expectations, perceptions of performance, and satisfaction for the leading industries in Sweden. The results support the contention that bank loans are different in that customer expectations are formed during the service production process and have no effect on satisfaction. The study has both theoretical and practical implications for how we conceptualize customer satisfaction and quality improvement in different contexts.

Market level expectations, perceived performance, and customer satisfaction

Recent research on customer satisfaction and its antecedents varies from micro-level studies of the individual (Anderson and Sullivan, 1993; Cronin and Taylor, 1992; Oliver, 1993; Teas, 1993) to more aggregate studies of entire market segments and industries (Fornell 1992; Fornell and Johnson, 1993; Johnson et al., 1995). We focus on the determinants of satisfaction at a market segment or macro-psychological level (Katona, 1979); our aim is to understand the aggregate expectations, performance perceptions, and level of satisfaction for those who purchase and consume a product or service offering. The primary reason is that we seek to develop an understanding of the nature and antecedents of customer satisfaction at a level that is both descriptive and predictive of market behavior.

While individual level studies provide important insights into the range of possible psychological phenomena that may affect economic behavior, many of these phenomena have a negligible effect on how customers, as a whole, behave (Boulding, 1972; Katona, 1975, 1979, 1980; Strumpel, 1979; Wärneryd, 1988). Katona (1979) describes two important benefits of aggregation in this context.
First, there are a number of individual differences (such as optimism-pessimism) that constitute self-canceling random factors in the aggregate. Second, a gain occurs in the analysis of aggregate data through the law of large numbers. Aggregate level data thus provides better measures that are more predictive of market behavior.

How one conceptualizes customer satisfaction also affects the modeling and measurement of the construct and its antecedents. Johnson et al. (1995) describe two basic conceptualizations of satisfaction, transaction-specific and cumulative. Transaction-specific satisfaction is a customer's transient evaluation of a particular product or service experience (Cronin and Taylor, 1992; Parasuraman et al., 1988). The cumulative model is more consistent with the literature in both economics and economic psychology (Johnson and Fornell, 1991; Meeks, 1984; Van Raaij, 1981), where customer satisfaction is

conceptualized as a cumulative construct that describes the total consumption experience with a product or service to-date. Although transaction-specific satisfaction may provide insights into particular product or service encounters, cumulative satisfaction is arguably a better predictor of future behavior (customer retention) and firm performance (profitability). Our approach is both aggregate and cumulative in its orientation. We now elaborate on the nature of bank loans as a financial service and its implications for satisfaction modeling.

The intangibility and complexity of bank loans

The borrowing of money embodies a number of unique characteristics. The production and consumption of the loan experience are inseparable. The core benefit is intangible, while the production process itself is complex and heterogeneous. In this way it is unlike many other consumption experiences.

There is a simultaneous production and consumption which characterizes most banking services. In the interview and application phase both parties to the loan try to come to an agreement concerning the conditions and terms of the loan (amount, interest rate, number of months to maturity, etc.). Prior to receiving any proceeds of the loan customers pay, or declare their willingness to pay, for it. Since the customer must be present during the production of the loan, including the provision of personal information and arm's length transactions such as making loan arrangements via telephone, inseparability forces the buyer into contact with the production process (Carman and Langeard, 1980). In a dynamic view, the borrowing of money may be described as having many experience qualities (Nelson, 1970). A customer only begins to fully understand just what is being purchased during the course of the service production process; the perceived performance of the bank in providing the loan is, to a large extent, only observable once the service is provided.

Intangibility manifests itself in two ways. Bateson (1977) distinguishes between physical and mental intangibility. Physically,

the borrowing of money cannot be touched by the customer - it is impalpable. Banking services in general constitute performances rather than objects; they can not be seen, felt, tasted, or touched in the same way that tangible goods can be sensed (Zeithaml et al., 1985). Unlike a number of other services (such as mail order or parcel delivery), loans are also mentally intangible or difficult for customers to cognitively grasp. Amid interest rates, fee schedules, and payment options it is difficult to understand just what is being purchased.

