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James O. Stanworth [a]
[a] Department of Business, National Changhua University of Education, Changhua, Taiwan ROC

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Deep supply relationships: influencing outcomes by managing supply service quality

James O. Stanworth*

Department of Business, National Changhua University of Education, Changhua, Taiwan ROC

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Service science emphasises the process of value co-creation within relationships. This frames the importance of service quality and its outcomes to business-to-business (B2B) interaction. This exploratory paper investigates the dimensions of service encounter quality in B2B relationships and its effect on (dis)satisfaction. Purchasers are sampled from America and Canada who are in extended relationships with suppliers. Qualitative data are in the form of critical incidents that code to 272 critical judgements of these purchasers' perceptions of their suppliers. Findings reveal eight dimensions of service encounter quality: basic capability, relationship, communication, attitude, specification conformance, time and money, flexibility and resolution. The findings reveal how service encounter quality impacts (dis)satisfaction in a way that provides insight for suppliers in managing impacts of investment in service.

Keywords: service quality; business-to-business; relationships

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1. Introduction

Service science addresses issues about how service systems (e.g. B2B, business-to-business) interact and act to co-create value (Spohrer and Maglio 2008). This approach focuses attention on value creation through processes within relationships (Lusch *et al*. 2008, Spohrer and Maglio 2008). This fits the B2B context where the relationship paradigm (Webster 1992) is increasingly assumed (Rauyruen and Miller 2007, Humphreys *et al*. 2008, Gummesson and Polese 2009). Service quality is important to manage processes within B2B relationships (Gounaris 2005a, Zolkiewski *et al*. 2007) since it leads to development of trust (Gounaris and Venetis 2002, Doney *et al*. 2007), commitment (Caceres and Paparoidamis 2007) and satisfaction (Ennew and Binks 1999, Caceres and Paparoidamis 2007). Defining and understanding how B2B service quality impacts on (dis)satisfaction provides important opportunities for learning and improving the effectiveness of the service system (Lusch *et al*. 2008).

The literature reveals five distinct areas that are subject to debate on the role of B2B service quality. The first reflects the assumed importance of the relationship paradigm to B2B contexts (Childe 2007, Humphreys *et al*. 2008, Palmatier 2008, Verdecho *et al*. 2009). Service quality acts as an indirect but significant enabler of B2B relationships (Jayawardhena *et al*. 2007, Rauyruen and Miller 2007, Spreng *et al*. 2009) and thus the economic goals of those interactions. Service quality is understood as a multi-dimensional construct (e.g. Ladhari 2008) and this dimensionality has varying significances according to the relationship stage (Szmigin 1993, Gounaris and Venetis 2002). This study defines and relates service quality dimensions to a distinct relationship phase.

The second relates to the application of business-to-consumer (B2C) measures of service quality in the B2B sector. There is consensus on the need for measures of service quality specific to B2B settings (Bienstock *et al*. 1997, Mehta and Durvasula 1998, Durvasula *et al*. 1999, Zolkiewski *et al*. 2007). Through this study dimensions of quality are defined specific to B2B service quality. This new understanding of B2B service quality dimensionality supports fitting of service quality to specific B2B customers' needs and this customisation fits with the service science approach (Kannan and Healey 2011).

The third concerns how to conceptualise service quality. Research supports perception-only measures as more psychometrically robust than the disconfirmation (expectations–perceptions) model (Brady and Cronin 2001, Jayawardhena *et al*. 2007). Consequently, perception-only measures are frequently adopted (Witkowski and Wolfinbarger 2002, Keillor *et al*. 2004). This is also appropriate for understanding B2B service quality (Durvasula *et al*. 1999, Bolton *et al*. 2008) and fits the approach taken in this study.

*Email: jamesstanworth@btinternet.com

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The fourth issue concerns the role of the zone of tolerance: the area that represents a customer's indifference to a range in performance (Zeithaml *et al.* 1993). Outside the zone of tolerance, performance has a significant impact on service quality (Johnston 1995). B2B research acknowledges this perspective by exploring the impact of critical incidents on satisfaction (Doorn and Verhoef 2008). The use of critical incidents is particularly appropriate for exploratory service research (Gremler 2004) and to understand the impact of service quality on (dis)satisfactory outcomes (i.e. those outside the zone of tolerance; Vargo *et al.* 2007). However, other methods may be used and include interviews (Zolkiewski *et al.* 2007) and focus groups (Lindberg and Nordin 2008). However, these methods rely on gaining and sustaining access for prolonged periods and this is problematic in B2B research (Saunders *et al.* 2009). Critical incidents offer the means to systematically and quickly reveal significant attributes about a subject being studied (Meuter *et al.* 2000). Collection of critical incidents reduces the problems of access by allowing respondents flexibility about when they respond and make interviews short and focused. Taken together, these issues make the application of critical incident technique (CIT) to B2B context particularly appropriate in enabling efficient collection of substantive data, i.e. critical service quality dimensions and defines their impact on outcomes. This study uses critical incidents to identify quality dimensions outside the zone of tolerance and consequently draws attention to aspects that can significantly impact on performance.

