

## **EXPLORING SERVPERF: AN EMPIRICAL INVESTIGATION OF THE IMPORTANCE-PERFORMANCE, SERVICE QUALITY RELATIONSHIP IN THE UNIFORM RENTAL INDUSTRY**

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### **ABSTRACT**

Defining and measuring quality service is of importance to providers of rental services. This study examines the applicability of the service quality measurement scale (SERVPERF) to the rental industry. Apart from assessing the reliability and validity of the scale, the study addresses practical and user-related aspects of rental services. Managerial implications and suggestions for future research are also provided.

### **INTRODUCTION**

In the last few decades, the primary growth segment of the United States' economy has been service industries. This shift, from manufacturing to service, accelerated in the 1980's and continues into the 1990's. Indeed, American service industries now generate 74% of gross domestic product, account for 79% of all jobs, and produce a balance-of-trade surplus that reached \$55.7 billion in 1992 as compared to a deficit of \$132.4 billion for goods (Henkoff 1994).

As competition in service industries has increased, the notion of service quality has become increasingly important. Service quality has been identified as a determinant of market share, return on investment and cost reduction (Anderson and Zeithaml 1984; Parasuraman, Zeithaml and Berry 1985).

Further, Devlin and Dong (1994) note that in an increasingly competitive environment, service quality is critical to corporate success. In their study, they have linked the notion of service quality to customer satisfaction. Ultimately, it is customer satisfaction that leads to market share and profits.

Service organizations provide essentially two forms of quality: technical quality and functional quality (Gronroos 1984). The first, technical quality, is the degree to which the industry is able to do things "right" as measured against some technical "industry standard." However, in service sectors, knowledge of the technical quality of services remains largely the domain of service professionals (Bopp 1990). For example, few individuals understand the technical aspects of the dry cleaning industry. The second aspect of quality, functional quality, refers to the manner in which services are delivered to customers (Babakus and Mangold 1992). Since customers do not have much information about the technical aspects of a service, functional quality is usually the major factor used to form perceptions of service quality (Donabedian 1982; 1980).

Parasuraman, Zeithaml and Berry (1985) state that service quality is more difficult to define and measure than product quality because services are intangible, heterogenous (service quality can vary by customer, day or producer), and production is inseparable from consumption. Several researchers have sought to define and measure the concept of service quality (Carman 1990; Cronin and Taylor 1992; Parasuraman, Zeithaml and Berry 1985; Parasuraman, Zeithaml and Berry 1988; Parasuraman, Zeithaml and Berry 1991; Teas 1993). While researchers have looked at a variety of service industries, there is yet to be any published service quality information on the uniform rental industry.

This \$3.5 billion per year industry generates revenues primarily from the rental and cleaning of industrial work uniforms. Other sources of revenues include the sale of uniforms and the rental of a variety of products to include: shop towels, floor mats, dust mops, and restaurant linens. The uniform rental industry is very competitive and is comprised of a large number of small regional companies and seven major "national" firms.

The objectives of this study are as follows:

- 1.) Report the results of a study that examines the usefulness of the SERVPERF scale for assessing customer perceptions of service quality in the uniform rental industry.
- 2.) Assess the reliability of service quality measures as it applies to the uniform rental industry.
- 3.) Identify the dimensions of service quality that are important to customers of uniform rental companies.
- 4.) Assess the overall service quality and satisfaction level as perceived by customers of rental companies.

## **BACKGROUND AND REVIEW OF LITERATURE**

Much of the initial work in developing a model to define and assess service quality has been conducted by Parasuraman, Zeithaml, and Berry (1985) (otherwise referred to as PZB). In conceptualizing the basic service quality model PZB (1985) identified ten key determinants of service quality as perceived by the company and the consumer: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer and tangibility.

They noted that discrepancies existed between the firm's and the customer's perceptions of the service quality delivered. In investigating these discrepancies, PZB (1985) assert that service quality can be assessed by measuring the discrepancies or "gaps" between what the customer expects and what the consumer perceives he receives.