This mental intangibility is enhanced by a rather complex loan process that includes up to eight different phases (Lindner, 1993): (1) interview and application, (2) information gathering, (3) risk analysis, (4) recommendation for approval, counter-offer, or denial, (5) documentation preparation phase (security agreement, financing statements, etc.), (6) establishing of a credit file, (7) monitoring, and (8) payout. This process involves several bank officers (such as a loan officer, credit analyst, and loan administration clerk). Yet a large part of the process does not involve the customer directly; much of the system remains invisible. Given that many customers have little economic expertise, it is a difficult service to evaluate. The customer is very dependent on the advice of the service personnel to make loan related decisions. The exception here would be business loan customers who, over time, may accumulate extensive experience and resulting expertise.

Money lending is also a labor intensive service which makes it rather heterogeneous. Langeard et al. (1981) point out that because a number of different employees come in contact with an individual customer, problems of consistency of behavior ensue. The quality and essence of the service can vary widely from bank to bank, from customer to customer, and from day to day. This is critical because employee behavior is an important customer criteria in bank selection and retention (Gwin and Lindgren, 1986; Parasuraman et al., 1985; Parasuraman et al., 1988).

Finally, for most customers, money borrowing is not a frequently 'purchased' service. With the exception of business loans, customers

rarely have the amount of experience necessary to turn a rather extended problem solving experience into a limited problem solving or routinized purchase (Howard, 1977). The discussion suggests that customers hold weak expectations, at best, for money lending services. The expectations that do exist are likely an output or artifact of the service production process which have a negligible impact on customer satisfaction. The basic theoretical argument here is that because performance information is complex and customer experience is limited, expectations are weak and unlikely to affect satisfaction. As mentioned earlier, bank loans may be similar in this regard to other highly complex offerings with which customers have little or no experience.

Contrast this scenario with most other products and services. While some physical products may be complex, they are more tangible than bank loans. There is also greater homogeneity in their production and customers have more experience with them. While physically intangible, other services are typically less complex, involve fewer service personnel, and are also more frequently consumed. In both cases, customers are likely to have stronger expectations prior to any given product or service purchase and consumption experience. This should affect the ability of different models to describe and explain aggregate customer satisfaction. We now turn our attention to these different models.

Alternative satisfaction models

Prior research suggests at least three alternative, aggregate customer satisfaction models. Our discussion suggests a fourth. We shall refer to these models as: (1) the performance model, (2) the disconfirmation model, (3) a rational expectations model, and (4) the expectations-artifact model. Each model is illustrated in Fig. 1.

