Nature and Role of Customer Satisfaction in the Business of Solutions

Frank Jacob
frank.jacob@escpeurope.eu Germany ESCP Europe
Ulrich Kleipass
ulrich_kleipass@de.rolandberger.com Germany ESCP Europe
Alexander Pohl
alexander.pohl@hwpartners-ag.com Germany HW Partners

Competitive paper

1. Introduction

The dynamic nature of markets and the ever increasing extend of competition puts the permanent quest on companies to constantly look out for new ways to differentiate against other suppliers in order to survive (Alderson, 1957; Day &Wensley, 1983; Morgan & Hunt, 1994, Hunt & Morgan, 1995). As a possible way on business markets in particular to durably attain differentiation it has been suggested to implement what is labeled a strategy of customer solutions (Ceci, 2009). Solutions in this sense can be understood as "combinations of products and services that solve specific problems" for a customer (Davies, Brady, &Hobday, 2006, p. 43; for an overview on definitions see Toellner, Blut, &Holzmueller, 2011). "It is the level of customization and integration that sets solutions above products or services or bundles of products and services" (Johansson, Krishnamurthy, &Schlissberg, 2003 p. 118; see also Tuli, Kohli, &Bharadwaj, 2007) and, thus, inevitably must lead the supplier to attain and maintain a competitive advantage.

However, research results on the effectiveness of a solutions strategy are inconclusive. On the one hand, Prencipe et al. (2003) for example provide anecdotal evidence based on case study research for the positive contribution from a solutions strategy to firm performance. In contrast to this, Hancock et al. (2005) paint a much less enthusiastic picture based on industry survey data that is not able to generally support a positive effect. We conjecture here that this

inconsistency is at least partly due to the omission of a contingency parameter that has been disregarded in studies so far: customer satisfaction. Typically, research in this context focuses on the link between the degree of implementing a solutions strategy within a company and this company's overall business performance (e.g. Smirnova, Naudé, Henneberg, Mouzas, &Kouchtch, 2011; Fang, Palmatier, & Evans, 2008). The level of correlation between the two parameters is used to judge the supposed causality. Despite the general endorsement it certainly merits, this approach neglects the pivotal role of the customer within the chain of effects between company strategy and company performance (cf. Simonson, 2005). This role is particularly stressedin Heskett's service-profit chain (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994) where customer satisfaction is introduced as the one mediator indispensable for explaining the effectiveness of any operating strategy. There is no plausible reason for dispensing the validity of this rule in the context of a solutions strategy. Thus the specific goal of this paper is to reveal specific effects of a solutions strategy on customer satisfaction. By doing so we hope to provide better judgment on the general advisability of a solutions approach to market differentiation and also disclose in more detail customer related drivers and constraints relevant to the success of a solutions strategy. To our knowledge, this is novel to literature in marketing.

In the remainder of this paper we first consider some extant theoretical and empirical findings to back up a general framework for understanding customer satisfaction with respect to the business of solutions. We will then present a first study based on an interview series and content analysis that helps us to pinpoint and define more precisely the categories for this endeavor. Based on this we will develop a set of hypothesis on solution specific antecedents and consequences of customer satisfaction. Structure and results of a larger and more structured survey designed to validate these hypothesis will then be presented. We finish with a discussion of implications for theory and practice.

2. Theoretical Background

Solutions as a strategy

The origins of solutions as a strategic approach to creating a competitive advantageon a market can be traced back to very early and fundamental work in strategy research. In 1967,Ansoffand Stewart proposed a taxonomy of four basic types of marketing strategy that included ‘application engineering’in addition to ‘first to market’, ‘follow the leader’, and ‘me-too’. The strategy of application engineering was described as: “based on product modifications to fit the needs of particular customers”(Ansoff& Stewart, 1967, p. 81). Thereby, these authors with the ‘application engineering’ option anticipated what is now called a solutions strategy. In the same vein, Wheelwright in 1984 identified manufacturing flexibility supporting such a strategy as a major priority for achieving competitive advantage (Wheelwright, 1984). Lampel and Mintzberg contrasteda logic of individualization against a logic of aggregation in strategic planning. The latter characterizes a company perspective viewing customers and their demand as merely homogeneous in nature and justifies mass production and product standardization becoming the strategic paradigm for a company. A logic of individualization, however, acknowledges the relevance of individual customer idiosyncrasies and bears support for an approach to business where “ the individual customer can be deeplyinvolved in every aspect of the transaction and expectskey product decisions to be negotiated jointly” (Lampel&Mintzberg, 1996, p. 23). This logic of individualization could thus be considered a broader concept encompassing solutions. Theses authors also observe a global trend towards more individualizing in modern markets.

While these voices were more descriptive or sometimes normative in nature, other authors have tried to decipher the success mechanisms behind a solutions strategy more analytically. The supremacy of solutions can be explained by drawing on the concept of customer value (cf. Sawhney, 2006). Generally, customer value is understood as the customer’s “overall

assessment of the utility of a product based on perceptions of what is received and what is given" (Zeithaml, 1988, p. 14; see also Anderson &Narus, 1998) in a market exchange. Solutions maximize value to the customer by bringing the customer's benefit received from an exchange to its maximum. This is achieved by designing product/service features and creating product/service functionality so that they perfectly match idiosyncratic and individual customer requirements (Brady, Davies, & Gann, 2005a). Consequently, a supplier of solutions is put into the comfortable position to fully leveragethe benefit delivered by applying a pricing strategy that indexes the value created for the customer (Franke, Keinz, & Steger, 2009; Roegner, Seifert, &Swinford, 2001). This implies maximizing a customer advantage and a supplier advantage simultaneously (Sharma &Iyer, 2011).