Arguing that the magnitude, and direction of this gap, directly affect the service quality that the consumer perceives, PZB (1985) note that customers would have perceptions of high service quality to the extent that their expectations are lower than the perceived service performance. If the converse were true, customers would perceive low service quality.

PZB (1985) assert that their framework can be used for identifying differences in the quality of goods and services by distinguishing between the properties of a good or service. They note that Nelson (1974) defined "search properties" as properties that can be determined before purchasing (such as credibility and tangibles), and "experience properties" as properties that can be determined only after purchase or consumption. Further, Darby and Karni (1973) defined "credence properties," (such as competence and security) as properties or characteristics that consumers often find extremely difficult to evaluate after their purchase. Therefore, PZB (1985) concluded that consumers typically rely on experience properties when evaluating service quality.

Based on their review of the literature, PZB (1985) developed the SERVQUAL scale. The scale was designed to uncover broad areas of good or bad service quality and can be used to show service quality trends over time, especially when used with other service quality techniques.

The SERVQUAL scale is based on a difference score between customer expectations of service and their perceptions after receiving the service. Initially PZB (1985) focused on the ten determinants of service quality. However, after two stages of scale purification, they reduced the ten determinants to five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy (PZB 1988).

In their discussion, PZB (1988) assert that the SERVQUAL scale deals with perceived quality and looks specifically at service quality, not customer satisfaction. They state that "perceived service quality is a global judgement or attitude concerning the superiority of service whereas satisfaction is related to a specific transaction" (p. 16). They reported that the scale had a reliability rating of .92 and that the five dimensions could be ranked in order of importance: reliability, assurance, tangibles, responsiveness, and empathy.

Because of "wording related" high expectation scores and higher than normal standard deviations on several questions, the authors later revised the SERVQUAL scale (PZB 1991). Additionally, they added a relative dimension importance section to appropriately weight each dimension. The final SERVQUAL scale (PZB 1991) featured a 7 point scale bounded by "strongly agree" and "strongly disagree", 22 expectations questions, 22 perceptions questions, and 5 point-allocation questions. Empirical evidence indicates that the scale has a reliability of between .80 and .93, good trait validity and predictive/concurrent validity.

Subsequent research and testing of the SERVQUAL scale, however, has not been supportive of its author's claims. For instance, Carman (1990) notes that while SERVQUAL generally showed good stability, its five dimensions were not always generic. Indeed, the various dimensions can vary depending on the type of service industry surveyed. Carman also calls into question PZB's collection of expectation data after a customer actually uses the service. He claims that this should be done before using the service even though this is rarely practical. Carman states that even when this is done, expectations and perceptions showed little relationship to one another.

Teas (1993) questions SERVQUAL's discriminant validity. He notes that the service quality expectations concept may have serious discriminant validity short-comings which can cause the "perceptions-minus-expectations" service quality measurement framework to be "a potentially misleading indicator of customer perceptions of service quality" (p.33). He notes that SERVQUAL's lack of discriminant validity results in a significant part of the variance in its

expectations scores being determined by the respondent's "misinterpretations" of the expectation questions.

Churchill, Brown and Peter (1993) argue that because the SERVQUAL scales "scores" are really difference scores (perception scores minus expectation scores), problems of reliability, discriminant validity, and variance restrictions exist. They showed that while SERVQUAL had high reliability, a non-difference score rated higher in reliability. Their findings also showed that the scale "failed to achieve discriminant validity from its components", and the distribution of the SERVQUAL scores were non-normal.

Although there have been other studies that have failed to replicate SERVQUAL's five distinct dimensions and validity (Carman 1990; Babakus and Boller 1992), perhaps the most intense criticism of the SERVQUAL scale has come from Cronin and Taylor (1992). Arguing that PZB's gap theory of service quality is supported by little empirical or theoretical evidence, Cronin and Taylor (1992) developed a "performance-based" service quality measurement scale called SERVPERF.