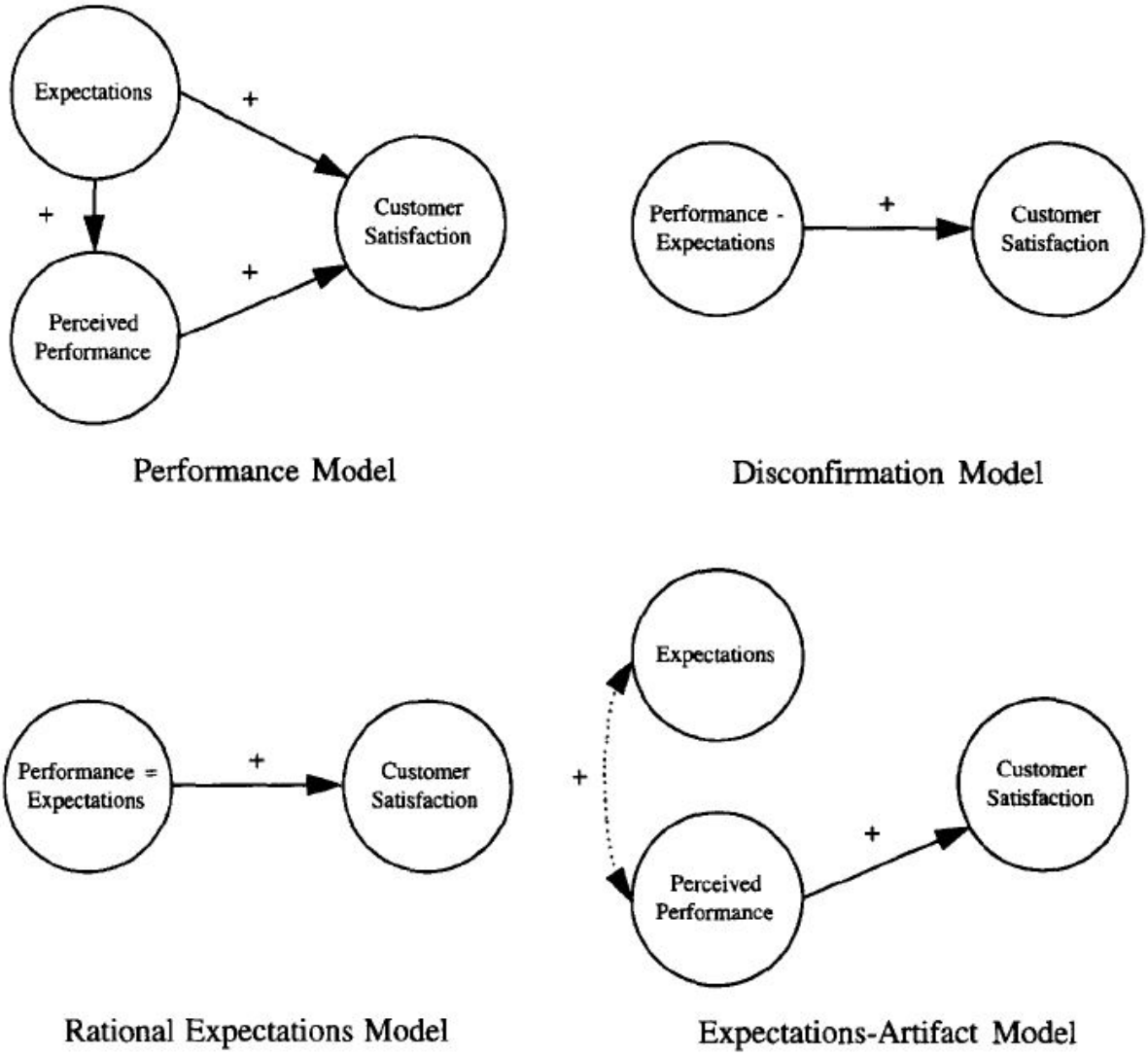

Fig. 1. Alternative customer satisfaction models.

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215

216 *Performance model*

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218 The performance model serves as the conceptual foundation for the
219 SCSB (Fornell, 1992; Johnson and Fornell, 1991). The main predictions
220 of the model are that customers' perceptions of product or service
221 performance, and their expectations regarding that performance, have
222 positive effects on customer satisfaction (see Fig. 1). Performance is
223 defined here as the customers' perceived level of product or service
224 quality relative to the price they pay (benefits received for costs

incurred). That perceived performance or 'value' has a positive effect on satisfaction follows from the notion of a value-percept disparity (Westbrook and Reilly, 1983); the greater the product's or service's ability to provide that which customers need, want, or desire, relative to the price or costs incurred, the more satisfied those customers should be with their purchase and consumption experience (Churchill and Surprenant, 1982; Tse and Wilton, 1988). Put differently, customer satisfaction should increase the more one provides desired product or service benefits per dollar (Lancaster, 1971).

Expectations should have a direct positive effect on satisfaction due to their role as an anchor in the satisfaction evaluation process (Fornell and Johnson, 1993; Oliver, 1980; Van Raaij, 1989; Schelling, 1978). Customer expectations contain important information as to how a product or service has performed in the past as well as how it is likely to perform in the future. This information serves as an anchor that is continually adjusted based on more recent performance information. Assessments of satisfaction are, therefore, maintained in the vicinity of the expectations resulting in a positive expectation effect. Taken together, the positive effects of expectations and perceived performance on satisfaction may be viewed as the macro-psychological equivalent to the cognitive process of anchoring and adjustment (Tversky and Kahneman, 1974).