The fifth issue relates to interest in the service literature in specifying and closing of performance gaps (Auty and Long 1999, Tikkanen *et al.* 2000, Leminen 2001, Chen *et al.* 2009). Reducing gaps in B2B setting is important to enable service delivery effectiveness (Leminen 2001, Kumar and Kumar 2004, Chen *et al.* 2009). Gaps develop as perceptions fail to align with expectations of performance on the service quality dimensions and so generate (dis)satisfactory evaluations. Effectively managing performance relies on a correct specification of B2B service quality dimensions and understanding of their impact on perceptions and (dis)satisfactory outcomes.

The objectives of this study draw on an integration of these five issues. The first objective of this study is to define B2B service quality dimensions significant to relational as against transaction exchanges (Dwyer *et al.* 1987, Palmatier *et al.* 2007). This responds to calls for dimensions of service quality specific to the B2B context. It also takes account of the basic relational orientation. The second objective is to understand the impact of the service quality dimensions on (dis)satisfactory outcomes. This is theoretically significant in relating service quality dimensions that lie outside the zone of tolerance with performance gaps. This study increases managers' ability to manage performance gaps by providing a robust specification of B2B service quality dimensions and explaining their impact on (dis)satisfactory perceptions.

This article is structured as follows. The nature of B2B service quality is introduced and followed by an explanation of how customers' (dis)satisfactory perceptions form generally and in the B2B context specifically. Next the qualitative method is introduced followed by the findings that report a new and significant dimensionality of B2B service quality. An explanation follows of how these service quality factors act as determinants of (dis)satisfactory perceptions. The limitations and directions for further research are given.

2. Service quality in B2B contexts

2.1. *Nature of B2B service quality*

Service and its role in B2B sectors are of long-standing interest (Cunningham and Roberts 1974, Lehman and O'Shaughnessy 1974, Banting 1976). However, B2C service receives the lion's share of research attention. Consequently, B2B service benefits from further exploration (Parasuraman 1998, Zolkiewski *et al.* 2007). This study concerns firms' buyers and sellers in commercial transactions (i.e. B2B relationships).

The multi-dimensional nature of B2B service quality represents as general elements and specific attributes. Grönroos' (2000) general dichotomy separates quality into outcomes and process: technical and functional quality, respectively. These two parameters facilitate understanding of service in B2B settings (Szmigin 1993, Caceres and Paparoidamis 2007). Szmigin (1993) labels Grönroos' technical and functional qualities as hard and soft, respectively. She also adds the element of outcome quality to explain overall success in meeting desired goals. Homburg and Garbe (2001) also proposed, tested and find support for a similar three-element structure of structural, process-related and outcomes-related aspects.

These general elements are useful to understand the dynamic process within B2B services. Studies of B2B service quality also consider more specific attributes from three perspectives: value-added service, consumer model application and B2B-specific dimensionality.

2.1.1. *Value-added service*

This group represents the role of customer service in supporting use of the core product. Cunningham and

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Roberts (1974) considered buyer defined attributes of value-added services. Their findings reveal seven important attributes of: technical advice, providing a wide range, prompt and comprehensible quotation, ease of contact, guarantees, quality control facilities and delivery reliability. Replication supported this attribute structure (Banting 1976). Lehmann and O'Shaughnessy (1974) consider how service quality attributes applied to different purchasing decisions. While they propose 17 service quality attributes, their source is unclear. The bi-directional nature of B2B service leads Dubinsky and Ingram (1982) to consider the sales persons', over that of the purchaser. Their study reveals six traits that buyers should display that in a sellers' market traits offer a means of differentiation. The understanding of a core product supported by service continues (Chen *et al*. 2009).

2.1.2. *Consumer model application*

This second perspective builds on the premise that the features of consumer services are applicable to the B2B sector (Cooper and Jackson 1988). Service quality is of enduring interest to consumer services (Parasuraman *et al*. 1985, 1994, Cronin and Taylor 1992, Ma 2007). The seminal work of Parasuraman, Zeithaml and Berry (PZB) proposes SERVQUAL as five dimensions of consumer service quality: reliability, responsiveness, assurance, empathy and tangibles (Parasuraman *et al*. 1988). Studies consider SERVQUAL's relevance to the B2B sector.

