

# DISCONFIRMATION OF EXPECTATIONS AND THE GAP MODEL OF SERVICE QUALITY: AN INTEGRATED PARADIGM

Paul G. Patterson, University of Wollongong  
Lester W. Johnson, University of Sydney

## ABSTRACT

The disconfirmation of expectations paradigm has become the most widely accepted model used in examining the issue of consumer satisfaction/dissatisfaction (CS/D). However, the model has only infrequently been applied to services even though, at least in theory, it should be applicable to services as well as products. More recently a seemingly similar, yet conceptually different model to the disconfirmation paradigm has emerged in the services literature. This model, known as the gap model of service quality, suggests that service quality depends on the difference between expectations and perceived performance of the service. The same sort of difference appears in the disconfirmation model to explain CS/D. While some researchers have used the dependent variables in each model, CS/D and Service Quality (SQ), interchangeably, they are conceptually different. Indeed, there are both conceptual and operational differences between the models, but also several similarities. We endeavour to carefully outline these differences and similarities and proceed to develop a model which is essentially an integration of the two distinct paradigms.

## INTRODUCTION

Service industries have become a major component of most western economies (Bateson 1992). As competition intensifies and governments continue to deregulate service industries (e.g., telecommunications, finance, airlines, postal and health services) many service providers seek to differentiate themselves by ensuring customer satisfaction and providing superior service quality. Hence, academic and practitioner interest in the measurement and management of customer satisfaction/ dissatisfaction (CS/D) and service quality (SQ) has been high in recent years (e.g., Bolton and Drew 1991; Brown and Swartz 1989; DeSouza 1989; Gronroos 1992; Oliver and Swan 1989; Patterson 1993; Parasuraman, Zeithaml and Berry 1985, 1988).

To date, the nature of the relationship between these two important constructs (SQ and CS/D) has not been well defined and indeed some writers use the terms interchangeably (Zeithaml, Berry and Parasuraman 1991). Given this, the two primary purposes of this paper are: (1) to compare and contrast at both a conceptual and operational level, the traditional models of SQ and CS/D formation, and (2) to develop an integrated paradigm incorporating elements of each model.

## SERVICE QUALITY- HOW IS IT DEFINED?

Service quality cannot be objectively measured as can technical quality in manufacturing. It is an elusive and abstract construct, in part because of three features unique to services: intangibility, inseparability and heterogeneity. Further, and more importantly, service quality has not, in our view, been adequately defined conceptually. Quality as it applies in service industries has been variously defined by marketing and Total Quality Management (TQM) researchers, as well as practitioners. TQM writers have many definitions of SQ so that Dobyns and Crawford-Mason (1991) state: "...indeed, no two people we've talked to anywhere - agree precisely on how to define quality" (p. 20-21). Crosby in enunciating his absolutes of quality defined it as conformance to (customer) requirements; Juran, as meaning fitness for use; while Deming stated it meant satisfying customer needs (Tenner and DeToro 1992). Despite the obvious differences, these definitions are structured around satisfying customer needs and expectations. They are also operational definitions which appear to lack conceptual foundation.

Marketing academics generally agree that service quality is externally defined by the customer (Fornell 1992; Parasuraman, Zeithaml and Berry 1985; Gronroos 1984). However, some simply state that it is "the consumer's comparison between service expectations and service performance" (Woodside, Frey and Daly 1989 p. 6) without providing any conceptual foundation.

---

Likewise, Lewis and Booms (1983) claimed SQ refers to conforming to customer expectations on a consistent basis.

Parasuraman, Zeithaml and Berry (1985) in the initial qualitative work which led to the development of their service quality measuring instrument, SERVQUAL, intimated that SQ might represent a consumer's global judgements across multiple service encounters. In their later paper describing the development of SERVQUAL (Parasuraman, Zeithaml and Berry, 1988), they state "perceived quality is the consumers' judgement about an entity's overall excellence or superiority...it is a form of attitude, related but not equivalent to satisfaction" (p. 15). This definition begins to tie SQ to attitude formation and as such has at least a conceptual foundation. As well, it also begins to link SQ and CS/D and thus forms the basis of much of the discussion in this paper.

#### CUSTOMER SATISFACTION/ DISSATISFACTION DEFINED AND MODELED

Considerable conceptual and empirical work has been undertaken to define and model CS/D since Cardozo's (1965) study. Conceptually, consumer satisfaction/dissatisfaction (CS/D) contains both cognitive and affective elements. In fact, Swan (1983) noted that:

"Satisfaction is a ...specific affective/cognitive postpurchase orientation that has as its focus the evaluation of the product in terms of its performance in use" (p. 126).