The relative size of the performance and expectation effects should depend on the relative 'strength' of these constructs (Alloy and Tabachnik, 1984). The stronger or more salient performance information is relative to expectations, the greater the relative positive effect of perceived performance on customer satisfaction. The weaker or more ambiguous performance information is relative to expectations, the greater the effect of expectations, as an anchor, on satisfaction. In general, service performance information is weaker than product performance information (Bateson, 1977; Zeithaml, 1985). For example, when an automobile will not start, performance is denied and dissatisfaction is a likely result. In contrast, the extent to which the 'grumpiness' or 'helpfulness' of a service provider affects

satisfaction is more likely buffered by customers' well-formed expectations or image of the service establishment. Therefore, holding the strength of expectations constant, we expect the predicted positive effect of expectations on customer satisfaction to be greater for services than for products.

Also included in the performance model is a positive effect of expectations on perceived performance. This effect should be interpreted as the ability of aggregate customer expectations' to predict performance. This predictive ability should be greatest when customers have considerable experience with a predictable, or low variance, performer. We again expect this effect to vary from bank loans, to services, to products in light of our discussion. Given customers' lack of experience with the complex and heterogeneous service of money lending, expectations should not be as strongly related to performance as for other products and services. Given the heterogeneity or inherent variability of services relative to products (GriSnroos, 1983), product expectations should be more predictive of performance than service expectations. In the extreme, expectations and performance may be one in the same. This is the essence of the rational expectations model described shortly.

Disconfirmation model

The disconfirmation model (also called the confirmation/disconfirmation model) posits that the degree to which perceived performance exceeds expectations (positive disconfirmation) increases the level of satisfaction while performance levels below expectations (negative disconfirmation) decrease the level of satisfaction (Anderson, 1973; Oliver, 1980; Oliver, 1993). In Fig. 1, satisfaction is a positive function of the difference between performance and expectations (performance - expectations). In contrast to the performance model, the disconfirmation model predicts a decrease in satisfaction with increased expectations (Yi, 1991). Rather than an anchor, expectations serve as a standard or point of

contrast against which customers are presumed to evaluate performance information when judging satisfaction.

This model may be problematic in the context of aggregate, cumulative customer satisfaction (Johnson and Fomell, 1991). It requires that an entire market segment hold inaccurate performance expectations, or be unable to learn from experience, which is unlikely. It also presumes that the absolute level of perceived performance is unimportant; whether expectations and performance are high or low, it is the difference between them that affects the level of satisfaction. Disconfirmation thus ignores the value-percept disparity. Recent individual level studies also highlight the conceptual and methodological limitations of disconfirmation-type models (Cronin and Taylor, 1992, 1994; and Teas, 1993, 1994).

Nevertheless, a case can be made for including the disconfirmation model in our analyses and comparisons based on its popularity and continued empirical support in certain contexts (Oliver, 1993). The SERVQUAL model (Parasuraman et al., 1988, 1994), which is based on the disconfirmation principle, is a particularly popular way of assessing the quality of financial services. An important reason for its popularity is that the concept of 'meeting and exceeding' customer expectations is seemingly simple for both managers and service personnel to comprehend and implement in a banking context. As argued previously, there is also significant heterogeneity in the provision of bank loans. This may create discrepancies between perceived performance and expectations which increase the likelihood of disconfirmation effects.

Rational expectations satisfaction model

Our focus on aggregate expectations, perceptions, and evaluations suggests that rational expectations may also provide a good description of the antecedents of customer satisfaction with bank loans. The rational expectations hypothesis (Muth, 1961) argues that the mean expectation of economic agents in a market is equivalent to

the market's output, which in this context is a bank's actual performance when providing a loan. Even though customer expectations for this service may be weak, inaccurate, or non-existent for individual customers, the whole may be more than the sum of its parts. Aggregate expectations may be far more accurate or rational. As Boulding (1972, p. 466) argues, "the summation of ignorance produces knowledge." Rational expectations suggests that perceived performance and expectations are redundant (performance = expectations). As depicted in Fig. 1, they should have a single positive effect on satisfaction.

