

A Longitudinal Study of the Stability of Consumer Expectations of Services

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The importance of service quality to the profitability and survival of service firms been highlighted by several researchers. However, little attention has been given to the process of measuring prior consumer expectations on which service quality measurement is based. This issue was addressed in this article by means of a longitudinal study that examines the stability of consumer expectations and their ensuing effect on the measurement of service quality. The study indicates that prior consumer expectations of a service measured after a service encounter will be affected by the type of experience. Through cognitive dissonance tension reduction methods, consumers tend to shift their prior expectations to ensure their overall evaluation of the experience is justified. Consumers who had a negative experience will shift their prior expectations of individual attributes higher and consumers who had a positive experience will shift their prior expectations lower. The impacts of these shifts and their effects on the measurement of service quality are then discussed. J BUSN RES 1998, 42:63-73. © 1998 Elsevier Science Inc.

Empirical evidence from both the business community and the academic arena indicates that firms that deliver high service quality obtain significant benefits in profit, cost savings, return on investment, and market share (Zeithaml, Berry, and Parasuraman, 1988; Rudie and Wansley, 1985; Phillips, Chang, and Buzzell, 1983). These findings have prompted considerable research into the concept of service quality and customer satisfaction with ensuing research into the conceptualization, operationalization, and measurement of the service performance or service evaluation component of service quality and its relation to customer satisfaction. Researchers have indicated that customer satisfaction with a service is based not only

on how well the service is performed but also on the quality of service received in comparison to prior expectations (Cronin and Taylor, 1991; Oliver, 1980; Oliver and DeSarbo, 1988; Parasuraman, Zeithaml, and Berry, 1985, 1988; Stayman, Alden, and Smith, 1992; Tse and Wilton, 1988).

Although extensive research is being conducted in the measurement of service quality and customer satisfaction, very little research has been conducted on the measurement of consumer expectations of services from which judgments concerning quality and satisfaction are made. The research that has been conducted has either manipulated consumer expectations, measured consumer expectations prior to the experience, i.e., ex ante, or measured consumer expectations after the experience, i.e., ex poste (Anderson, 1973; Cardozo, 1965; Olshavsky and Miller, 1972; Oliver, 1980; Olson and Dover, 1979; Stayman, Alden and Smith, 1992; Tse and Wilton, 1988). Empirical research that measures consumer expectations both prior and after an experience has not been conducted.

Within the context of the above stated lack of empirical research, four research questions were addressed for this study. First, are consumer expectations of services stable over time? Research by Oliver (1980) would suggest they are. However, no longitudinal study has examined the stability of ex ante measures of consumer expectations and ex poste measures of the same prior expectations. This issue becomes very important in the measurement of service quality if prior expectations are used as an anchor for service quality evaluations. Second, are consumer expectations of services measured after patronizing a service significantly affected by the service experience? Research by Tse and Wilton (1988) and the theory of cognitive dissonance would suggest it is (Anderson, 1973; Cardozo, 1965; Festinger, 1957). Third, if a consumers prior expectations of a service are affected by the service experience, is there a difference in the change or shift of expectations. Is

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the shift for individuals who had a positive experience during the service encounter different from those who had a negative experience? Fourth, if consumer expectations are affected by their experience, what effect does this shift in consumer expectations have upon the measurement of service quality, because prior expectations tend to serve as an anchor? The later two questions are exploratory because no substantial research has been conducted from which conclusions may be drawn.

Consumer Expectations of Services

Past research has provided very little information about the nature and stability of consumer expectations. Most researchers would agree that expectations prior to a service encounter impacts customers' evaluation of the service performance and customer satisfaction (Bitner, 1990; Cronin and Taylor, 1992; Oliver, 1980; Oliver and DeSarbo, 1988; Parasuraman, Zeithaml, and Berry, 1985, 1988; Stayman, Alden, and Smith, 1992; Tse and Wilton, 1988). Disagreement, however, emerges when discussion turns to the formation and definition of expectations. Most agree with Olson and Dover (1979) that consumer expectations are some type of pretrial belief about a good or service.

Within the satisfaction/dissatisfaction (CS/D) literature, various approaches for conceptualizing consumer expectations have been proposed, each based on a different theoretical foundation. The most prominent conceptual definition utilizing expectancy theory (Tolman, 1932) is that consumer expectations are predictions (i.e., probabilities) made by the consumer concerning the outcome of a service transaction or exchange (Liechty and Churchill, 1979; Miller, 1977; Oliver, 1980). Other researchers using equity theory (Adams, 1963) and the ideal point models of consumer preference and choice (Holbrook, 1984) have proposed the normative concept of ideal expectations defined as the wished-for level of performance or the desired level of performance (Miller, 1977; Swan and Trawik, 1980). This ideal expectations concept appears to be the most prevalent shade of meaning elaborated in the service quality literature and was used in the construction of SERVQUAL, (Parasuraman, Zeithaml, and Berry, 1988). However, critics of this concept have argued that customer satisfaction/dissatisfaction is not based on prepurchase expectations whether ideal or predictive but upon how well a focal brand fulfills consumer needs, wants, and/or desires (Westbrook and Reilly, 1983; Woodruff, Cadotte, and Jenkins, 1983; Woodruff, 1987).