Industry data supports the notion that companies on business-to-business markets in particular adhere to this formula in order to secure market success (Frauendorf, Kaehm, &Kleinaltenkamp, 2007). Based on this insight we can argue that customer solutions as a strategy has become widely accepted in practical marketing and also very topical in marketing research.

The shift from product to capability

It has been pointed out that following a solutions strategy has many implications for the way a company defines their own offering (Windahl, Andersson, Berggren, &Nehler, 2004). Perhaps the most noticeable change pertains to the final product and its role in marketing. While, traditionally, pre-manufactured products were an input contributed by the supplier into transactions they now become an output jointly created by both supplier and customer. Thus, 'product' is deprived to a large extend of its power as a stimulus for customers to buy and as a marketing instrument for the supplier (Kleinaltenkamp, Ehret, &Fließ, 1996). It is, therefore, suggested that companies should re-conceptualize their own offering by shifting focus from products to capabilities (Storbacka, 2011; Shepherd & Ahmed, 2000). It is a company's pool

of resources and its set of competencies that determines their ability to really develop profound solutions and their attractiveness in the eyes of a solutions customer (Li, 2011). Capabilities replace product as a category in marketing planning and action. One study (Jacob, 2006) provides support to this contention by presenting empirical evidence for a positive effect from an overall organizational competence (referred to as customer integration competence) on overall market effectiveness. Several authors (e.g. Shepherd & Ahmed, 2000; Dhar, Menon, &Maach, 2004; Ceci, 2009) set out to identify more detailed capability profiles for the solutions business. Somehow eminent thereby is the consent on the relevance of capabilities in customer consultancy. Formally this specific capacity can be understood as"the ability of an organization to understand the needs of its customers and tailor solutions to those needs"(Ceci, 2009, p. 30). Reasons why a supplier's consulting capabilities are so essential in the business of solutions lie in the amount of customer uncertainty that characterizes the nature of demand for solutions. Typically, customers perceive great difficulty in expressing the character of their very problem and in articulating it to their supplier (Tuli et al., 2007; Simonson, 2005; Kleinaltenkamp et al., 1996). Suppliers can meet this challenge by introducing a consultancy dimension into their market offering (Helander& Moeller, 2008). Consulting then includes the clarification of open issues in specifying customer requirements and evaluating alternative routes for meeting those (see Toellner et al., 2011). For an approach that makes consulting a permanent component of a supplier's market offering and its selling activities the term "consultative selling"has been coined (Hanan, 1986). Today, in the sales literature consultative selling is considered as most consistent with the general emphasis on value and value-based marketing (Anderson, Narus, &Narayandas, 2009; Le Meunier-FitzHugh, Baumann, Palmer, & Wilson, 2011).Consequently, customer consultancy capabilities can be considered as a distinguishing feature for a supplier's offering aiming at customer solutions.

Solutions as a service

Wise and Baumgartner (Wise & Baumgartner, 1999) count customer solutions as one out of four ways for a manufacturing company to complete the transition from product to service on business markets – in addition to product related services, product embedded software, and entering deeper into your distribution channel. They, thus, stress the reciprocity of relevance between solutions and service (see also Davies, 2003; Salonen, 2011). Others make the link between solutions and service by pointing to specific service characteristics in customer solutions: intangible competencies replacing tangible productfeatures as unit of marketing planning and the strong emphasis on resources as input into transactions against products as merely output (e.g. Le Meunier-FitzHugh et al., 2011, Matthyssens&Vandenbempt, 2008; Vargo&Lusch, 2008). In their foundational publication on the service-dominant logic for marketing Vargo and Lusch argue that customization aiming at "designing evolving offerings that meet customers' unique, changing needs" (Vargo&Lusch, 2004p. 11) is one of the most prevalent manifestations of customer coproduction which, in turn, constitutes a defining characteristic of service (see also Lusch&Vargo, 2006). The argument is repeated by Tuli, Kohli and Bahradwaj who state that "customer solutions embody the new service dominant logic" (Tuli et al., 2007, p. 1; similar Cova& Salle, 2008). Consequently, drawing on insight that has been developed for understanding the nature of service seems also promising for exploring the mechanisms behind a customer solutions strategy.

Fundamental to the understanding of service is the concept of satisfaction. In conjunction with quality (Zeithaml, Berry, &Parasuraman, 1988) it is considered a most relevant determinant for buying behavior with respect to services. Customer satisfaction can be understood as "a function of the discrepancy between a consumer's prior expectations and his or her perception regarding the purchase experience" (Iacobucci, Ostrom, & Grayson, 1995, p. 278), a definition that is commonly referred to as the disconfirmation paradigm. Experience either matching or exceeding expectations indicates satisfaction, falling short of expectations points to dissatisfaction. Satisfaction hereby is understood as a multi-dimensional concept, meaning

that experience and expectations pertain to more than a single dimension characterizing demand and offering. Overall satisfaction is the compositional result of all sub-dimensions and considered as their aggregation. This understanding of satisfaction has been guiding for the development of the often cited SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1988).