Expectations-artifact model

The nuances of money lending suggest that all three of these models provide an inadequate description of customer satisfaction with bank loans. At best, customers hold weak expectations for money lending services. Their expectations are more likely an output or artifact of a complex, intangible, and infrequently experienced service production process. The primary determinant of customer satisfaction should be perceived performance. Expectations should have no positive or negative effect on satisfaction because they serve as neither an anchor, as in the performance model, nor a standard of comparison, as in the disconfirmation model, for evaluating satisfaction. At the same time, perceived performance should covary with customers' stated expectations. Performance gives rise to the expectations that customers report. The model in Fig. 1 posits a direct positive effect of perceived performance on satisfaction and a positive relationship between performance and expectations, without linking expectations directly to satisfaction, to capture these predictions.

An alternative prediction is that even customer satisfaction with bank loans is better described by either the performance or disconfirmation model. While customers may not have much direct experience in obtaining loans, they may have some significant prior expectations of performance based on other services they obtain from

the bank (such as a checking account), positive or negative word of mouth, or simply their general impression of banks. If strong enough, these expectations may indeed serve as either an anchor in evaluating satisfaction or as a benchmark against which performance is judged.

How one implements customer satisfaction and quality improvement programs depends on which of the four models best describes the situation. If an increase in expectations has a positive effect on satisfaction for bank loans, then it will be critical to include expectations in a bank's customer satisfaction modeling and measurement system. More specifically, the size of a positive expectations effect indicates just how long it takes for changes in product or service performance to be completely reflected in measures of customer satisfaction. If expectations are more of a by-product of the loan production process, then it may be counterproductive to focus on expectations at all; service personnel should focus on improving performance rather than meeting or exceeding customer expectations.

Empirical study

Our empirical study uses aggregate, firm level measures of performance expectations, perceived performance, and customer satisfaction available from the Swedish Customer Satisfaction Barometer (SCSB; Fornell, 1992). Each year approximately 100,000 representative Swedish customers are contacted by telephone and screened to obtain a sample of customers who have had some recent experience with the product or service in question. The resulting sample of approximately 25,000 customers is then subjected to a telephone interview regarding one or more product or service. The interviews focus on the firms 'flagship brand,' such as money lending in the case of banks, with sample sizes averaging approximately 250 respondents per firm.

Customer are first asked to rate how well they expected the product or service to perform which serves as our measure of expectations (El). Perceived performance is operationalized using two subsequent measures, a rating of how much the customer paid relative

to how well the product or service has performed (P~) and a rating of how well the product or service has performed relative to how much the customer paid (P2). Both items measure perceived performance as a value-percept disparity. We use Fornell's (1992) three measures to operationalize satisfaction, customer ratings of their confirmation of expectations (S 1), their overall satisfaction (S 2), and the product's or service's distance from the customers' hypothetical ideal ($3). All of the survey ratings used ten-point scales. Our sample includes 18 of the 32 industries in the SCSB. We exclude the routinized purchase and consumption of food and beverage products because expectations are not measured. We also exclude monopolies so as not to mix market (firm) and industry level data involving both regulated and unregulated industries.

Industry groupings and analysis

The antecedents of satisfaction were examined for three separate classes of firm-level observations to test our predictions. The first class includes those firms who provide public banking service (5 firms). Because these firms were surveyed on the basis of their money lending activities, they provide an excellent test of our predictions. As mentioned, business to business money lending is quite different and may be better described as a routine or limited problem solving experience. The banks' business loan customers were surveyed separately and these observations were excluded from the analysis. The second class of interest is other services, including airlines (2), mail order houses (4), newspapers (5), shipping companies (5), travel charter companies (4), business insurance (4), automobile insurance (5), life insurance (5), and television broadcasters (3) for a total of 37 service-oriented firms. The third group contains firms that market primarily products or product retail establishments. These relative 'non-services' include automobile manufacturers (9), clothing retailers
(4), mainframe computers (4), personal computers (3), department stores (3), furniture retailers (3), gas stations (6), and grocery

stores (3) for a total of 35 firms. Observations were available from all 77 firms for, 1990, 1991, and, 1992. Because we have fewer observations for banks than for other services and non-services, the data for the three years was stacked yielding 15, 111, and 105 observations.