Basing the scale on an earlier work by Bolton and Drew (1991a), they note that a customer's perception of service quality is based on his "preconceived" attitude about the service. Indeed, Bolton and Drew (1991b) note that a consumer's current attitude is based on their residual attitude from a previous period about the service quality and their satisfaction or dissatisfaction with the service. As consumers experience a service, their attitudes about the service quality may be revised, thereby causing a change in future attitudes.

According to Cronin and Taylor (1992), their unweighted performance-based SERVPERF scale was a better method of measuring service quality. This scale's reliability ranged between .884 and .964, depending on industry type, and exhibited both convergent and discriminant validity.

The SERVQUAL versus SERVPERF debate is ongoing. Recently, both groups of researchers have presented further arguments to support their perspectives (PZB 1994; Cronin and Taylor 1994). The major points of PZB's (1994) argument are as follows:

- A.) PZB (1994) argues that, contrary to Cronin and Taylor (1992), there is significant theoretical and empirical research to support their P-E gap theory. Namely, PZB (1985), ZBP (1990), Gronroos (1982, 1984), Saser, Olsen and Wyckoff (1978), ZBP (1991), and Bolton and Drew (1991a, 1991b).
- B.) PZB (1994) asserts that Cronin and Taylor (1992) cites studies that focus on the formation of attitudes and not the attitude level, (which is what SERVQUAL attempts to measure).
- C.) PZB (1994) argues that Cronin and Taylor's (1992) analysis does not take into account, the "possible intercorrelations among the five latent constructs" p. 113. The authors also suggest that the arguments, used by Cronin and Taylor (1992) to deem SERVQUAL a unidimensional scale, are subject to question.
- D.) PZB (1994) asserts that their research shows that SERVQUAL's convergent and discriminant validity is as good or better than SERVPERF's validity.

- E.) PZB (1994) says that in Cronin and Taylor's (1992) regression analysis, any improvements in the explanation of variances between SERVQUAL and SERVPERF can be explained by the fact that the dependent variable was a performance-based measure.
- F.) Finally, PZB (1994) argues that while their P-E measure may show less predictive power than a perceptions only measurement, P-E measures do have better diagnostic value.

Most recent articles have supported Cronin and Taylor's (1992) performance-based paradigm over PZB's (1985) disconfirmation-based paradigm (Oliver 1993; Babakus and Boller 1992; and Babakus and Mangold 1992). One of the most telling reviews is provided by Boulding, Kalra, Staelin, and Zeithaml (1993). They state "our results are incompatible with both the one-dimensional view of expectations and the gap formation for service quality. Instead, we find that service quality is directly influenced only by perceptions" p.24.

The major points of Cronin and Taylor's (1994) argument are:

- A.) Cronin and Taylor (1994) assert that Cronin and Taylor (1992) is only "one of a number of recent challenges to the SERVQUAL-based normal science exemplar of service quality" p. 125.
- B.) Cronin and Taylor (1994) argue that SERVQUAL actually does not measure either customer satisfaction or service quality, but rather it "appears at best an operationalization of only one of the many forms of expectancy--disconfirmation" p.127.
- C.) Cronin and Taylor (1994) assert that although they did not specifically state so, they did allow for the possible intercorrelation of SERVQUAL's constructs. The authors also indicate that the arguments used to deem SERVQUAL's items are unidimensional are valid.
- D.) Cronin and Taylor (1994) argue that in Cronin and Taylor (1992), they are simply pointing out that, based on a review of the available literature, SERVQUAL does not exhibit construct validity.
- E.) The authors suggest that the regression analysis techniques used are valid "because (1) Likert scale items were used for the SERVQUAL and SERVPERF measures, whereas a semantic differential item was utilized for the overall service quality measure (i.e., different measurement methods) and (2) it is not obvious that the dependent measure is performance-based" p.129.
- F.) Finally, Cronin and Taylor (1994) assert that since SERVQUAL seems to have little empirical and conceptual research support, the real question that should be asked is whether, or not, SERVPERF can produce a valid and reliable measure of service quality. The authors insist, based on their research, that the scale can provide a reliable, valid, and useful tool for measuring overall service quality levels or attitudes.