Heskettet al. haveused this insight to formulatethe service-profit chain, subsumed in the following quotation: “Profit and growth are stimulated primarily by customer loyalty. Loyaltyis a direct result of customer satisfaction. Satisfaction is largely influenced by the value of servicesprovided to customers” (Heskett et al., 1994, p. 164).In the marketing strategy discipline, this rule is considered to be stronger in predicting real company performance than standards that dominated previously such as a market share to profitability link (e.g. Doyle, 2000). Theservice-profit chain framework highlights the pivotal role of customer satisfaction in explaining the creation of profitability and efficacy of a business. While this is not new in general, we see some uncharted territory when applied to a strategy of customer solutions. It is the consulting dimension in particular that constitutes the service nature of customer solutions. Consequently, satisfaction with a supplier’sconsulting efforts deserves our closer attention. Put differently, a supplier’s performance in assisting his customer in clarifying and specifying the requirements behind a customer problem and evaluating alternative routes for problem solving is of paramount importance in understanding whether and how a strategy of customer solutions can lead a company to a better business and market performance.

After having set forth the nature of customer solutions as a strategy, the importance of consulting capabilities for a solutions offering, and the specific role of satisfaction in making a solutions strategy viable we are now able to demarcate the specific research goals that guided our efforts here: (1) identify within the domain of consulting capabilities the

antecedents of customer perceived consulting satisfaction in the context of solutions; (2) examine outcomes from consulting satisfaction in solutions within the categories of the service-profit chain; and (3) suggest practical implications for providers of customer solutions with respect to consulting satisfaction. The general setting for our research is business-to-business markets.

3. Research model and category development

For the development of research models on satisfaction it has been suggested to start from a comprehending research perspective (Parasuraman et al., 1988).To provide for this, we opted to follow the mixed-methods paradigm that allows for the integration of both deductive reasoning based on established theories and inductive reasoning based on newly created qualitative data (Johnson &Onwuegbuzie, 2004). Within the mixed-methods paradigm we applied an exploratory design (Cresswell& Plano Clark, 2011) where a qualitative study aiming at defining categories and generating a system of causal links between them precedes a quantitative study taking the results of the first step to a test.

As a start, we invited 20 IT and purchasing professionals with project experience from the customer side in solutions buying to participate in an interview series. IT projects were chosen since this sector is deemed to be particularly relevant for a strategy of customer solutions, in the words of Ceci "… it is one of the largest and most important sectors in which the integrated solutions trend has taken hold" (Ceci, 2009, p. 24). For our selection we looked at company size and chose larger companies. This was done to secure expertise and professionalism of respondents just as looking at significant amount of budget spend on IT. Based on a structured interview guideline all experts were asked to elucidate their perception on the emergence of satisfaction (or dissatisfaction) within a specific project they had done with an IT-solution providerpreviously. After following a procedure as suggested by Mayring (2000) of carefully transcribing, unitizing and coding the interviews, eight main antecedents

of both consulting satisfaction and general customer satisfaction could be derived through a frequency analysis (see table 1). Moreover, through our interviews it was also possible to preliminarily validate the relevance of loyalty as anoutcome of consulting satisfaction as insinuated by the service-profit chain. In addition to that, trust emerged as of similar relevance. Although not an explicit component of the service-profit chain framework its proximity to loyalty is stressed oftentimes (e.g. Soellner, 1999).

The result of this step is a conceptual model that focuses on consulting satisfaction as a key variablemediating between perceived supplier consulting capabilities as origins and customer trust and loyalty as outcome. Our model is depicted in figure 1.

4. Hypotheses development

After having developed this first conceptualization from qualitative data insights we were able to look closer at causalities and check for more consistency with extant literature. This enabled us to develop a set of hypothesis that could later be submitted to systematic empirical testing.

Supplier capabilities as antecedents of consulting satisfaction

Expertise.This construct is defined as the presence of knowledge andability to fulfill a task (Parasuraman et al., 1988). In the context of solutions, relevant knowledge pertains to customer processes and supplier technologies (Ceci, 2009). Research has shown that sales personnel's perceived expertise enhances their credibility as problems solvers for the customer (Homburg & Stock, 2005). We thus put forward:

H1: The better the customer evaluates a solution provider's expertise, the higher his consulting satisfaction with the supplier.

*Project management.*Solutions for business customers can often be characterized as project-driven, so that a higher degree of customer integration and project management skills is required from the provider (Brady, Davies, & Gann, 2005b). Project management as such entails the skills and knowledge that allow a provider to plan, conduct and control a project so that all set goals can be reached (Stratman& Roth, 2002). We purport:

H2: The better the customer evaluates a solution provider'sproject management capacity, the higher his consulting satisfaction with the supplier.

*Information exchange.*Information exchange can be defined as a supplier's ability to openly share information that may be useful to both parties in a working relationship (Cannon &Perreault, 1999). With increased information exchange before and during the solution process the customer has the chance to specify his requirements more precisely (Franke et al., 2009). In turn, this should induce him to increase his confidence in eventually obtaining a better solution:

H3: The better the customer evaluates a solution provider's exchange of information, the higher his consulting satisfaction with the supplier.