Babakus *et al*. (1995) measure flight attendants' perceptions of suppliers' service quality and conclude PZB's dimensionality fits their context. Svensson (2001) also uses the consumer measure to explore bi-directional services between firms and internal departments and reports no scale limitations.

In measures between Singaporean exporters and suppliers of ocean freight services SERVQUAL adequately predicts organisational performance (Mehta and Durvasula 1998). However, the authors call for more appropriate measures of B2B service quality. In B2B insurance service, Westbrook and Peterson (1998) argue B2B service quality is congruous with PZB's framework. However, their measures include: consultative marketing, price, interpersonal skills, product offering, market clout and geographic presence. Their additional dimensions suggest SERVQUAL's limitation to B2B contexts.

The psychometric properties of SERVQUAL differ from consumer services (Durvasula *et al*. 1999). Consequently, 'the service quality measures developed for consumer services can only be applied with caution in business-to-business marketing' (Durvasula *et al*. 1999, p. 132). Chen *et al*. (2009) find SERVQUAL lacks empirical validity in a B2B context. Brensinger and Lambert (1990) also report the low predictive validity of SERVQUAL and this undermines its relevance to B2B service quality. They conclude researchers should develop context-specific measures.

2.1.3. *Specific measures of B2B service quality*

Gounaris (2005a) argues SERVQUAL is a poor measure of B2B service quality due to its consumer heritage and questionable validity. His INDSERV scale adopts four dimensions drawn from literature: potential, soft, hard and output quality. Results report a greater predictive power over SERVQUAL in B2B contexts. Homburg and Garbe (2001) also proposed a similar B2B service quality structure of, structural, process and outcome dimensions. They argued the simple nature of their model increased generalisability beyond their focus on industrial purchasing.

In the context of physical distribution services, Bienstock *et al*. (1997) empirically tests factors drawn from literature and interviews to propose timeliness, availability and condition as dimensions of service quality. Since these items represent outcome quality, it is only a partial measure. They suggest a comprehensive measure would include service quality process dimensions, price and product quality.

Zolkiewski *et al*. (2007) identify 30 dimensions of quality from a case study of a fire safety company. Their analysis reveals the multi-dimensional nature of B2B service quality and differences in buyers' and sellers' perspectives. Emphasising the sellers' perspective, Humphreys *et al*. (2008) evaluate purchasing activities that influence relationship development with suppliers. Evaluations focus on service quality: professionalism, assistance, communication, responsiveness and process. From the purchasers' perspective, Seth *et al*. (2006) draw on the extant literature to derive a seven factor structure of service quality. Distinct to B2B service quality are the dimensions of intra-organisational communication, service flexibility and financial trust.

Tikkanen *et al*. (2000) consider the B2B context and draw attention to the inner context of relationship: episodes and acts of exchange between buyers and suppliers. Woo and Ennew (2005) develop this perspective to conceive service quality as, product/service, information, financial, social exchange and institutionalisation/cooperation and adaptation. This is of particular relevance to this study since it focuses on the encounter.

Jayawardhena *et al*. (2007) indicate that a focus on B2B encounters is important. First, typically a small

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group of suppliers are important to purchasers and each encounter contributes significant value. Second, B2B are more frequent than B2C encounters. Third, they enable relationship development. Encounters are the foundation of relationship (Holmlund 2004). Fourth, relationship interfaces are close and deep. Encounters involve knowledge and resource sharing (Yorke 1990, Kong and Mayo 1993), as involvement in complex outcomes such as developing solutions (Tuli *et al*. 2007). Despite encounters' importance, we lack measures of encounter service quality (Jayawardhena *et al*. 2007). An exploratory study of the fire inspection industry reveals four dimensions of: professionalism, civility, friendliness and competence (Jayawardhena *et al*. 2007).

In conclusion, the following points highlight some limitations with reviewed literature:

- Studies on value-added service do not account for a relational emphasis (Cunningham and Roberts 1974, Lehman and O'Shaughnessy 1974, Dubinsky and Ingram 1982).
- Consumer measures of service quality (e.g. SERVQUAL) are of limited relevance to the B2B sector (Brensinger and Lambert 1990, Bienstock *et al*. 1997, Mehta and Durvasula 1998, Durvasula *et al*. 1999, Gounaris 2005a, Chen *et al*. 2009).
- B2B encounter service quality is poorly understood and requires further research (Jayawardhena *et al*. 2007).
- Measures of B2B service quality treat B2B relationships as homogenous (Holmlund 2004, Laing and Lian 2005). However, service quality may vary in its impact by relationship stage (Gounaris and Venetis 2002). The majority of studies bring a sector specific emphasis, e.g. industrial products (Cunningham and Roberts 1974), distribution (Bienstock *et al*. 1997), shipping (Mehta and Durvasula 1998, Durvasula *et al*. 1999) or safety equipment (Jayawardhena *et al*. 2007, Zolkiewski *et al*. 2007). Consequently, they lack generic applicability and simplicity (e.g. of SERVQUAL).