A theoretical model delineating the nature and determinants of customer expectations of services was developed by Zeithaml, Berry, and Parasuraman (1993). Their model consists of four main sections: (1) the expected service component, (2) the antecedents of desired service, (3) the antecedents of adequate service, and (4) the antecedents of both predicted and desired service. The expected service component is hypothesized to be composed of the desired service, a zone of

tolerance, and adequate service. Based on the results of focus groups, Zeithaml, Berry, and Parasuraman (1993) indicated that consumers have a desired level of service that is defined as the level of service customers hope to receive. This is a blend of what consumers believe can be performed and what should be performed. Recognizing the desired level of service is not always possible, consumers have a minimum level of service that they will tolerate. This is called their adequate service level. Between these two expectation levels is a zone of tolerance that consumers are willing to accept and the predicted level of service consumers expect to receive (Oliver, 1980; Zeithaml, Berry, and Parasuraman, 1993).

Cognitive Dissonance and the Service Encounter

In understanding the stability of consumer expectations of future service encounters and the effect a service experience may have on the measurement of consumer expectations, a brief discussion of the theory of cognitive dissonance introduced by Festinger (1957) can be beneficial. The basic thrust of the theory is that after a choice or purchase has been made, there is natural occurrence of evaluation resulting in some degree of psychological discomfort, although the consumer may not be fully conscious of it.

The relevance of the cognitive dissonance theory to this research lies in the methods used by consumers to reduce the psychological tension after a purchase and/or choice. Three primary methods are used: attitude spread, selective information seeking, and motivated opinion giving.

Attitude spread is the most likely outcome of dissonance. In this method, consumers strive to see their purchased brand or service as significantly better than the ones rejected. In terms of stability of consumer's expectations of a service, consumers would tend to justify their overall evaluation of the service experience by ensuring there is a gap, or spread, between expectations and experience for very good or very poor service performance and the lack of a gap between expectations and service performance evaluation if they feel the service met their expectations (Anderson, 1973; Cardozo, 1965; Tse and Wilton, 1988). If a consumer is dissatisfied with the service, he or she will not only indicate that the experience was negative but will tend to shift their prior expectations higher to ensure there is a sufficient size spread between expectations and experience to justify his or her overall evaluation of the experience. By adjusting the pre-experience anchor, i.e., their prior expectations, consumers can reduce the psychological tension that may have been triggered in their evaluation of the service experience.

A second method of dealing with post-purchase tension is to obtain more information to support the decision. Promotional materials and ads may be sought as evidence to support the purchase decision that was made. More acceptance by others can also serve to reduce dissonance. Thus the third

method of handling cognitive dissonance is for consumers, after a purchase, to convey word-of-mouth communications to others about the good or service that reinforces their decision.

Research Hypotheses

Because of the intangible nature of services, attribute evaluations become much more subjective and experiential (Murray, 1991; Booms and Bitner, 1981; Lovelock, 1981; Young, 1981). It is critical, therefore, to look at the stability of consumer expectations to determine if they are indeed stable and accurate measures of what consumers expect from future service encounters or if they are so subjective and experiential that it all depends on the mood and timing of the measurement. In looking at consumer expectations of services, past experience with a service firm would have a significant impact (Bitner, 1990; Zeithaml, Berry, Parasuraman, 1993). Therefore, factoring out the effect of past experience would be crucial in any analysis of the stability of consumer expectations and in measuring the effect of a service experience upon consumer expectations.

For this longitudinal study, service firms that had never been patronized were chosen by the participants to eliminate any prior experience biases from affecting their responses, resulting in a more homogeneous sample. In the purchase of a new service, there will be no experience with the designated service firm to use as a basis for service quality expectations. Instead, experience with other firms within the same industry would become surrogate measures on which to base quality expectations, and evaluation of a new firm would then be made on the basis of additional information that has been acquired and compared to that of firms that have already been patronized.

In a longitudinal study of this type, it is essential to have a group of respondents who do not patronize a firm serve as a surrogate control group to test for possible time and measurement effects. If both time and measurement effects can be factored out as possible causes in any changes in consumer expectations, then investigation can proceed into other possible causes, if indeed changes in expectations are found. For the purpose of this research, consumer expectations are defined as consumer predictions of the outcome of the service encounter. In terms of the Zeithaml et al. (1993) study, it is the predicted level of service. Measures of consumer expectations of a firm that had never been patronized were taken at two different times (designated as time 1 and time 2) approximately 3 months apart. Thus, the first hypothesis is:

H1: Consumers who have not patronized a firm will display no change in their expectations of a service firm from time 1 to time 2.