*Understanding.*According to Hallén and Sandström (Hallén&Sandström, 1991) understanding is one party's capability in a working relationship to appreciate, understand, and sympathize with the situation, conditions and problems encountered by the other party. For solutions in particular, it can be assumed that through understanding providers are in the position to offer more attractive and customized solutions as more customer-specific knowledge is present (Dannenberg &Zupancic, 2009).

H4: The better the customer evaluates the understanding capacity of a solution provider, the higher his consulting satisfaction with the supplier.

*Joint working.*Joint working refers to a working style based on cooperation and combined decision making in projects– for instance in a solution process (Homburg, Giering, &Menon, 2003). It has been found to lead to more satisfying project outputs (Mohr &Spekman, 1994). A positive influence on satisfaction has been proposed since both parties participate in choices that are connected (Dwyer &Sejo, 1987).

H5: The better the customer evaluates a solution provider's level of joint working, the higher his consulting satisfaction with the supplier.

*Flexibility.*In a business selling context flexibility was defined as "the extent to which the supplier is willing to make changes to accommodate the customer's changing needs" (Cannon & Homburg, 2001). From a solution's point of view flexibility can be understood as an essential provider capability as (1) customers gain a more and more differentiated view of the solution space possible – leading to different demands – and as (2) business requirements can change during the course of a solutions project. Both factors suggest that supplier flexibility could be beneficial in a solutions project.

H6: The better the customer evaluates a solution provider'sflexibility, the higher his consulting satisfaction with the supplier.

Selling orientation. Organizations – and sales people accordingly – show a high degree of selling orientation, when they seek to stimulate demand for products they produce, rather than producing products in response to customer needs (Saxe &Weitz, 1982). As identifying customers' needs, individually tailoring a solution of customers' pressing demands and continuously supporting a customer are essential elements of a solution, Sheth and Sharma (Sheth& Sharma, 2008) propose that a consultative selling process should supersede the traditional selling approach in this context. In consequence it could be assumed that a selling orientation in a solution project might have a negative impact on consulting satisfaction.

Selling orientation thus is a supplier characteristic that impacts consulting satisfaction reversely:

H7: The higher the customer evaluates the selling orientation of a solution provider, the lower his consulting satisfaction with the supplier.

Technical quality. Technical quality can be understood as the level of how well a solution delivered matches customer expectations with regard to the technical dimension and does so on a consistent basis (Lewis & Booms, 1983). In our interviews respondents repeatedly stressed this aspect. However, taken very rigidly, the technical quality of a project output cannot be considered a facet of consulting capability which is a project input. This duality is owed to a supplier's double role in the solutions business: he is both, an advice giver for the design of a solution and the executor of the design decision. Consequently, technical quality impacts overall customer satisfaction, however, more in parallel to consulting satisfaction than as the latter's antecedent.

H8: The better the customer evaluates the technical quality of the solution, the higher his overall satisfaction with the supplier.

Outcomes of consulting satisfaction

Our study defines consulting satisfaction as a new construct and the result of a buyer's evaluation process in a solution project in which the perceived consulting performance of the provider is compared with the expectations of the buyer. We understand as consulting an individually tailored service of a limited time span that focuses on supporting customers in defining requirement, developing specifications and evaluating alternative approaches to finding the solution. It might even include professional advice in the post-deployment period. Having discussed the potential antecedents of consulting satisfaction we believe that the main impact of consulting satisfaction in a B2B-solution project is threefold:

According to an understanding of satisfaction as a compositional construct we conclude that consulting satisfaction is an important driver of, yet distinct from overall customer satisfaction.

H9: The higher a solution customer's consulting satisfaction, the higher his overall customer satisfaction.

Secondly, consulting satisfaction could have a positive impact on trust. This was uttered by our interview participants and is substantiated from positions in literature on specific implications of consulting services in general(e.g. Ploetner, 2008).

H10: The higher a solution customer's consulting satisfaction, the higher his trust in the supplier.

Thirdly, consulting satisfaction could have a positive impact on (intentional) loyalty, a direct implication of service-profit chain thinking.

H11: The higher a solution customer's consulting satisfaction, the higher his intentional loyalty to the supplier.

Two more effects have been included in our framework that neither end in nor emerge from consultancy satisfaction: one from overall satisfaction on loyalty as also stated in the service-profit chain; and one from trust on loyalty as supported, for example, by Doney and Cannon (Doney& Cannon, 1997). Since these causalities are not part of the specific research question here we refrain fromstating separate hypotheses but will use them for testing the nomological validity of our narrower look on consulting satisfaction.

5. Empirical testing

In order to develop measurements for the constructs in our model we drew on existing and validated scales where ever possible, however made adaptations when ever considered

necessary:We modified the measures for provider expertise from Kennedy et al. (Kennedy, Ferrell, &LeClair, 2001). Items to measure a perceived project management capacity of the supplier were taken from Stratman and Roth (Stratman& Roth, 2002). Measurement items for the supplier aptitude to understand were modified from Leonidou (Leonidou, 2004), while items for supplier flexibility and technical quality of the solution were taken from Homburg (Homburg, 1998). Items 1 to 4 of selling orientation were adapted from Palmer and Bejou (Palmer &Bejou, 1994), while a fifth item was based on our previous expert interviews. Information exchange and joint working as well as trust in the supplier were all three adapted from Homburg et al. (Homburg et al., 2003). For the central construct consulting satisfaction it was possible to some extend to draw on existing work by Walter et al. (Walter, Mueller, Helfert, & Ritter, 2003). Overall customer satisfaction with the main supplier was adapted from Ulaga and Eggert (Ulaga&Eggert, 2006). Finally, the measures for intentional loyalty were taken and modified from Woo and Ennew (Woo &Ennew, 2004) and Zeithaml et al. (Zeithaml, Berry, &Parasuraman, 1996).All measures were reflective in nature bearing the advantage of checking statistically for measurement reliability.