These weaknesses suggest expanding understanding by considering

RQ1: *Which dimensions are critical to defining B2B service encounter quality?*

2.2. *Attribute impact on (dis)satisfaction*

Researchers consider: (1) the varying effect attributes have on (dis)satisfaction and (2) how the impact strength of attributes varies (Bitner and Hubbert 1994, Bartikowski and Llosa 2004, Vargo *et al*. 2007). Theoretical development of attribute impact on (dis)satisfaction draws on diverse fields including human resource management (Herzberg 1959), marketing (Swan and Combs 1976, Maddox 1981, Stanworth 2009) and engineering (Löfgren and Witell 2005).

Cadotte and Turgeon (1988) classify satisfiers, dissatisfiers, critical and neutrals to effectively coalesce prior theory (Vargo *et al*. 2007). Satisfiers lead to positive perceptions, absence or indifferent performance does not dissatisfy and they can act as differentiators. Dissatisfiers lead to negative perceptions of poor performance, or absence of the attribute. Criticals provoke positive and negative perceptions while neutrals evoke no consumer evaluation.

Terminology varies, but studies in service marketing (Johnston and Silvestro 1990, Johnston 1995, Oliver 1997, Stanworth 2009) support Cadotte and Turgeon's (1988) classification of satisfiers, dissatisfiers and criticals. As neutrals provoke no consumer evaluation they sit in the zone of tolerance. Given researchers' emphasis on factors significant to influencing service quality, i.e. outside the zone of tolerance this can explain the lack of support for the neutrals category.

The comparative impact of attributes also varies. Dissatisfiers are likely to impact (dis)satisfaction to a greater degree than satisfiers (Vargo *et al*. 2007). Consumer responses to dissatisfaction are more extreme than for satisfaction and the effect lasts longer because of the, 'disproportional emphasis on the negative response' (Giese and Cote 2000, p. 13). Prospect theory (Kahneman and Tversky 1979) provides further explanation of the relative impact of satisfiers and dissatisfiers on (dis)satisfaction (Ting and Chen 2002, Vargo *et al*. 2007). Under prospect theory, the impact of gains and losses represents as value on an asymmetric s-shaped curve. Gains appear on concave and losses on the convex portion of the curve. Three characteristics derive from theory: (1) an individual's point of reference defines gains and losses; (2) the impact on value is greater for losses than gains and (3) there is decreasing sensitivity at the margin to gains and losses. This reveals three important effects of the impact of satisfiers and dissatisfiers (Vargo *et al*. 2007). First, because of greater perceived losses, dissatisfiers have a greater impact on (dis)satisfaction than satisfiers. Second, consumers will be very sensitive to attempts to mitigate dissatisfiers if they are close to the reference point. Third, increasing presence of satisfiers is of little benefit if evaluation is higher than the reference point.

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This study concerns B2B service quality impact on (dis)satisfaction. The extant literature considers service quality impact on (dis)satisfactory outcomes in the B2C sector (Johnston 1995, Ting and Chen 2002, Stanworth 2009). However, we lack understanding of this mechanism in the B2B context.

2.2.1. *Impacts of service quality on B2B (dis)satisfaction*

Studies of B2B show service quality impacts trust development (Gounaris and Venetis 2002, Doney *et al*. 2007), satisfaction (Ennew and Binks 1999, Caceres and Paparoidamis 2007) and commitment (Caceres and Paparoidamis 2007, Doney *et al*. 2007). However, few studies consider the impact of attributes on B2B encounter (dis)satisfaction.