Based on disconfirmation theory, if a consumer's prior expectations are not met by a service provider, he or she will be dissatisfied with the service. However, if a consumer's prior

expectations are met or exceeded by the service provider, then he or she will be satisfied with the service (Oliver, 1980). Thus, it is reasonable to assume that consumers that patronize a firm for the first time will be affected by their experience with the service provider. When measured simultaneously with perceptions of the service experience, consumers are likely to indicate prior expectations that will reinforce or justify their level of satisfaction or dissatisfaction with the service encounter.

Cognitive dissonance theory would suggest that consumers who had an unsatisfactory experience may increase their expectations when measured after the consumption experience to ensure a sufficient spread between the evaluation of their experience and their expectations prior to the service encounter. This negative gap between the expected and perceived service level would justify their dissatisfactory experience.

However, no theory currently exists that would indicate what type of behavior to expect from those who were satisfied with their experience because their expectations were met or exceeded by the service firm. Using the cognitive dissonance rationale, it is conceivable that consumers who experienced a positive service encounter may tend to shift their expectations downward to strengthen or reinforce their positive service experience. By shifting their prior expectations downward, this would ensure that the level of service they perceive they received from the service firm will be equal to or higher than their prior expectations. Again, this shift will justify their feeling of satisfaction.

Although this hypothesized shift appears to be counterintuitive at first, two facts must be kept in mind. First, expectations the consumer had prior to patronizing the service are being measured, not their future expectations. It is highly likely that for a future service experience, expectations will be reduced for a negative experience and will remain stable or increase for a positive experience. The second fact to keep in mind is that, based on cognitive dissonance, consumers want to cognitively justify why they were satisfied or dissatisfied with their service experience. Because they cannot modify their perception of the service they received, they may very likely modify what they expected prior to the service so that it supports their feelings of either satisfaction or dissatisfaction. To be dissatisfied, the prior expectations have to be greater than the perceived level of service. To be satisfied, the prior expectations have to be either the same or lower than their perceived level of service quality. Thus, the shift in prior expectations will be downward for positive experiences and upward for negative experiences.

If dissatisfied consumers shift their expectations upward and satisfied consumers shift their expectations downward, it is possible that in a composite analysis the effect of the consumption experience may not be accurately reflected. Therefore, to prevent this possible wash-out effect, hypotheses 2 and 3 examine the two groups of respondents separately; those whose overall expectations were not met by the service

firm and those whose overall expectations were met or exceeded by the service firm.

- H2:* Consumers whose overall expectations of a firm were not met will display a significant upward shift in their expectations of that firm from time 1 to time 2.
- H3:* Consumers whose overall expectations of a firm were met or exceeded will display a significant downward shift in their expectations of that firm from time 1 to time 2.

Very little research has been conducted to either substantiate or refute the gap theory concept as a means of measuring service quality. Issues of reliability and validity have been raised when difference scores have been used as a means of measuring a construct (Cronbach and Furby, 1970; Johns, 1981; Prakash, 1984; Carman, 1990). One of the objectives of this research was to investigate the gap theory concept empirically to determine its usefulness to practitioners as a means of measuring service quality. An important key to accurately measuring service quality is obtaining a valid measure of consumer expectations, which serves as the foundation on which the experience is judged.

The objective of hypotheses 2 and 3 was to determine if there had been a shift in consumer expectations from time 1 to time 2, i.e., if the service encounter biased the postpurchase measurement of prior consumer expectations. If there is a shift in prior consumer expectations, then detecting the direction of the shift would be beneficial to the service quality measurement process. This becomes especially important if disconfirmation theory is utilized to measure service quality perception. If consumers are asked to confirm or disconfirm a service experience on the basis of what they had expected prior to the encounter, then the accuracy of results utilizing this disconfirmation methodology would be suspect. If, however, the gap theory methodology is utilized to measure service quality and if consumer expectations do shift, i.e., they are affected by the service encounter experience, then the simultaneous measurement of expectations and experience also would yield suspicious results. Hypotheses 4 and 5 deal with the change in the quantity of gaps between consumer expectations and the evaluation of the service experience when the expectations component is measured at different times.

If consumers had a negative experience at a service firm, then when evaluating the service encounter attributes on a Likert or semantic differential-type scale, consumers should tend to increase their expectations to ensure that a gap will exist between expectations and experience. Consumers having a positive experience should tend to shift their expectations downward to ensure that their evaluation of the experience is greater than what they had expected. This should result in more gaps between expectations and experience in the test items for both groups when both are measured simultaneously after the service encounter than when expectations are measured prior to the service. Therefore, hypotheses 4 and 5 state:

- H4:* Consumers whose overall expectations of a firm were not met will identify more service attributes with gaps between their expectations of that firm at time 2 and their experience at time 2 than when expectations were measured at time 1 and experience was measured at time 2.
- H5:* Consumers whose overall expectations of a firm were met or exceeded will identify more service attributes with gaps between their expectations of that firm at time 2 and their experience at time 2 than when expectations are measured at time 1 and experience was measured at time 2.

Methodology

Services can be viewed along a continuum (Kotler, 1991) from a pure service to a pure good. Seldom are the extremes seen in the business world. Therefore, to investigate the stability of consumer expectations, it was felt that an industry that consisted of both a good and a service would extend its generalizability in both directions. The restaurant industry would appear to fit this need. The industry consists of both a service, the preparation of food, and a product, the food itself. Both would appear to be of importance to the consumer.

