

MARKETS OF ONE: THE ANTECEDENTS TO CUSTOMIZED PRODUCT
PROFITABILITY IN COMPLEX BUSINESS MARKETS

by

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(Under the Direction of Thomas W. Leigh)

ABSTRACT

Solutions – customized and integrated product bundles sold in the context of complex business markets – represent an increasingly popular marketing strategy for many firms. Seeking to escape the perils of competition and commoditization, companies such as IBM, GE, Siemens, and HP are investing significant resources to create idiosyncratic offerings that integrate multiple goods and services. A solutions-based marketing strategy stands in contrast to traditional product strategies by emphasizing the co-production of large-dollar offerings with a single buyer. Unfortunately, there are many barriers to this strategy, with some studies suggesting that more than 75% of suppliers fail to achieve a positive return on their solutions investments. Despite substantial practitioner interest, there is a surprising absence of research on solutions. In response, my dissertation develops a model of solution success by examining the antecedents to the profitability of B2B solution contracts, commonly referred to as “engagements.” Spanning multiple months to many years, solution engagements represent an intriguing new form of buyer-seller exchange. Firms must navigate two financially risky decisions as they pursue and develop their idiosyncratic offerings for buyers. The first decision pertains to opportunity selection – which solution opportunities to pursue? The

second involves a set of resource allocation issues – how to configure the solution offering? Leveraging field interviews and theoretical perspectives from the organizational problem solving literature, my study aims to assess how various aspects of the focal customer problem and the supplier’s solution offering influence the profitability of individual solution engagements. To evaluate my model, I partnered with a Fortune 100 technology firm to develop a novel dataset containing details of more than 700 individual engagements, including opportunity and customer descriptors, solution characteristics, and engagement-specific profit. My analysis reveals several significant and intriguing findings that paint a complex picture of solution profitability. As the first empirical examination of this major business phenomenon, this dissertation has the potential to make important theoretical and managerial contributions.

INDEX WORDS: Marketing strategy, Business-to-business marketing, Customization, Product integration

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DEDICATION

To my wife, Lee, for her caring support through the hurdles of the doctoral program.

To my late father, George, whom I will always admire.

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CHAPTER 1

INTRODUCTION

“Going to market with solutions is our strategy, but we probably underestimated the number of moving parts in this whole thing. Is it a success? Yes and no. The account teams like it, but our bottom line hasn’t improved like we expected. And that’s the rub.”

- Senior Executive, Technology Firm

Solutions – customized and integrated product bundles sold in the context of complex business markets – represent an increasingly dominant marketing strategy (Burgelman and Doz 2001; Dhar, Menon, and Maach 2004; Foote et al. 2001). Seeking to escape the perils of competition and commoditization, companies such as IBM, GE, Siemens, and Cisco are making major investments to create tailored customer solutions that incorporate a range of goods, services, and intellectual property. Day (2004) notes that more than 60% of the Fortune 100 claim (or at least aspire) to market total solutions that deliver tailored and more comprehensive benefits rather than discrete goods or services.

Unlike traditional products or product bundles, a solutions-oriented business model inverts the value chain away from the sale of generic goods in mass-markets to “markets of one” focused on the unique problems of deep-pocketed and demanding buyers (Moore 2005). Galbraith (2005) notes that solutions constitute a limited form of outsourcing in which buyers turn over product specification, configuration, and integration activities to a supplier.

Individual solution contracts – potentially valued at more than \$100 million each – can have a substantial revenue impact on marketers. Beyond top-line revenue, solutions offer the promise

of greater supplier profitability through increased differentiation, pricing power, and transaction efficiency.

Despite the potential benefits, executing an effective solutions strategy is difficult. Some studies suggest that more than 75% of firms fail to achieve a positive return on their solutions investments (Krishnamurthy, Johansson, and Schlissberg 2003). One high-tech industry association recently identified “improving the sale and delivery of solutions” as their members’ most pressing dilemma (Leavitt et al. 2005). Consider the challenges faced by EDS following its \$600 million acquisition of strategy consulting firm A.T. Kearney in 1995. After substantial effort to market the two companies’ services as integrated solutions, EDS reversed course, and operated Kearney as a stand-alone subsidiary. Ultimately, with little integration between the combined product portfolios, EDS formally divested Kearney in early 2006. Likewise, a large number of investment banking firms moved aggressively in the 1990s to amalgamate various financial-advisory companies aiming to deliver bundles of corporate financial solutions. Yet, the burden of coordinating products and account teams proved too daunting for many, resulting in isolated go-to-market strategies or outright divestitures (Cornet et al. 2000). Indeed, Day (2004) cautions that the complexities associated with a solutions-oriented strategy are great and will be difficult for most firms to master.

Although managerial interest and investment in solutions are considerable, there is a surprising lack of research directed at understanding this important marketing strategy (Sawhney 2006; Srivastava, Shervani, and Fahey 1999; Tuli, Kohli, and Bharadwaj 2007). We know little about the antecedents to positive solution outcomes or the implications on marketing decisions, processes, and structures. In this dissertation, we address this gap by evaluating key antecedents of profitable solution contracts, project-based engagements

involving the identification of a customer problem and the design and delivery of a customized solution. Such bounded projects may span several months to multiple years and involve sizable financial risk to suppliers. To mitigate these risks, suppliers must confront two key issues: 1) opportunity selection – which solutions sales opportunities to pursue, and 2) resource allocation – how to configure the idiosyncratic solution offering. The outcome of interest in this study is the profitability of the individual engagement, considered by managers to be among the most critical performance metrics for solutions (Hurley and Fisher 2005).

Leveraging theoretical perspectives from the customer equity and organizational problem-solving literatures, we develop a framework of solution project profitability that includes characteristics of the focal customer problem and core design features of a solution offering.

This chapter provides additional background for the proposed study. First, we describe the context of complex business-to-business marketing and define solutions as a unique marketing strategy. Second, we discuss the challenges facing solutions suppliers and the motivation for this dissertation. Third, we formalize the objectives of the study and our specific research questions. Finally, we provide an overview of the dissertation's organizational structure.

Research Context: Complex Business-to-Business Exchange

Complex exchange scenarios increasingly characterize the industrial marketing landscape (Weitz and Bradford 1999). Unlike commodity-based transactions, complex business-to-business exchange involves large-dollar values, multiple parties across the buying and selling organizations, long sales cycles, and typically some degree of product customization to meet the specific demands of a particular customer. Within the context of Bunn's (1993) buying taxonomy, complex exchange involves a type of "Strategic New Task",

a process characterized as non-routine, extremely important, and involving considerable pre-purchase analysis. For suppliers, such a sales environment requires flexibility and speed while pursuing customer opportunities as well as sophisticated knowledge and consultative skills.

In response to rapid commoditization of their traditional products, many industrial marketers have begun to augment their offerings with services and other support differentiators (Wise and Baumgartner 1999). A number of firms are taking this movement further by adopting a marketing strategy based on solutions, integrated and customized bundles of goods and services that seek to address the unique business needs of buyers. Solutions are characterized by a high level of buyer-specific customization, multi-product integration within a single vendor or network of vendors, and a sales process that shifts important purchase specification activities from the buying center to the prospective vendor. Unfortunately, there is no commonly accepted definition of a “solution”, yet there appears a consistent view that solutions are both *integrated* product bundles that are *customized* in response to a specific buyer problem (Dhar, Menon, and Maach 2004; Foote et al. 2001; Krishnamurthy, Johansson, and Schlissberg 2003; Sawhney 2006). Tuli, Kohli, and Bharadwaj (2007) formally define a solution as “*a combination of goods and services that are integrated and customized to meet the idiosyncratic requirements of a customer*” (p. 3).

The Problem with Solutions: Research Motivation

All marketing models involve some degree of customer relationship investment and cost (Cannon and Perreault 1999) and prior work recognizes the importance of properly optimizing customer-directed resource investment to maximize profitability (Mantrala, Sinha, and Zoltners 1992; Venkatesan and Kumar 2004). Pre-sale investments for firms pursuing a solutions-based strategy are especially high and most frequently assessed within the context of

specific engagement opportunities rather than at the account, segment, or product-line level (Sheth, Sisodia, and Sharma 2000). Prior to the close of the sale, solutions marketers must invest considerable time and effort to understand the prospect's business and identify the underlying problem for which some solution is needed (Cerasale and Stone 2004). In this context, problems must be "discovered" and made explicit in a time-consuming process of social interaction that involves supplier personnel working to help buyers understand and evaluate a range of options. Such activities can be quite time-consuming and involve numerous supplier resource investments.

The solutions strategy also requires a great deal of coordination across the multiple members of the supplier's organization. As the number of standalone product components increases, so too the associated direct and indirect coordination cost for suppliers. Similar to organizational problem-solving teams, a diversity of perspectives is an important tool in creating a high-value, integrated solution, but such heterogeneity can simultaneously inhibit the process (Kerr and Tinsdale 2004). Each member of the solution team will likely possess unique orientations toward the customer's need (Volkema 1983) and may bias their view of the sales opportunity to favor their particular domain of expertise and product capability. One executive lamented what she termed a "Tower of Babel effect" that occurs when diverse product representations attempt to create a unified solution (Schwartz 2005). At some point, the increasing diversity within the customer-facing team can create information overload (Jacoby, Speller, and Berning 1974; Olson, Walker, and Ruekert 1995). Ensuring alignment, cooperation, and effectiveness among the supplier's multiple product team members and organizational units is costly and time consuming.

Finally, solutions present special financial risks to marketers due to the customized nature of the solution itself. Unlike traditional products, solutions suppliers do not benefit from substantial economics of scale. Total customization at the individual buyer level likely improves customer value and satisfaction, but such an approach presents a threat to the financial health of a supplier (Sawhney 2006). While the fundamental notion of a solution implies customization, suppliers may leverage varying levels of standardized components, methodologies, and templates in their solution design and implementation. Balancing the need to deliver a relevant and targeted offering for one buyer with the substantial solution development and coordination costs is a major challenge for marketers.

As this discussion suggests, solution firms face two critical and highly strategic issues. The first is the choice of the right customer opportunity with which to focus. Given the limited resources within the supplier firm and the considerable financial risks that each new project represents, managers must be selective in their pursuit of specific customer opportunities. If firms do agree to pursue a specific opportunity, they confront a second set of resource allocation issues related to the solution's design. In particular, managers face a range of options regarding the optimal level of product integration and customization. Because of the idiosyncratic and uncertain nature of each opportunity, these decisions present a type of gamble for managers that can have dramatic financial consequences.

Research Objectives and Questions

The rewards of a solutions-based strategy may be substantial in terms of competitive differentiation, customer loyalty, and profit (Galbraith 2005; Hancock, John, and Wojcik 2005). Yet, marketplace realities paint a mixed picture of success and failure (Miller et al. 2002). Unfortunately, solutions represent a topic in which practicing managers are well ahead

of academics and there is a critical need to understand this emerging marketing strategy (Deighton and Narayandas 2004; Tuli, Kohli, and Bharadwaj 2007). The primary objective of this dissertation is to answer the call for research on solutions by developing and testing a framework of solution success for suppliers. By using individual solution engagements as the level of analysis and project-specific profitability as the focal outcome of interest, we aim to provide needed insight to both academics seeking to explore this emerging issue and managers faced with uncertain opportunity selection and solution configuration decisions. This study examines key situational and supplier response variables inherent in solution engagements, addressing the following questions:

1. How do key situational characteristics of the customer's focal problem impact supplier solution profitability? In particular, how do variations in the clarity, importance, and breadth of a buyer's problem influence the profitability of an engagement project?
2. How do different solution configuration characteristics influence profitability? Specifically, what affect do differences in the levels of cross-product integration and customization have on engagement profit?

