Modeling the Determinants of Customer Satisfaction for Business-to-Business Professional Services

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This research empirically examines for the first time the determinants of customer satisfaction or dissatisfaction (CS/D) in the context of business professional services. The simultaneous effect of key CS/D constructs (expectations, performance, and disconfirmation) and several variables—fairness (equity), purchase situation (novelty, importance, and complexity)—and individual-level variables (decision uncertainty and stakeholding) are examined in a causal path framework. Data were obtained from a two-stage longitudinal survey of client organizations. The results indicated substantial support for the hypothesized model. The effect of purchase situation and individual-level variables (via their indirect affects) rivals that of disconfirmation and expectations in explaining CS/D. Performance was found to affect CS/D directly but not as powerfully as disconfirmation.

Customer satisfaction or dissatisfaction (CS/D) is arguably at the core of the marketing concept. Recent interest in CS/D among both academicians and practitioners is due, in part, to the fact that a satisfied customer is viewed as an indispensable means of creating a sustainable advantage

in the competitive environment of the 1990s. As pointed out by Anderson and Sullivan (1993), "Investing in customer satisfaction is like taking out an insurance policy. If some hardship temporarily befalls the firm, customers will be more likely to remain loyal" (p. 140).

Although models of CS/D processes have been well researched for consumer goods and services (e.g., Bolton and Drew 1991a; Brown and Swartz 1989; Cadotte, Woodruff, and Jenkins 1987; Churchill and Surprenant 1982; Halstead, Hartman, and Schmidt 1994; Oliver 1980; Spreng, MacKenzie, and Olshavsky 1996; Tse and Wilton 1988), there has been an almost total lack of attention to the industrial or business-to-business sector. This is surprising, given the prominence of business services (e.g., management and marketing consulting; legal, engineering, and IT services; financial planning) and the fact that they possess a set of unique characteristics. Often technically complex and sophisticated, these services are intrinsically difficult for a client to evaluate with confidence because of their intangibility and credence properties. It is argued that CS/D processes for such services may vary from previous models based on consumer markets. Therefore, the first purpose of this study is to begin to fill a gap in the literature by investigating CS/D in a business-to-business services context.

In addition to contributing to the satisfaction, services, and organizational buying behavior (OBB) literatures, we examine for the first time the effect of five variables (novelty, importance of the purchase decision, decision complexity, stakeholding, and uncertainty) that have been

FIGURE 1
Conceptual Model of Satisfaction for Business Professional Services
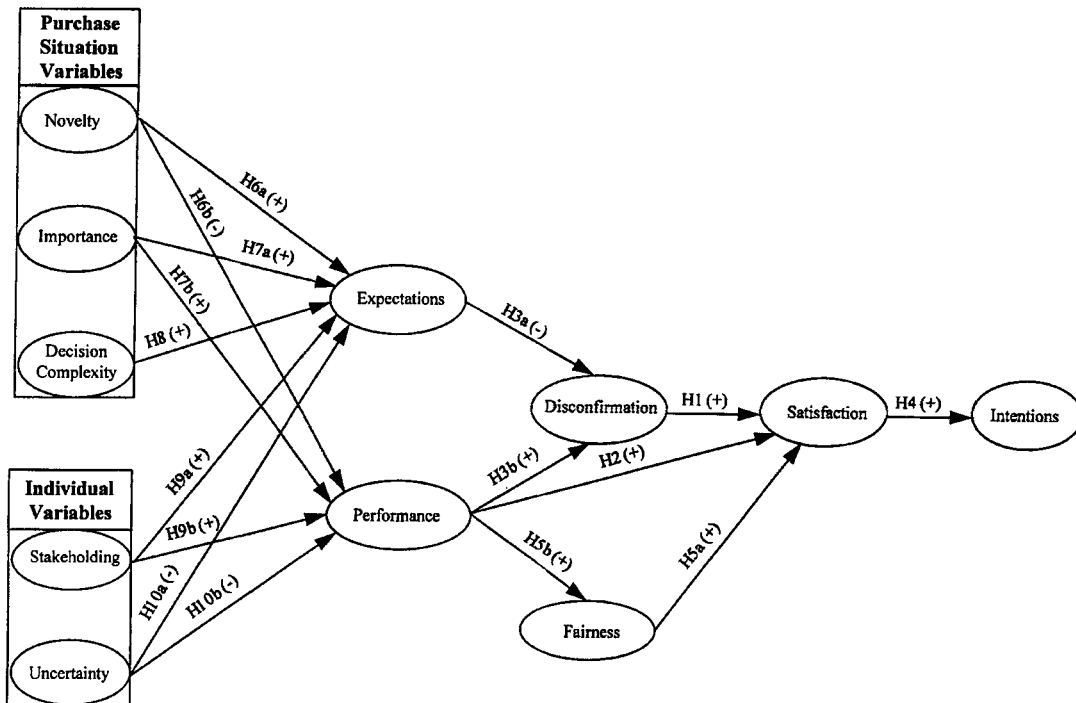
shown to be significant in prepurchase buying decisions in industrial markets. Thus our study links important prepurchase and postpurchase variables.

Furthermore, there have been repeated calls for more longitudinal studies (e.g., Yi 1990) in satisfaction research. This gap in the literature is particularly pronounced in the area of services, where most past research has used data collected at a single point in time and asked subjects to "recall" prepurchase constructs. We employ a two-stage longitudinal study of a wide range of business professional services.

Finally, we extend the model to incorporate fairness as another antecedent to CS/D and include an important consequence of CS/D, namely, repeat purchase intentions. The latter affect the strategic health of the firm and are especially relevant to business-to-business services, which often are contracted on a project-by-project rather than on a continuous basis, thereby making the service provider vulnerable to the whims of clients.

First, we synthesize the relevant OBB, CS/D, and services literature and develop an extended conceptual model of CS/D for business services. This is followed by a presentation of the research methodology and measurement issues as well as a discussion of the specific context of the study, management consulting services (MCS). Next, the results of a confirmatory factor analysis and the structural path model are presented. Finally, we discuss the findings from an academic and managerial perspective and provide directions for future research.