Six attributes of restaurants were examined: food, price, tangibles, image, time, and service quality. Implicit service promises such as prices and tangibles have been identified by Zeithaml, Berry, and Parasuraman (1993) as important determinants of consumer expectations. Because service firms are more visible to the consuming public than are distributors and manufacturers of products, corporate image becomes very important (Bessom and Jackson, 1975; Clow, Kurtz, and Ozment, 1991; Gronroos, 1984, 1990; Kurtz and Clow, 1991). Research by Venkatesan and Anderson (1985) indicates that social time, not clock time, has an impact upon consumer satisfaction/dissatisfaction with a particular service encounter. If this is true, then consumers should have specific expectations concerning time. Research in service quality has verified the impact a firm's staff has upon perception of service quality and satisfaction/dissatisfaction of consumers (Bitner, 1990; Bitner, Booms, and Tetreault, 1990; Zeithaml, Berry, and Parasuraman, 1988). Prior to patronizing a firm, consumers form specific expectations concerning the conduct and appearance of the staff (Clow, Kurtz, and Ozment, 1991). The quality of service may be as important or even more important to consumers than the actual outcome of the service (Bitner, Booms, and Tetreault, 1990).

Survey data were collected from 484 students and faculty at a moderate-sized university in two phases approximately 3 months apart. Of the 484 responses, 465 were students. Using students for the study is justified on the basis of their consumption of restaurant services on a regular basis. The mean expenditure of the survey respondents was \$80.19 per month or almost \$1,000 annually.

Table 1. Purchase Behavior: Patronage Group versus Nonpatronage Group

Criteria	Patronage Group	Nonpatronage Group	Difference	t-Value	p-Value
Eat out/month	11.08	10.16	0.92	0.93	0.187
Expenditures/month	91.12	77.37	12.75	1.62	0.053
Price/meal	7.83	7.53	0.30	0.67	0.251

n = 484.

The data were collected in the Introduction to Marketing, Retailing, and Advanced Marketing Management courses during a class period in the early part of the semester and again near the end of the semester. Participants were provided a list of local restaurants and were asked to select one restaurant of which they had some knowledge but had never patronized. Individuals who had patronized all of the restaurants on the list were asked to designate another local restaurant that they had never patronized.

Respondents then were asked a series of questions concerning their future, predictive expectations of the restaurant selected. Participants were asked what they would expect to receive across 19 items relating to the six constructs of price, tangibles, product, image, time, and staff. Each item was measured on a 7-point semantic differential. The survey instrument at time 1 consisted of only their predictive expectations. After completing the survey, respondents were encouraged to patronize the restaurant they had designated in the instrument.

Approximately 3 months later the second phase of the study was conducted. In this survey, respondents were asked to indicate an evaluation of their experience using the same 7-point semantic differential which was used in time 1. In addition, the respondents were asked to indicate what their expectations were prior to patronizing that restaurant. Again, the predicted level of service was measured. The fact that expectations prior to patronizing the restaurant were desired and not current expectations was communicated both verbally and in the written instructions, and no information pertaining to their prior responses was made available.

Because this study used a convenience group, i.e., those who did not patronize the restaurant chosen in phase 1, as a surrogate control group, the first step in the analyses was to test for significant differences between the two groups. Chi-square tests were used to test for demographic differences. *T*-tests were used to test for difference between the two groups in the means of average monthly expenditures on food, the number of times each respondent ate out per month, and the average price of each meal. To ensure the two groups did not differ in terms of prior expectations, the difference of the means of their expectations at time one for each of the nineteen attributes of restaurants was tested using *t*-tests.

Because of possible wash-out effect previously discussed, prior to testing the proposed hypotheses, the group of respondents who did patronize the restaurant selected were divided

into two groups: those whose expectations were met or exceeded and those whose expectations were not met by the service. Hypotheses 1 through 3 were tested by subtracting consumer expectations at time 1 from their expectations at time two. *T*-tests were conducted to determine if differences were significantly different from zero. For hypotheses 4 and 5, service quality was calculated by subtracting the respondent's evaluation of their experience from what they had expected. This gap theory methodology of calculating service quality was first suggested by Parasuraman, Zeithaml, and Berry (1985; 1988); and later empirically utilized by Brown and Swartz (1989) in evaluating the service quality performance of medical professionals and by Bolton and Drew (1991) in a longitudinal analysis of service quality of a continuous service. Again, *t*-tests were conducted to determine if service quality scores were significantly different from zero, then the number of significant attributes were compared based on the time consumer expectations were measured, ex ante or ex poste.

Results

A total of 484 respondents participated in both phases of the study. Of the 484 respondents, 222 respondents (46%) did not patronize the restaurant, which was indicated in the first survey. The remaining 262 respondents (54%) did patronize the restaurant indicated in phase 1 of the study.