The definition that has received most support in the literature is that CS/D is a post-purchase evaluative judgement concerning a specific purchase transaction (Day 1984; Oliver 1981; Westbrook and Oliver 1991). Moreover Oliver (1981) stated that the surprise or excitement of this evaluation is thought to be of finite duration and soon decays into one's overall attitude to the product (service). Oliver (1981) has successfully measured both cognitive and affective elements of CS/D. The evaluative aspect of CS/D judgement is typically assumed to vary along a hedonic continuum, i.e., from unfavourable (e.g., dissatisfied) to favourable (satisfied). Therefore a

natural question is whether CS/D and consumption emotion are distinguishable theoretical constructs (Westbrook and Oliver 1991). These conceptualisations suggests that CS/D represents a consumer's evaluation of a specific transaction and consumption experience, and contains both affective and cognitive components.

The dominant conceptual model in the customer satisfaction literature is the disconfirmation of expectations paradigm. This paradigm posits that customer satisfaction is related to the size and direction of the disconfirmation experience, where disconfirmation is defined as the gap or difference between an individual's pre-purchase expectations and perceived performance of the product/service. A consumer's expectations are (a) confirmed when the product/service conforms to expectations; (b) negatively disconfirmed when perceived performance is less than expected; and (c) positively disconfirmed when performance is better than expected (Anderson 1973; Olson and Dover 1976; Swan and Trawick 1980; Tse and Wilton 1988). This model theorises that expectations are crucial, as a standard of comparison, in the formation of satisfaction judgements. These expectations would appear to be shaped by previous experiences and prior attitudes towards a service provider (see Figure 2).

Disconfirmation is treated as both an intervening variable and an independent variable in the satisfaction literature. It is typically measured as a separate, subjective construct (using a "Better than expected" - "Worse than expected" scale), rather than as a subtractive (objective) construct (Oliver and Bearden 1985).

Hence:  $CS/D = f(\text{disconfirmation, performance, expectations})$

Other determinants of CS/D are customer's attributions about unexpected events (Bitner 1990), and perceptions of fairness as derived from equity theory (Oliver and Swan 1989). The basic disconfirmation model has been successful in explaining CS/D across a wide range of low-involvement consumer, non-durable goods (e.g., Cardozo 1965; Oliver 1980a). However, for high-involvement durable goods performance has been shown to have a powerful and direct

effect on CS/D, as well as an indirect effect mediated through disconfirmation (Patterson 1993, Tse and Wilton 1988). Coincidentally, the SQ literature (e.g., Cronin and Taylor 1992) has also recently reported that performance alone proved to be better at explaining variations in SQ than did the typical performance minus expectations effect.

While the customer satisfaction literature has grown throughout the 1980s, little attention has been paid to empirically testing the disconfirmation paradigm in the services sector. Exceptions include studies by Jayanti and Jackson (1991) (hairstyle services); Oliver (1980a) (flu-inneculation); Patterson, Romm and Hill (1992) (higher education services). This inadequate attention to services is surprising given their prominent position in western economies and the highly competitive environment in which many service organisations (public and private) find themselves. Service quality researchers, on the other hand, have devoted considerable attention to exploring the determinants of quality in a range of service contexts.

#### **SERVICE QUALITY OR THE GAP MODEL (SERVQUAL)**

A seemingly similar, yet conceptually different, model to the disconfirmation paradigm has emerged in the services literature in recent times. Based on a series of focus groups and in-depth interviews with consumers and executives of service firms, Parasuraman, Zeithaml and Berry (1985) developed a conceptual model concerning the nature and dimensions of service quality. The results showed ten determinants of service quality covering both process and outcome dimensions of the services investigated. The authors concluded that perceived service quality is the result of the consumer's comparison of expected service with perceived service performance. Prior to this, few academic researchers had attempted to define and model quality in services because of the difficulties in delimiting and measuring the construct. To that point, service quality had been discussed in only a handful of writings (e.g., Gronroos 1982; Lewis and Booms 1983).

Parasuraman, Zeithaml and Berry (1988) empirically tested the key part of their conceptual model in a quantitative study across four service

industries: retail banking, credit cards, security brokerage, and product repair and maintenance. Based on their earlier qualitative work, they developed a measuring instrument which has become known as "SERVQUAL". They refined the number of key determinants of service quality from ten to five dimensions (reliability, responsiveness, assurance, empathy and tangibles). However these five underlying dimensions of SQ have not been found in other service contexts (e.g., Cronin and Taylor 1992).