Contribution

This dissertation is the first empirical examination of an important new marketing strategy for business-to-business firms. As a result, it offers the potential to provide needed insight to better understand why firms are more or less successful in their execution of the new solutions model. At a broader level, this research extends and compliments the growing literature in customer relationship management (CRM) (e.g., Boulding et al. 2005; Reinartz and Kumar 2003; Rust, Lemon, and Zeithaml 2004). A large component of the CRM literature

has focused on identifying antecedents to the lifetime profitability of individual customer relationship (Kumar, Lemon, and Parasuraman 2006). Yet, in the case of large business-to-business relationships, increasing managerial attention is being given to managing the profitability of individual customer contracts. This research introduces this more discrete unit of analysis to the CRM discourse, potentially increasing its relevance to managers and academic focused on complex business markets.

Organization of Study

In this chapter, we introduced the topic of solutions and articulated the two research questions that will guide our study. We organize the remainder of the dissertation in the following manner. First, in Chapter 2, we provide additional background on solutions and related literature. In Chapter 3, we summarize the findings of preliminary field interviews designed to inform our research. Next, in Chapter 4, we introduce a conceptual framework of solution engagement profitability, defining its key elements and describing a set of hypothesized relationships within the framework. In Chapter 5, we summarize our research methodology, including details of the research setting, data collection, measurement, and analytical procedures. In Chapter 6, we report the results of the conceptual framework's evaluation. Finally, in Chapter 7, we provide a discussion of these results, addressing this study's theoretical and managerial contributions, potential limitations, and future research opportunities.

CHAPTER 2

BACKGROUND LITERATURE

In this chapter, we review the managerial and academic literature relevant to the topic of business-to-business solutions. As part of this assessment, we provide representative definitions of the term “solution” and contrast it to other similar concepts in marketing. In addition, we briefly summarize the literature on customer relationship management, a body of research that provides a general framework for our study. We conclude with a summary of this review.

An Emerging Marketing Strategy

One of the most important shifts within the industrial marketing landscape is the move to solutions. Moore (2005) suggests that solutions – the outcome of what he terms the complex-systems model – represents one of two distinct organizational strategies firms adopt in their effort to address customer needs. Figure 1, adapted from Moore (2005), graphically contrasts the product-centric business model, with its focus on the design and delivery of high volume and standardized products to mass markets, with the new solutions-oriented model. In the product-centric approach, firms organize their activities in order to package their knowledge and capabilities into standardized products. These products are distributed through various channels and the salesforce to multiple buyers (Sheth, Sisodia, and Sharma 2000). For product-oriented firms, managers seek to satisfy the generic needs of mass markets or multiple buyers, represented by the multiple figures at the top of the first pyramid. This traditional

volume-operations model provides the context for most marketing research and practice (Sawhney 2006).

Alternatively, the value chain of the complex-systems or solutions model delivers customized solutions that address idiosyncratic problems of a specific buyer, characterized by Moore (2005) as “markets of one.” As illustrated by the inverted pyramid in Figure 1, the firms adopting this business model devotes primary effort to diagnosing the unique problems of a single, deep-pocketed buyer. Solutions are designed and implemented at the individual customer level as opposed to markets or customer segments (Dhar, Menon, and Maach 2004). This model involves significant changes to the roles and responsibilities of the sales organization (Cerasale and Stone 2004). After framing the problem, members of the customer-facing unit coordinate with other consultative and integrative elements in the firm to customize a solution that incorporates multiple product components (goods, services, intellectual property). In contrast to the traditional product model, the solution model may involve integration of one or more third-party product components as well. Galbraith (2005) notes that solutions constitute a limited type of outsourcing in which buyers turn over complex problem identification, specification, and integration activities to a supplier. According to Moore (2005), only a small number of marketers have successfully adopted this alternative model, a fact that Day (2004) believes is not surprising given the complexities of the strategy. Solutions firms, with their emphasis on sensing, then responding in a tailored manner to individual customer problems, may be an exemplar of a market-oriented and market-driven organization (Day 1994; Kohli and Jaworski 1990). Table 1, adapted from Dhar, Menon, and Maach (2004), Galbraith (2005), and Sawhney (2006), provides additional distinctions between a product-centric and the solutions-oriented strategy.

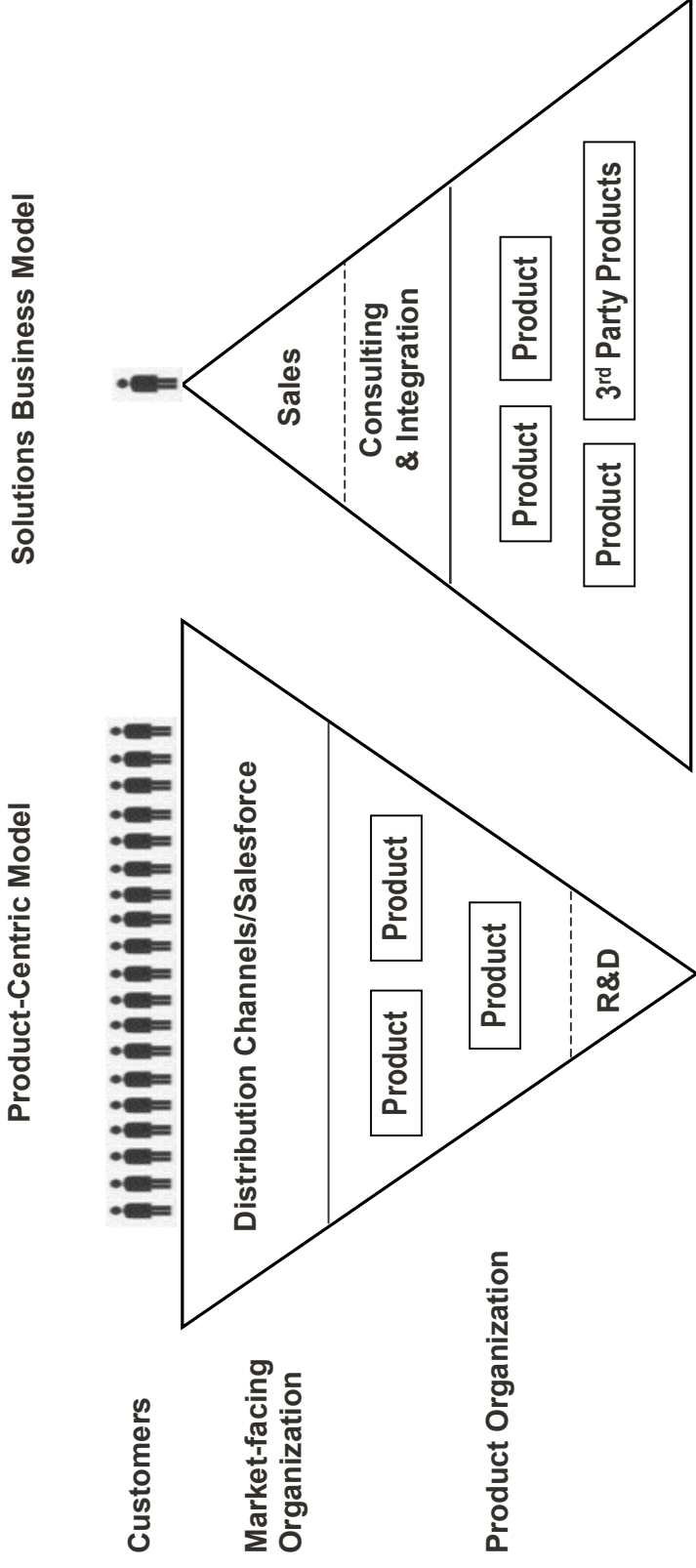


FIGURE 1

**A Graphical Comparison of the Product-Centric and Solutions Models
(Adapted from Moore, 2005)**

TABLE 1

Differentiating a Product-Centric and Solutions Marketing Strategy

Product-Centric Strategy	Solutions Strategy
<ul style="list-style-type: none">▪ Products serve as key organizing structure	<ul style="list-style-type: none">▪ Customer accounts and segments are primary organizational pivot
<ul style="list-style-type: none">▪ Producer determines offering – start with product → push into markets	<ul style="list-style-type: none">▪ Co-created offerings – start with the customer problem → assemble set of product components and capabilities
<ul style="list-style-type: none">▪ Buyer values total cost of ownership	<ul style="list-style-type: none">▪ Buyer focuses on contribution to business value
<ul style="list-style-type: none">▪ Customer preferences known	<ul style="list-style-type: none">▪ Customer preference learned
<ul style="list-style-type: none">▪ Investment in R&D, manufacturing, logistics	<ul style="list-style-type: none">▪ Investment in expertise around customer

Adapted from: Dhar et al. (2004), Galbraith (2005), and Sawhney (2006)

The fundamental characteristics of a solutions strategy are not a radical departure from past marketing thought. Indeed, Levitt (1960) introduced many of the key solutions themes, particularly the need for sellers to consider the underlying buyer problem and the importance of bundling complete good and service offerings. Moreover, this mandate for customer centricity lies at core of the market orientation literature (Kohli and Jaworski 1990; Slater and Narver 1995), and its explicit focus on sensing and responding to distinct customer issues (Jayachandran, Hewett, and Kaufman 2004). Unfortunately, recent research in the industrial marketing domain has generally failed to advance the solutions concept. One early exception is a conceptual piece by Dunn, Friar, and Thomas (1991), which introduces the notion of solutions as a new marketing strategy for technology firms.

At the highest level, solutions epitomize the service-dominant logic of marketing, as characterized by Vargo and Lusch (2004). In contrast to marketing's traditional view of exchange, which has placed the most emphasis on the value embedded in the product itself, the service-dominant logic argues that value derives fundamentally from the product's use – how the offering integrates into a buyer's organization and processes to solve a problem. This new perspective suggests that the primary unit of exchange is the application of knowledge and skills; at most, goods serve as merely one component of the total offering. Among other things, this logic implies the need to consider how products are used by buyers to address their problems and needs. In addition, the service-dominant logic suggests the need to examine new levels of analysis in marketing research, especially the individual buyer-seller exchange experience. Solutions are situated firmly within this larger paradigm shift in marketing thought and practice.

TABLE 2

Conceptualizing the Term “Solutions”

Definition	Source	Product Integration	Customization
Integrated bundles of high-value capital goods/services customized for individual business users.	Davies and Brady (2000)	■	■
“... a range of presale to post-sales activities that can be bundled into an offering and that augment a vendor’s core product.”	Dhar, Menon, and Maach (2004)	■	
“Integrated products and services that solve a complete customer problem.”	Foote et al. (2001)	■	■
“...packages of products and services that create value for customers.”	Galbraith (2005)	■	
A combination of products and services that solves customers’ business problems. Differentiated from traditional products by their degree of customization and integration across the multiple product lines of the seller.	Krishnamurthy et al. (2003)	■	■
Customized product configurations delivered to demanding business customers with a “complex-systems” business model.	Moore (2005)	■	■
“Offerings that integrate goods and services to provide customized outcomes for specific customers.”	Sawhney (2006)	■	■
“A combination of goods and services that are integrated and customized to meet the idiosyncratic requirements of a customer.”	Tuli, Kohli, Bharadwaj (2007)	■	■
Products and services combined into “a seamless offering that addresses a pressing customer need.”	Wise and Baumgartner (1999)	■	

Defining Solutions

A modest number of academic manuscripts have addressed the topic of solutions, but these efforts have been primarily conceptual in nature, with a central focus on formally delineating solutions as a discrete phenomenon in need of examination. Dhar, Menon, and Maach (2004), although concerned with testing the compromise effect in business-to-business purchasing scenarios, emphasize the emergence of solutions as a major alternative to the traditional product-centric organizational selling. Likewise, Sawhney (2006) contrasts solutions from product-oriented strategies, noting the many challenges facing firms who pursue this approach. Sawhney proposes that suppliers employ a process-based view of a buyer's organization in order to best identify their customer's underlying problem. Most recently, Tuli, Kohli, and Bhardawaj (2007) employ an inductive design, including a series of managerial interviews and focus groups, to develop a definition of solutions as well as propositions regarding successful solution development. They suggest that differences between a supplier's and a customer's conceptualizations of what constitutes a solution is an important issue, and may account for the disappointing results of those firms attempting to execute a solutions strategy.