THE CONCEPTUAL MODEL

Figure 1 depicts the conceptual framework and accompanying hypotheses to be tested. This extended model incorporates a temporal sequence that begins with a set of purchase situation and individual-level variables hypothesized to affect expectations and performance perceptions and then proceeds to postpurchase variables, such as perceived performance, disconfirmation, fairness, satisfaction evaluation, and repurchase intentions. We begin the discussion by developing a set of hypotheses surrounding the direct antecedents of disconfirmation, CS/D, and intentions. Then, based on equity theory, we examine the effect of fairness. Finally, we present a discussion in support of the hypothesized influence of the various purchase situation and individual variables on perceived performance and prepurchase expectations.

Antecedents of Satisfaction and Behavioral Intentions

The dominant conceptual model in the satisfaction literature is the disconfirmation of expectations paradigm. This paradigm posits that customer satisfaction is related to the size and direction of disconfirmation, which is defined as the difference between an individual's prepurchase expectations (or some other comparison standard) and postpurchase performance of the product or service (Anderson 1973; Oliver 1980; Olson and Dover 1979;

Swan and Trawick 1980; Tse and Wilton 1988). Yet empirical studies have produced conflicting findings regarding the respective roles of expectations, disconfirmation, and performance in satisfaction evaluations (see Halstead et al. [1994] for a review of 14 major CS/D studies).

This has prompted some scholars to suggest that different satisfaction processes operate under different conditions, such as across different product categories, for high-versus low-involvement products, or for products versus services (Anderson 1994; Bolton and Drew 1991b; Cadotte et al. 1987; Halstead et al. 1994; Oliver 1989; Spreng et al. 1996). For example, Churchill and Surprenant (1982) found that both disconfirmation and performance were significant antecedents of satisfaction for a low-involvement product, but only performance was significant for a high-involvement product. In contrast, Tse and Wilton (1988) found that both disconfimation and performance had significant effects for a high-involvement product, but performance was stronger. Patterson (1993) found the opposite pattern with a high-involvement product (home heater), in that performance had a stronger effect than disconfirmation. Spreng et al. (1996), using a high-involvement product, found disconfirmation significant, and although performance had a strong bivariate relationship with satisfaction, this was completely mediated by the disconfirmation of expectations and desires. Thus, even for high-involvement products, there is a lack of consistent results, with some studies showing a stronger effect of performance, whereas others show a stronger effect of disconfirmation. In addition, no studies examining high-involvement business-to-business services satisfaction could be identified. It is little wonder that in tracing the history of CS/D research, Swan and Trawick (1993) and Swan, Powers, and Hansen (1995) recently lamented the almost total lack of attention to the industrial or business area.

Thus disconfirmation and performance have been shown to have varying effects on CS/D, even within one type of product (high-involvement consumer goods). With regard to services, based on Oliver (1980), Jayanti and Jackson (1991) state that "when performance judgments tend to be subjective (as in services due to intangibility) expectations may play only a minor role in the formation of satisfaction" (p. 603). They suggest that satisfaction in services may be a function of performance alone.

The context of the current study (MCS), however, unlike a low-involvement and continuously provided service, is a discrete, high-involvement event. Our qualitative interviews confirmed this. Almost universally we found that a successful outcome was of extreme importance to organizational success, and considerable search efforts had been expended before a consultant was chosen. Yet unlike studies of high-involvement goods (e.g., automobiles, camcorders, combustion heaters), clients may have difficulty in confidently evaluating performance for intangible, complex services high in credence properties (i.e., many clients do not have the technical skills, expertise, or experience to evaluate the outcome) (Darby and Karni 1973; Day and Barksdale 1992; Jackson and Cooper 1988). In such situations, clients are likely to place more weight on

prior knowledge and expectations and to use a top-down evaluation heuristic (Hoch and Ha 1986; Yi 1993). Qualitative work confirmed that customers had "active" rather than passive expectations, probably due in part to heightened competition (Davidow and Uttal 1989) and the high-involvement nature of the assignment. Hence, although it is expected that performance will have a direct effect on CS/D (because of the high-involvement nature of the service), clients are forced to rely largely on their prior expectations—and hence disconfirmation—in forming satisfaction judgments. These arguments suggest that although both disconfirmation and performance are likely to affect CS/D, disconfirmation will have a greater influence. Thus Hypotheses 1 and 2 are the following:

H1: Disconfirmation will be positively related to and have the strongest direct effect on customer satisfaction.
H2: Perceived performance will have a positive direct effect on satisfaction, but its influence will be secondary to that of disconfirmation.

By definition, the disconfirmation construct is the (perceived) difference between what was received and what was expected. Accordingly, all things being equal, the higher one's expectations, the less likely that performance can meet or exceed them, producing a negative relationship between expectations and disconfirmation. Furthermore, the higher the perceived performance, the more likely that expectations will be exceeded, resulting in a positive relationship between perceived performance and disconfirmation. Thus Hypothesis 3 is as follows:

H3a: Expectations will be negatively associated with disconfirmation.
H3b: Perceived performance will be positively associated with disconfirmation.

Several researchers have modeled future purchase intentions as a function of prior intentions (LaBarbera and Mazursky 1983), product performance (Mazursky and Geva 1989), and CS/D (Oliver 1980) for tangible goods and low-involvement consumer services (Bitner 1990). Given the characteristics of business-to-business services, we expect this relationship to be even stronger in the context of business services. Considerable anecdotal evidence suggests that customers of service providers, especially business services, tend to remain with the same provider if continually satisfied (e.g., Davidow and Uttal 1989; Woodside, Wilson, and Milner 1992). Zeithaml (1981) contended that brand switching is less frequent with services than with products because customers can economize decision effort, reduce risk in the decision process, and obtain optimum satisfaction from a seller who is permitted to gain a better understanding of regular customers' special needs and preferences. Hence

H4: Customer satisfaction will be strongly and positively associated with repeat purchase intentions for business professional services.

Equity frameworks may aid our understanding of satisfaction processes because they take account not only of the outcome for the buyer but also of the other party to the exchange. Outcomes in equity theory (e.g., Adams 1965) are thought to be evaluated against the other party(ies) to an exchange, as opposed to the traditional disconfirmation paradigm concepts of predictive expectations, norms, or other similar standards. This is relevant in a business-to-business context in which it is essential to establish an ongoing relationship with a client base. It is especially so in the context of this study, because business clients regularly complain of being unfairly treated by consultants (Moffet 1989). Accordingly, parties to an exchange will feel equitably treated if they believe the ratio of their outcomes to inputs is comparable to the ratio of the exchange partner's outcomes to inputs (Oliver and DeSarbo 1988). During qualitative interviews for this study, respondents mentioned, for example, that they expected to be "fairly treated by the consultant given the fees paid," or "they seemed to treat us fairly in all our dealings with them."