It is apparent from the brief preceding discussion that the gap model or SERVQUAL approach is similar to the disconfirmation of expectations paradigm. What then differentiates one model from the other? A close investigation of the respective models shows ten distinct differences - five conceptual and four operational. These are summarised in Table 1. Each difference will be discussed in turn.

#### **CONCEPTUAL DIFFERENCES**

A comparison of the two models is depicted in Figure 1.

Referring to Figures 1(a) and 1(b), the first conceptual distinction pertains to the ultimate dependent variables (CS/D, SQ) in each model. CS/D is considered to relate to a specific transaction or consumption experience. Looking beyond a single transaction that directly relates to CS/D, Parasuraman, Zeithaml and Berry (1985) claim SQ represents a more global judgement across multiple service encounters. The same authors later (1988) suggest SQ is similar to an individual's general attitude towards a firm. In a similar manner, Bolton and Drew (1991) in their study of telephone services treat the consumer's overall attitude towards service quality as the dependent variable. On the other hand, some researchers seem to confuse the two constructs and employ them without giving a conceptual definition (e.g., Woodside, Frey and Daly 1989). Nonetheless the evidence suggests the respective models are capturing distinctly different, but nonetheless related constructs.

The next obvious difference is that the CS/D or disconfirmation paradigm includes a crucial intervening variable - disconfirmation, which is conceptualised to have an independent, additive

**Table 1**  
**A Comparison of CS/D and SQ Paradigms**

<u>Comparison Dimension</u>	<u>CS/D</u>	<u>SQ</u>
<b>(a) Conceptual</b>		
Dependent Variable		
CS/D (transaction specific)		SQ (attitude)
Intervening Variables		
Disconfirmation		-
Other Antecedent Variables		
Equity (fairness) Attribution		Communications
Impact of Perceived Performance in High Involvement Purchase Situations		
Direct Impact		Indirect Impact
Experience Dependency		
Experience Necessary		Experience Not Necessary
<b>(b) Operational</b>		
Measurement of Dependent Variable		
Immediately Post-Purchase		Anytime
Pre-Purchase Comparison Standard		
"would receive"		"should" receive (expected or predictive expectations)
Disconfirmation		
Perceived		Inferred
Relationship between CS/D and SQ		
CS/D decays into		SQ over time
Importance of Prior Attitudes		
Important		Critical

effect on satisfaction (Oliver 1977). Typically, disconfirmation is modelled as a distinct cognitive, psychological construct encompassing a consumer's subjective evaluation of the differences between product (service) performance and expectations (Oliver 1980a). That is, it encompasses the set of psychological processes that may mediate perceived performance discrepancies. Tests of the CS/D paradigm have consistently shown that the disconfirmation construct is a powerful predictor of CS/D (Oliver 1980a; Oliver and DeSarbo 1988; Patterson 1993; Tse and Wilton 1988). The gap model simply omits this

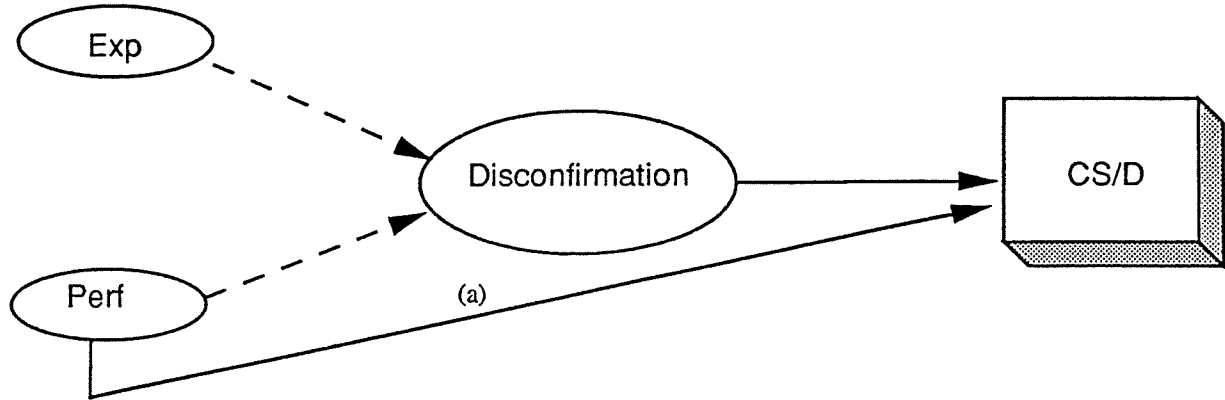
intervening variable. Parasuraman, Zeithaml and Berry (1985, 1988) do not offer an explanation for omitting disconfirmation when explicating their model.