As a setting for empirically testing our hypotheses we choose the IT sector in Germany, primarily for its enhanced responsiveness to a strategy of business solutions (see Ceci, 2009). Concentrating on a single sector may entail limitations for the generalizability of results. However, the benefit is to prevent confounding from respondent heterogeneity what we acknowledged here. Before the main survey, a pre-test with a smaller sample was conducted. The aim was to ensure a good fit between the research instrument and the research context. Moreover, the pre-test was a means to eliminate unnecessary scale items from the initial item pool. In total 31 volunteers with a professional IT background participated. As a result of the pre-test exercise, the questionnaire could be reduced from 51 to 42 items. Moreover, minor adjustments could be made to the wording of single items.All scales are given in appendix 1.

The main study was carried out in collaboration with a major German IT special interest website catering IT professionals. To recruit followers of this website as participants, a short editorial article on IT solutions was published on thesite, complemented by a link to the site containing our electronic survey. Questions in our questionnaire site were built on the pre-test and randomized in order to avoid respondent fatigue. In order to qualify for participation respondents needed to confirm existing experience as project members in IT solutions buying. Data was collected over a three-week period and led to usable responses from 106 IT project customers. Descriptive data shows that all respondents come with a sufficient level of practical experience and professional qualification to serve as informants here. A response rate could not be calculated as it remains unclear how many people, in fact, read the article.

Before submitting our causal model to structural equations modelling we validated our measurement. More precisely, we looked at content validity, construct validity, indicator reliability and discriminant validity. For the first three of this list, an overview on quality criteria for the reflective measurement models can be found in appendix 2. The application of these ratios led to the purification of the measurement models of understanding (1 item eliminated), joint working (1 item eliminated) and selling orientation (2 items).The authors decided to keep all items for the construct information exchange, despite failing to meet thresholds (loadings: 0,69; IR(x): 0,47; item-to-total correlation: 0,46), so that the construct could still be measured through at least three items. Discriminant validity was tested by means of the Fornell-Larcker-criterion. Although in three cases somehow close (overall satisfaction/loyalty; overall satisfaction/consulting satisfaction; loyalty/consulting satisfaction), the AVE of each constructed in all cases exceeded squared correlations with each of the remaining constructs.

After having scrutinized the validity of our measurements we applied a partial least squares algorithm to test the structural model as derived from our set of hypotheses. Although we are

aware of recently expressed concerns on applying PLS on smaller samples like ours (e.g. Goodhue et al. 2007) we deem this variance based approach more appropriate than e.g. co-variance alternatives. Table 2 summarizes the results of this step.As indicated by the R2 valuesthe model explains 75%, 83%, 84%, and 42%of the variance of the four endogenous constructs,consulting satisfaction, overall customer satisfaction, loyalty, and trust respectively. It can hence be referred to as substantial for the first three and at least as moderately substantial for the latter (Chin, 1998). Based on the Stone-Geisser-criterion Q-squared values (0,66; 0,66; 0,74; 0,29) the same characterization applies to the model's predictive validity for the same order of endogenous constructs. Hence, the model would not be rejected. To test the study hypotheses, path coefficients are used. Table 2 indicates that paths emanating from expertise (EXP), understanding (UND) and joint working (JWO) do not meet the requirements for t-values and effect sizes. Moreover, the weight of their path coefficient is rather small (EXP: -0,01; UND: 0,10; JWO: 0,01). As a first result we, thus, conclude that H1, H4 and H5 cannot be supported from out data. In a next step we removed the non-significant paths from the model and did the analysis again. Project management of the supplier (PRM), information exchange (INF), flexibility (FLE) and selling orientation (SOR) have the most significant influences (t = 6,00; t = 2,60; t = 4,59 and t = 1,40) on the main construct consulting satisfaction. The effect sizes f^2 range from small (INF, SOR), over moderate (FLE) to high (PRM) (Chin, 1998). Furthermore, for technical quality (TQU) and consulting satisfaction (CSA) a significant influence could be shown on overall customer satisfaction (SAT). For these constructs moderate (TQU) and high (CSA) effect sizes could be established. Lastly, a significant influence of consulting satisfaction (0,65) on trust (t = 12,58) as well as a significant influence of consulting satisfaction (0,54) on loyalty (t = 5,16), of overall customer satisfaction (0,32) on loyalty (3,16), and of trust (0,11) on loyalty (2,29) could be found. The effect sizes for these relationships range from small (CSA → TRU; SAT → LOY; TRU → LOY) to high (CSA → LOY). Based on this analysis, H2, H3, H6, H7, H8,

H9, H10, H11 cannot be rejected and, therefore, receive supportfrom our data.However, thereof support for H7 is rather weak. Figure 2depicts our findings graphically.