This comparison of outcome and input is thought to yield an equity cognition (in much the same way disconfirmation cognitions are formed). Perceived inequity is considered to cause distress—a negative affect and a component of dissatisfaction. Conversely, a highly equitable outcome cognition is thought to generate positive emotions (Oliver and Swan 1989b) and thus satisfaction. In view of the foregoing, it is hypothesized that

H5a: The fairness component of equity will be positively related to CS/D.

Furthermore, because "what is received," or the outcome, is one side of the equity construct, it stands to reason that perceptions of the consultant's performance (i.e., what is received) should be positively correlated with fairness. Accordingly,

H5b: Perceived performance will have a positive effect on fairness.

Purchase Situation Variables and Individual-Level Characteristics

Although theories of industrial marketing have not developed as quickly as for consumer behavior, there are several key conceptual and empirical models of the industrial purchase process (McQuiston 1989). The major OBB models consistently suggest that a range of purchase situation, organizational, and individual-level variables affects various stages of the buying process (e.g., Johnston and Bonoma 1981; Robinson, Faris, and Wind 1967; Sheth 1973; Webster and Wind 1972; Wilson, Lilien, and Wilson 1991). For example, models of organizational decision making have used purchase situation variables (e.g., novelty and complexity of purchase, importance) and organizational structure variables (e.g., formalization) to explain the structure of buying centers and the participation and influence in buying decisions (Dawes and Patterson 1992; Johnston and Bonoma 1981; Kohli 1989; McQuiston 1989) and external information searches (Dawes, Dowling, and Patterson 1993). Several studies also suggest that product importance and complexity may affect purchase outcomes (Barber and Venkatraman 1986; Bloch and Richins 1983). Finally, recent work by Parasuraman, Berry, and Zeithaml (1991) concerning a range of business and consumer services explicitly links purchase situation variables (importance, experience, number of available alternatives, and personal needs) to prepurchase expectations. It is on these grounds that we include purchase situation and individual variables in our extended model of CS/D formation.

Novelty. The novelty or newness of a purchase situation has been shown to affect various phases of organizational decision making (e.g., Dawes et al. 1993; McQuiston 1989). Reve and Johansen (1982), for example, found that the buying center's evaluative choice criteria depend on the novelty or newness of a particular buying situation. Organizational buying decisions typically are made by a group of people known collectively as "the buying center." The less experienced this group, the newer or more novel the buying situation is to them and hence to the firm they represent. Thus *novelty* is defined here as "the lack of experience of individuals in the organization with similar purchase situations" (McQuiston 1989, p. 69). OBB theory indicates that when faced with ambiguity or lack of knowledge in a purchase decision, people will seek more information. Similarly, the satisfaction literature states that customers faced with a novel buying situation rely on external rather than internal (retrieved memory) information sources. This is especially likely to be so in evaluating highly intangible business services (e.g., consulting services), when search and experience qualities are lacking. Thus expectations may be less realistic than might otherwise be the case because they are formed by the vendor's various forms of marketing communications and by word of mouth. It is, as Hoch and Deighton (1989) put it, a matter of acquiring knowledge by description (as opposed to knowledge by acquaintance or firsthand, direct experience).

There is at least anecdotal evidence that management consultants are prone to exaggerate or overpromise what they can deliver to win a project (Moffet 1989). This suggests that clients in novel buying situations may have higher expectations than clients who have experience with the buying situation. Accordingly, we hypothesize that

H6a: Novelty will be positively associated with prepurchase expectations.

Furthermore, the newness of the purchase situation may mean that clients are simply not in a position to evaluate the true worth of the completed project. To the extent that the client relies on exaggerated claims in deciding to hire a consultant, the outcome may appear worse than it actu-

ally is. This is the classic contrast effect, in which performance outside some zone of indifference is perceived to be poorer than it objectively is. This suggests that clients for whom the buying situation is novel will have lower evaluations of actual performance than clients for whom the buying situation is not new. Thus we hypothesize that

H6b: Novelty will be negatively associated with performance perceptions.

Importance of the purchase decision. Researchers have defined the importance of the purchase to an organization in two ways. Johnston and Bonoma (1981) conceptualize it in terms of the relative importance of the purchase to others of a similar nature, and McQuiston (1989) defines the construct according to its perceived effect on organizational productivity and profitability. It seems likely that for business services, the latter is a more appropriate conceptualization because in many cases the nature of the assignment (e.g., development of a strategic plan) will no doubt affect the organization's viability.

Therefore, the importance of the purchase is defined here as the perceived effect of the purchase (i.e., commissioning the consulting assignment) on organizational productivity and profitability. Importance has been shown to influence perceived risk (Sheth 1973) as well as perceptions of the purchase situation and the behavior of the individuals involved (Kirsch and Kutschker 1982). The only explicit link to satisfaction models, however, is qualitative work among business clients showing that the more important the occasion, the higher the expectations (Parasuraman et al. 1991). It is therefore contended that

H7a: Higher importance of the buying decision is likely to be associated with higher levels of prepurchase expectations.

Importance is also likely to affect perceptions of performance. Dissonance theory (Festinger 1957) suggests that when two cognitions are dissonant (i.e., incompatible), people generally feel an urgency to eliminate or reduce the discrepancy. This can be achieved by changing (or influencing) one of the cognitions. Furthermore, because services are typically difficult to evaluate objectively, higher levels of importance should produce higher perceptions of performance. That is, if the choice of supplier is very important to the firm, then to reduce dissonance (e.g., we chose a consultant who performed poorly), the client will, all things being equal, tend to perceive the performance of the consultant more positively. Therefore, we hypothesize that

H7b: Higher importance of the buying decision will be associated with higher perceptions of performance.

Complexity of the purchase situation. Researchers have examined two notions of complexity: technical or product complexity and complexity of the purchase situation (sometimes referred to as decision complexity). These two factors are distinct because the technical complexity of a product or service need not influence the complexity of the buying decision. In most cases, researchers have focused on the latter. There is support in the literature for a positive relationship between situation complexity and search effort (Grønhaug 1975) as well as for more complex buying tasks being associated with larger buying centers (Johnston and Bonoma 1981). One qualitative study of business services (Parasuraman et al. 1991) explicitly links decision complexity to the disconfirmation paradigm. It seems, therefore, that in situations of high-buying decision complexity, clients are unable to frame precise, concrete expectations and thus are forced to rely on external information sources such as consultant presentations and formal proposals. As indicated earlier, such marketer-controlled information sources sometimes exaggerate the likely (expected) performance outcomes (Moffet 1989; Spreng et al. 1996). The foregoing suggest that clients will have higher expectations when associated with more complex buying decisions for services. Thus we hypothesize that

H8: Higher levels of buying decision complexity will be associated with higher prepurchase expectations.