The performance model and expectations-artifact model were estimated using the six survey measures (E_1, P_1, P_2, S_1, S_2, S_3) as reflective indicators of experience, performance, and satisfaction respectively in a system of equations. The disconfirmation model used the three measures of satisfaction along with two difference scores, $P_1 - E_1$ and $P_2 - E_1$, to operationalize the performance minus expectations construct. The rational expectations model used the three measures of satisfaction and two measures to operationalize the performance = expectation construct, E_1 and P_1 where P_1 is an average of the P_1 and P_2 variables used in the other three models. An average of the performance measures was used in this case so that an equal number of expectation-based and performance-based measures operationalize the performance = expectations latent variable.

Some comment is in order as to why a disconfirmation rating is used to operationalize satisfaction rather than disconfirmation in the disconfirmation model. Because satisfaction is an abstract construct, it should be operationalized using a variety of proxies of which disconfirmation of expectations is one (Fornell, 1992; Johnson and Fornell, 1991). Our estimation only extracts that portion of the disconfirmation rating that is common to all three satisfaction measures. We use difference scores to operationalize disconfirmation, rather than direct ratings, which is consistent with the SERVQUAL approach (Parasuraman et al., 1988). Although difference scores may compound problems of reliability (Peter et al., 1993), this problem is lessened by our use of aggregates. Finally, if the use of disconfirmation measures on both sides of the model introduces a bias, it would be evident from the output of the estimation.

The four alternative structural models in Fig. 1 were estimated for each of the three classes of industries using partial least squares (PLS; Wold, 1982, 1989). PLS is an iterative estimation

procedure that does not impose distributional assumptions on the data. Thus the procedure is better suited to causal model estimation involving small samples (as in the case of bank loans here) than are other methods such as covariance structure analysis (Fornell and Bookstein, 1982; McGill et al., 1994). The procedure provides the information necessary to simultaneously evaluate both the measurement and structural portions of the model (Löhmoller, 1989). The reliability of the expectations, performance, disconfirmation, and satisfaction measures is judged as satisfactory if the standardized loadings (which range from 0 to 1) are high and the residuals are low. 1 The theoretical or latent variable relationships are judged on two criteria: (1) whether the estimated path coefficients are reliable and in the predicted direction, and (2) the amount of variance explained (R 2) in our endogenous latent variable (customer satisfaction). Tukey's jack-knifing method was used to generate standard errors for each of the model parameters in order to examine the reliability of the effects (Fornell and Barclay, 1993). When we report effects or differences in effects in our discussion, the jack-knife results support their reliability.

The output of the estimations is reported in Tables 1-3 for bank loans, other services, and non-services respectively. The standardized measurement loadings are reported in the top-half of each table. The latent variable effects are reported in the lower-half of each table. These effects were estimated using the original measurement scales in order to compare the different samples of firms (LohmSller, 1984). At the bottom of each table is the R 2 for satisfaction. Note that while the performance model has an advantage in the degrees of freedom used to explain satisfaction, the theoretically important question here is whether or not expectations have a separate positive effect on satisfaction across the
samples.

Table 1
Estimation results for public bank loans ($n = 15$)

	Model			
	Performance	Disconfirmation	Rational expectations	Expectations-artifact
Measurement loadings				
E_1	1.000	–	0.637	1.000
P_1	0.912	–	0.960	0.912
P_2	0.942	–	–	0.942
$P_1 - E_1$	–	0.902	–	–
$P_2 - E_1$	–	0.943	–	–
S_1	0.938	0.936	0.940	0.938
S_2	0.912	0.909	0.912	0.912
S_3	0.966	0.970	0.965	0.966
Effects				
$E \rightarrow S$	−0.059	–	–	–
$E \rightarrow P$	0.397	–	–	–
$P \rightarrow S$	0.914	–	–	0.891
$P - E \rightarrow S$	–	0.713	–	–
$P = E \rightarrow S$	–	–	0.871	–
$P \rightarrow E$	–	–	–	0.397
Satisfaction R^2	0.797	0.508	0.759	0.794

Note: E = expectations, P = perceived performance, S = customer satisfaction.