B2B relationships evolve through different stages explained by specific behaviours and duration (Laing and Lian 2005). Long-term deep relationships characterise as sequences of episodes of interactions (Holmlund 2008) that continue over multiple years (Laing and Lian 2005). These processes of interaction mean that mutual understanding of service expectations develops between partners. This makes deep relationships substantially different from early stage relationships (Laing and Lian 2005). At the dimension level, service quality varies in its relevance by relationship stage (Szmigin 1993, Gounaris and Venetis 2002). We lack understanding about the impact of service encounter quality and (dis)satisfactory outcomes in long-term deep relationships. Therefore

RQ2: *How does service encounter quality relate to (dis)satisfactory outcomes in deep relationships?*

3. Method and data collection

3.1. *Method*

Since the literature on B2B service quality and its impact on (dis)satisfying outcomes is not yet developed an exploratory qualitative approach is appropriate. Specifically, the CIT was chosen (Flanagan 1954). This approach is appropriate for exploratory service research (Gremler 2004, Butterfield *et al*. 2005). It is also consistent with this study's objectives of defining quality attributes outside the zone of tolerance (Johnston and Silvestro 1990, Stanworth 2009) and relating attributes and outcomes (Vargo *et al*. 2007). CIT allows (a)synchronous data collection and relates attributes to outcomes; thereby avoiding multiple phases of data collection for the study's objectives. The efficiency and flexibility of the CIT suits the B2B context where access is difficult to achieve.

The CIT gathers observations as short descriptions or stories (Bitner and Hubbert 1994). An incident is critical if, 'it contributes or detracts from the general aim of the activity in a significant way' (Bitner *et al*. 1990, p. 73). A valid incident fulfills four criteria: (1) involves purchaser–supplier contact, (2) is (dis)satisfying from the customers' view, (3) represents a discrete episode and (4) is clear enough for the researcher to grasp fully (Flanagan 1954, Bitner *et al*. 1990).

3.2. *Data collection procedure*

The design of the CIT collection form follows the question structure Stauss (1993) adopts. The informants supplied their location, service type purchased and then answered the following question:

- Please think of a time that you were satisfied or dissatisfied with the service given by your provider in Taiwan, for example, the service provider did something unexpected (it could be good or bad). Please tell me what happened in this particular incident. Write as you wish in a manner that you feel comfortable with.

The question design allows informants to choose either a (dis)satisfying experience, frames the context to provider interaction and encourages respondents to answer in a natural manner. Subsequent probing questions explore the incident:

- During this incident, what did you do or say to the company representative?
- During this incident, what did the representative from the firm do or say?
- Who or what was the central issue in this particular incident?
- What specifically made you feel the incident was satisfying or dissatisfying?

Pilot tests with three small and medium enterprise firms (two Canadian, one American) led to minor adjustments in question phrasing. A commercial internet survey site hosted the final instrument for data collection.

3.2.1. *Sample*

Purposive sampling involves defining characteristics to access respondents with deep insights into the subject of interest (e.g. Patton 2001). By defining characteristics related to the study's objectives, this approach overcomes weaknesses in other sampling techniques (e.g. convenience sampling). However, the researcher must relate objective characteristics sensitively to sample choices to avoid bias (Patton 2001, Saunders *et al*. 2009). The purposive sample defines

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respondents as those from American and Canadian firms with less than 250 employees and who imported from Taiwan. In a firm of this size, managers or owners alone make the key decisions and this differs from the management complexity of larger firms (McCartan-Quinn and Carson 2003). Also this focuses on purchaser–seller interaction. The researcher drew from two databases for the American (TAITRA 2011) and Canadian (Canadian Intellectual Property Office 2011) sample. The researcher's review found these Governments' databases a comprehensive sampling frame. Taiwan is a globally significant manufacturing supplier (Bureau of Foreign Trade 2008) in high-technology component production and assembly (Word 2009) and has a global impact on the semiconductor industry (Matthews 1997). Its dependence on purchaser–seller service encounters makes an appropriate context for study.

The firms' owners received an e-mail that gave the study's objectives invited participation and gave a link to the online CIT form. Some respondents completed the form online. In the subsequent 5-week period, the researcher systematically secured further responses via VOIP calls. The researcher took care that respondents met the required characteristics; in particular deep experience with a partner in Taiwan. The interviewer recorded responses to the online CIT form during the interview and afterwards checked accuracy with computer software recordings of these calls.

The researcher contacted 542 firms to establish if they satisfied the sampling criteria, above, and were willing to participate. In all, 82 firms satisfied these requirements. After data collection, removal of incomplete responses left responses from 65 firms. Most informants are American (72%), from small firms (i.e. fewer than 50 employees) (74%) and have relationships of more than 6 years with their supplier (69%). On average, respondents have relationships of 5.1 years and all in shorter durations intend to stay with their supply partner. These factors give confidence that the sample effectively accesses those with experience of deep long-term relationships (Laing and Lian 2005).

The Canadian informants have roughly equal numbers of (dis)satisfactory incidents. The USA group reports more satisfactory than dissatisfactory events. Most informants are either in manufacturing or design (73% of the service types) and have a high-level of supplier contact (74% with more than five transactions in the last 6 months).