Furthermore, because our study is concerned with a service (at the "pure" service end of the goods-services spectrum) rather than a tangible product, decision complexity is likely to be exacerbated because such services are low in search and experience qualities. Hence clients may have difficulty evaluating the true worth of a completed consulting engagement and therefore may have difficulty evaluating performance. Thus it is not clear that there will be any systematic relationship between complexity and perceptions of performance. Hence no link between complexity and performance is hypothesized.

Stakeholding. Researchers in both the OBB domain (e.g., Anderson, Chu, and Weitz 1987; Brown 1995; Dawes et al. 1992; Ghingold and Wilson 1985; Johnston and Bonoma 1981; Kohli 1989) and the services arena (e.g., Jayanti and Jackson 1991; Webster 1989) have stressed the need for empirical investigation of a range of individual-level variables, including stakeholding, to explain a range of phenomena in organizational purchase decisions.

Stakeholders are defined as those with the most at stake (or risk) because the buying decision will affect them far more than other members of the buying center. "In a sense, they truly must live with whatever is decided upon (the consequences)" (Ghingold and Wilson 1985, p. 184). Dawes et al. (1992) provide support for including stakeholding with their finding that buyers' expectations (for a range of business advisory services) are affected by the demands and needs of top management. Stakeholding is akin to concepts of vested interest, personal consequences, and involvement—constructs that are used interchangeably in the social psychology literature. In fact, vested

interest and involvement are known to have similar effects on attitude formation (Crano 1995). Given this, stakeholding, although conceptually distinct, is related to the purchase situation variable of decision importance but is now related to the individual. Hence the hypotheses parallel those for importance. Higher levels of stakeholding should raise expectations and, based on dissonance theory, increase perceptions of performance. Hence,

H9a: Higher levels of key informant stakeholding will be positively associated with prepurchase expectations.
H9b: Higher levels of key informant stakeholding will be positively associated with perceptions of postpurchase performance.

Uncertainty. The general definition of *uncertainty* in a buying decision is a psychological state that results primarily from a lack of adequate information or knowledge concerning the outcome of a purchase situation (Duncan 1972). In the OBB literature, researchers have linked uncertainty to the composition of buying centers (Cardozo 1980), external information searches (Dawes et al. 1993), manifest influence in purchase decisions (Kohli 1989), and the structural characteristics of buying centers (McCabe 1987). Contingency theorists generally have used a definition centered on the perceived uncertainties of the buying task (availability of needed information, ability to evaluate outcomes). Hence we employ measures of buying decision uncertainty (e.g., Kohli 1989); that is, we measure the uncertainty the respondent feels with regard to the decision made.

A buyer's greater level of decision uncertainty (e.g., "I am not confident we made the right choice") should be associated with lower levels of expected performance. Similarly, that buyer is likely to perceive actual performance as being lower. Both of these predictions can be supported by dissonance theory, in that a negative cognition (e.g., we did not make the right choice) will be consistent with another negative cognition (e.g., performance *will* be low, or performance *was* low). Furthermore, in exploring how consumers learn from experience, Hoch and Deighton (1989) indicate that when there is uncertainty, the consumption experience is open to multiple interpretations; as argued earlier, clients simply may not be able to assess the true worth or performance of the completed assignment. Therefore, we hypothesize the following:

H10a: Uncertainty will be negatively associated with prepurchase expectations.
H10b: Uncertainty will be negatively associated with performance perceptions.

METHODOLOGY

An initial exploratory phase involved qualitative interviews with senior managers of four consultancy firms and eight clients. This was followed by a two-stage longitudinal study, using self-administered questionnaires. Because one aim of the research was to examine the *process* of CS/D formation in a causal path framework, time was an important consideration. Hence the conceptual model depicted in Figure 1 can be logically split into pre- and postpurchase constructs. The purchase situation variables (novelty, importance, complexity), individual characteristics (uncertainty and stakeholding), and expectations were measured before the purchase (immediately prior to commissioning the MCS project). Performance, disconfirmation, fairness, CS/D, and repurchase intentions were measured after the purchase. The measurement of expectations, for example, should be independent from disconfirmation (Westbrook and Reilly 1983). Some earlier studies in CS/D used experimental designs in which the elapsed time between measuring the prepurchase constructs (e.g., expectations) and the collection of the dependent measures (i.e., perceived performance, disconfirmation, satisfaction) was rather short (e.g., Churchill and Surprenant 1982). This can artificially inflate the relationships between pre- and postpurchase constructs. To overcome that inherent weakness in previous studies, a two-stage longitudinal design was used here. This design is one of the strengths of our study and has been called for by a number of researchers (e.g., Yi 1990).

Sampling Frame and Sampling Method

The specific context of this study, a range of management consulting services, was chosen for several reasons. First, management consulting services are considered typical of a wide range of business services, such as project management, engineering services, environmental consulting, legal services, and architectural services (adopting criteria put forth by Grönroos [1979]). Second, they capture a wide array of professional services, such as marketing research, strategic planning, operations management, production planning, information technology, and human resource management. Third, there is evidence of a wide variation in the degree of client satisfaction or dissatisfaction with MCS (Moffet 1989), and this variation in the dependent variable should prove useful in developing an explanatory model. Finally, in recent years, the MCS industry has recognized the need to adopt a stronger marketing orientation due to (1) increasing competition, (2) the lower cost of retaining as opposed to attracting clients, and (3) the reduced restrictions imposed by professional associations (Bloom 1984; Fisher 1989; Woodside et al. 1992). The industry also is significant in terms of its size and growth, being predicted to expand to $200 billion (worldwide) by the year 2000 (Markels 1996).

The sampling frame was primarily provided by three MCS firms (one is an international multidisciplinary consultancy, and two are smaller regional consultancies) and one client organization (a state government that makes extensive use of consultants) over a 12-month period. Hence the sampling frame comprised both the private and public sector and covered a wide spectrum of engagements

(e.g., marketing research, corporate planning, organizational reviews, information technology, and operations management).