Table 2 summarizes the various definitions of solutions offered within the literature. Although these authors offer somewhat different definitions of the term, they share notable commonality, particularly the view that solutions involve both an *integration* of different standalone products and some degree of *customization*. We adopt this emerging consensus perspective, defining solutions as *integrated bundles of individual goods and services that are customized to address the needs of a single buyer*.

Contrasting Solutions from Similar Concepts

Solutions are a firm-level strategy unlike other marketing concepts. In contrast to traditional price or product bundles (Soman and Gourville 2001; Stremersch and Tellis 2002), solutions are customized offerings developed on an ad hoc basis in response to unique sales opportunities. While product bundles do integrate separate products into a single offering, they are standardized and optimized to appeal to multiple homogeneous buyers. Solutions, on the other hand, are customized and co-produced as part of a single buyer relationship.

Further, solutions differ from the term *solution selling*, often referenced within the personal selling and sales management literature (e.g., Rackham 1988). Popularized by many industrial marketers such as Xerox and NCR, solution selling refers to a specific customer-interface technique in which salespeople utilize a consultative dialogue to optimize sales encounters with buyers. In this sense, solutions selling is consistent with the idea of adaptive selling (Spiro and Weitz 1990) and best viewed as an individual-level behavior rather than a firm-level strategy. In addition, solutions are distinct from the practice of cross-selling, a sales strategy that seeks to synergistically market multiple products to a single buyer (Guiltinan 1987; Kamakura, Kossar, and Wedel 2004). In cross-selling, stand-alone products are systematically introduced to customers, but there is no product integration or customization.

Finally, Sheth et al. (2000) argue that the solutions approach is different from the recent one-to-one marketing and the mass customization movement (Gilmore and Pine 1997; Peppers, Rogers, and Dorf 1999). Although centered at the individual customer level, Sheth and colleagues argue that one-to-one strategies represent one form of traditional product-centric marketing because the focus remains on the adaptation of existing product offerings rather than a true understanding of a single customer's needs and wants. In sum, the solutions model

represents a new form of buyer-seller exchange centered on idiosyncratic offerings that integrate multiple capabilities of a single supplier or network of suppliers on behalf of one buyer.

Customer Relationship Management

The customer relationship management (CRM) literature is a relatively new stream of research concerned with the optimization of individual customer profitability (Payne and Frow 2005). Influencing this work is the larger movement in marketing to position customer relationships as a strategic asset of the firm (Srivastava, Shervani, and Fahey 1999). Although the goal of maximizing the financial contribution of individual customers is an enduring principle in marketing, the concept became more tractable with the introduction of data collection and management capabilities within selling firms (Rigby and Ledingham 2004). Table 3, adapted from Venkatesan and Kumar (2004), summarizes a representative sample of recent empirical CRM research. The table notes the sampling emphasis of the studies and their primary contribution.

A major focus of early CRM research was examining the possible link between a customer's loyalty and profitability. This research extended previous literature evaluating the influence of customer satisfaction and retention on firm-level profit performance (Reichheld 1996; Reichheld and Sasser 1990; Rust and Zahorik 1993). The initial work of Reinartz and Kumar (2000), which contradicted conventional wisdom on the importance of loyalty to profitability, helped to trigger a number of studies in this area.

Within the CRM stream, researchers have proposed that optimization of customer profitability involves management of two major classes of antecedents: 1) variables defining various customer characteristics and 2) variables relating to the resources invested in customer

management. Ultimately, it is suggested that maximizing individual customer profitability influences the overall shareholder value of a firm (Blattberg and Deighton 1996; Hogan et al. 2002). Recent research has offered empirical evidence to support the relationship between customer characteristics and organizational actions and long-term customer profitability (e.g., Reinartz and Kumar 2003; Rust, Lemon, and Zeithaml 2004). In summarizing this body of work, Kumar, Lemon, and Parassuraman (2006) offer a generic customer profitability framework, depicted in Figure 2.

Despite the growing emphasis on CRM-related issues, the findings have limited applicability to business-to-business marketers (Arnett and Badrinarayanan 2005; Bowman and Narayandas 2004). For practical methodological reasons, particularly the lack of data availability, the empirical CRM work has been concentrated primarily in consumer markets, which are dominated by multiple, smaller value transactions spanning multiple years (Bowman and Narayandas 2004). In addition, the customer characteristics antecedents tend to be demographic in nature or related to past purchase histories. Finally, the organizational antecedents of interest represent marketing management variables or other tactical resource allocation options.

Conclusion

In this chapter, we summarized the modest academic literature related to solutions. Our review suggests the need for additional attention to this topic. Although a number of scholars have discussed solutions, we were unable to identify any empirical research that examines the antecedents or consequences of this unique marketing strategy. In addition, we briefly summarized the literature on customer relationship management. This assessment revealed a strong focus on individual customer profitability in the context of consumer markets and a need

to explore customer profitability issues in business market environments. In the next chapter, we summarize the findings of field interviews conducted with a number of senior executives in solutions-oriented firms.

TABLE 3**Representative Summary of Recent CRM Empirical Literature**

Study	Market Focus	Key Contribution
(Berger and Nasr 1998)	Consumer	The affect of marketing communication resource investments on customer equity
(Berger et al. 2002)	Consumer	A framework to guide marketing resource allocation
(Blattberg and Deighton 1996)	Consumer	General guidance to reinforce the need for proper customer resource investments; definition of customer equity
(Libai, Narayandas, and Humby 2002)	Consumer	Customer profitability model and framework of marketing communication resource allocation
(Bolton and Lemon 1999)	Consumer	Use of prior service product usage to guide future marketing investment
(Reinartz and Kumar 2003)	Consumer/ Business	Antecedents to customer lifetime equity
(Rust, Lemon, and Zeithaml 2004)	Consumer	Antecedents to customer lifetime equity
(Berger and Bechwati 2001)	Consumer	Framework for profitability-based resource customer selection and allocation
(Venkatesan and Kumar 2004)	Business	Customer profitability-based resource allocation
(Thomas and Sullivan 2005)	Consumer	Profitability-based model of customer selection, segmentation, and resource allocation
(Bowman and Narayandas 2004)	Business	Framework for linking organizational resource decisions to maximize customer profitability

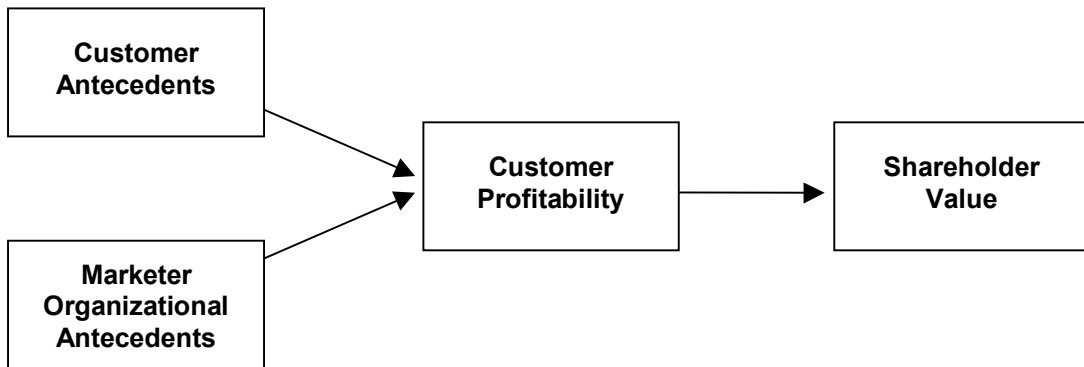


FIGURE 2

Customer Profitability Framework
(adapted from Kumar, Lemon, and Parasuraman 2006)

CHAPTER 3

PRELIMINARY FIELD INTERVIEWS

Because of the emerging nature of solutions and the limited academic literature on this topic, we conducted preliminary field interviews with managers at firms pursuing a solutions-based marketing strategy. A purposive sampling strategy (Patton 2002) was utilized to identify executives who might provide greater insight into our study. Our sample consisted of 13 managers. These individuals included 10 businesspeople at a large technology product and service firm: three senior executives (a business unit president, the senior VP of marketing, and the corporate director of solutions development), two sales executives (each responsible for more than \$100 million of revenue), and five account executives (responsible for a number of large and important customer relationships). To augment perspectives garnered from the technology firm, three additional interviews were conducted with executives at two other solutions-oriented firms: two partners at a professional services provider and a marketing executive at a software services company. Table 4 provides additional information for the individuals we interviewed.

The interviews were designed to supplement our literature review by: 1) gaining a better understanding of the solutions marketing model, including the general nature of solution opportunities and associated challenges, and 2) obtaining insights into the characteristics of successful and unsuccessful solution engagements, as measured by the top-line revenue and profitability perspective. Specifically, the interview protocol included questions about opportunity selection practices, transaction-specific investments, and solution success metrics.

During interviews with the business unit president, sales managers, and account managers, a critical-incident technique was used to solicit insight into the decision-making process followed in recent successful and one recent unsuccessful solution engagements (Nutt 1992; Nutt 1993). All of the interviews lasted at least one hour and many spanned multiple sessions.

We categorize the findings from our interviews into three major themes: 1) support for the importance of the solutions model, 2) the problem-solving nature of the solutions, and 3) implementation challenges.

Importance of Solutions Model

Without question, interviewees perceive the solutions-based model as a distinct and important change in the way to do business. Those interviewed commented about how their companies had made a considerable effort to transition from a product-centric organizational structure to a customer-centric strategy predicated on selling integrated solutions. “The product-silo mentality just doesn’t cut it anymore,” observed one manager. Phrases such as “customer needs driven”, “market versus product focus”, and “a problem solving value proposition” were used to describe how solutions differed from previous strategies.

One major change was in the area of performance metrics. As one sales manager noted, the “old product and geographic P&Ls are now irrelevant.” Instead, account representatives were being held accountable for the profitability of individual solutions contracts. A senior business unit executive reinforced the change in focus, relating the struggles he faced getting his management team to monitor individual deal contribution rather than only quarterly product-line profit and loss, as they had in the past. The software company manager explained how her firm recently implemented a multi-million dollar accounting system in order to track solution engagement cost and profit.