The first step in the analyses tested for significant differences between the group of respondents who patronized the restaurant selected and the group who did not. In terms of number of times the respondents eat out per month, their average expenditure per month on dining out, and the average price per meal, no significant differences exist between the two groups (see Table 1). Demographically, there were no differences in the type of restaurant preferred (casual sit-down, formal sit-down, or fast-food), the age of the respondents, and their family income (see Table 2). There was a difference in the gender make-up ($p = .0495$) with the group not patronizing the selected restaurant having a higher percentage of females to males than the other group.

Table 3 reports the means of consumer expectations at time one, the differences of the means, and the *t*-values for each of the 19 attributes examined for both groups of respondents. There were no significant differences between the two groups in terms of expectations. Except for gender, the two groups

Table 2. Demographics: Patronage Group versus Nonpatronage Group

Criteria	χ^2	df	p-Value
Type of restaurant	1.084	2	0.61
Sex	3.868	1	0.05
Age	1.429	3	0.70
Income	3.071	4	0.55

n = 484.

do not differ demographically, in terms of expenditures on restaurants, or their attitude toward what to expect from the restaurant chosen. Although a convenience group, the group of respondents who did not patronize the restaurant are a viable, surrogate control group for this longitudinal study. Therefore, any changes in expectations detected in the study cannot be attributed to the respondents being inherently different from those who did not patronize the restaurant.

Table 4 provides the results of the analysis of the stability of consumer expectations for the respondents who did not patronize the restaurant selected. Out of 19 items used in both surveys, only two (friendliness of the staff and the speed of the service) had changed from time 1 to time 2. Thus, consumer expectations appear to be quite stable over time. Any changes that occurred in the group of respondents who did patronize the restaurant selected would have to be attributed to some cause other than time. Hypothesis 1 was supported.

To test hypotheses 2 through 5, the group of respondents who did patronize the restaurant (*n* = 262) selected were divided into two groups: those whose overall prior expecta-

tions were met or exceeded (*n* = 166) and those whose overall prior expectations were not met (*n* = 96). Table 5 reports the results of the analysis of the group of respondents whose expectations were not met by the restaurant patronized. In looking at expectations at time 1 and expectations at time 2, 53% of the items measuring expectations had changed. Every indicant dealing with the image of the restaurant and all of the indicants dealing with the staff except for the evaluation of their professionalism had changed. In addition, expectations concerning the selection of food available, the speed of service, the amount of time patrons expected to wait for the food after ordering, and overall expectations had changed. Because of the results obtained in the control group, this shift in expectations is not likely to be due to time eroding memories of what was expected since a definite shift of expectations occurred in 53% of the items.

Of the 10 measures of expectations that had changed for the negative experience group, eight of the shifts were higher and two were lower. Only the atmosphere of the restaurant and the amount of time patrons waited for food decreased significantly. Therefore, hypothesis 2 was supported. Respondents shifted their expectations higher if their overall evaluation of their experience was negative.

An examination of the respondents whose expectations were either met or exceeded reveals results similar to the negative experience group except that the shifts were in the opposite direction (see Table 6). Hypothesis 3 was supported. Of the 19 items analyzed, 37% had changed. However, the change was not as great for the positive experience group as was seen in the negative experience group. One possible rea-

Table 3. Prior Expectations at Time 1: Patronage Group versus Nonpatronage Group

Construct	Item	Patronage Group Mean	Nonpatronage Group Mean	Difference	t-Values
Price	Price	4.764	4.813	-0.049	-0.304
	Value	4.538	4.506	0.032	0.216
Tangibles	Exterior	4.226	4.367	-0.141	-0.905
	Interior	4.349	4.470	-0.121	-0.686
	Cleanliness	4.679	4.849	-0.170	-1.080
Product	Selection of food	4.642	4.675	-0.033	-0.224
	Assortment of food	4.509	4.416	0.093	0.618
	Food quality	5.113	5.169	-0.056	-0.357
Image	Prestige	4.585	4.693	-0.108	-0.591
	Atmosphere	4.594	4.669	-0.075	-0.501
	Image	4.717	4.837	-0.120	-0.696
Staff	Professionalism	4.245	4.392	-0.147	-0.939
	Friendliness	4.726	4.554	0.172	1.230
	Service quality	4.642	4.795	-0.153	-1.110
Time	Attractiveness	4.113	4.307	-0.194	-1.303
	Waiting time/order	4.132	4.151	-0.019	-0.126
	Waiting time/food	4.019	3.982	0.037	0.255
Overall evaluation	Speed of service	4.226	4.181	0.045	0.330
		4.792	4.183	-0.021	-0.135

n = 484.

Table 4. Change in Expectations from Time 1 to Time 2: No Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.0180	-0.231
	Value	-0.0783	-0.640
Tangibles	Exterior	0.0662	0.906
	Interior	0.0662	0.778
	Cleanliness	0.0963	1.155
Product	Selection	0.0662	0.830
	Assortment	0.1807	1.730
	Food quality	0.0843	1.005
Image	Prestige	-0.1265	-1.443
	Atmosphere	-0.1686	-1.502
	Image	-0.0722	-0.780
Staff	Professionalism	0.0114	1.126
	Friendliness	0.2650	2.739 ^b
	Service quality	0.0421	0.459
	Attractiveness	0.0722	0.815
Time	Waiting time/order	0.0120	0.132
	Waiting time/food	0.0843	0.926
	Speed of service	0.3253	2.355 ^a
Overall evaluation		-0.0542	-0.717

n = 222.