Of the 207 client organizations approached, 186 agreed to participate, yielding a response rate of 90 percent. Among those who agreed to participate, 142 (76%) completed the Stage 1 (prepurchase) questionnaire. Two completed questionnaires were rejected because the key informant failed to meet screening criteria (this is elaborated on in the next section). Of these 142 participants, 128 completed and returned Stage 2 questionnaires. This final sample size of 128 represents a net response rate of 62 percent.

Unit of Analysis

Because this study concentrates on both pre- and postpurchase perceptions, it was vital that respondents were able to provide valid and reliable data about the consulting assignment over a period of months. A single key informant approach was used to collect data for a number of reasons. First, the key informant's name and designation were supplied by the participating organizations. The informant was generally a senior executive or senior manager who was heavily involved in the consultant selection process and, equally important, likely to be involved in the assignment from start to finish, an important consideration for a longitudinal study.

Second, Pennings (1979) suggests that a key informant is appropriate if he or she occupies a senior or ownership position. He argues that such a person is a direct participant in the organization's boundary-spanning activities and thus is qualified to respond on behalf of the organization. Likewise, Philips (1981) found that high-level managers provide more reliable information on organizational phenomena than do lower-ranking managers.

Third, an important advantage of the key informant design, as pointed out by Kohli (1989), is that it enables respondents to remain anonymous and does not necessitate their disclosing the names of other buying center members, thus encouraging candid responses. This was an important consideration, given the potentially sensitive nature of the information revealed in the two questionnaires.

Finally, a key informant was used for pragmatic reasons. As Conant, Mokwa, and Varadarajan (1990) point out, "in the face of time and resource constraints the single informant approach allows for a large number of organizations to be surveyed" (p. 371). This was an important consideration because tracking multiple informants over several months would have been extremely difficult and would have increased the nonresponse rate due to mortality effects (e.g., respondent changing functions within company, leaving the organization altogether, or becoming too busy to continue participation).

Several measures were taken to ensure that the key informant was qualified to respond on behalf of the organization. To increase the validity and reliability of the data collected, two screening criteria were employed to assess the appropriateness of the respondent. First, only those individuals involved in at least four of the six key decision stages were included in the sample. The decision stages were (1) identify the problem, (2) determine whether the problem should be handled internally or externally, (3) identify possible consultants, (4) search for information concerning possible consultants, (5) prepare a short list of consultants, and (6) make a final selection of consultant.

Second, respondents were asked in the Stage 1 questionnaire, "Concerning your expectations about the consulting assignment, as expressed in Q6 and Q7, how representative are these views of other members of the buying group?" Responses were measured using a 7-point rating scale ranging from 1 (*not at all representative*) to 7 (*very representative*). Only 3.9 percent (five respondents) in the final sample reported that their views were at variance with other members of the buying group (i.e., they scored less than 4 on the scale).

Finally, concerning the postpurchase phase, respondents were asked how representative their feelings of (dis)satisfaction were among other buying center members. Only three people reported their views were at variance with the buying group. Nevertheless, if they were in a senior management position and involved in at least four of the decision stages (including the final selection of the consultant), they were retained in the sample.

Data Collection Procedure

The key informants were first contacted by telephone to seek their cooperation. If they agreed to participate, they were mailed a package containing a cover letter, a Stage 1 questionnaire, and a self-addressed, prepaid envelope to facilitate a reply. The cover letter explained the nature and importance of the research and offered a summary report of the findings on completion of the study. To minimize possible bias resulting from the knowledge that they would be asked to complete a second questionnaire (Churchill 1987), respondents were not forewarned in the initial telephone contact or in the cover letter about a possible follow-up (Stage 2) questionnaire. The first section of the Stage 1 questionnaire asked for the expected completion date of the assignment. Between 1 and 2 months after this date, the Stage 2 questionnaire was mailed. If responses were not received within 3 weeks, then a telephone follow-up was undertaken.

Measures

Stage 1 questionnaire. Measures for the three purchase situation variables were adapted from McQuiston (1989). Novelty was operationalized by three measures, importance of the purchase decision by two measures, and complexity by a single item (see Table 1 for question wording and scales). There were two individual-level variables—uncertainty and stakeholding. The two items measuring decision uncertainty were adopted from Kohli (1989) and dealt with the feeling that a correct decision was made and confidence in this decision. Stakeholding

TABLE 1
Measures and Construct Reliabilities

Construct	Measures	CSP[a]	ρ[b]	AVE[c]
Novelty			.88	.70
Novelty 1[d]	Prior to this particular consulting assignment, I was experienced in commissioning this type of work. (R)	.86		
Novelty 2[d]	I did not have much knowledge about this type of consulting assignment prior to commissioning this one.	.83		
Novelty 3[d]	I am seldom involved in commissioning this type of consulting assignment.	.83		
Importance			.85	.73
Import 1[d]	I anticipate the results of this consulting assignment will make a significant improvement in our operations.	.89		
Import 2[d]	This particular assignment is very important to achieving our organizational objectives.	.82		
Complexity			—	—
Complexity[d]	Because of the complex nature of this assignment, more people were involved than usual.	—		
Stakeholding[e]			—	—
Responsibility[f]	How much responsibility did you personally have in the decision to choose the selected consulting firm?	—		
Unit importance[g]	With respect to your own functional unit, how important is it that the assignment is completed successfully?	—		
Uncertainty			.91	.84
Uncertainty 1[d]	During the final selection of the consultant, I felt we were making the right decision. (R)	.95		
Uncertainty 2[d]	Just after the consultant selection was made, I felt confident that it was the right one. (R)	.87		
Expectations			—	—
Expectations[d]	Average of 26 attributes.	—		
Performance			—	—
Performance[d]	Average of 26 attributes.	—		
Disconfirmation			.88	.78
Disc 1[h]	Now please consider the consultancy firm's overall performance. How close did it come to what you had expected?	.94		
Disc 2[h]	Thinking about the benefits of the assignment to your organization, would you say that they were:	.82		
Fairness			—	—
Fairness[d]	I believe that we were not treated fairly by the consulting firm. (R)	—		

(continued)