TABLE 4**Field Interview Participants**

Individual	Title	Business Experience in Years
A	Business Unit President	23
B	Senior VP of Marketing	19
C	Director, Solutions Development	15
D	Regional Director of Business Development (Sales)	18
E	Commercial Industry Director of Business Development (Sales)	23
F	Account Executive	12
G	Account Executive	11
H	Account Executive	19
I	Account Executive	26
J	Account Executive	9
K	Partner	21
L	Managing Partner	16
M	Senior Marketing Manager	13

Unlike past organizational changes, solutions were seen as a lasting commitment for the companies. For instance, one professional services partner noted that the solutions model was “an operating model that wasn’t going away”, while the business unit president emphasized how visibly and consistently senior management had “committed to the whole solutions thing.” As evidence of the significance of the issue, executives at the technology firm pointed out how their firm had announced a three-year plan to transition fully to the solutions operating structure. Operating unit leaders were responsible for generating detailed plans and timelines for the transition. Executives perceived by senior management as lacking commitment to solutions or effectiveness in executing the plan were terminated or marginalized in lesser roles. A professional services firm partner suggested that a “solutions mindset” was a critical quality of those individuals who were ultimately promoted to partner. Specifically, the ability to span internal silos to craft an integrated solution was highly rewarded.

Customer Problem Solving

As outlined by the literature, solutions seek to solve a distinct problem of a buyer. One executive characterized a solution provider as a firm that “attacked a meaningful client problem as opposed to just pushing a product *du juor*.” Solutions firms attempt to position themselves in a customer-facing manner, an approach that puts a major emphasis on aligning their capabilities with customer needs. A marketing executive pointed out how his firm had recently reworked its marketing collateral and website to replace long product listings with customer problem scenarios. Potential buyers ultimately learn about the firm’s capabilities by first navigating through a series of business issue discussions.

For many firms, the real source of success was the ability to identify and articulate the problem facing an individual customer:

Some firms just put the ‘solutions’ label on their website and call it a day.

Nothing is really different. But, you really have to probe deep to define the problem, the point of pain. And it needs to have an edge to it. It needs to be legitimate. Something tied to the success of the company, not just something some low-level pencil-pusher thought was what they needed, so he put together a RFP and sent it out to the vendor list. (Business Unit Executive, Technology Firm)

Most agreed that the majority of their time was devoted to the problem-definition aspect of solutions sales. One account manager recalled a recent project that involved nearly 18 months worth of dialog with the customer to uncover and gain agreement to the core problem facing the buyer. Universally, the interviewees agreed that customers do not do a good job of understanding their problem situation. As a result, the ability to define a customer problem effectively and within a timeframe that is responsive to the customer needs is critical:

Framing problems – excelling at that is what separates us from the pack. Our competitors like to talk, but we like to listen and then reinterpret what we hear in a way that makes sense. We like to boil everything down to a few PowerPoint slides, maybe even one, something that clearly captures the situation and what we’re going to do about it – how our offering can respond.

(Account Manager 2, Technology Firm)

Sellers may fail if they under-invest in the problem definition stage of the sales process. One account manager recalled the story of a recent unsuccessful proposal. In this example, the

customer, a large European transportation company, had expressed a clear point-of-view about their problem, going as far as to articulate their needs in a formal request-for-proposal document distributed to potential bidders. The account manager's firm then responded with what was perceived to be a compelling solution to address that specific issue. In fact, the account team believed their proposed solution was completely unique within the marketplace and had an unusually high chance of success. Despite that, the company lost the multi-million dollar opportunity. In a de-briefing session with the buyer, the account manager learned that a competitor had conducted additional on-site consultations with the prospect prior to submitted their proposal. In this work, the competitor determined that the customer's core proposal was something quite different than their originally articulated need. With this added insight, the competitor proposed an alternative solution, which was embraced by the buyer. Interestingly, the accepted bid for the alternative problem and solution articulation cost more than three times the bid of the customer's initial thinking.

In addition, many see the diversity of customer problem situations as an important tool for segmentation. One sales manager expressed this idea directly, saying, "If it's not a C-suite issue, something that some top executive is going to lose their job over if it's not done right, then we're not interested." Another sales executive pointed out how their competitors "get tied up chasing the minutia", smaller, less critical projects instead of opportunities deemed more important to senior executives. Other sales executive regularly prods his account representative with the question: "Do you want to be a vendor or an advisor?" In his view, vendors respond to pre-defined buyer needs, typically through the RFP process. Advisors, on the hand, provide significant upfront time and energy to finding and defining a problem, and subsequently, a potential solution.

Implementation Challenges

At the highest level, the interviewees mirrored the views expressed in the practitioner literature on solutions, particularly the contrast between the potential of solutions and the disappointment realized after putting the new model into practice. A recurring message was the move to solutions was complex and posed severe risks. For all interviewed, the change involved multiple alterations to existing sales, marketing, and customer support approaches. The need for many of these changes was only beginning to surface for some. One marketing executive admitted, “we probably underestimated the number of moving parts in this whole [solutions] thing.” A major shift related to the skills and beliefs of the salesforce. One sales executive noted that the new model required him to replace the majority of the representatives he had originally assigned to their top accounts:

Our old guys [sales representatives], don't get me wrong, they were great at doing their thing – you know, responding to RFPs, putting together good bid quotes, scoping out the competition. But, honestly, most of those guys were struggling. Struggling to come to terms with the new [solutions-based] operating model. Now, it's a knowledge game, you know. It's something, it's a model where you've got to balance the old relationship management stuff with a real understanding of a customer's situation. You've really got to be a consultant that can solve a problem. We had to replace – well, we're in the process of doing it as we speak, you know, transition out the majority of the old sales organization with new talent. Especially at the top accounts, our global 100 program. The old guys simply couldn't get past the old way of doing things. (Sales Manager 2, Technology Firm)

A major concern of those interviewed was how to ensure the solutions model translated to appropriate levels of profitability. As one executive acknowledged, “we haven’t thought enough about how the choices we in these deals impact our profit targets.” Another senior manager responsible for the marketing at a technology company expressed a paradox when it came to the performance outcomes of solutions. He noted that while the account teams appeared to like the change because it allowed them to be more relevant and responsive to customer needs, the company’s “bottom line” had not improved in the way they expected.

In the search for improved profitability, executives commented on the need to better assess the attractiveness of solutions sales opportunities, rather than aggressively pursuing all opportunities with the same approach and resources. The professional services firm partner believed there the “pendulum was swinging back” toward a more balanced approach between traditional product sales and integrated solutions:

And people just need to understand, it [solutions approach] doesn’t make sense with every client opportunity. Some clients are perfectly happy with what I call ‘point products.’ We give our people a lot of responsibility for sorting that out – rightly or wrongly. I don’t think they always make the right decision, actually. Service line leaders and area heads have got to step up. We’ve got to put into place some systematic process for doing an opportunity review on these mega engagements. Seriously, which ones of the millions of opportunities we face every day make the most sense to attack with integrated solutions? Using the back of a cocktail napkin approach won’t work. And I’ll tell you right now integrated solutions don’t work with every deal we run across, that’s for sure.

(Partner, Professional Services Firm)

This sentiment was supported by the software company executive:

Well, maybe every customer says they want a total solution, but we can only make the right level of margin on certain types of contracts. I personally think we've got to get much better at discerning good deals from bad deals – throwing the right weight behind the high-potential projects. And unlike the major of our account leaders, I can tell you the best opportunities for solution bundles aren't always the big dollar, 'blue bird' deals. (Senior Manager, Software Services Firm)

In the solutions model, product development is not standardized, but rather takes place in response to customer-specific problems or needs. This ad-hoc approach to product development presents a number of challenges for managers. When recalling past example solutions projects, numerous executives emphasized the considerable activity associated with designing or configuring a solution for each individual sales opportunity. Unlike responding to traditional request-for-proposals, interviewees at solutions firms emphasized how they have substantial discretion in how they define the final proposed solution offering. This solution articulation process, which tends to occur in an iterative manner at the early stage of an engagement opportunity, is intensive and requires participation by many people across different parts of the selling firm.

Replicating perspectives in the somewhat limited academic literature on solutions, these managers, in practice, devote a great deal of attention to two main dimensions of the solution: 1) the degree of solution customization and 2) the level of solution integration. As one executive noted, “customization is not a binary – we've got some options in that department.” To minimize development costs, these firms often use “templates” or “solution workbenches”

that allow them to take advantage of previous project investments. Determining the number of product components to include in the final is also discretionary in most cases. Relating a recent solutions sale, one solutions account representative commented:

We tried to dig into the real situation facing the client. And we realized that it was broader and more complex than even they appreciated or acknowledged, which isn't too surprising, actually, you know that happens most of the time. Okay, that said, I then spent a ton of time on the phone, doing the phone-tag drill with our people in the different offices and different product groups trying to assemble the solution parts and pieces. We first wanted to respond with a full, end-to-end solution, something that had, let me think now, probably had six different product parts, including a sort of outsourcing backend element. But, after going through the conference calls with our people, we decided to back off that backend piece, and go with a more modest offering. It was something the client could get their arms around better, and we thought we'd have a better chance at executing. Being flexible, that's all part of the deal, you know.

(Account Manager 2, Technology Firm)

Conclusion

In this chapter, we summarized the key themes emerging from our interviews with 13 executives working in a number of senior management, sales, and marketing roles at solutions firms. These practitioner perspectives support the view that solutions are indeed an emerging and important business strategy. However, effective implementation of this strategy is challenging. Improving engagement project profitability is a notable concern of the managers we interviewed. In response to these challenges, some executives are considering ways to

improve their opportunity selection and solution configuration decisions in order to increase the financial performance of the solutions strategy. In the next chapter, we build on these interview findings and related academic literature to describe a model of solution engagement profitability.

CHAPTER 4

FRAMEWORK CONCEPTUALIZATION

In this chapter, we introduce a framework of solution engagement profitability. This framework, designed to inform both managerial and conceptual understanding of solutions, considers two major classes of antecedents to the profitability of a supplier's solution transactions. As part of this discussion, we provide an overview of the framework, clarify its time horizon, define the key elements, and propose a set of hypothesized relationships.

Framework Overview

Our research framework, depicted in Figure 3, utilizes our field interview findings and related literature to conceptualize the factors influencing solution engagement profitability.

We focus on the unique elements defining an individual solution project:

- 1) the attributes of the focal customer problem and
- 2) the attributes of the idiosyncratic solution configuration.

Conceptually, our framework is consistent with the emerging customer relationship management literature, which examines how customer situational characteristics and marketing resource allocation factors influence a customer's equity (Kumar, Lemon, and Parasuraman 2006). This body of literature emphasizes the importance of actively managing customer selection and organizational resource investments in order to optimize the financial contribution of customers. In the broadest sense, our framework extends this thinking to the context of solutions, which places a greater focus on individual customer contracts. In this context, we argue for the relevance of examining two key classes of antecedents related to a

customer's idiosyncratic problem and the resource allocation decisions related to the configuration of the unique solution offering. Unlike the extant CRM literature's interest in lifetime customer profitability, the outcome of interest in our framework is individual solution contract, or engagement, profitability.

A defining aspect of solutions is a buyer outcome orientation. At its core, a solutions marketing strategy is about customer problem solving (Sawhney 2006). Customer problems are organizational problems that differ along many important dimensions (Cowan 1990; Spence and Brucks 1997). Many customer problems may be ambiguous, with managers having limited knowledge of their underlying source or causality (Mintzberg, Raisinghani, and Theoret 1976). Business problems may also vary in terms of their importance to a firm (Ramaprasad and Mitroff 1984). Finally, problems may be bounded, contained within a single organizational unit, or more broad, encompassing multiple units (Dutton and Jackson 1987). Research within the management and organizational psychology literature has examined the impact of different problem attributes on problem-solving outcomes (Smith 1989). This work suggests that the scope and definition of the problem itself are critical variables to understanding complex problem solving (Taylor 1974, 1975). Numerous studies demonstrate that the characteristics of a problem affect the efficiency (speed, cost) of the solution development process and the quality of the solution (Mitroff, Emshoff, and Kilmann 1979; Spence and Brucks 1997). Given the problem-solving goal of solutions, the nature of the idiosyncratic customer problem warrants examination.