Although it is possible to advance a relatively strong case for using the SERVQUAL scale, we have chosen to use the SERVPERF scale primarily because of many criticisms of SERVQUAL (Cronin and Taylor 1992; Teas 1993; Churchill, Brown and Peter 1993), and the failure of empirical studies to replicate SERVQUAL's initial success (Carman 1990; Babakus and Boller 1992). While using SERVPERF, we are mindful that while Cronin and Taylor (1992) have argued strongly in defense of SERVPERF, the scale has yet to be empirically tested in as wide a number of industries as has SERVQUAL.

## METHOD

The study was conducted with the cooperation of a uniform rental company with offices in the southern United States. The target population was defined as firms that rented uniforms and related products. The SERVPERF survey instrument (Cronin and Taylor 1992) was mailed to a systematic random sample of 1000 uniform rental customers and prospective customers of the cooperating company.

Along with the SERVPERF (performance and expectation) items, the survey instrument contained questions related to the attribute importance and the demographic characteristics of the firm and the respondent. Additionally, three questions were inserted to gather information on customer satisfaction, an overall rating of service quality, and intentions to use the current service in the future. Besides the questionnaire, each mailing packet included a cover letter, requesting customer responses to questions about the quality of the services, and a self-addressed, postage-paid, envelope. The cooperating company provided a single set of mailing labels.

### Response Rate

The 1000 surveys were mailed on July 28, 1994. The postal service returned 43 questionnaires because of address problems. Of the remaining 957 questionnaires, 187 completed questionnaires were returned, yielding an overall response rate of 19.54 percent. This response rate is not inconsistent with previous studies (Amsden 1989; Babakus and Boller 1992; Babakus and Mangold 1992). Each completed questionnaire was examined for completeness, coded and used in the data analysis phase of the study.

Because the management of the cooperating firm had only recently conducted a customer satisfaction survey with their customers, they wished to minimize the number of contacts made. While a second mailing would have improved the response rate, the management of the cooperating firm believed that the respondents were reflective of the population of customers. Therefore, no follow-up attempts were made. The response rate was also thought to be adequate for scale development and testing purposes ( Press and Ganey 1989).

Using the technique suggested by Armstrong and Overton (1977), and used by Babakus and Boller (1992), t-tests were used to compare the responses of the "early" respondents (first 10 days after mailing) and "late" respondents (all remaining). The analysis revealed that there were no significant differences between the groups. Therefore, non-response bias was not expected to be a major problem.

## DATA ANALYSIS AND RESULTS

The responding firms were from a wide variety of industries, and had an average of 54 employees (range 1 to 1300). Eighty-two percent or 156 of the 187 responding firms indicated that they were exclusive users of the rental services provided by the co-operating company. Seventy-six percent of the respondents were males, 22 percent were females, and 2 percent did not respond to the question. Fifty-three percent of the respondents were upper management, 19 percent were middle managers, 27 percent were supervisors, and 1 percent did not respond to this item.

Based on the findings presented by Cronin and Taylor (1992), performance was used as a measure of service quality. As suggested in the literature (Anderson and Gerbing 1988; Bagozzi and Yi 1988; Churchill 1979), scale reliability, dimensionality, and validity were conducted to determine the adequacy of using the SERVPERF scale to assess customer perception of rental services.

In this study, Cronbach coefficient alpha was used to assess the internal consistency of SERVPERF. Dimensionality and validity assessment were assessed using factor and correlation analyses.