TABLE 1 Continued

Construct	Measures	CSP[a]	ρ[b]	AVE[c]
Satisfaction			.95	.85
Satisfaction 1[d]	I am very satisfied with our decision to commission this consultancy firm.	.95		
	Taking everything into consideration, how do you feel about what you have received from the consultancy firm during the course of the assignment?			
Satisfaction 2	Very dissatisfied/very satisfied (R)	.95		
Satisfaction 3	Very pleased/very displeased	.87		
Intentions	If your organization requires the services of a management consulting firm in the near future for a similar type of assignment, would you use the same consulting firm?		.97	.93
Intentions 1	Very probable/not probable	.96		
Intentions 2	Impossible/very possible	.98		
Intentions 3	No chance/certain	.94		

NOTE: R denotes items reverse scaled prior to analysis.
a. Completely standardized parameter. Squared multiple correlations for each measure can be obtained by squaring the completely standardized parameter for the item.
b. Construct reliability computed as $(\Sigma\lambda)^2/[(\Sigma\lambda)^2 + \Sigma \text{ var } (\varepsilon)]$.
c. Average variance extracted, which is the proportion of variance in the construct that is not due to measurement error (Fornell and Larcker 1981).
d. 1 = *strongly disagree*, 7 = *strongly agree*.
e. Stakeholding is calculated for each respondent as a multiplicative function of responsibility and unit importance.
f. 1 = *no responsibility*, 7 = *full responsibility*.
g. 1 = *not at all important*, 7 = *critically important*.
h. 1 = *much worse than expected*, 7 = *much better than expected*.

was operationalized as a multiplicative function of two related variables—personal responsibility and importance of the project. The first was measured by asking respondents to indicate on a 7-point bipolar adjective scale how much responsibility they personally had in the decision to commission the chosen consultancy; the second was measured by asking how important the assignment was to their own functional unit, using a 7-point importance scale. These two measures were then multiplied for each respondent to create the stakeholding measure, which is similar to the method employed by Dawes et al. (1993). Furthermore, stakeholding is akin to the risk construct operationalized by Kohli (1989) as a multiplicative function of importance and uncertainty.

There is still disagreement regarding the correct definition of *expectations*, with some authors defining them as predictions of future performance (Oliver 1980), others as desires or ideals (Spreng and Olshavsky 1993), and still others in terms of norms based on past experience (Cadotte et al. 1987). Given the length limitations on a questionnaire for busy executives, it was not possible to ask about each type of "expectation," so predictions of future perfor-

mance were used (i.e., "will" expectations). Consequently, expectation statements on 26 attributes were generated from qualitative interviews and secondary data sources (including proprietary research reports on the MCS profession). Respondents were asked to indicate their expectations about the recently commissioned assignment. The stem read, "I expect the consultancy firm will. . . ."; a 7-point Likert scale ranging from *strongly agree* to *strongly disagree* was used. A summated index was created for expectations by averaging the 26 items.

Stage 2 questionnaire. Performance was measured by asking respondents to assess how the consultancy firm performed on the same 26 attribute items. Performance was operationalized as an average of those items. *Disconfirmation* was measured using two global "better than expected or worse than expected" scales (Oliver 1980). *Fairness* was operationalized with a single-item, 7-point Likert scale that stated, "I believe that we were not treated fairly by the consulting firm." This scale was reversed for use in the subsequent analyses. *Satisfaction* was operationalized by items based on measures commonly used in satisfaction research (e.g., Oliver and Swan 1989a). *Repurchase intentions* were measured on three 7-point bipolar adjective scales used by Fishbein and Ajzen (1975) and Oliver and Swan (1989a). All measures are reported in Table 1.

RESULTS

Confirmatory Factor Analysis

A confirmatory factor analysis (LISREL 8) showed that the hypothesized model fit the data reasonably well (see Table 1). First, the overall fit of the model was adequate, with a Jöreskog and Sörbom (1993) goodness-of-fit index (GFI) of .89, a Bentler (1990) comparative fit index (CFI) of .97, no standardized residuals over the absolute value of 3, and a chi-square of 169.33 with 120 degrees of freedom. Second, as evidence of convergent validity, the measurement factor loadings were all significant (t values between 9.56 and 15.94), the construct reliabilities were large (ranging from .85 to .97), and the average variance extracted (AVE) (Fornell and Larcker 1981) indicated that in each case, the variance captured by the construct was greater than the variance due to measurement error (AVEs ranging between .70 and .93). Finally, the procedure described by Fornell and Larcker (1981) was used to test for discriminant validity, which is indicated by an AVE for each construct higher than the squared correlation between that construct and any other. As shown in Table 2, this test holds, because in no cases is there a squared correlation between any two constructs that is higher than either of the constructs' AVE.

Structural Model

Because the proposed measurement model was consistent with the data, the hypotheses were tested with LISREL

8, using the covariance matrix. Figure 2 shows the completely standardized parameters and t values of this model. For clarity of presentation, the following exogenous construct intercorrelations (ϕs) are not shown in the figure: novelty and importance (.27), novelty and stakeholding (−.28), novelty and uncertainty (.35), importance and stakeholding (.26), and stakeholding and uncertainty (−.35). No other exogenous construct intercorrelations were significant.

All hypotheses concerning satisfaction and repurchase intentions were supported. Disconfirmation (H1), performance (H2), and fairness (H5a) all exhibited positive direct effects on satisfaction and explained 87 percent of the variation in satisfaction. The significant performance → satisfaction path supports recent work showing that performance has a direct as well as an indirect effect. As hypothesized (H1 and H2), disconfirmation had a stronger direct influence on satisfaction than performance. Satisfaction in turn was shown to be a powerful predictor of repurchase intentions (standardized coefficient of .89), explaining 78 percent of the variation. As hypothesized, prepurchase expectations and performance perceptions had negative and positive effects, respectively, on disconfirmation (H3a and H3b). These two constructs explained 64 percent of the variation in disconfirmation.

Most hypotheses regarding the purchase situation variables and the individual-level variables were supported. As stated in H6a, novelty or newness of the purchase occasion had a positive effect on expectations and a negative effect on performance (H6b). Importance of the buying decision to the organization had a positive influence on expectations (H7a) and performance (H7b), as predicted. Decision complexity had the predicted positive effect on expectations (H8). Stakeholding did not have the hypothesized effect on expectations (H9a) or on performance (H9b; standardized coefficient of .11, $p = .13$). Finally, uncertainty had the hypothesized negative influence on both expectations (H10a) and performance (H10b). The five antecedents explained 27 percent of the variation in expectations and 22 percent of the variation in performance.