^a Significant at $p < .025$.^b Significant at $p < .01$.

son for this difference is that the positive experience group includes both concepts of being equal to and exceeding expectations. Consumers whose expectations are met but not necessarily exceeded would strive to match expectations with their evaluation of the experience rather than ensuring that a gap exists between expectations and experience.

In looking at the direction of the shift of expectations for the positive experience group, six shifted lower whereas only one shifted higher. Only the expectations concerning the exterior of the facility increased.

Results discussed previously have indicated that for consumers whose experience at a restaurant was unsatisfactory, i.e., their overall expectations were not met by the service encounter, consumer expectations between time 1 and time 2 had shifted upward. To determine the effect of this shift of consumer expectations on the measurement of service quality, consumer expectations at time 1 and at time 2 were subtracted from the consumer's evaluation of their experience. Table 7A and Table 7B report these results.

Analysis of expectations at time 1 and the evaluation of the experience taken approximately 3 months later indicated that gaps existed in a total of eight measurement items, a 42% ratio. The experience at the restaurant did not meet consumer expectations across the constructs of product and image. In addition, the interior decor of the facility, and the consumer's overall expectations all failed to meet consumer's expectations.

Analysis of expectations at time 2 and the evaluation of the experience at time 2, i.e., simultaneous measurement of both pre-encounter consumer expectations and perceptions of service quality, indicated that gaps existed in a total of 12

of the measurement items, a 63% ratio. The experience at the restaurant did not meet consumer expectations for any of the tangible cue indicants. In addition, the selection and quality of food served, the prestige and image of the restaurant, the professionalism, friendliness, and quality of service provided by the staff, the speed of service, and the overall expectations of the respondents all failed to meet consumer's expectations.

A comparison of the results indicates a 50% increase in the number of gaps between expectations of consumers taken at time 2 and their experience measured at time 2 and expectations of consumers taken at time 1 and their experience measured at time 2. As a result, hypothesis 4 was supported. Because the control group indicated consumer expectations are stable across time, the cause of this increase in consumer expectations would be due to the negative experience at the restaurant. It appears that consumers inflate their expectations on various dimensions after a negative experience with a service firm to justify their overall negative opinion of the experience.

A shift in consumer expectations from time 1 to time 2 occurred for consumers whose experience at a restaurant was satisfactory, i.e., their overall expectations were met or exceeded by the service encounter. Again, to determine the effect this had on the measurement of service quality, the gap theory methodology was used. Table 8A and Table 8B report the results between consumer's evaluation of the service experience and their preservice encounter expectations at both time 1 and time 2.

Analysis of consumer expectations taken at time 1 and their evaluation of the experience taken approximately 3

Table 5. Change in Expectations from Time 1 to Time 2: Negative Experience Group

Construct	Item	Difference	t-Value
Price	Price	0.1562	1.393
	Value	-0.2187	-1.122
Tangibles	Exterior	0.1250	1.021
	Interior	0.0010	0.002
	Cleanliness	0.0312	0.283
Product	Selection	0.3750	2.680 ^c
	Assortment	-0.1250	-0.838
	Food quality	-0.0312	-0.207
Image	Prestige	0.3125	3.454 ^a
	Atmosphere	-0.3750	-3.979 ^b
	Image	0.5000	-2.236 ^a
Staff	Professionalism	0.2812	1.578
	Friendliness	0.6562	5.635 ^c
	Service quality	0.5625	2.508 ^b
	Attractiveness	0.4062	4.579 ^c
Time	Waiting time/order	-0.2812	-1.874
	Waiting time/food	-0.2500	-1.989 ^c
	Speed of service	0.6875	4.068 ^c
Overall evaluation		0.2187	2.603 ^c

n = 96.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.

Table 6. Change in Expectations from Time 1 to Time 2: Positive Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.0540	-0.69
	Value	-0.3783	-4.15 ^c
Tangibles	Exterior	0.1756	2.23 ^b
	Interior	0.0945	1.10
	Cleanliness	-0.0810	-0.99
Product	Selection	-0.1621	-1.57
	Assortment	-0.1351	-0.14
Image	Food quality	-0.1621	-1.77
	Prestige	-0.1351	-1.47
Staff	Atmosphere	-0.2297	-1.43
	Image	-0.1081	-2.62 ^c
	Professionalism	0.0810	0.93
Time	Friendliness	-0.2432	-2.73 ^c
	Service quality	-0.2027	-2.34 ^b
	Attractiveness	-0.0540	-0.67
	Waiting time/order	-0.1216	-1.35
Overall evaluation	Waiting time/food	-0.1621	-1.97 ^a
	Speed of service	-0.0675	-0.57
		-0.4324	-5.00 ^c