Recent studies (Bitner 1990; Oliver and Swan 1989) indicate that consumer attributions (attributions are what people perceive to be the causes behind their own behaviour, or the behaviour of other parties) and equity perceptions, are also antecedents of CS/D. This suggests that the traditional disconfirmation model may indeed be far more complex than has previously been indicated. The SQ model has not to date attempted to integrate these additional antecedent variables into the gap model.

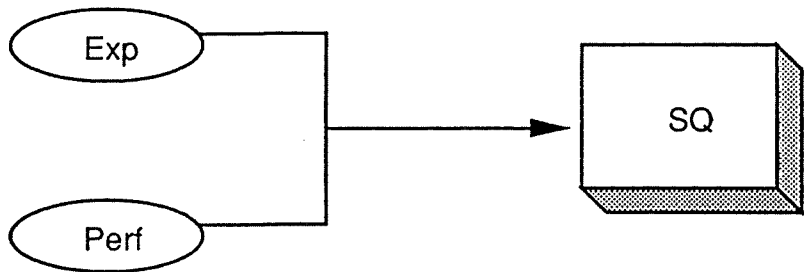
As discussed earlier in this paper, several empirical studies involving high-involvement goods and services have shown perceived performance to have a direct effect (as well as an indirect one mediated through disconfirmation) on CS/D (Bolton and Drew 1991; Patterson 1993; Tse and Wilton 1988). This direct effect is not captured in the SQ or gap model (although recent work by Cronin and Taylor, 1992, suggests it might exist). It postulates that all consumer evaluations are a direct result of the difference between perceived performance (P) and expected performance (E). While the gap model has not yet been empirically tested across a range of high-involvement services (e.g., management consulting, legal, investment, financial advice) it seems reasonable to assume that such services carry similar, if not greater, risk and uncertainty perceptions, engage in similarly intense information search and post consumption evaluation. Brown and Swartz (1989), in studying consumers' evaluation of medical services (a high-involvement service) using a gap model approach, did not report a direct performance-satisfaction linkage, possibly because they did not explicitly test this path. Services are intrinsically difficult to evaluate, especially before and during consumption. Hence post-purchase evaluation of services is considered to be even more intense than for high-involvement goods. High-involvement purchase situations for services are therefore thought to decrease the consumers' sensitivity to pre-usage expectations and increase their sensitivity to the outcome (Oliver and Bearden 1983). Therefore it would be reasonable to expect that perceived performance impacts SQ

**Figure 1**  
**Comparison of Disconfirmation Paradigm**  
**and Gap Model**

**(a) Disconfirmation Paradigm**



**(b) Gap Model**



- Note: 1. direct effects indirect effects
2. Exp = Expectations      Perf = Performance  
 SQ = Service Quality      CS/D = Customer Satisfaction/Dissatisfaction
3. (a) direct effect for high-involvement, durable purchases only

via its direct effect on CS/D (and indirect effect via disconfirmation). This performance-CS/D-SQ linkage is depicted in Figures 1(a) and 2. In the absence of the intervening effect of CS/D in the model, performance is likely to display a direct impact on SQ (as is the case in Cronin and Taylor's 1992 study).

To make an assessment of SQ a consumer does not necessarily have to have experienced the service (Rust and Oliver 1992). SQ perceptions of Marriot, Club Med, Nordstrom, American Airlines or Disney World, for example, may be formed on the basis of word-of-mouth, marketer controlled communications (e.g., advertising, point-of-sale material) or forms of non-marketer controlled communications (e.g., publicity) without ever having experienced the service in question. CS/D on the other hand is transaction specific and represents a consumer's post-purchase evaluation of the tried service (product) offering (Hunt 1977). Both constructs therefore represent an evaluation rendered, but one (CS/D) is based on experience with the service, while the other (SQ), is not necessarily experience based. This is an important distinction since it adds further weight to the argument that SQ is attitude-like, since attitudes are known to be formed, in part at least, by non-experiential factors.

### Operational Differences

Because CS/D is transaction specific it should therefore be measured as soon as possible after the service transaction has taken place. SQ perceptions on the other hand, being a more enduring attitude and representing multiple transactions, could be measured some time after exposure to a range of specific service provider experiences or exposure to some form of marketer or non-marketer communications.