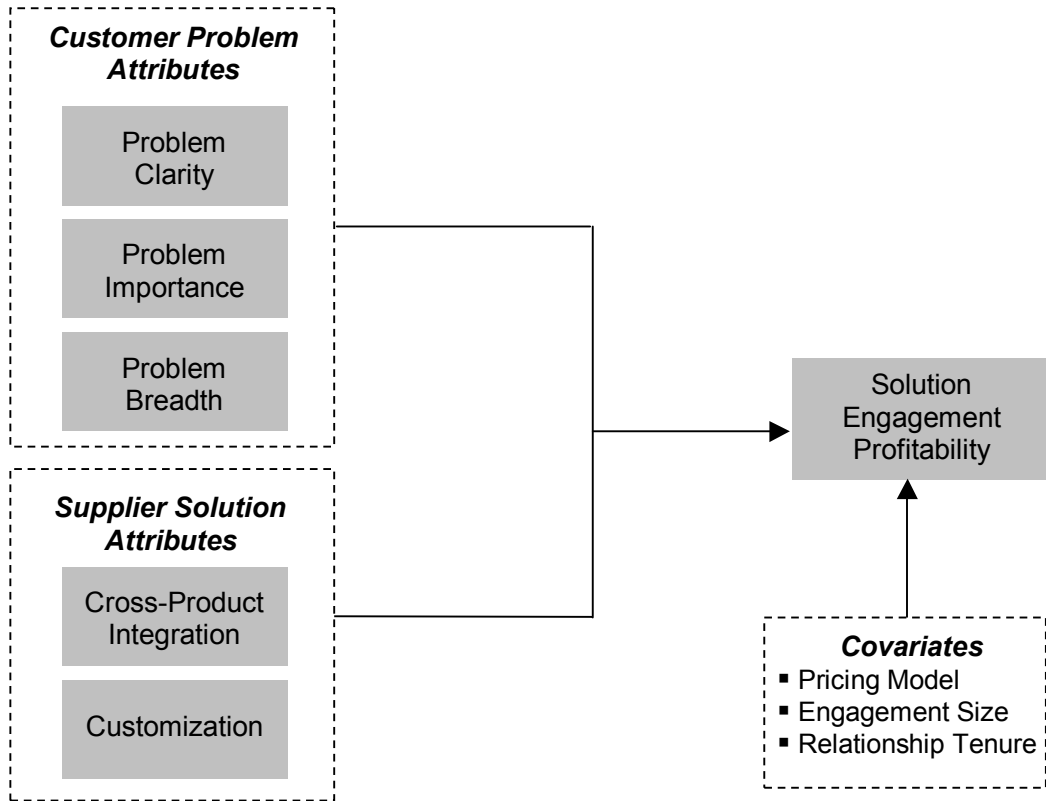


FIGURE 3

Solution Engagement Profitability Framework

Another distinguishing characteristic of solutions is the dual requirement for cross-product integration and customization (Tuli, Kohli, and Bharadwaj 2007). Solutions may vary in the extent to which they bundle multiple standalone goods or services (Burgelman and Doz 2001). Some solution offerings involve a limited integration of one or two industrial product modules with a value-added service, such as financing. Other times, solutions may be extremely complex, characterized by the integration of multiple tangible products with an array of financial, knowledge-based, and support services. Likewise, solutions differ in their level of customization (Krishnamurthy, Johansson, and Schlissberg 2003). Some suppliers may modify standardized product components to meet the needs of a particular customer context or segment, while in other situations sellers may completely tailor an offering for one specific buyer. Field interviews and the practitioner literature (e.g., Cerasale and Stone 2004; Krishnamurthy, Johansson, and Schlissberg 2003; Miller et al. 2002) reiterate the central role that product integration and customization issues play in the decision-making of managers. Our framework assesses the effect of these two core design attributes on the profitability of individual solution projects.

Time Horizon of Framework

There are three different time elements associated with the variables in the conceptual framework. First, the antecedents that characterize the customer problem (clarity, importance, and breadth), the design of the solution offering (cross-product integration and customization), and our focal outcome are engagement-specific. At the front-end of the engagement lifecycle, as suppliers identify and pursue solution sales opportunities, they assess the customer problem as a way of scoping the proposed sale. Likewise, at the beginning stage of project, suppliers work to define a specific solution offering, delineating its components and level of

customization. At the conclusion of the project, final engagement profitability is measured. The covariates of project contract type and engagement size or revenue are both specific to one engagement. However, the covariate of relationship tenure extends beyond the timeframe of any one project to encompass the length of all sales contracts between buyer and supplier.

Outcome of Interest

The outcome of interest in this framework is solution engagement profitability. In our framework, solution engagement profitability represents the cumulative supplier profitability from a single, completed project, capturing the net of customer revenue and all up-front, project-specific sales and product costs generated over the lifespan of the project. For most, if not all firms, maximizing profitability is an implicit objective. At the most basic level, marketing's role in enhancing the financial performance of a firm begins at the individual customer transaction level. In the context of solutions, ensuring the profitability of individual customer projects is critical, akin to maximizing the profitability of traditional customer accounts or product markets. Single solution engagements often represent millions, if not tens or hundreds of millions of dollars in revenue to the supplier. For example, technology integration firm Accenture recently won a three-year solutions project with the U.S. Department of Education worth nearly \$180 million (Hardy 2006). Maximizing solutions project profitability involves optimizing opportunity selection and solution development and delivery expenditures. A recent survey identified project-level gross margin as one of the key measures for assessing the success of solutions (Hurley and Fisher 2005). This view was reinforced in our field interviews.

The Direct Effects of Buyer Problem Attributes on Solution Profitability

A critical distinction of solutions is a focus on solving a customer's idiosyncratic business problem. Fundamentally, the solutions model is grounded on the idea of outsourced organizational problem solving. In this sense, it is appropriate to consider how various attributes of these problems affect supplier profit outcomes. Successful integration and customization of solutions may be futile if suppliers target the wrong customer opportunities. Our framework incorporates perspectives from the problem-solving and organizational decision-making literature to suggest how differences in a problem's relative clarity, importance, and breadth influence a supplier's solution profitability.

Problem Clarity

Problem clarity refers to the level of uncertainty surrounding the buyer's problem and desired outcomes. As a popular management principle notes, a problem well defined is a problem half solved. Problem-solving theory posits that the most critical activity to increase the efficiency and effectiveness of the problem-solving process is obtaining an unambiguous understanding of the underlying problem (Smith 1988; Taylor 1974; Taylor 1975). Clearly defined problems enable a problem solver to encode and process information more quickly, which speeds identification of a potential solution. Clear problems can also be categorized more efficiently and precisely, facilitating access to prior solution frameworks and heuristics (Spence and Brucks 1997). In contrast, ambiguous problems must be structured and/or reformulated, which involves considerable decision making time and energy (Newell and Simon 1972).

Unfortunately, developing a clear understanding of the problem in the context of solutions may be quite challenging. For suppliers, problem clarity requires an in-depth

knowledge of the buyer's business, a particular challenge for suppliers even in single product selling scenarios (Sharma and Lambert 1994). Often, buyers themselves do not understand or acknowledge their fundamental problem nor do they know what is needed to resolve it (Cross and Sproull 2004). Lyles and Mitroff's (1980) classic depth case analysis of executive decision making found 90% of the major problems facing managers were ill-defined and open to multiple interpretations. Finally, buyer problems are multidimensional, requiring an understanding at a social, functional, and emotional level (Christensen, Cook, and Hall 2005).

In the face of complex and ambiguous problems, a supplier must work to structure and formulate the problem. Although seemingly simple, such activities involve substantial time and cost. Typically confounding matters is the differing perspectives found among the members of the customer's decision-making unit (Johnston and Bonoma 1981; Kerr and Tinsdale 2004; Nutt 1998), with each person likely possessing a unique perspective (Kilmann and Mitroff 1979; Volkema 1983). Moreover, representatives from different supplier product units may be biased in their view of the problem or have financial incentives to favor their particular product domain. The problem definition process likely resembles a complex social negotiation (e.g., Walsh, Henderson, and Deighton 1988) that slows a supplier's reaction time and dramatically increases cost of sales. Yet, attempting to minimize such costs by avoiding a thorough problem definition process can have an equally potent profit impact at a later point in the project. In particular, suppliers might successfully propose a solution, but to the *wrong problem*, a dilemma referred to as a Type III error (e.g., Mitroff and Featheringham 1974). Such a misaligned solution response will likely require expensive rework to correct. Even when suppliers are presented with a clear, buyer-defined problem (such as in the case of a

formal request-for-proposal), the risk of a Type III error demands that solution providers not accept buyer-supplied definitions at face value.

The preceding highlights the critical importance of problem clarity in solution opportunities. From this discussion, we suggest a positive and linear relationship between the clarity of the customer's problem and a supplier's solution engagement profitability:

H₁: The greater the clarity of the focal customer problem, the greater the engagement profitability.

Problem Importance

We define problem importance as a continuous attribute characterizing the criticality of the problem to the buying firm. Buyers perceive important problems as having considerable impact on their organization's productivity and profitability (McQuiston 1989). Both organizational buying theory in marketing and decision-making theory in management find that differences in the level of problem importance trigger different individual behaviors and firm processes (Bunn 1993; Dutton and Jackson 1987). As the importance of a problem increases, so does the organizational status of the decision-makers (Lewin and Donthu 2005). The involvement of more influential buyers should decrease overall price sensitivity. Supporting this view, Bunn and Lui (1996) found that as purchase importance grows, price becomes one the least important vendor decision-making criteria. In an examination of management decision-making, Nutt (1992; 1993) found that problems judged to be of high importance were addressed more quickly and with less debate. For suppliers, a quicker and more efficient vendor selection process decreases upfront selling costs. In addition, given the implicit focus in solutions on partnering and value-based outcomes, important problems garner a larger share of a buying firm's resources (Bunn 1994). Finally, field interviews revealed that

buyers typically participate more actively in the implementation of important solutions, potentially improving the project's efficiency and providing some protection to suppliers for cost overruns.

As a defining attribute of a customer's problem, we expect that importance will directly influence both the price and delivery cost of a solution project. Thus:

H₂: The greater the importance of the focal customer problem, the greater the engagement profitability

Problem Breadth

Problem breadth is a continuous attribute characterizing the scope of the problem, as indicated by the number of involved buyer organizational functions or departments. Problems may be limited in breadth, contained within a single functional area such as finance or marketing, or they may encompass multiple units across the buyer's enterprise. Just as solutions integrate multiple goods and services, solution suppliers may be called on to tackle complex issues in an integrated manner across multiple organizational silos (Dhar, Menon, and Maach 2004). The notion of functional diversity has been examined in the context of organizational problem solving research. Numerous studies find that the involvement of a larger and more diverse number of individuals from different functions often inhibits the identification and implementation of a problem's solution (Dahlin, Weingart, and Hinds 2005). Group decision-making theory posits that increased functional diversity among participants affects how teams encode, store, and retrieve information in the problem-solving process (Hinsz, Tindale, and Vollrath 1997). In particular, researchers note important negative consequences to increasing the number and diversity of those involved in project work,

including inefficiency (Kerr and Tinsdale 2004), lower creativity (Fiore 2000), and lower task commitment (Schweiger, Sandberg, and Ragan 1986).