Direct and Indirect Effects

The direct and indirect effects (from the LISREL output) are depicted in Table 3. For example, the indirect path from performance to satisfaction is the following: (.80 × .51) + (.66 × .19) = 0.53 because it is mediated through disconfirmation and fairness. Total effects are simply the sum of direct and indirect effects.

Although performance has a strong influence (consistent with past research), a large part of this effect is indirect through disconfirmation and fairness. The total influence (direct and indirect paths) of performance on satisfaction is .87, but the indirect effect (through disconfirmation and fairness) is .53. Thus these two constructs act as partial mediators of the effect of performance on satisfaction. Although fairness is significant in the structural model ($t = 3.69$), its influence on satisfaction is minor when compared to performance and disconfirmation. Finally, it

FIGURE 2
Structural Equations Results: Completely Standardized Parameters (*t*-values)
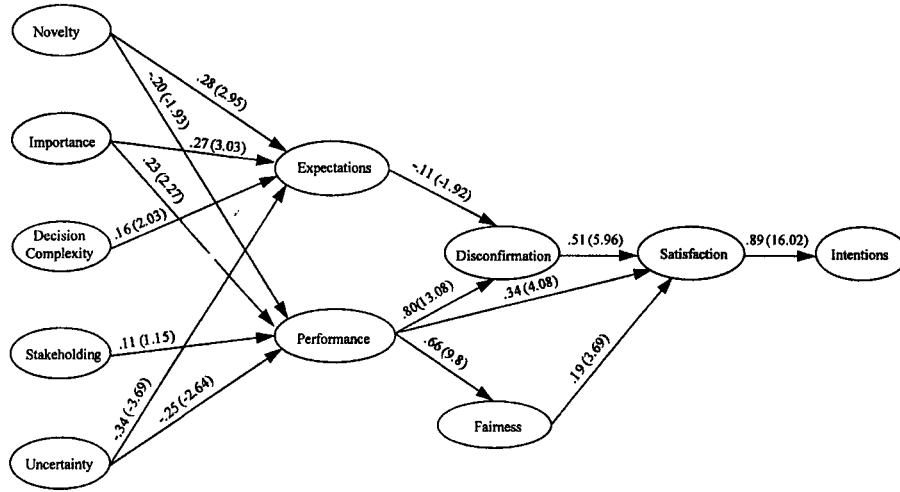
NOTE: For clarity of presentation, the masurement model is not shown. χ^2 = 222.52; *df* = 155; goodness-of-fit index = .85; adjusted goodness-of-fit index = .80; comparative fit index = .97.

TABLE 2
Factor Intercorrelations

	1	2	3	4	5	6	7	8	9	10	11
1. Novelty	1.00										
2. Importance	.20	1.00									
3. Complexity	.12	.09	1.00								
4. Stakeholding	−.28	.32	−.08	1.00							
5. Uncertainty	.32	−.17	.01	−.38	1.00						
6. Expectations	.25	.38	.20	.10	−.27	1.00					
7. Performance	−.25	.26	−.04	.32	−.37	.15	1.00				
8. Disconfirmation	−.20	.11	−.03	.36	−.28	.00	.79	1.00			
9. Fairness	−.27	.12	−.14	.18	−.24	−.02	.66	.58	1.00		
10. Satisfaction	−.29	.23	−.15	.38	−.43	.07	.87	.88	.70	1.00	
11. Intentions	−.36	.10	−.13	.34	−.40	.02	.74	.80	.66	.88	1.00

is interesting to note that the purchase situation and individual-level variables have total effects that rival fairness and exceed expectations. Collectively, these antecedent variables exert a considerable influence (via their indirect effects in Table 3) in explaining variations in satisfaction. Furthermore, this highlights for the first time the significance of understanding the potential role these categories of variables play in explaining variations in expectations, performance perceptions, and CS/D, at least for business services.

Overidentifying Restrictions

The proposed model makes a number of implicit mediation predictions, such as that satisfaction completely mediates the effects of performance, disconfirmation, and fairness on repurchase intentions. These overidentifying restrictions were tested by estimating, one path at a time,

the paths between the antecedent variables and satisfaction. A significant decrease in the chi-square indicates that the effect of the variable is not completely mediated by variables in the model. Similarly, paths were estimated from each antecedent variable to intentions.

Of the six prepurchase variables, only decision complexity and uncertainty had significant direct effects on satisfaction. Table 4 shows these results and indicates that although there is a significant path, the variation in satisfaction that is explained does not change a great deal when the path between satisfaction and either of these two variables is included. Thus, although the mediation is not complete, it is substantial. There was no significant effect of novelty, importance, stakeholding, or expectations on satisfaction, indicating that the influence of these two variables is completely mediated by the model constructs.

Only one antecedent variable had a significant direct effect on repurchase intentions—novelty—but the vari-

TABLE 3
Direct, Indirect, and Total Effects of Independent Variables on Satisfaction

Independent Variable	Direct Effects (1)	Indirect Effects (2)	Total Standardized Effects (1) + (2)	(t Values)
Disconfirmation	.51	—	.51	(5.96)
Performance	.34	.53	.87	(16.86)
Fairness	.19	—	.19	(3.69)
Expectations	—	−.06	−.06	(−1.86)
Purchase situation				
Novelty	—	−.19	−.19	(−2.08)
Importance	—	.18	.18	(2.07)
Complexity	—	−.01	−.01	(−1.37)
Individual-level				
Stakeholding	—	.09	.09	(1.14)
Uncertainty	—	−.20	−.20	(−2.37)

TABLE 4
Tests of Overidentifying Restrictions

Path Not Modeled	Change in χ^2	p Value for χ^2	Standardized Coefficient	t Value for Coefficient	Change[a] in R^2
Complexity → Satisfaction	5.87	< .05	−.09	−2.49	.01
Uncertainty → Satisfaction	11.39	< .01	−.15	−3.41	.02
Novelty → Intentions	6.27	< .05	−.13	−2.57	0

a. The change in the percentage of variation explained in the dependent variable.

ation in intentions that is explained did not change with the inclusion of this path. The influence of expectations, disconfirmation, performance, and fairness on repurchase intentions was completely mediated.