The pre-purchase standard (expectations) in CS/D research is typically operationalised as expected or predictive performance (although Woodruff, Cadotte and Jenkins, 1983, have indicated different standards may apply in certain situations). It reflects what performance "will (probably) be". In contrast, in determining SQ expectations are defined as the equitable or deserved level of performance. It represents the level of performance a consumer feels they

"should" receive. For example, Parasuraman, Zeithaml and Berry's (1988, p. 38) SERVQUAL instrument asks respondents "...Please show the extent to which you think firms offering ...services should possess the features described by each statement" (emphasis added). It is worth noting however that equitable, deserved or "should" receive expectations have typically been used concerning frequently used (continuously provided) services (e.g., banking, credit cards, security brokerage) (Berry and Parasuraman 1991) where consumers have a range of recent experiences upon which to draw. Hence, respondents will have some recent, normative pre-purchase standard upon which to evaluate service performance. Therefore, measuring equitable or "should" receive expectations seems appropriate in such situations. The corollary of this is that this category of expectations might not be appropriate for a discrete or ad hoc service, where the consumer has limited recent experience, (e.g., legal services, ad hoc management consulting, major medical consultations). In such cases it seems tapping expected or predictive performance expectations might be more appropriate. Nonetheless, both SQ and CS/D typically employ different measures of expectations.

Although the gap model does not explicitly measure disconfirmation, researchers nonetheless produce a difference or gap score (performance minus expectations). Hence it is the researcher and not the consumer who makes the comparison. This approach produces an inferred measure but has been faulted on a number of grounds (see Oliver and Bearden 1985, Carman 1990). CS/D researchers on the other hand prefer a consumer's (rather than the researcher's) perceived (or subjective) measure (using "Better than expected"- "Worse than expected" scales) as disconfirmation is viewed as "the primary integrating cognition which captures the discrepancy evaluation process" (Oliver and Bearden 1985, p. 236).

Finally, SQ is an attitude concerning a customer's global evaluation of a service offering - however there is little research on temporal shifts in attitudes towards services (Bolton and Drew 1991). Adaptation level theory provides a useful framework for explaining these changes (Oliver

1980b). It suggests that past experience with a phenomenon provides an anchor for subsequent judgements, and that exposure to some stimuli (e.g., a transaction with a service firm thus generating CS/D) above/below the adaption level modifies subsequent attitudes (Helson 1964). In other words, a customer's attitude about a service offering at time t2 is to an extent a function of attitude at time t1 mediated by CS/D for current transactions. This structural relationship is shown in Figure 2, which also indicates, as does Cronin and Taylor's (1992) findings that perhaps the gap model is inadequate for explaining the antecedents of SQ (an attitude) since the model fails to include three key antecedent constructs - CS/D, disconfirmation and prior attitudes, and fails to allow for direct performance effects (at least in the case of high-involvement services).

### **An Integration of the Paradigms**

In summary, we have proposed that SQ is an attitude toward the firm (and its services), and CS/D is transaction specific but later decays into an attitude (SQ). These arguments are incorporated in the integrated model depicted in Figure 2. That is CS/D (resulting from a series of transactions with a service provider over time), together with prior attitudes, will directly impact upon current perceptions of SQ. Figure 3 also depicts this. The causal direction of this relationship is however disputed by Cronin and Taylor's (1992) recent work. They concluded on the basis of a structural equation analysis (using LISREL) that "...the analysis .indicates that this (i.e., CS/D -> SQ) may not be the case and provides empirical support for the notion that service quality in fact leads to satisfaction" (p. 64). Interestingly however, they do not provide any conceptual support for the direction of this causal link or indeed their empirical findings. Unfortunately all key constructs (attitude/SQ, expectations, performance, CS/D and intentions) were measured at the one point in time when in fact some are pre-purchase constructs (expectations), others should be measured immediately post-purchase, and others measured some time after purchase and consumption (SQ, intentions).

The hypothesised relationship between the

CS/D and SQ or gap model put forth in our paper, is however supported by the empirical findings of Bolton and Drew's (1991) three-stage longitudinal study of telephone services, and to a lesser extent the work of Bitner (1990). Bolton and Drew (1991) concluded that service changes impacted upon CS/D for various components of service, but "average ratings of perceived service quality are very stable and change slowly, so the effects of a service change become noticeable only in the long term" (p. 7). They also concluded that "Furthermore, customers current attitudes depend greatly on their prior attitudes..." (p. 70.).