A competitive advantage of a solutions provider is the ability to address broad customer problems in a more comprehensive manner using cross-functional products and competencies (Sawhney 2006). Many solutions firms, such as IBM, Accenture, and Cisco, are organized in a matrix structure that includes industry-, functional-, and product-specific resources and offerings (Cerasale and Stone 2004). Such broad and more holistic set of capabilities gives solution providers considerable differentiation, promising greater value to customers and providing competitive pricing power (Dunn, Friar, and Thomas 1991).

However, as a customer's problem breadth increases, so does the number of inter-related processes, interfaces, and affected constituents. Mirroring the view from the problem-solving literature, solution managers noted that ensuring appropriate alignment among the many "moving parts" and satisfying the needs of multiple stakeholders in different buyer units typically increases delivery time, direct expenses, and unforeseen issues. Solution suppliers bear major responsibility for managing these potential risks during the course of an engagement, adding direct expense and time. Unfortunately, these additional costs may be difficult to predict or embed into the solution's pricing structure.

There would seem to be a level of problem breadth that maximizes supplier profit potential. Buyers with less complex problems, limited in scope to one or perhaps two functions, have a greater number of vendor options, including numerous specialist product firms. Due to this increased competition, pricing power is likely lower. In addition, the buyer's perceived value resulting from more complex problems may temper their willingness to pay a premium for the broader capabilities of a solutions firm. Alternatively, problems that

involve too many buyer functions greatly increase sales and delivery complexity, limiting profitability if a supplier cannot pass on these costs, assuming they can be accurately predicted or assessed. The factors suggest a non-linear relationship between breadth and project profit:

H₃: There is an inverted U-shaped relationship between problem breadth and solution engagement profitability such that moderate levels of problem breadth produce the highest levels of profitability; high and low levels of problem complexity result in lower levels of profitability.

The Direct Effects of Solution Attributes on Solution Profitability

As noted previously, a defining feature of solutions is cross-product integration and customization. The options associated with these two core solution attributes involve important trade-offs for profit-maximizing firms. Indeed, there appears a view within the managerial and academic literature that optimizing the level of integration and customization is key to achieving financial success with solutions (Foote et al. 2001; Sawhney 2006; Tuli, Kohli, and Bharadwaj 2007). Our field interviews of various solution executives reiterated such a perspective.

Cross-product Integration

We define cross-product integration as a continuous attribute indicating the number of individual goods or services incorporated into the solution offering. Early in the solution project lifecycle, suppliers work with buyers to identify an integrated set of products to address a targeted problem. In many situations, firms augment their traditional physical goods, often seen as the commoditized price of entry, with a range of value-laden services (Dhar, Menon, and Maach 2004). Illustrating this movement, telecom manufacturer Ericsson now offers turnkey solutions to its customers, integrating literally dozens of technical planning,

equipment, installation, financing, and project management products from its subsidiaries and external partners (Davies and Brady 2000).

The product bundling literature provides a theoretical rationale for these efforts, suggesting that by aggregating multiple products together into unique offers, suppliers gain higher differentiation and the ability to deliver greater benefits to buyers (Wilson, Weiss, and John 1990). In particular, the efficiency of one-stop-shopping, a single point of contact for after-sale support, and enhanced performance through optimized product interfaces increases a supplier's appeal and raises customer switching costs, ultimately lowering price sensitivity. Supporting this view, recent work on cross-selling finds that customers who buy multiple products across different categories from the same seller have higher switching costs and greater recurring demand (Bowman and Narayandas 2004; Reinartz and Kumar 2003). Likewise, consumer research suggests a number of direct economic benefits to sellers from product bundling, including greater pricing power stemming from higher buyer reservation prices (Stremersch and Tellis 2002).

Yet information overload theory (Jacoby, Speller, and Berning 1974; Olson, Walker, and Ruekert 1995) suggests practical limits to the scope of integration. Viewing organizations as information processors, this perspective implies that increasing the number of dimensions and factors too greatly can have negative consequences in terms of work effectiveness and efficiency (O'Reilly 1980). In the case of solutions, integrating many products from across a broad portfolio does not come without considerable investment by the supplier. Coordination among personnel representing different product lines can be challenging (Hunter 2004), especially in the early design and proposal phase of a project (Cerasale and Stone 2004). Just as cross-functional product development teams struggle with interpretive barriers to a common

view of product outcomes (Dougherty 1992), cross-product solution sales and support teams must expend considerable effort to ensure an aligned value proposition and solution. Executive interviews highlight an ongoing struggle by managers to balance the customer benefits and costs associated with product integration. As one approach to addressing these challenges, Siemens established a separate entity as its integration arm to more efficiently coordinate the development of holistic solutions using components from the infrastructure and engineering firm's 13 major operating companies (Kapelianis 2005). In addition to up-front selling coordination, solutions providers must move beyond superficial bundling to true component-level integration. Ensuring such technical compatibility and inter-operability across the individual product components is time-consuming and complex (Sawhney 2006). As our field interviews reiterated, these direct and indirect coordination and product costs increase with the number of products included in the solution.

This discussion implies that there may be an optimal level of product integration that provides customer value and differentiation, while maximizing solution project profitability. Too few products integrated into an offering diminishes the uniqueness of the solution and the buyer's perceived and/or tangible utility, ultimately exposing the supplier to commoditization. When solutions comprise only a limited set of product components, differentiation among suppliers is more transparent, tempting many buyers to integrate internally the standalone products, perhaps selected from multiple vendors (Cerasale and Stone 2004). However, as the number of product components increases, the risk of information overload and higher coordination costs for suppliers likely become prohibitive. It may be possible to reconcile these perspectives by proposing a U-shaped relationship between the level of product integration and the profitability of a solution project:

H₄: There is an inverted U-shaped relationship between product integration and solution engagement profitability such that moderate levels of integration produce the highest levels of profitability; high and low levels of integration result in lower levels of profitability.

Product Customization

Product customization is defined as a continuous attribute reflective of buyer-specific adaptations in the supplier's products or processes (Cannon and Perreault 1999; Hallen, Johanson, and Seyed-Mohamed 1991). One of the major movements in recent marketing research and practice is the shift from mass-production to customer-specific customization (Murthi and Sarkar 2003). Conceptually, this perspective argues that tailoring products for heterogeneous buyers enables firms to maximize customer utility, which ideally translates into market and financial success (Anderson and Narus 1995; Gilmore and Pine 1997). Moreover, customization can be viewed as a type of customer-specific investment that can enhance the relational bonds and commitment between suppliers and buyers, providing defense against competitive threats and switching behavior (Anderson and Weitz 1992; Rokkan, Heide, and Wathne 2003), ultimately improving pricing power. The resulting long-term relationships also translate into lower transaction costs for supplier firms (Kalwani and Narayandas 1995).

At the same time, customization implies notable supplier financial risk stemming from diseconomies of scale. In traditional markets, firms may mitigate these issues by implying true customization via a range of feature permutations (Lovelock 1983) and various mass customization techniques (Womack 1993). In the case of business solutions, however, strategies to minimize excessive costs are more difficult. Because solutions embody a form of outsourcing in which buyers turn over responsibility for product specification (Galbraith 2005),

suppliers must make a substantive investment to gain an understanding of an individual buyer's business and problem. Although solution firms often attempt to distribute costs by creating product platforms or templates designed for customer segments (financial markets, telecom) or discrete processes (accounting, HR), investments in final product configuration are substantial. Illustrating the negative threat created by an over-investment in customer-specific customization, Cannon and Homburg (2001) find that in the case of supplier-manufacturer relationships, greater levels of product adaptation did not necessarily lead to higher pricing. These findings are consistent with Kalwani and Narayandas (1995), who suggest that buyers may frequently bargain away initial premium prices charged for customization.

As with product integration, customization appears to present a paradox for solution marketers. Too little customization dilutes the perceived value of the offering, competitive differentiation, and pricing power. Yet, investing too greatly in customer-specific customization generates unacceptable sales and delivery costs. This discussion suggests the need to balance solution customization levels in order to reach an optimal level of profit.

Therefore:

H₅: There is an inverted U-shaped relationship between customization and solution engagement profitability such that moderate levels of customization produce the highest levels of profitability; high and low levels of customization result in lower levels of profitability.

Conclusion

This chapter introduced a framework to conceptualize several key factors influencing solution contract profitability. As part of this discussion, we proposed a set of formal hypotheses related to the framework. In summary, we argue that two classes of antecedents –

factors relating to the customer's problem situation and factors characterizing the solution offering – influence the profitability of individual solution engagements. In the next chapter, we describe the empirical strategy for testing our framework.

CHAPTER 5

METHODOLOGY

We now detail the methodology deployed to assess our conceptual model. First, we provide information on this study's research setting and data collection process. Next, we define the variables and their measurement. We conclude with a description of our analytical strategy.

Research Setting

This study explores solution engagement profitability in the context of complex business markets and presents substantial research challenges. In the case of solutions, firm heterogeneity is a major empirical concern. In particular, because firms likely use varying processes and organizational structures, target different customer markets, and market distinct solution products, it may be difficult to evaluate effectively the influence of the antecedents in our model. In addition, the different accounting and costing approaches used in firms make it difficult to assess our outcome of engagement profitability.

To address the negative issues stemming from firm diversity, we sought to evaluate our framework using a large sample of engagements of a single firm. With this strategy, we seek to account for the substantial, and potentially confounding, differences in the characteristics of solutions firms. We selected a Fortune 100 business-to-business technology firm (labeled "Techco" to protect confidentially) to serve as the setting for this research. Once primarily concerned with marketing proprietary hardware and software products to a large set of

corporate and governmental customers, Techco has adopted a solutions-based strategy aimed at selling integrated and customized product combinations to a smaller group of key accounts

The product portfolio of Techco is considerable, spanning a range of computer hardware (mainframes, servers, workstations, and related equipment), business management software (proprietary and third-party), consulting, systems integration, maintenance, finance and leasing, and outsourcing products. Like many solutions firms, Techco has observed considerable variation in the success of their solutions strategy. Eager to learn more about the underlying drivers of solution success, Techco management offered extensive access to their personnel and proprietary databases. The information systems include a robust set of descriptive and financial variables at the individual solution engagement level. As a result of these factors, Techco provides an excellent opportunity to investigate our research questions.

Data Collection

A two-phase data collection process is used in this study – an exploratory field research phase and an empirical testing phase using a large customer dataset. As described previously, the first phase consisted of field interviews with 13 managers at three firms. These individuals were selected via a purposive sampling strategy (Patton 2002) designed to identify experienced and senior-level business executives knowledgeable of the issues associated with complex solutions. The objective of this initial interview phase was to gain greater understanding of the key marketing issues associated with managing a solutions-based company. In particular, we sought views on the general nature of solution sales opportunities and the characteristics of successful and unsuccessful solution engagements, as seen from the top-line revenue and profitability perspective. We utilized an interview protocol with questions relating to specific engagement selection practices, transaction-specific investments, and solution success metrics.

In addition, we deployed a critical-incident technique (Patton 2002) with selected executives. The critical-incident approach, frequently used in research examining managerial decision-making (Nutt 1992; Nutt 1993), gave us the opportunity to learn more about the decision-making processes involved in engagement acceptance and solution configuration. We asked each executive to recall their decision-making for one recent successful and one recent unsuccessful solution engagement. Nine of the 13 interviewees were audio-taped by the author. However, in four cases, participants did not give their permission to be recorded. In these interviews, the author made extensive notes during the discussion.

The second phase involved development of a novel dataset of completed solutions engagements. This process involved identification, integration, and analysis of data from three distinct, but interrelated Techco information databases: a customer relationship management (CRM) system, a project risk-assessment system, and an accounting system. Selected data from these systems were integrated through a manual process to create of a dataset of more than 800 solution engagements for use in assessing the framework.