n = 166.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.**Table 7A.** Gap between Experience Evaluation and Expectations at Time 1: Negative Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.1250	-0.494
	Value	-0.5000	-1.559
Tangibles	Exterior	-0.2187	-0.942
	Interior	-0.6250	-2.595 ^b
	Cleanliness	-0.4375	-1.913
Product	Selection	-0.4687	-2.461 ^b
	Assortment	-0.5312	-2.321 ^a
Image	Food quality	-0.7500	-2.952 ^c
	Prestige	-0.5356	-2.415 ^b
	Atmosphere	-0.7812	-3.245 ^c
Staff	Image	-0.5624	-2.289 ^a
	Professionalism	-0.3437	-1.232
	Friendliness	-0.0937	-0.351
Time	Service quality	-0.3438	-1.320
	Attractiveness	-0.0623	-0.284
	Waiting time/order	-0.4061	-1.745
	Waiting time/food	-0.3750	-1.437
Overall evaluation	Speed of service	-0.0062	-0.172
		-1.2187	-7.324 ^c

n = 96.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.

months later after patronizing the restaurant indicated that expectations had been exceeded in five of the 19 items, a 26% ratio. The interior decor and cleanliness of the facility, the assortment of food available, the quality of service, and the overall expectations of the restaurant all exceeded consumer expectations.

Turning to the gaps present between expectations measured at time 2 and the experience measured at time 2, nine (47%) of the items indicated consumer expectations had been exceeded by the service experience. Positive gaps were indicated for all of the three indicants of product, the interior decor and the cleanliness of the facility, the friendliness of the staff, the quality of service, the amount of time patrons waited for food, and the overall expectations of the restaurant.

Comparison of the results indicates that the number of gaps present when the experience and expectations were measured simultaneously after the service encounter increased by 80% over the number of gaps present when expectations were measured at time 1 before the service encounter, approximately 3 months before the service experience was measured. The data suggested hypothesis 6 was supported; consumers appear to have decreased their expectations of the service from time 1 to time 2.

Discussion

This research has demonstrated empirically several very important findings for service firms. First, consumer expectations can be measured effectively, and these are stable over time.

Consumers have specific expectations of a service firm even if they have not patronized that firm. When measured, these expectations appear to be stable and not the result of mood, timing, measurement effect, or other spurious causes. Based on the 222 respondents in the control group, only 10% of the 19 items measured indicated that expectations had changed over a span of 3 months.

Comparison of the results obtained between the composite analysis of all individuals who patronized a service firm and the individual analyses of the two independent groups of respondents who had a negative experience and respondents who had a positive experience highlight an analysis dilemma of which marketing researchers must be cognizant. Accurate measures of service quality and/or consumer expectations of services may not be obtained in a composite analysis. This research indicates that the results of any composite analysis will either be washed out or biased toward the group that has the largest representation in the sample. Because the shift in expectations is in opposite directions, it is like adding positive and negative numbers. The end effect will either be zero or favor the largest group of numbers. Therefore, any analysis performed on data that contain a consumer expectations component should not be done compositely, but as two separate groups based on their level of satisfaction or degree of meeting consumer prior expectations.

Two primary differences exist between consumers whose overall expectations were not met by the service provider and the consumers whose overall expectations were met or exceeded. First, the negative experience group was affected

Table 7B. Gap between Experience Evaluation and Expectations at Time 2: Negative Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.2812	-1.086
	Value	-0.2803	-1.139
Tangibles	Exterior	-0.3437	-2.469 ^b
	Interior	-0.6250	-3.132 ^c
	Cleanliness	-0.4687	-2.791 ^c
Product	Selection	-0.8437	-3.609 ^c
	Assortment	-0.4062	-1.852
	Food quality	-0.7186	-3.251 ^c
Image	Prestige	-0.8475	-4.298 ^c
	Atmosphere	-0.4066	-1.307
	Image	-1.0625	-4.298 ^c
Staff	Professionalism	-0.6250	-2.154 ^a
	Friendliness	-0.7500	-3.156 ^c
	Service quality	-0.9061	-4.007 ^c
	Attractiveness	-0.3433	-1.512
Time	Waiting time/order	-0.1250	-0.415
	Waiting time/food	-0.1294	-0.538
	Speed of service	-0.6247	-2.154 ^a
Overall evaluation		-1.4375	-13.130 ^c

n = 96.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.

more by the service experience than was the positive experience group. Forty-seven percent of the items measuring expectations changed from time 1 to time 2 for the negative experience group, whereas only 37% of these items changed from time 1 to time 2 for the positive group, a difference of 16 percentage points.

The second major difference between the positive and negative experience groups was the direction of the shift seen between time 1 and time 2 in their expectations of the service. Consistent with the cognitive dissonance theory, consumers who had a negative experience at the restaurant tended to shift their expectations higher than their evaluation of the experience. Members of the positive experience group also appear to be utilizing the cognitive dissonance concept to justify their overall opinion that the service firm exceeded their expectations. To do this, consumers tended to shift their expectations downward ensuring that their expectations were lower than their evaluation of the service experience.