3.2.2. *Data analysis*

The unit of analysis can be either the entire critical incident (e.g. Flanagan 1954, Bitner *et al*. 1990, Meuter *et al*. 2000) or discrete parts of the CIT (Johnston 1995, Keaveney 1995). Each incident averages 187 words which exceeds the experience of other researchers, e.g. Johnston's 30 (1995). The comparative richness of the data in this study infers confidence in analysing discrete judgements within the CIT. Such judgements are 'moments of truth' (Normann 1984) in service encounters. Therefore, an incident describing judgements of both 'price' and 'delay', fits into two categories: 'money' and 'delayed delivery'. The coding process involves careful and iterative steps of (re)forming codes and (re)assigning data to each heading using the qualitative analysis software *Xsight* as support. The analysis process results in 272 critical judgements, i.e. an average of 4.4 critical judgements per incident. This compares favourably to Keaveney's (1995) with 4.2 and to Johnston's (1995) 1.5 incidents for each CIT. In CIT studies, the number of judgements varies greatly but numbers exceeding 250 are satisfactory for analysis (Gremler 2004). The data provides a sound base for analysis as it compares favourably with other studies and meets accepted thresholds for judgement size.

After coding, inter-judge reliability checks improve the quality of the analysis (Butterfield *et al*. 2005). Two more coders fitted the data to the categories. Where there were significant differences between the coders, discussion led to clear category descriptions and data segments. As a final check, a further two coders assigned the data to categories, with an agreement level of 87% and 84% for dissatisfying and satisfying judgements, respectively. These agreement levels are above the recommended 80% (Gremler 2004) supporting reliability of the current categories (Appendix).

4. Findings

Findings show eight main dimensions of B2B service encounter quality (Table 1). The findings draw from almost equal proportion of (dis)satisfied incidents. Large proportions (70%) of the respondents reporting a dissatisfactory incident are willing to refer their supplier.

Conversely, a group (17% of respondents) reporting a satisfied incident but unwillingness to refer their supplier. Taken together, this is interesting because it points towards respondents distinguishing between encounter specific quality and overall service quality in B2B contexts (Bitner and Hubbert 1994, Jayawardhena *et al*. 2007).

Three dimensions (basic capability, communication and relationship) share commonalities with Jayawardhena *et al*.'s (2007) B2B service

Table 1. Classification of B2B service encounter incidents.

Determinant categories	Satisfying incidents			Dissatisfying incidents			Total		
	No. of critical judgements	Percentage of critical judgements	Percentage of critical incidents[a]	No. of critical judgements	Percentage of critical judgements	Percentage of critical incidents[a]	No. of critical judgements	Percentage of critical judgements	Percentage of critical incidents[a]
Basic capability	–	–	–	12	9.0	12.0	12	4.4	5.4
Relationship	19	13.8	13.9	9	6.7	8.4	28	10.3	11.4
Communication	25	18.1	15.8	27	20.1	19.3	52	19.1	17.4
Attitude	15	10.9	10.9	11	8.2	9.6	26	9.6	10.3
Specification conformance	8	5.8	6.9	17	12.7	20.5	25	9.2	13.0
Time and money	30	21.7	18.8	58	43.3	30.1	88	32.4	23.9
Flexibility	24	17.4	17.8	–	–	–	24	8.8	9.8
Resolution	17	12.3	15.8	–	–	–	17	6.3	8.7
	138	100.0		134	100.0		272	100.0	

Note: [a]Percent sums to greater than 100 due to multiple judgements per incident.

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encounter quality. The remaining five dimensions extend current theoretical understanding.

Basic capability relates to resources available for services available for service delivery. Others refer to structural quality (Homburg and Garbe 2001) and to competence evidences in qualifications and being informative (Morris and Davis 1992, Seth *et al*. 2006, Jayawardhena *et al*. 2007). However, findings in this study emphasise the ability to overcome obstacles. This likely reflects long-term relationships where competence is assumed (i.e. within the zone of tolerance) but ability to address obstacles draws attention. Communication in the extant literature emphasises information sharing (Homburg and Garbe 2001, Seth *et al*. 2006, Jayawardhena *et al*. 2007, Zolkiewski *et al*. 2007). However, this study's focus on partnering relations reveals that communication focuses on consensus. This applies when purchasers and suppliers need to accommodate complex involvement requirements (Tuli *et al*. 2007). Relationship reveals suppliers' intention through investments. Relationship-specific investments refer to knowledge (Yorke 1990) and other adaptations (Eyuboglu and Buya 2007). This relationship-specific investment differs from mere friendliness in relationships (Homburg and Garbe 2001, Jayawardhena *et al*. 2007).