In the analysis, the unit of study is the individual solution project or engagement, a longitudinal phenomenon that begins during the pre-sales phase and ends at the conclusion of the project. Given the large dollar volume and complexity of solution engagements, this timeframe may span the course of many months, if not multiple years. As a defining boundary condition of the dataset, each engagement involved some element of customization and the integration of two or more product line components. Individual engagements in the dataset average nearly two million dollars in revenue and exhibit considerable variation in profitability. In addition to engagement profitability, each individual engagement record consists of additional descriptive data related to the solution offering and the customer sales

opportunity. While consumer transactions have a discrete and limited time span, business transactions tend to play out over an extended timeframe, presenting a major challenge to researchers. Thus, the large number of cases and the variety of descriptive information available at the individual transaction level make this dataset especially appealing.

Measurement

Table 5 defines each variable, associated measure, and source used to evaluate our framework. In the dataset, our dependent variable of engagement profitability was operationalized as gross margin percentage. This calculation is an objective measure obtained from the firm's accounting system that captures all direct product and service cost associated with the engagement project contract. These costs include all direct pre-project sales time and the expenses of the customer-facing team associated with preliminary problem identification and opportunity development activities. Thus, it is engagement-specific and calculated at the end of a completed customer project.

In addition to engagement gross margin percentage, we compiled additional descriptive data related to the customer sales opportunity and the solution offering. Two variables defining the attributes of the customer problem (*problem clarity* and *problem importance*) are derived from pre-project assessment completed by firm personnel. Accurate completion of these assessments is an important part of the firm's operating procedures and monitored as part of the firm's personnel evaluation process. The *problem breadth* variable and *customization* were obtained from project codes contained in the firm's project accounting system. These codes are recorded for each engagement and provide information used in the firm's knowledge management activities. The measure of *cross-product integration* is an objective metric calculated from the product revenue data in firm's project accounting system. Finally, the

control variables (*contract type*, *project size* (project revenue), and *relationship tenure* are objective measures and derived from the three firm databases. The majority of the variables in our dataset are engagement-specific and extend over the lifecycle of an individual solution project. The control variable of *relationship tenure*, however, is broader in scope and applies to the entire lifespan of the buyer-seller relationship.

Data Analysis

We will test the model's hypothesized relationships using ordinary least squares multiple regression. Given the structure of our framework and the nature of our data, multiple regression is an appropriate technique for evaluating our hypotheses. We will incorporate the control variables of *project size*, *project contract type*, and *relationship tenure* as well as the variables associated with the nature of the focal customer problem (*clarity*, *importance*, and *breadth*) and solution configuration (*product integration* and *customization*).

Following our framework and hypotheses, the model will incorporate the quadratic form of the *integration*, *customization*, and *breadth* variables. To minimize the potential negative consequences of multicollinearity, the linear and quadratic transformations of the hypothesized curvilinear variables will be mean-centered (Pedhazur 1997). Prior to running our analysis, we will perform a standard test of multicollinearity. The final form of the regression equation model will be:

$$\begin{aligned} \text{grossmargin} = & \alpha + \beta_1(\text{pricemodel}) + \beta_2(\text{tenure}) + \beta_3(\text{projectsize}) + \beta_4(\text{clarity}) + \\ & \beta_5(\text{importance}) + \beta_6(\text{breadth}) + \beta_7(\text{breadth})^2 + \beta_8(\text{integration}) + \beta_9(\text{integration})^2 + \\ & \beta_{10}(\text{customization}) + \beta_{11}(\text{customization})^2 + \epsilon \end{aligned}$$

We will examine the significance and sign of the respective coefficients as well as the overall adjusted R^2 (given the number of variables) of the model. We will follow the procedures recommended by Cohen et al. (2003) for interpreting the results of the proposed non-linear relationships. Table 6 summarizes the hypotheses and their associated test.

Conclusion

This chapter presented the methodological strategy for this research. We detailed the study's research setting, the two-phased data collection strategy, variables and measurement details, and our hypotheses-testing approach. In the following chapter, we provide the results of our analysis.

TABLE 5
Variable Definitions Used in Analysis

Construct	Variable Name	Measure	Source
Solution Engagement Profitability	GrossMargin	Engagement revenue – (direct product/service cost + direct opportunity pursuit costs) / Engagement revenue	Techco Accounting System
Problem Clarity	Clarity	Average of two items from pre-engagement assessment completed by management (1-9 Likert scale, 1 = Undefined, 9 = Highly defined): “How defined is the client’s issue to be addressed?” and “How defined are the project’s outcomes and deliverables?” $r = .93$	Techco Project Risk Management Database
Problem Importance	Importance	Pre-engagement assessment question completed by management (1-9 Likert scale, 1 = Less important, 9 = Most important): “How importance/critical is this project to the client’s organization?”	Techco Project Risk Management Database
Problem Breadth	Breadth	Continuous variable indicating the scope of focal customer problem. Derived from number of customer functions, departments, or organizational units (i.e., finance, IT, customer service) involved in solution engagement.	Techco Accounting System
Cross-Product Integration	Integration	Number of discrete products included in solution offering (e.g., specific hardware, software, and service components integrated into solution). Manually calculated from revenue data.	Techco Accounting System
Customization	Custom	Indicator of degree of customization of offering, categorized along a 7-point continuum spanning from less customized to most customized. Coded by management.	Techco Accounting System

TABLE 5

Continued

Construct	Variable Name	Measure	Source
Relationship Tenure	Tenure	Continuous variable indicating the number of months since customer relationship first originated and the start of focal solution engagement.	Techco Customer Relationship Management System
Contract Pricing Model	PriceModel	Categorical variable coded by management indicating contractual pricing structure of engagement: 1 = time and materials (agreed upon rates/prices as incurred), 2 = fixed price (set/limited billings), 3 = contingent, performance-based pricing (gainsharing model whereby pricing determined by specific performance targets/ROI).	Techco Accounting System
Relative Project Size	ProjectSize	Solution engagement revenue (dollars)	Techco Accounting System

TABLE 6
Tests of Hypotheses

Hypothesis	Variables	Hypothesized Relationship	Test Procedure
H ¹	Problem Clarity → Solution Engagement Profitability	Linear (positive)	OLS regression
H ²	Problem Importance → Solution Engagement Profitability	Linear (positive)	OLS regression
H ³	Problem Breadth → Solution Engagement Profitability	Curvilinear (inverted)	OLS regression
H ⁴	Product Integration → Solution Engagement Profitability	Curvilinear (inverted)	OLS regression
H ⁵	Customization → Solution Engagement Profitability	Curvilinear (inverted)	OLS regression

CHAPTER 6

RESULTS

In this chapter, we present the results of our analysis to test the hypothesized relationships in our solution profitability framework. First, we provide a summary of the data sample, including basic descriptive statistics. Next, we present the outcomes of our specific hypothesis tests. Finally, we conclude with a summary of the results.

Sample Description

We integrated customer project information from three proprietary data sources at a large technology firm in order to create profiles of completed solution engagements. Our effort was somewhat restricted due to the specific date from which Techco began collecting certain information used to operationalize our variables (i.e., January 1, 2002). The initial data integration effort generated a set of 812 solution engagements that were initiated and completed during a recent three and one-half year period. We excluded a limited number of these engagements due to one or more missing variables. This database refinement process generated a final sample of 770 completed engagements profiles for use in our analysis. To determine any potential bias resulting in the elimination of 42 engagements, we compared the mean score for each variable with the mean from the original sample using a *t*-test. For all variables, the means exhibited no statistically significant difference.

Although our data were obtained from a single firm, we believe that the sample provides a robust and appropriate representation of solutions contracts within complex business markets. Table 7 provides descriptive detail of the sample. Mean engagement revenue for the

sample was \$1.94 million and ranged from a high of \$58 million and a low of \$245,886. As is typical of customer contracts within most business markets (Sanders 1992), engagement revenue is not normally distributed, but rather screws toward a smaller number of larger dollar volume contracts. The median engagement revenue is just under \$650,000. Engagement gross margin profit percentage, the objective measure of our dependent variable, had a mean of 33.4%, but varied widely from a maximum of 94.1% to a minimum of -86.3%. Thus, a number of engagements incurred losses when pre-contract and delivery costs exceeded revenue collected from the customer. The average gross margin profit of 33.4% is consistent with the performance of peer firms, as identified by the Dow Jones U.S. Technology Index. As detailed in Table 8 and Table 9, multiple geographic markets and industry sectors are included in the sample. Finally, Table 10 provides the Pearson bi-variate correlations among the continuous variables in our framework.

TABLE 7
Sample Descriptive Statistics

	Mean	S.D.
Project Size ¹	1.94	4.95
Gross Margin % ²	.339	.279
Project Contract Type ³	1.98	.83
Relationship Tenure ⁴	73.80	52.58
Problem Clarity ⁵	4.70	2.33
Problem Importance ⁶	5.34	2.29
Problem Breadth ⁷	2.83	1.26
Cross-Product Integration ⁸	3.94	1.57
Customization ⁹	2.76	1.26

¹ The monetary size of the solutions engagement, in millions of dollars; median = \$647,987.68

² The profitability of engagement (revenue-cost/revenue)

³ 3-level categorical variable indicating type of pricing contract used

⁴ The length of the business relationship between the buyer and seller, in months

⁵ Average of two items regarding the ambiguity of customer's problem situation, rated on a 1-9 scale

⁶ Importance of problem to customer's business operations, rated on a 1-9 scale

⁷ Number of customer organizational units impacted by problem

⁸ Number of individual products (goods and services) included in solution bundle

⁹ Level of customization of offering, rated on 1-7 scale

TABLE 8

Geographic Distribution of Engagements

Customer HQ Location	Number
United States	511
United Kingdom	66
Germany	44
Canada	37
France	28
Australia/New Zealand	18
Spain	14
Brazil	13
Italy	10
Nordic (Denmark, Norway, Sweden)	9
Mexico	8
Belgium	7
Argentina	5

TABLE 9

Industry Distribution of Engagements

Industry Sector	Number
Manufacturing	272
Financial Services	108
Telecommunications	88
Retail	87
Government/Public Sector	65
Consumer Services	56
Distribution	42
Utilities	32
Media and Entertainment	11
Non-Profit	9

TABLE 10
Pearson Correlations of Non-Categorical Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Gross Margin %	1.00							
(2) Engagement Revenue	-.020	1.00						
(3) Relationship Tenure	-.008	-.085*	1.00					
(4) Problem Clarity	.498**	.005	-.049	1.00				
(5) Problem Importance	-.268**	-.019	.045	-.155**	1.00			
(6) Problem Breadth	.348**	.009	.016	.285**	-.211**	1.00		
(7) Cross-Product Integration	.063	-.042	.084*	.099**	-.004	.106**	1.00	
(8) Customization	-.418**	.005	-.047	-.186**	.189**	-.168**	-.019	1.00

** $p < .01$

* $p < .05$

Measure Assessment

Many of the measures in the study are objective, but several are derived from subjective management coding. To improve our confidence in the validity of these self-reported measures, we randomly selected 60 engagements from within our dataset of 770 for further evaluation. For each of these 60 engagements, we requested a copy of the engagement debrief document, a standard 2-3 page form completed by the team members at the engagement's conclusion. This document provides a complete and concise summary of each engagement, including customer needs, project objectives, and details regarding the delivered solution. Used as part of Techco's quality management program, accurate and timely completion of the forms by engagement managers is monitored actively by the company. Compliance and thoroughness of completion is also included as an item in a manager's annual evaluation. We personally shared the debrief summaries of approximately 15 different engagements¹ to four Techco managers who were familiar with the nature of the products and industry, but were not directly involved in the specific engagements. After reviewing the summaries, we asked these managers to complete the original engagement descriptive forms used to collect the self-report engagement-description data used in our analysis. In this way, these managers provided a secondary test of the subjective scores for a selected sample of our dataset. From the results of this sampling, we sought to infer more broadly about the accuracy of the information in the larger dataset.