### **Reliability and Validity**

In arguing for a performance-based measure of service quality, Cronin and Taylor (1992) asserts that service quality is best measured as an attitude. Following the method used by Cronin and Taylor (1992), the 22 scale items (performance) were treated as unidimensional and a factor analysis was performed using the procedure in SPSSX. As expected, all the items loaded on a single factor. The reliability, as assessed by coefficient alpha, was .961, further indication that the scale can be treated as unidimensional. Therefore, the items were summed and used in the analysis.

### **Importance-Performance Perceptions**

Research in importance-performance analysis has been conducted in such areas of marketing as health care (Hawes and Rao 1985), educational services (Hawes and Glisan 1983), housing (Hawes, Kiser and Rao 1982), automotive (Martilla and James 1977), and food (Sethna 1982) and its use in service quality research has been suggested by Cronin and Taylor (1994). Since respondents rated both the importance and the performance of the various items, it is possible to ascertain the degree of association between the two sets of items.

Table 1 presents the means of both the importance and performance ratings. Respondents indicated relatively high levels in importance and performance. The relatively high levels of importance reported were in keeping with previous research which suggests that the 22 items are the relevant services marketing attributes. The relatively high performance or service quality ratings, on the individual items, are in keeping with the reported high level of overall satisfaction (mean =5.766).

**TABLE 1**  
**Importance and Performance Ratings of Service Attributes**

<b>Att #</b>	<b>Attribute Description</b>	<b>Mean Imp* Rating</b>	<b>Mean Perf@ Rating</b>
1	Up-to-date equipment	5.484	5.539
2	Should do as promised	6.717	5.825
3	Should tell when services will be performed	6.546	5.923
4	Employees who are trustworthy	6.717	5.984
5	Individual attention to customers	6.227	5.705
6	Appealing physical facilities	5.126	5.358
7	Interest in solving customer problems	6.230	5.907
8	Prompt service to customers	6.761	6.060
9	Customers feel safe in transactions	6.587	6.093
10	Convenient operating hours	6.299	5.922
11	Neat appearing employees	6.191	6.279
12	Perform service right the first time	6.735	5.478
13	Always willing to help customer	6.670	6.098
14	Consistently courteous with customers	6.603	6.342
15	Employees give personal assistance	6.467	6.033
16	Visually appealing service materials	5.557	5.511
17	Provide service at times promised	6.777	5.978
18	Never too busy to respond to request	6.522	5.989
19	Knowledgeable	6.571	5.907
20	Have customer best interest at heart	6.497	5.652
21	Insist on error free records	6.500	5.530
22	Understand customer specific needs	6.283	5.842

\* Ratings were collected on a seven-point Likert scale ranging from 1 = very unimportant to 7 = very important

@ Ratings were collected on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree

Examination of the individual items reveal that in general, performance ratings were lower than importance ratings, indication that there is some room for improving service quality. "Providing services at times promised," "performing right the first time," "prompt service," "doing as promised" and "having trustworthy employees" were among the most critically important attributes. It is interesting to note that none of the attributes had a mean importance rating which was below 5.0. The lower importance ratings on "up-to-date equipment," "appealing facilities," and having "appealing service materials," may result from the nature of the rental service. In the uniform rental service industry, customers do not readily visit the provider's facility and may have little knowledge of the equipment or facility except by looking at the vehicles which collect and or deliver uniforms.

The mean performance ratings are not provided in rank order, but an examination of Table 1 reveal that all attributes had mean values of 5.30 or more on a seven point scale. "Courteousness to customers," "neat appearing employees," "customer feeling safe in transaction," "willingness



to help customers," "prompt service to customers," and "personal assistance to customers," were the six highest ranked performance attributes. Interestingly, the highest ranked importance attributes were not the highest ranked performance items.

Figure 1 (omitted) represents the plotting of the means of the importance and performance attributes. All 22 attributes were included in the top right hand quadrant of the importance-performance graph. This suggests that the marketer needs to continue the good work of supplying quality service to the customer. Maintaining current marketing practices would be recommended for these 22 attributes.