The preceding discussion argues that CS/D is a important antecedent of SQ for continuously provided services (e.g., telephone, hairdressing, banking, postal services) primarily because customers engage in relatively frequent service encounters where some degree of satisfaction or dissatisfaction is the immediate evaluative outcome. For discrete services however, which are infrequently used (e.g., dental, legal, optometry) customers do not have a range of recent evaluations (CS/D) to help in assessing SQ. Hence they are forced to rely largely on their prior attitudes/beliefs concerning the service provider (which may be based on word-of-mouth, or marketer controlled communication) plus perceptions of current performance. Performance perceptions have been shown to have a significant direct impact on CS/D for high-involvement products (Churchill and Surprenant 1982; Patterson 1993) where consumers are known to engage in more intense post-purchase evaluation. Therefore, it is hypothesised that performance effects for high-involvement, discrete services will have a significant direct impact on CS/D which in turn directly impacts SQ.

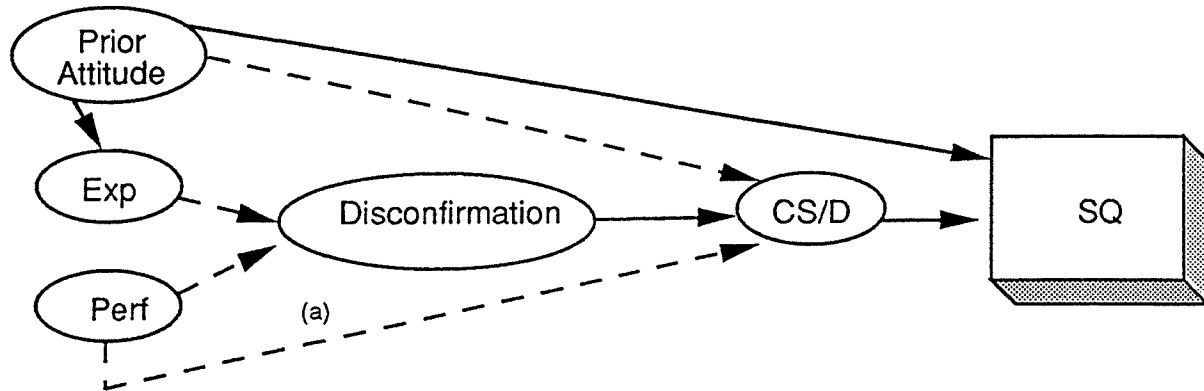
### **Research Propositions**

All of the above discussion leads us to suggest the following empirically testable research propositions:

P1: CS/D and SQ are separate but related constructs.

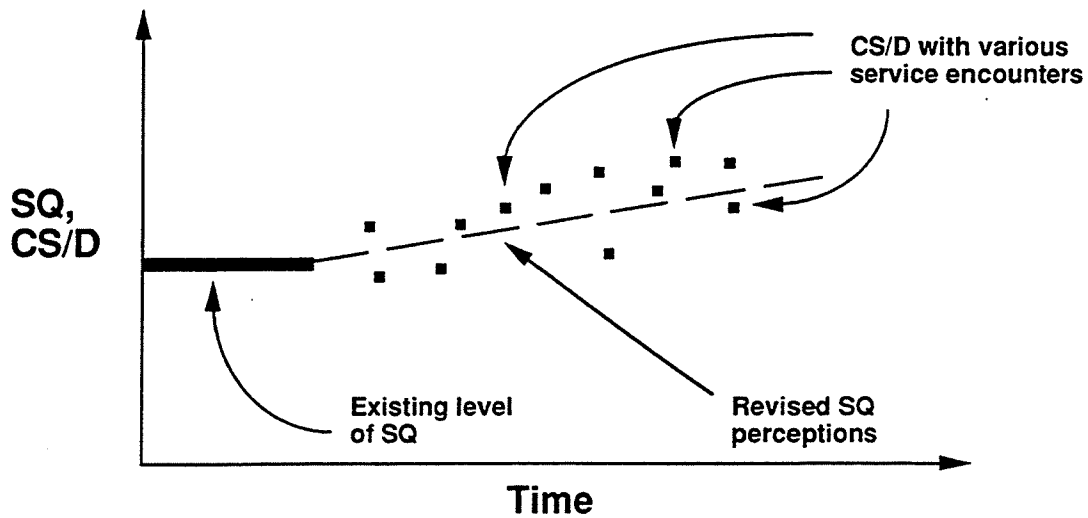
P2: The disconfirmation of expectations and gap models can be integrated to provide a

**Figure 2**  
**An Integrated Model**



- Note: 1. direct effects indirect effects
2. Exp = Expectations      Perf = Performance  
 SQ = Service Quality      CS/D = Customer Satisfaction/Dissatisfaction
3. (a) direct effect for high-involvement, durable purchases only

**Figure 3**  
**Relationship Between SQ and CS/D**



- Note: SQ = service quality  
 CS/D = customer satisfaction/ dissatisfaction



better understanding of the determinants of SQ.