This study reveals five additional dimensions of B2B service encounter quality. This is a useful development to existing literature (Jayawardhena *et al*. 2007). Specification conformance concerns encounter outcomes, i.e. technical quality (Grönroos 2000, Homburg and Garbe 2001) or output quality (Gounaris 2005b). Respondents, largely from manufacturing, emphasised product meeting expectations. However, in other contexts, technical advice may apply (Zolkiewski *et al*. 2007). Time and money share some conceptualisation with product/service exchange (Woo and Ennew 2005) in that both concern time schedules and budgets. Respondents refer to sacrifice between benefits received and time and money investments. This suggests respondents' broad evaluation of costs against their ability to recover them in the value chain is a consideration (Holmlund and Kock 1995).

Flexibility involves meeting purchasers' changing needs. At a specific level, it includes expediting shipments but more fundamentally adaptation of team capabilities by suppliers and proactively offering solutions is important (Morris and Davis 1992, Seth *et al*. 2006). Attitude is unique to this study and without overlap to extant definitions of service quality. Its appearance in this study can concern the context of long-term deep relationships. The approach to perform tasks in the encounter reveals motives and intentions of partners (Ganesan 1994), which enables interpretation of the relationship (Holmlund 2004).

Resolution allows for solving potential and actual problems. Both Zolkiewski *et al*. (2007) and Cunnigham *et al*. (1974) report the purchasers' expectation of effect problem solving. Woo and Ennew (2004) also emphasise cooperation in collaborative problem solving.

The eight dimensions of encounter quality represent the specific B2B context. The B2B context requires this specific development (Bienstock *et al*. 1997, Mehta and Durvasula 1998, Durvasula *et al*. 1999, Chen *et al*. 2009) and extension of limited research on B2B encounter quality (Jayawardhena *et al*. 2007). The eight dimensions offer concise insight for purchasers and suppliers to manage encounter quality. Understanding the impact of quality on outcomes increases the effectiveness of this process.

5. Determinants of B2B encounter (dis)satisfaction

(Dis)satisfaction in B2B encounters results from:

- Flexibility and resolution. These are uniquely satisfying and labelled drivers.
- Basic capability. This is uniquely dissatisfying and labelled the basic.
- Relationship, communication, attitude, specification conformance and time and money. These lead to both satisfactory and dissatisfactory outcomes and are called *facilitators*.
- The proposed model (Figure 1) represents how the basic, facilitators and drivers associate with alternative outcomes. This is important as the literature lacks this critical perspective.

Figure 1 indicates how suppliers can influence purchasers' satisfaction through encounter service quality. This operates on the assumption that by achieving goals (i.e. expectations and needs) both parties are better off. A break with this assumption leads to (dis)satisfaction and defines opportunities for learning (Lusch *et al*. 2008). This enables parties to understand how to improve delivery of value through the relationship. This aligns with concern with process and value within relationships in service science (Lusch *et al*. 2008, Vargo 2009).

The Basic has the properties of a dissatisfier (Cadotte and Turgeon 1988). This indicates that a supplier should reveal the Basic to purchasers since this represents their minimum expectation (Vargo *et al*. 2007). This dimension results in, at maximum, a neutral outcome so suppliers should avoid overly concentrating on this aspect. The fact the Basic represents suppliers' abilities reflects a relationship orientation: transaction emphasis would likely focus on specification conformance.

Facilitators associate with both (dis)satisfactory evaluations (as criticals). Communication illustrates how facilitators operate uniquely as (dis)satisfiers. Communication is focal in a relationship (Doney *et al*. 2007) to develop shared understanding. A lack of or minimal communication dissatisfies due to unclear goals. Proactive communication clarifies goals and provides opportunities to anticipate problems and opportunities. Suppliers should systematically eliminate dissatisfaction from the Facilitators to achieve the greatest impact (Kahneman and Tversky 1979, Mahesh and Stanworth 1995, Vargo *et al*. 2007).

Drivers, with the properties of satisfiers, involve exceeding expectations and so are satisfying. Within drivers, flexibility ('process articulation') is an effective predictor of satisfaction (Tuli *et al*. 2007). Suppliers will find that the effect of investment in drivers increases as they reduce dissatisfaction, particularly with the facilitators (Mahesh and Stanworth 1995, Vargo *et al*. 2007).