The last research question addressed by this project concerns the effect this shift in consumer expectations has upon the evaluation of the level of service quality provided by service firms. Analyses presented in Tables 7A through 8B clearly indicate that the number of items for which gaps exist between preservice encounter expectations and experience will increase if both expectations and perceptions of the service experience are measured simultaneously. The evaluation of individual attributes of a service experience will be affected by a respondent's experience. Consumers will modify their expectations across a number of attributes to ensure there is sufficient basis

Table 8A. Gap between Experience Evaluation and Expectations at Time 1: Positive Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.3108	-1.891
	Value	-0.1486	-0.825
Tangibles	Exterior	-0.1891	1.342
	Interior	0.4324	2.436 ^b
	Cleanliness	0.4594	2.587 ^c
Product	Selection	0.2837	1.664
	Assortment	0.3513	2.329 ^b
	Food quality	0.2027	1.216
Image	Prestige	-0.1612	-1.037
	Atmosphere	0.0012	0.045
	Image	0.0135	0.092
Staff	Professionalism	0.3648	1.872
	Friendliness	0.0405	0.244
	Service quality	0.3513	2.023 ^a
	Attractiveness	0.0675	0.394
Time	Waiting time/order	-0.0135	-0.074
	Waiting time/food	0.2162	1.340
	Speed of service	0.2162	1.042
Overall evaluation		0.5270	3.444 ^c

n = 166.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.

to support their overall opinion of their experience. Therefore, any method of measuring service quality that obtains expectation scores after the service encounter will be inherently biased. If an accurate measurement of service quality is to be obtained, the measurement of consumer expectations must be taken prior to the service encounter.

Another method to evaluate service quality is based on disconfirmation theory. Consumers evaluate the service encounter after the service has been performed by indicating to what degree their expectations were confirmed or disconfirmed. The advantage of this method is there are no difference scores to evaluate. Consumers are not asked directly what they had expected before the service encounter. Instead, consumers are asked to evaluate a service experience across individual attributes by indicating if the experience did not meet, met, or exceeded what they expected. Based on the results of this research, results from such methodology would be biased. Although consumer expectations scores are not obtained, consumers are asked to evaluate their experience on implied expectations. The same psychological processes will occur in the minds of consumers, and the same inherent biases will result. Consumers who are dissatisfied with a service will cognitively shift their expectations upward to justify their dissatisfaction, whereas consumers who are satisfied will tend to shift their expectations downward. For the evaluation of service quality, this research strongly indicates the most accurate methodology is to obtain consumer expectation scores before the experience and experience evaluation scores after the experience.

Table 8B. Gap between Experience Evaluation and Expectations at Time 2: Positive Experience Group

Construct	Item	Difference	t-Value
Price	Price	-0.2567	-1.617
	Value	0.2297	1.696
Tangibles	Exterior	0.0135	0.131
	Interior	0.3378	2.732 ^c
	Cleanliness	0.5405	3.621 ^c
Product	Selection	0.4459	2.691 ^c
	Assortment	0.3648	2.778 ^c
	Food quality	0.3640	2.872 ^c
Image	Prestige	-0.0270	-0.240
	Image	0.1216	0.975
	Atmosphere	0.2297	1.392
Staff	Professionalism	0.2837	1.643
	Friendliness	0.2922	2.074 ^a
	Attractiveness	0.2702	1.738
	Service quality	0.4054	2.667 ^c
Time	Waiting time/order	0.1081	0.655
	Waiting time/food	0.3783	2.503 ^b
	Speed of service	0.2837	1.643
Overall evaluation		0.9594	7.565 ^c

n = 166.

^a Significant at $p < .05$.^b Significant at $p < .025$.^c Significant at $p < .01$.

Limitations and Future Research

Several limitations of this study are clearly evident. First, because the study involved only one industry, restaurants, the generalizability of the results to other firms and other industries need to be further tested. If the same results are obtained, then our knowledge of consumer expectations would be advanced.

The sample subjects being students may be criticized by some as affecting the generalizability of the findings to the population as a whole. However, the fact that the average annual expenditure was approximately \$1,000.00 substantiates that the respondents were active patrons of restaurants. This would certainly put them in a position, as consumers, to yield accurate perceptions of the topic under study. A study with a sample population more indicative of the population as a whole, however, would add further support to these findings.

Every study is limited by the design of the questionnaire and/or survey instrument, this study being no exception. It is possible that the questionnaire induced respondents to produce a gap, because expectations and experience were measured simultaneously within the same questionnaire. Future research in which expectations and experience are evaluated on separate instruments would be valuable in the evaluation of this validity concern. In this way, the gap theory can be tested empirically without the respondents being influenced in any way by the testing instrument.

Because of the nonsignificant results in the control group,

both time and measurement effect has been factored out as a cause in the change of expectations in both the negative and positive experience groups. Although cognitive dissonance theory provided a potential explanation of this phenomenon, further research needs to be conducted to solidify our understanding.

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