P3: For continuously provided, low-involvement services, SQ perceptions are largely a function of CS/D with recent service encounters and prior attitudes.

P4: For discrete, high-involvement services, current assessment of service performance will directly effect CS/D which, in turn, together with prior attitudes, will impact upon SQ.

The preceding discussion has attempted to enunciate some clear differences between the CS/D and SQ constructs, and at the same time demonstrate the relationship between them. It has also been argued that the determinants of SQ are far more complex than suggested in the simple gap model approach. The result is our suggestion of an integrated model which links the two paradigms. It remains to be seen as to whether our propositions are substantiated in practice.

## REFERENCES

- Anderson, Rolph E. (1973), "Consumer Dissatisfaction: The Effect of Disconfirmed Expectancy on Perceived Product Performance," *Journal of Marketing Research*, 10, (February), 38-44.
- Bateson, John E. G. (1992), *Managing Services Marketing: Text and Readings*, 2nd ed, Orlando, FL: Dryden Press.
- Berry, Leonard L. and A. Parasuraman (1991), *Marketing Services: Competing Through Quality*, New York: The Free Press.
- Bitner, M. J. (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54, (April), 69-82.
- Bolton, Ruth N. and James H. Drew (1991), "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes," *Journal of Marketing*, 55, (January), 1-9.
- Brown, Stephen W. and Teresa A. Swartz (1989), "A Gap Analysis of Professional Service Quality," *Journal of Marketing*, 53, (April), 92-98.
- Cardozo, Richard N. (1965), "An Experimental Study of Consumer Effort, Expectations and Satisfaction," *Journal of Marketing Research*, 2, (August), 244-249.
- Carman, James M. (1990), "Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions," *Journal of Retailing*, 66, (1), 33-55.
- Churchill, Gilbert A. Jr. and Carol Surprenant (1982), "An Investigation Into the Determinants of Customer Satisfaction," *Journal of Marketing Research*, 19, (November), 491-504.
- Cronin Joseph J. and Steven A. Taylor (1992), "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56, (July), 55-68.
- Day, Ralph L. (1984), "Modeling Choices among Alternative Responses to Dissatisfaction," in *Advances in Consumer Research*, Thomas C. Kinnear, ed., Provo UT: Association for Consumer Research, 11, 496-499.
- DeSouza, Glenn (1989), "Now Service Businesses Must Manage Quality," *Journal of Business Strategy*, 10, (3), 21-25.
- Dobyns L. and C. Crawford-Mason (1991), *Quality or Else: The Revolution in World Business*, Boston: Houghton Mifflin.
- Fornell, Claes (1992), "A National Customer Satisfaction Barometer: The Swedish Experience," *Journal of Marketing*, 56, (January), 6-21.
- Gronroos, Christian (1982), *Strategic Management and Marketing in the Service Sector*, Helsingfors: Swedish School of Economics and Business Administration.
- Gronroos, Christian (1984), "A Service Quality Model and its Marketing Implications," *European Journal of Marketing*, 18 (4), 36-44.
- Gronroos, Christian (1992), "Towards A Third Phase In Service Quality Research, Challenges and Future Directions," unpublished conference paper at Frontiers in Services Conference, American Marketing Association, Vanderbilt University, Nashville September 24-26, 1992.
- Helson, Harry (1964), *Adaption-Level Theory*, New York: Harper and Row Publishers, Inc.
- Hunt, H. Keith (1977), "CS/D - Overview and Future Directions," in *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, H. Keith Hunt, ed., Cambridge, MA: Marketing Science Institute, 455-488.
- Jayanti, Rama and Anita Jackson (1991), "Service Satisfaction: An Exploratory Investigation of Three Models," in *Advances in Consumer Research*, Marvin E. Goldberg, Gerald Gorn and Richard W. Pollay, eds., New Orleans: Association for Consumer Research, 18, 603-609.
- Lewis, Robert C. and Bernard H. Booms (1983), "The Marketing Aspects of Service Quality," in *Emerging Perspectives on Services Marketing*, L. Berry, G. Shostack and G. Upah, eds., Chicago: American Marketing Association, 99-107.
- Oliver Richard L. (1977), "A Theoretical Reinterpretation of Expectation and Disconfirmation Effects on Posterior Product Evaluation: Experiences in the Field," in *Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, Ralph Day, ed., Bloomington: Indiana University, (April), 2-9.
- Oliver, Richard L. (1980a), "A Cognitive Model of the Antecedents and Consequences of Satisfaction