As indicated by Hawes and Rao (1985), the diagonal represents points where the importance and performance ratings are equal (Figure 1, omitted). Items above the diagonal have importance ratings that are greater than the performance rating. Consequently, consumers would not be fully satisfied with items which are above the rating line, an indication of what the marketer could do to improve performance and perceived customer satisfaction. Indeed, attributes above the rating diagonal line represent market opportunities for marketers who could do a better job.

In this study, 18 of the 22 items fell above the diagonal. These items represent "market opportunities." Therefore the marketer should adopt strategies to improve service quality performance in these areas. In this respect, items furthest from the diagonal line, such as "performance service right the first time," offers an attractive market opportunity if the firm can improve perceptions of its performance in providing this aspect of the service. The firm can significantly improve customer perceptions of its service quality by paying particular attention to the items above the diagonal.

Attributes below the diagonal line have performance ratings higher than the corresponding importance ratings. These indicate little or no customer dissatisfaction. These items represent "satiated needs" and the marketer would find it difficult to gain a competitive edge by stressing these attributes.

In this study, 1 item ("visually appealing service materials") fell on the diagonal, and 3 items fell just below the diagonal ("up-to-date equipment," "appealing physical facilities" and "neat appearing employees"). While highly satisfied, the marketer needs to note that customers may be using the "neat appearing employees" attribute as a surrogate for other more important attributes such as "up-to-date equipment," and "appealing physical facilities."

### **Quality Perceptions, Satisfaction and Purchase Intentions**

Correlation analysis was used to determine the relationship between quality perceptions (performance), satisfaction, and purchase intentions (Table 2).

**TABLE 2**  
**Correlations of Performance, Satisfaction and Purchase Intentions**

	SERVPERF	S/Quality	Satisfaction	Intention
SERVPERF	1.0000			
Service Quality	.6727*	1.0000		

Satisfaction Level	.7037*	.8032*	1.0000	
Purchase Intention	.2409*	.3457*	.3952*	1.0000

\* Significant at .01

Indications are that high service quality leads to high customer satisfaction but not necessarily to purchase intentions. Indeed, service quality does not appear to be directly and significantly related to purchase intentions. These findings are consistent with those reported by Cronin and Taylor (1992).

Customer satisfaction and purchase intentions were determined by asking respondents to rate the degree of satisfaction and the frequency with which they are likely to use the service within the next year. Service quality was measured using a global measure and also using the multi item SERVPERF scale. Results of the correlation indicate that SERVPERF is highly and significantly related (.7037) to customer satisfaction.

The strength of this relationship is confirmed by the relatively high correlation (.8032) between satisfaction and service quality as measured by a single item. Further, customer satisfaction seems to be more directly related to purchase intentions than either SERVPERF or the single item service quality measure.

### CONCLUSION

The SERVPERF scale was found to explain a great deal of the variation in service quality. While satisfaction seems to have a significant positive effect on purchase intention, service quality does not seem to have a similar effect. Indeed, satisfaction seems to be more closely tied to purchase intentions than is service quality. The performance items in the SERVPERF instrument showed evidence of unidimensionality and strong internal consistency.

In this study, the data representing customer service quality (performance) perceptions and satisfaction with rental services has been used to identify areas needing improvement. It also identifies those areas in which the firm is effective in providing services. The results of this analysis appear to provide some support for conceptualizing and measuring service quality as an attitude as suggested by Cronin and Taylor (1992).

Since SERVPERF essentially measures performance, it can be used in conjunction with attribute importance to determine consumer attitudes toward key service attributes. The importance attributes represent the consumer's evaluative criteria in service choice. This, in turn, can be used in determining the firm's marketing strategy. Further research is needed to investigate the applicability of SERVPERF and customer importance-performance ratings to different services.

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