DISCUSSION

Of the 16 hypotheses put forward, only 2 were not fully or partially supported. These results show, for the first time, that the disconfirmation paradigm can be applied to industrial buying situations, but the relative effect of various structural linkages varies from that found in previous studies of manufactured goods and consumer service. Furthermore, the extended framework throws considerable light on the drivers of expectations and performance perceptions as well as on the strong linkage between satisfaction and repurchase intentions. Although some of the hypotheses were not supported (e.g., stakeholding), the inclusion of purchase situation variables, individual-level variables, and fairness (equity) adds a richness to our understanding of the determinants of expectations, performance perceptions, and CS/D for business services. Of particular note is the overall influence of novelty, importance, and decision uncertainty, which rival fairness and exceed expectations in their effect on CS/D. Taken collectively, they exert a considerable influence on satisfaction evaluations of business services.

The derived structural model confirms that perceived performance has a direct influence on CS/D, as hypothesized. Yet unlike studies of high-involvement goods and many consumer services, for which performance quality can be assessed with some confidence, the direct effect of performance was secondary to disconfirmation. This supports our contention that, due to the intrinsic difficulty in evaluating complex business services that are high in credence properties, clients use a "top-down" processing heuristic that relies heavily on prior expectations and thus disconfirmation in forming satisfaction judgments. Only

when the various indirect effects (via fairness and disconfirmation) are taken into account does performance have a dominant influence.

Managerial Implications

A rich set of implications flows from the results of this research. First, this is one of the few studies to demonstrate empirically the very strong link between satisfaction and repurchase intentions (explaining 78% of the variance). Given that satisfaction is not an end in itself, this result suggests that CS/D is *the* crucial link in establishing longer-term client relationships and thus the strategic well-being of the organization. It highlights the importance of satisfying—even delighting—the client if repeat work is to be won. Firms would be well advised to monitor regularly CS/D levels and understand client expectations and perceptions of the firm's performance as an assignment progresses. This is especially important for business professional services, which are mostly contracted on a project-by-project basis, and the client's power is evident in the expendability of the service provider.

Second, managers need to appreciate that the determinants of CS/D, at least for a business-to-business professional service, are more complex than previous research suggests, with variables exerting both direct and indirect effects. In particular, the potential influence of the purchase situation and individual-level variables should not be ignored. For example, decision uncertainty has a significant effect on CS/D. Hence, when a firm has won a contract, it is in its best interests to understand (and then manage, if necessary) buying center members' uncertainty perceptions. If it is known that a key decision maker in the client firm is still somewhat uncertain about the service provider's capability to deliver the promised outcome or has a high personal stake in the outcome, then several actions can be taken. The firm may reassure such clients by keeping them informed of progress more regularly than usual or by educating them (to some degree) in the technical processes and methods being used. Regular newsletters highlighting the firm's expertise and successful assignments are another means of reassurance. Finally, a well-conceived marketing communications program not only may help attract new clients but also may inform, educate, and reassure existing clients.

Third, note from Table 3 that the novelty of the buying situation has an overall negative effect on CS/D. Managers

should be aware that clients are sometimes unable to judge the true worth of the completed assignment because of their lack of experience. Therefore, it is in the firm's best interests to communicate continually with and educate the inexperienced. Furthermore, when the technical or outcome attributes are intrinsically difficult to assess, such as a 3-year strategic plan or financial or legal advice, the results of which may not be manifest for some time, then the service provider should pay particular attention to the functional or process dimensions of performance (report presentations, reliability in meeting deadlines, general level of professionalism during client contact). In the absence of concrete knowledge, inexperienced clients in particular will use these cues to assess performance quality.

Fourth, as illustrated in Figure 2, the importance of the project to the client has a positive effect on CS/D via perceptions of performance but a negative influence via expectations. The latter occurs because clients have heightened needs, desires, and expectations when the project is very important to the future profitability of their firm. In such highly competitive environments as the MCS industry and other business services, there is a temptation to raise the expectations of potential clients in the hope of winning the assignment. The results of our research show the sizable direct effect of disconfirmation and the modest indirect influence of expectations, suggesting that this is a dangerous strategy, especially when the project is of high strategic importance to the client. If more is promised than can be delivered, then dissatisfaction is a likely outcome. Having won the project, business service providers would do well to manage client expectations to realistic levels throughout the assignment to maximize the chances of a satisfactory evaluation.

The final implication relates to perceptions of fairness, which proved to be a significant explanatory variable in this research. Managers should consider strategies for increasing perceptions of fairness in the exchange process by, for example, providing some value added in the assignment (such as highlighting emerging problems or issues for the client firm, even if that is not part of the formal assignment). Furthermore, fairness is a comparison of the outcome to input ratio of *both parties*. It stands to reason that educating clients about the complexity of the project as well as the effort, technical expertise, and resources involved in completing it successfully should affect the input side of the equation (from the suppliers' side), thereby enhancing perceptions of fairness.

Limitations and Future Research Directions

Due to the time-consuming nature and concomitant logistic difficulties associated with tracking the course of consulting assignments (which, in this study, varied from 1 to 12 months), the sample size ($n = 128$) is smaller than might have been achieved in a one-stage cross-sectional design. This disadvantage is offset, we believe, by the advantage of a longitudinal design. In addition, now that fairness has been shown to be useful in explaining satis-

faction processes, future research should develop and use multi-item measures of this construct.

The findings of our study highlight the need for more comprehensive models of customer assessments, recognizing potential simultaneous relationships in a range of service contexts. The derived model seems generalizable to a range of business services (e.g., legal, engineering, architectural, environmental consulting, information technology) characterized by high technical complexity and intangibility. Yet applying the model to other service contexts, such as professional and nonprofessional *consumer* services, would test its generalizability. Furthermore, management consulting services are discrete, complex, and divergent services (Shostack 1987) rather than less complex, continuously provided ones (e.g., telephone services, public utilities, retail banking, cable television). It stands to reason that, unlike buyers of discrete services, customers of continuously provided services will have well-formed and realistic expectations. Hence further research is needed to test the model with a range of continuous consumer and business services.

Because most services are essentially processes with an extended "consumption" period, time is an important variable. Future work needs to make more use of longitudinal rather than cross-sectional studies to examine the effects of shifts in individual-level variables, attitudes, expectations, disconfirmation, perceived performance, and even satisfaction over time. For long-term business and other services (e.g., medical), the benefits or outcome may not fully materialize until well after the service has been performed. How this continuous unfolding of service performance affects CS/D over time is still largely unexplored and is an area deserving of serious attention.

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