6. Limitations and directions for further research

This study has several limitations. The use of CIT ignores items in informants' zone of tolerance (Johnston 1995). Further research could both validate the findings in this study and explore elements within the zone of tolerance. This would provide a more complete understanding of B2B encounter service quality. A further limitation of CIT is the possibility of post-event rationalisations based on recent encounters (Butterfield *et al*. 2005). However, the researcher assumes that the CITs represent a reasonable connection between events and evaluations. For example, failure to address problems likely leads to purchasers' dissatisfaction. Correction in the future could avoid this negative evaluation. Our sampling relates to a specific location (Taiwan) and our results could be biased to this context. Our data draws from

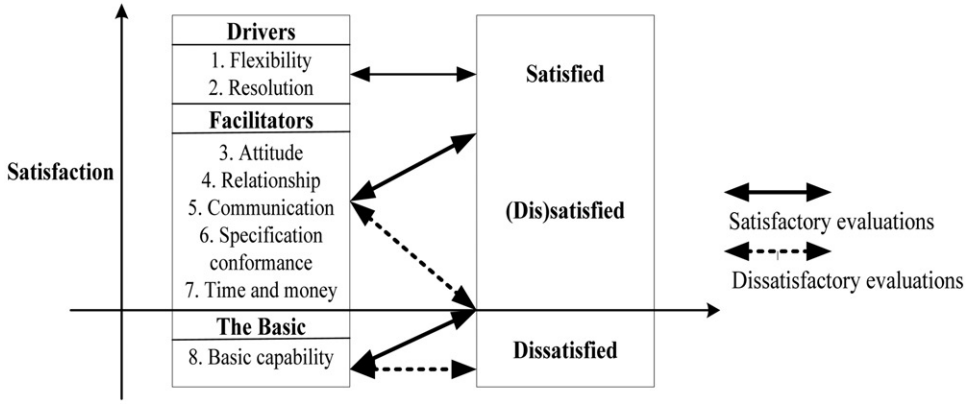

Figure 1. Modelling B2B encounter service and outcomes.

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respondents in deep relationships and suppliers in these enduring connections are likely to have learned, understood and attempted to respond to service quality parameters defined by purchasing partners (Lusch *et al*. 2008). This suggests that our work represents a generic interpretation of B2B service quality. However, further work could usefully and critically examine the generic applicability of our findings. Adopting a quantitative approach would usefully enable construct development for further testing of the relationships this study reports.

Respondents in this study reflect the broad context of relational exchange (Dwyer *et al*. 1987). Relationships have distinct stages (e.g. Laing and Lian 2005) and these may vary in their association with the dimensionality of service quality (Gounaris and Venetis 2002). Further research could usefully tighten the definition of the relationship stage, and this would facilitate exploring the impact of service encounter quality on relationship stage.

This work is anchored within the domain of service science. This area, philosophically supported by service dominant logic, is nascent (Lusch and Vargo 2006). Understanding how extant notions of B2B service quality and satisfaction relate to service science requires resolving. This study poses the rich opportunity to understand how resources, central to the service science perspective (Vargo and Lusch 2004), relate to the definitions of service quality and connect to satisfaction the researcher reports here.

Overall, this study represents a modest but important development in the understanding of B2B encounter service quality that can encourage further research.

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Notes on contributor

James O. Stanworth is a faculty in the Department of Business at National Changhua University of Education, in Taiwan, ROC. James received his DPhil from the University of Buckingham in the UK. Before leaving England, where he was born, he was a business consultant concerned with the design and improvement of service in enterprise partnerships. Now based in the Far East, he focuses his research on localisation of service design and delivery to Chinese contexts.

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Appendix

Table A1. Dimensions of B2B service encounter quality.

Dimension	Explanation	Sub-dimensions	
Basic capability	The supplier's ability to manage technical obstacles	• Problem solving	• Informants' action
Relationship	The supplier's relationship investment and the way the two parties develop knowledge	• Personal relationship • Travel	• End customer relationship • Informants' reputation
Communication	Clarifies outcomes and processes to enable a meeting of minds on goals between the informant and supplier	• Understanding • Use of technical language • Frequency of communication	• Response • Proactive • Change notification • Language use
Attitude	The suppliers willingness to achieve results	• Honesty • Willingness • Cooperation	• Responsibility • Caring
Specification conformance	The quality of products meets promises or partner's expectations	• Specification conformance	
Time and money	The supplier's delivery timeliness, response times, issue resolution leads to considerations of both financial and other costs	• Delivery time • Response time • Resolution length	• Money • Time
Flexibility	The supplier's effort to create an acceptable solution or even go beyond partner expectations	• Appropriate design • Modifications • Appropriate sample	• Supplier training • Adaptability
Resolution	The supplier's focuses on solving actual or potential failures		