Given the theoretical and empirical foundation of all hypotheses, it seems surprising that H_1, H_4 and H_5needed to be rejected. Thus, we develop one alternative explanation each, how the relationship between the three variables and consulting satisfaction could be interpreted:

- EXP → CSA: Expertise could be a basic requirement

The missing impact of expertise on consulting satisfaction could be based on the fact that expertise is a basic requirement as defined in the Kano-model (Matzler, Hinterhuber, Bailom, &Sauerwein, 1996). A basic requirement here would mean that provider expertise is a minimum requirement in a solution project: Customers would implicitly assume that providers must possess a certain level of expertise. Therefore, the display of profound expertise would not increase consulting satisfaction, but only the absence of it would weaken consulting satisfaction of the customer. As non-linear cause-and-effect relationships cannot be tested for in a structural equation model, H1 would not be confirmed.

- UND → CSA: The role of understanding of the provider could change over time

As for understanding it could be the case that this variable has only a significant impact on consulting satisfaction when the business relationship is still young. This could indirectly also be supported through the work of Leonidou (Leonidou, 2004) who suggests that business relationships with a longer history are characterized by more trust and understanding. For new business relationships the existence of understanding from a provider would therefore be more an exception and less a rule. Once the relationship has matured, understanding from the provider could in consequence change to an evaluation criterion that is again implicitly assumed by the customer and thus does not have a positive impact on consulting satisfaction.

- JWO → CSA: Customers might not be interested in operational co-production of value

Based on our data we could not support that joint working in the sense of joint problem solving and decision making has a positive impact on consulting satisfaction. It could, however, be the case that customers do not want to operationally contribute in the solution process, but only want to reduce their uncertainty by working together on a more general level. In this case the customer would try to reduce his own effort in order to economize on his own input, an argument that has recently been put forward in literature (Dixon, Freeman, &Toman, 2010).

5. Discussion: Consulting satisfaction as a performance driver in the business of solutions

The aim of this two-stage empirical study was to introduce and test the construct of consulting satisfaction, to identify and validate antecedents and to also empirically validate theoretically derived outcomes. It could be shown that consulting satisfaction is of significant importance in the process of a business-to-business solution. It was demonstrated how consulting satisfaction can be understood, how factors influence it and that it has considerable impact on the overall satisfaction, trust and loyalty of customers of solutions.

Implications for marketing science

Research on solutions up to now was described as primarily descriptive in nature and often aiming at category building (Jacob &Ulaga, 2008). With our approach we hope to tap a new dimension of solutions research, i.e. customer related drivers and obstacles. Satisfaction has been shown to be paramount for understanding buying behavior on business markets and consulting satisfaction is an appropriate starting point for more buying research within the domain of solutions. After conceptualizing consulting satisfaction we have been able in our research to develop proposals for anteceding factors and outcomes of consulting satisfaction. Through an empirical analysis four factors could be verified as direct antecedents of

consulting satisfaction (project management capabilities, exchange of information, flexibility, and selling orientation (reverse impact)), and one factor as exerting a parallel impact, i.e. on overall satisfaction instead of directly on consulting satisfaction.

Our research is embedded in the broader stream of the S-D logic school of thinking in marketing. However one of the prominent charges S-D logic with its focus on co-creation has been alleged with is its missing relevance for practical marketing (e.g. Ambler, 2005; Stauss, 2005; Achrol&Kotler, 2006). Introducing and expounding the construct of consulting satisfaction could help to overcome this deficit since it emphasized strongly the role of co-creation and customer integration in the context of integrated solutions. Integrated solutions, however, generally are regarded as most relevant for the world of practical marketing.

Nevertheless, more empirical work should be conducted in marketing in order to support the applicability of our main construct consulting satisfaction in a wider context: First of all, testing the established framework in other industries (e.g. solutions in the high-tech industry) could confirm the transferability of the proposed hypotheses. Secondly, a deeper look into the reasons for not being able to confirm all of our hypotheses is needed. We provided some suggestions where efforts to do so could start from.

Implications for marketing practice

From a provider's point of view, the research presented here stresses the importance of a solution consulting that is tailored to the demands of customers. Yet, our data set indicates that consulting capabilities in solution projects vary strongly across IT providers: A cluster analysis[1] of all research projects pointed to a three clusters solution for grouping all projects in question. Figure 3 shows the profiles of the different projects and the average values of the

[1] The cluster analysis was done using a squared Euclidean distances as a measure for proximity and the Ward method as a grouping procedure. Based on the elbow criterion a 3 cluster solution emerged. An analysis of variance provided evidence that each displayed construct contributes to cluster membership.

competence dimensions. Overall, solution projects with high consulting satisfaction and overall satisfaction show different construct patterns than less satisfactory solution projects. On cluster level it is evident from figure 3 that projects from cluster A (n = 45) consistently receive more positive feedback in all dimensions. For providers that have most of their projects in this cluster, no substantial improvement potential can be identified for the design of their consulting in solution projects. More management recommendations can be derived for cluster B (n = 43), which shows only moderate results for the relevant constructs. Providers that have more projects in this cluster should especially question their performance in the flexibility dimension: For instance, the provider can ask himself how ready he is to adapt to changes in case of unforeseen events in the course of a solution project. This wasan aspect repeatedly named in our interview series. Moreover, the technical quality of the solutions in this segment is slightly below average. This might be a reason why the overall satisfaction here is lower than the consulting satisfaction in the solution project. Consequently, it could be argued that, while not a direct problem with the advice prevails, the technical efficiency of the solution might not be good enough. For the third cluster (n =18) a comprehensive need for action can be assumed as all factors influencing consulting satisfaction and overall satisfaction are consistently judged worse – only selling orientation is a little exemption here. Furthermore, as a consequence of the low overall consulting satisfaction, the loyalty of customers in this cluster is very weak. These consistently poor ratings affect at least 17% of the assessed projects. In order to improve the project management capabilities and the flexibility of service providers appropriate organizational – and especially sales and marketing – changes should be implemented paving the way for a more effective consultative selling approach. This entails educating sales personnel as well as giving employees with customer contacts the appropriate tools and instruments, so that they can react to customer requests in a flexible way. Disturbing in this context is that low consulting satisfaction goes along with badly perceived technical solutions. In view of this