Results

For bank loans, the measurement loadings are large and positive in each case. The one exception is the rational expectations model where the expectations measure (E_1) is a weaker indicator of performance = expectations than is the performance measure. This suggests that performance and expectations are not as 'redundant' as the model predicts. The performance and expectations-artifact models, which explain approximately 80% of the variance in satisfaction across the banks, are better predictors of satisfaction than the disconfirmation and rational expectations models. For both the performance and expectations-artifact models, the relationship between performance and expectations is moderate (0.40) and the effect of performance on satisfaction is large (0.91 versus 0.89). However, the jack-knife results support no effect of expectations on satisfaction

in the performance model. The root mean square residual between expectations and performance in the expectations-artifact model is also very small (0.02), again indicating no relationship between expectations and satisfaction for bank loans. These results support the expectations-artifact model in the case of bank loans.

Contrast this with the other services. The measurement loadings are again large and positive in each case, with the possible exception of the P_1 measure in the performance and expectation artifact models. 2 The performance model explains the greatest variance in satisfaction, followed by the rational expectations model, the expectations-artifact model, and the disconfirmation model. The performance model does the best job of both capturing the relationships and explaining satisfaction in this case ($R^2 = 0.80$). All of the path coefficients in the performance model are reliable and in the predicted direction.

Table 2
Estimation results for other services ($n = 111$)

	Model			
	Performance	Disconfirmation	Rational expectations	Expectations-artifact
Measurement loadings				
E_1	1.000	–	0.787	1.000
P_1	0.619	–	0.773	0.620
P_2	0.987	–	–	0.987
$P_1 - E_1$	–	0.994	–	–
$P_2 - E_1$	–	0.923	–	–
S_1	0.936	0.997	0.936	0.934
S_2	0.985	0.915	0.985	0.985
S_3	0.962	0.839	0.962	0.963
Effects				
$E \rightarrow S$	0.389	–	–	–
$E \rightarrow P$	0.427	–	–	–
$P \rightarrow S$	0.656	–	–	0.822
$P - E \rightarrow S$	–	−0.227	–	–
$P = E \rightarrow S$	–	–	0.856	–
$P \rightarrow E$	–	–	–	0.423
Satisfaction R^2	0.800	0.052	0.733	0.676

Note: E = expectations, P = perceived performance, S = customer satisfaction.

Table 3
Estimation results for non-services ($n = 105$)

	Model			
	Performance	Disconfirmation	Rational expectations	Expectations-artifact
Measurement loadings				
E_1	1.000	–	0.735	1.000
P_1	0.484	–	0.823	0.484
P_2	0.994	–	–	0.994
$P_1 - E_1$	–	0.538	–	–
$P_2 - E_1$	–	0.912	–	–
S_1	0.957	0.962	0.956	0.956
S_2	0.959	0.951	0.962	0.959
S_3	0.926	0.928	0.923	0.926
Effects				
$E \rightarrow S$	0.096	–	–	–
$E \rightarrow P$	0.555	–	–	–
$P \rightarrow S$	0.833	–	–	0.886
$P - E \rightarrow S$	–	−0.282	–	–
$P = E \rightarrow S$	–	–	0.781	–
$P \rightarrow E$	–	–	–	0.555
Satisfaction R^2	0.792	0.080	0.609	0.786

Note: E = expectations, P = perceived performance, S = customer satisfaction.

Both performance and expectations have positive effects on satisfaction (0.66 and 0.39) while expectations predict performance (0.43). The R: for the disconfirmation model is quite low (0.05) and the estimated effect of disconfirmation on satisfaction is negative rather than positive (-0.23). This negative effect of disconfirmation, while inconsistent with the disconfirmation model's predictions, is consistent with the observed positive effect of expectations on satisfaction for the performance model.

For the non-services, the measurement model results generally mirror those for other services. The performance and expectations-artifact models dominate in their ability to explain 79% of the variance in satisfaction. In both cases there are large relationships between expectations and performance (0.55) and between performance and satisfaction (0.83 versus 0.89). In the performance model, the estimated effect of expectations on satisfaction is positive (0.10) albeit smaller than that observed for other services. As both performance and expectations have reliable positive effects on

satisfaction, the performance model again provides the best description of satisfaction in this case.