- Decisions," *Journal of Marketing Research*, 17, (November), 460-469.
- Oliver, Richard L. (1980b), "Conceptualization and Measurement of Disconfirmation Perceptions in the Prediction of Customer Satisfaction," in *Proceedings of Fourth Annual Conference on Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, H. K. Hunt and R. L. Day, eds., Bloomington: School of Business, Indiana University.
- Oliver, Richard L. (1981), "Measurement and Evaluation of Satisfaction Processes in Retail Settings," *Journal of Retailing*, 57, (Fall), 25-47.
- Oliver, Richard L. and W. O. Bearden (1983), "The Role of Involvement in Satisfaction Processes," in *Advances in Consumer Research*, Richard P. Bagozzi, and A. M. Tybout, eds., Ann Arbor, MI: Association for Consumer Research, 10, 250-255.
- Oliver, Richard L. and W. O. Bearden (1985), "Disconfirmation Processes and Consumer Evaluations in Product Usage," *Journal of Business Research*, 13, 235-246.
- Oliver, Richard L. and Wayne S. DeSarbo (1988), "Response Determinants in Satisfaction Judgements," *Journal of Consumer Research*, 14, (March), 495-508.
- Oliver, Richard L. and John E. Swan (1989), "Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach," *Journal of Marketing*, 53, (April), 21-35.
- Olson, Gerry C. and P. Dover (1976), "Effects of Expectation Creation and Disconfirmation on Belief Elements of Cognitive Structure," in *Advances in Consumer Research*, Beverlee B. Anderson, ed., Chicago: Association for Consumer Research, 3, 168-175.
- Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49, (Fall), 41-50.
- Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64, (1), 12-37.
- Patterson, Paul G. (1993), "The Role of Expectations and Product Performance for a High-Involvement Product," *Psychology and Marketing*, 10, (5) (forthcoming).
- Patterson, P., T. Romm and C. Hill (1992), "Consumer Satisfaction as a Process: A Qualitative, Longitudinal Study of Overseas Students in Australia," paper presented at TIMS Special Interest Conference on Services Marketing, Customer Satisfaction and Service Quality, Vanderbilt University, Nashville (March).
- Rust, Roland T. and Richard L. Oliver, (1992), "Service Quality: Observations and Hypotheses," unpublished conference paper at Frontiers in Services Conference, American Marketing Association, Vanderbilt University, Nashville, September 24-26, 1992.
- Swan, J. E. (1983), "Consumer Satisfaction Research and Theory: Current Status and Future Directions," in *Proceedings of the Seventh Annual Conference on Consumer Satisfaction-Dissatisfaction and Complaining Behavior*, H. K. Hunt and R. L. Day, eds., Bloomington: School of Business, Indiana University, 124-129.
- Swan, John E. and Frederick I. Trawick (1980), "Satisfaction Related to Predictive vs Desired Expectations," in *Retaining Concepts and Measures of Consumer Satisfaction and Complaining Behavior*, Ralph L. Day and Keith Hunt, eds., Bloomington: School of Business, Indiana University, 7-12.
- Tenner, A. and Irving J. DeToro (1992), *Total Quality Management*, Addison-Wesley Publishing Company.
- Tse, David K. and Peter C. Wilton (1988), "Models of Consumer Satisfaction Formation: An Extension," *Journal of Marketing Research*, 25, (May), 204-212.
- Westbrook, Robert A. and Richard L. Oliver (1991), "The Dimensionability of Consumption Patterns and Consumer Satisfaction," *Journal of Consumer Research*, 18, (June), 84-91.
- Woodruff, Robert B., Ernest R. Cadotte and Roger L. Jenkins (1983), "Modeling Consumer Satisfaction Processes Using Experience-Based Norms," *Journal of Marketing Research*, 20, (August), 296-304.
- Woodside, Arch G., Lisa L. Frey and Robert T. Daly (1989), "Linking Service Quality, Customer Satisfaction, and Behavior Intention," *Journal of Health Care Marketing*, 9, (December), 5-17.
- Zeithaml, Valarie A., Leonard L. Berry and A. Parasuraman (1991), "The Nature and Determinants of Customer Expectations of Service," *Marketing Science Institute Working Paper*, Report 91-113, 1-27.

#### ACKNOWLEDGEMENTS

The authors would like to acknowledge the helpful comments of three anonymous JCS/D & CB reviewers.

#### Send correspondence regarding this article to:

Paul G. Patterson  
 Department of Management  
 University of Wollongong  
 Wollongong, NSW 2520  
 AUSTRALIA