evaluation providers that predominantly have projects in this segment could also ask themselves, if they should stick to a solutions strategy at all. It might as well be the case that they are more successful in selling products and components and that by exiting the solution business they can reduce the complexity for their own business significantly.

Consequently, consulting competencies have been shown as an important success lever for providers to secure the satisfaction and loyalty of customers in the solutions business. In the end it should however be considered that investments in consulting competencies do not pay in the short term. Rather becoming a solution provider should be understood as a longer process, where the exact financial impact will be difficult to measure. Once the provider has decided to go this way, the consulting competence seems to be a success factor that does not need to hide behind more traditional criteria such as the technical quality of a solution.

Appendix 1: Questionnaire items used in main study

The items in our questionnaire were originally put in German language. Please consider that any translation usually leads to some loss or modification of information. For problems of translation in questionnaire based empirical research see for example Harzing and Maznevski (Harzing&Maznevski, 2002).

Antecedents

Construct	Item	Source
Expertise	In discussing the solution, the consultants of the solutions provider knew what they were talking about.	adapted from Kennedy et al. (2001)
	The consultants of the solutions provider knew as much as they should have about the solutions.	
	The consultants of the solutions provider knew a lot about their solution.	
Project management	The consultants of the solutions provider are experienced in project management.	Items 1: adapted from Stratman and Roth (2002); Items 2-4: expert interviews
	The consultants of the solutions provider had very good project management.	
	The consultants of the solutions provider knew how to conduct a good solutions project.	
	The consultants of the solutions provider had a very structured process in the project.	
Information exchange	In this project, any information that might help the other party was provided to them.	adapted from Homburg et al. (2003)
	During the project we had frequent informal exchange between our two companies.	
	Both our companies willingly provided important technical information if needed for the project's success.	
Understanding	The solutions provider had an understanding on any issue affecting the project.	adaptedfromLeonidou (2004)
	The solutions provider was very sympathetic about	

	problems that arose in the project.	
	The solutions provider had difficulties in understanding the conditions of our business.	
	The solutions provider appreciated difficulties that arose in the project.	
Joint working	Our two companies jointly made many important decisions that impacted our project.	adapted from Homburg et al. (2003)
	In many cases, our two companies mutually agreed before making major technical decisions that impacted the solution.	
	Our two companies jointly solved many of our technical problems.	
	Both companies actively provided input to this solution.	
Flexibility	If we changed a solution specification sometime after the order had been placed, this solutions provider was usually able to deal with the change at low costs.	adaptedfrom Homburg (1998)
	This solutions provider was so flexible that, most of the time, unforeseen problems could quickly be solved.	
	If we had a special solution requirement, this solutions provider was usually flexible enough to deal with it.	
Sellingorientation	The consultants of the solutions provider applied selling pressure even though they knew the proposed solution was not right for me.	Item 1-4: adapted from Palmer and Bejou (1994); Item 5: expert interviews
	The consultants of the solutions provider spent more time trying to persuade than trying to discover my solution needs.	
	The consultants of the solutions provider agreed with me only to please me.	
	The consultants of the solutions provider were always looking for ways to apply pressure to make me buy.	
	The solutions provider only wanted to make money. Anything else was not important to him.	
Technical quality	This solutions provider's technical solution was of high quality.	adaptedfrom Homburg (1998)
	This solutions provider often failed to meet our	

	quality requirements.	
	This solutions provider exceeded our quality expectations.	

Mediator

Construct	Item	Source
Consulting satisfaction	Overall I was satisfied with the consulting performance of the solutions provider.	adapted from Walter et al. (2003)
	Compared to our ideal, we are very satisfied with the consulting performance of this solutions provider.	
	With reference to our expectations, we are very satisfied with the consulting performance of the solutions provider.	
Overall customer satisfaction	Our firm was very satisfied with this solutions provider.	adapted from Ulaga and Eggert (2006)
	Our firm was very pleased with what the solutions provider has done for us.	
	Our firm was not completely happy with the solutions provider.	

Outcomes

Construct	Item	Source
Trust	We believe the information that this solutions provider provided to us.	adapted from Homburg et al. (2003)
	We trust this solutions provider kept our best interests in mind.	
	This solutions provider is trustworthy.	
Loyalty	I would say positive things about the solutions provider to others.	adapted from Woo and Ennew (2004) and Zeithaml et al. (1996)
	I would recommend the solutions provider to other people who seek my advice.	
	I would encourage other companies to do business with the solutions provider.	
	I wish my organization would do more business with the solutions provider in the next few years.	