Comparing the predictive power of expectations across the three samples of firms (using the performance model results) also supports this conclusion. Customers are better at predicting performance for non-services (0.55), than for other services (0.43), than for bank loans (0.40). Although the difference in the size of the effect between other services and bank loans is small, the jack-knife results support the reliability of the difference. In the aggregate, customers apparently learn more of what level of performance to expect when they have tangible and reliable experience on which to draw. It is more difficult to argue that, for such things as automobiles or department stores, expectations are simply an artifact of performance.

In sum, the expectations-artifact model provides the best description of customer expectations, perceived performance, and customer satisfaction in the case of bank loans. Consistent with the limited experience that customers have with this complex and heterogeneous service, expectations serve as neither an anchor nor a standard in evaluating satisfaction. Rather, customers' stated expectations are best interpreted as an artifact of the service production and consumption process. The performance model provides the better description for the other products, product retailers, and services that we studied. Both performance and expectations have a positive effect on satisfaction in these cases.

Discussion

Our experience leads us to expect a certain level of performance from most of the products and services that we purchase and consume. It is natural that the models most commonly used to analyze our satisfaction with these products and services take expectations as a given. The present study demonstrates that these models are not as applicable to a complex and infrequently experienced service such as bank loans. Customers stated performance expectations for money lending services had no effect on satisfaction among the firms studied

here. Rather, our results suggest that these expectations are most likely an artifact of the service production process. In contrast, expectations both predicted performance and had a positive effect on customer satisfaction for the other products and services studied. As mentioned earlier, one can imagine other product and service categories where there is a lack of well-formed expectations regarding how a product or service will perform as well as what the relevant performance attributes might be (particularly technology-driven products or services whose uses are evolving).

The study provides insight into previous research using the SCSB data-base which finds a general expectations effect (Fornell and Johnson, 1993). For example, estimation of the performance model in Fig. 1 using the entire sample of 77 product and service firms (231 observations) yields a reliable positive effect of expectations on customer satisfaction (0.24). Our results reveal that this effect is concentrated among frequently purchased and consumed services and, to a lesser extent, among products and product retailers. One likely explanation for these findings centers on the relative strength of customers' expectations versus incoming performance information. The lack of an expectations effect for bank loans is consistent with a lack of well-formed expectations. Although expectations are well-formed for most products and product retailers, the salience or strength of performance information likely limits the positive effect that these expectations have on satisfaction. For other services, well-formed expectations combined with relatively ambiguous or weak performance information likely increases customers' reliance on expectations when evaluating their purchase and consumption experience. An important implication is that expectations serve as a sizable buffer for other services. It will take significantly longer for changes in firm performance to be captured in evaluations of customer satisfaction than is the case for non-services and bank loans.

This is not to say that customer expectations are completely irrelevant in a bank loan context. Rather, expectations play a very different strategic role. Because they are more an output than an

input, the production process effectively positions a bank in the minds' of its loan customers. This could have dramatic effects on the bank's ability to market other financial services to their customers. In contrast, the expectation, image, or position associated with most other products and services is more established.

One limitation of the study is that the expectations measure is collected retrospectively at the same time as the performance and satisfaction measures. Future research should explore the size of the expectations effect for the categories of products and services studied here using expectations, performance, and satisfaction measures that are more separated in time. However, the research conducted to-date using the SCSB data supports the reliability of the expectations measure and its ability to isolate a separate expectations construct (Anderson and Sullivan 1993: Fornell, 1992; Fornell and Johnson, 1993; Johnson et al., 1995).

A second major finding of this study is that, across all of the firms and industries studied, the level of performance or value provided by the product or service was the primary determinant of customer satisfaction. The disconfirmation model, in which the gap between performance and expectations determines the level of customer satisfaction, provided the poorest description of customer satisfaction in each case. While this result is not surprising given the limitations of the disconfirmation model, it is important in light of the popularity of the model in the financial services area. While the model may be intuitive and easy to explain to both managers and service providers, it is dominated by performance-based models in its ability to explain customer satisfaction.

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