Appendix 2: Quality criteria for reflective measurements

criteria	**Requirements**	**Pretest**	**Main study**
Content validity	Use of established scales	Yes	Yes
	Expert judgment	Yes	Yes
Indicator reliability	Factor loadings exploratory (Pre-test) and confirmatory (main study) factor analysis ≥ 0,7	Yes	Yes
	t-values of factor loadings > 1,66	-	Yes
Construct reliability	Cronbach's alpha ≥ 0,7	Yes	Yes
	Number of extracted factors from exploratory factor analysis = 1 (i.e. 1. eigenvalue (EW) ≥ 1,0 and 2. EV < 1,0)	Yes	Yes
	Item-to-total-correlation ≥ 0,5	Yes	Yes
Average variance extracted (AVE)	AVE ≥ 0,5 per construct	Yes	Yes
Discriminant validity	Fornell-Larcker	-	Yes

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Table 1: Frequency in interviews

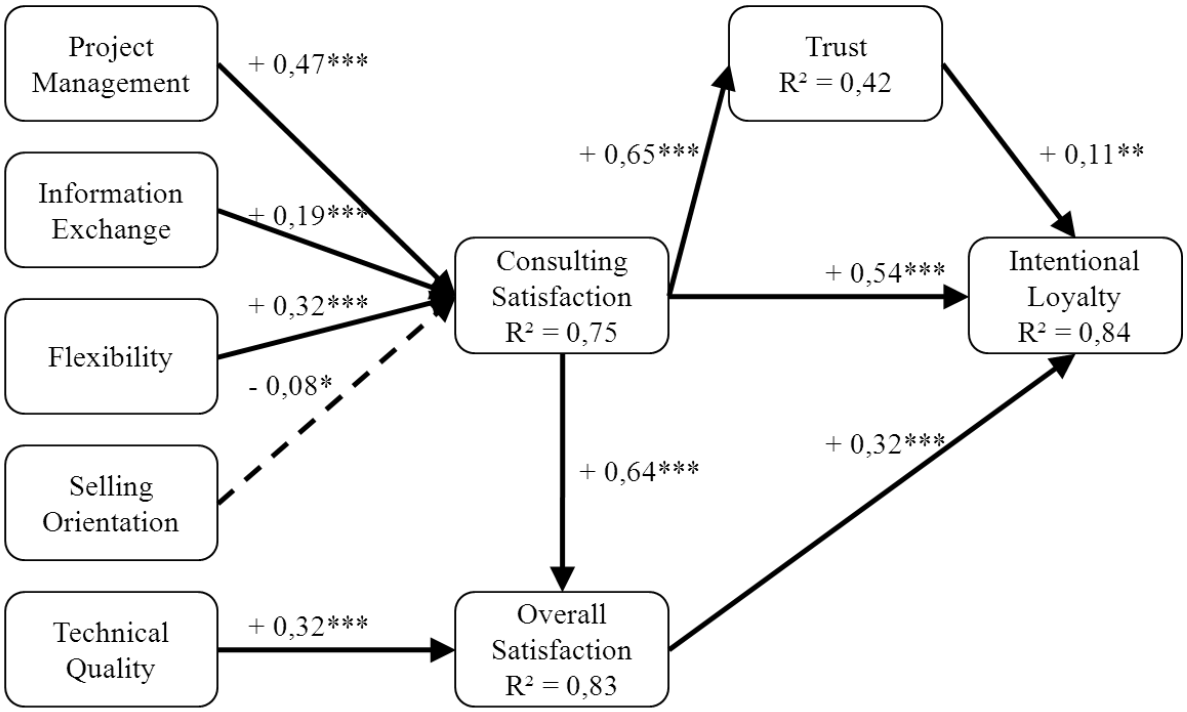
#	constructs (antecedents of consulting satisfaction)	frequency in interviews (100 % = 20 interviews)
1	expertise	100%
2	project management capability	95%
3	exchange of information	90%
4	understanding	85%
5	joint working	80%
6	flexibility	70%
7	selling orientation	65%
8	technical quality	65%

Table 2: Results of structural equations model analysis

Exogenous construct	**Endogenous construct**	**Nomological validity**		**Endogenous predictive quality**	**Exogenous predictive quality**	
Quality criterion:		Path coefficient	t-value	f^2	R^2	Q^2
Requirement:			≥ 1,65	≥ 0,02	≥ 0,33	> 0,00
EXP →	CSA	-0,01	**0,11**	**0,00**	0,75	0,66
PRM →	CSA	0,52	5,18	0,29		
INF →	CSA	0,15	1,75	0,04		
UND →	CSA	0,10	**0,88**	**0,01**		
JWO →	CSA	0,01	**0,15**	**0,00**		
FLE →	CSA	0,25	3,26	0,11		
SOR →	CSA	-0,06	**1,42**	0,02		
TQU →	SAT	0,29	4,43	0,24	0,83	0,66
CSA →	SAT	0,72	9,61	0,94		
CSA →	TRU	0,69	12,00	0,09	0,42	0,29
CSA →	LOY	0,42	4,96	0,35	0,84	0,74
SAT →	LOY	0,22	3,10	0,14		
TRU →	LOY	0,08	2,25	0,04		

Figure 1: Generalizedresearchframework

Figure 2: Structuralmodel



Level of significance (two-sided):
*** = 1%; ** = 5%; * = 10%

Figure 3: Cluster analysis