In our initial inspection of these re-coded engagements, we found a very high degree of consistency. However, to assess the results of this process more formally, we conducted a statistical test of reliability between the original coding and the coding generated by the

¹ Some managers reviewed more than 15 summaries, while others reviewed less depending on their time availability. On average they reviewed 15.

secondary, *post hoc* coding exercise. As in any analysis of this type, a number of statistical methods can be used to evaluate the level of consistency between two raters' coding. One of the more robust and relatively conservative measures of inter-rater reliability is Cohen's kappa, an index with a value between 1.0 (perfect consensus between raters) and 0 (agreement is no better than chance) (Neuendorf 2002). As noted in Table 11, the Cohen's kappa reliabilities for the non-objective variables ranged from a high of 1 to a low of .89, well within acceptable ranges (Krippendorff 2004; Neuendorf 2002). The results of this exercise provide additional confidence in the measures used in our study.

Hypothesis Testing

We used multiple regression to assess the effects of the control and antecedent variables in our framework. For several reasons, including the number of potentially related independent variables and the fact that we estimated both linear and quadratic transformations of three variables in the regression equation, multicollinearity was a possible risk. To mitigate this threat, we followed the recommendations of Cohen et al. (2003) and mean-centered the values of the affected variables. To validate this strategy, we conducted a formal test of the multicollinearity among the independent variables within the dataset. As noted in Table 12, our test for adverse collinearity revealed that all variance inflation factors (VIF) calculations were well under acceptable cutoffs. Generally, the research literature recommends that VIF values of less than 10 indicate minimal risk of multicollinearity (Mason and Perreault 1991; Pedhazur 1997).

TABLE 11

Inter-Rater Reliability between Original and Recoded Engagements

Self-Reported Variable	Cohen's kappa (κ)
Pricing Model	1.00
Problem Clarity (an average of two items)	
Problem clarity	.89
Outcome clarity	.92
Problem Importance	.89
Problem Breadth	.93
Customization	.96

TABLE 12**Multicollinearity Test of Independent Variables**

Variable	Variance Inflation Factor (VIF)	Tolerance
Pricing Model	1.006	.994
Engagement Revenue	1.012	.988
Tenure	1.025	.976
Problem Clarity	1.214	.824
Problem Importance	1.107	.904
Problem Breadth (Mean Centered)	1.318	.759
Problem Breadth ² (Mean Centered)	1.166	.858
Cross-Product Integration (Mean Centered)	1.417	.706
Cross-Product Integration ² (Mean Centered)	1.427	.701
Customization (Mean Centered)	1.474	.679
Customization ² (Mean Centered)	1.437	.696

Table 13 provides the results of our model regressing the control and antecedent variables on solution engagement gross margin. Overall, the variables in the model account for 45.1% (adjusted R^2) of the variance in engagement gross margin percentage ($F = 58.48, p < .001$). In addition, an F test to assess the difference in explained variance of a linear-only model versus a model incorporating the three quadratic terms representing the hypothesized curvilinear relationships indicated a significant difference between the models (adjusted R^2 change = 0.056, $p < .01$). As hypothesized, the framework's antecedents were all significant, although the direction of one relationship was not as anticipated. In the following sections of this chapter, we discuss the individual results of our hypothesis tests.

Problem Characteristics: Customer Situational Factors

A key component of our model was the notion that solutions marketing was akin to outsourced organizational problem solving. Building on perspectives in the problem-solving literature, we hypothesized that the nature of the customer problem situation would influence individual solution engagement profitability. In particular, our framework incorporated three key problem attributes identified as important within the extant literature on successful problem-solving. In H_1 , we examined the attribute of *problem clarity*, defined as the degree of ambiguity surrounding with the focal customer problem. Taylor (1974) proposes that clear problems are those that have unambiguous problem definitions and target outcomes. The results indicate a positive relationship between clarity and gross margin percentage, supporting this hypothesis ($b = .32, t = 10.78, p < .001$).

TABLE 13

Regression Results of Antecedents and Controls of Engagement Profitability

Variable	Standardized Coefficients	t-Value
<i>Problem Antecedents</i>		
Problem Clarity	.317	10.784***
Problem Importance	-.089	-3.163**
Problem Breadth	.194	6.315***
Problem Breadth ²	-.116	-4.009***
<i>Solution Antecedents</i>		
Cross-Product Integration	.143	4.488***
Cross-Product Integration ²	-.240	-7.517***
Customization	-.242	-7.452***
Customization ²	-.075	-2.356*
<i>Controls</i>		
Pricing Model	.007	.252
Project Size	-.018	-.664
Relationship Tenure	-.040	-1.466
<i>F</i>	58.48	
<i>R</i> ²	.459***	
Adjusted <i>R</i> ²	.451***	

* $p < .05$

** $p < .01$

*** $p < .001$

n = 770

Next, H₂ addressed the attribute of *problem importance*. Problem importance was defined as the criticality of the problem to the buyer's organization. Extending perspectives from problem-solving research, coupled with marketing buyer behavior studies, we proposed a positive linear relationship between problem importance and engagement profitability; we anticipated that greater levels of importance would be associated with higher solution project profit. Supporting this view, the results of our regression indicate a significant relationship between importance and profit ($b = -.089$, $t = -3.16$, $p < .01$). However, the direction of this relationship is negative rather than the hypothesized positive direction. This result indicates that as the degree of importance increases, the profitability of engagements in our dataset decreases.

In *post hoc* analysis, we attempted to provide some additional understanding of this unexpected outcome by evaluating a more complex, non-linear relationship between importance and profitability. Specifically, we tested whether or not problem importance positively correlated with profitability to a point, then negatively after a certain point. Such a proposition would be consistent with the problem-solving literature, but would also recognize that the supplier's increasing marginal cost for addressing very important problems may not be easily passed on to a buyer (Heide and Stump 1995; Jap and Ganesan 2000). To evaluate this alternative view, we added a quadratic form of our original linear problem importance variable to the model and performed a second multiple regression. The results of this exercise failed to support a curvilinear relationship between importance and profit. Specifically, the new quadratic term in the regression model proved to be insignificant. We will discuss further this unanticipated finding in the next chapter.

Finally, H₃ addressed a third major characteristic of customer problems, *problem breadth*. We defined problem breadth as the scope of a focal problem across the customer's organization. Problems with greater breadth cut across more organizational functions or departments compared to lower breadth problems, which might only impact a smaller number or a single department. We hypothesized a non-linear relationship whereby we suggest that engagement profitability increased with problem breadth to a point, then declined as breadth increased to higher levels. In other words, we proposed that higher levels of profitability are associated with moderate levels of breadth. Results of this test found that the quadratic transformation of the problem breadth variable was significant and that the sign of the coefficient was negative, indicating an inverted U-shape relationship between problem breadth and engagement profitability ($b = -.116$, $t = -4.01$, $p < .001$).

Solution Configuration Characteristics: Integration and Customization

Our model also included descriptive data on the two core dimensions of a solution: cross-product integration and customization. As noted previously, the emerging consensus is that these two dimensions constitute the defining attributes of a solution offering. In H₄ we focused on the element of *cross-product integration*, defined as the number of individual products included in the focal solution bundle. This variable was measured as an objective count of standalone goods or services included as part of the final solution offering. We proposed a negative curvilinear relationship between cross-product integration and engagement profitability. In other words, we suggested that profitability increased at a decreasing rate with the number of individual products; highest levels of profitability would occur at moderate levels of product integration. The results of our test support this hypothesis ($b = -.24$, $t = -7.517$, $p < .001$).

Moreover, in H₅, we examined the dimension of solution customization, defined as the degree of customer-specific adaptation of the solution components. Guided by the basic logic of economies of scale, coupled with the need for a core degree of customization required within the solutions model, we hypothesized an inverted U-shaped relationship between customization and engagement profitability. Specifically, we suggested that highest profitability would be associated with moderate levels of customization. Our regression results support this view ($b = -.075$, $t = -2.36$, $p < .05$).

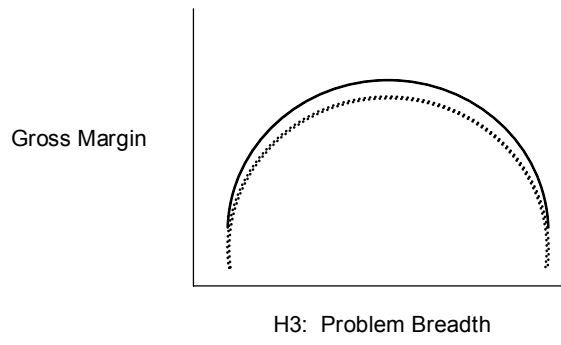
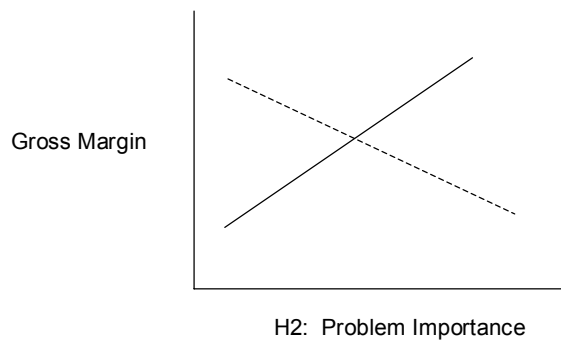
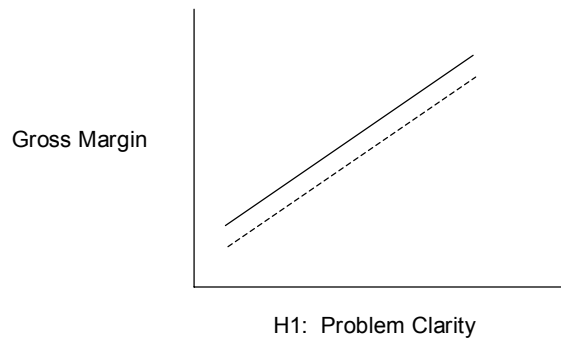
Control Variables

In addition to our antecedents of conceptual interest, the framework incorporated three control variables of relevance to complex solution engagements: engagement revenue, relationship tenure, and contract pricing model. The relationship tenure variable was expected to be particularly relevant given the recent literature on relationship marketing (e.g., Reichheld, 1996; Reinartz and Kumar, 2000). However, as presented in Table 13, the regression analysis failed to reveal any statistically significant relationship between any of the three covariates and our dependent variable of engagement gross margin percentage.

Summary of Results

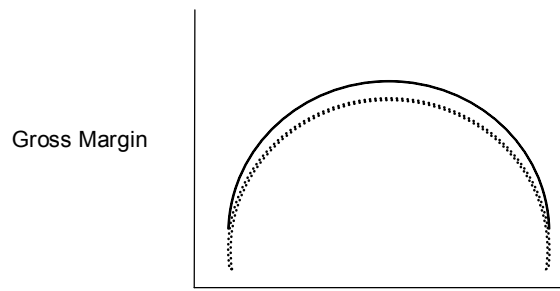
Our analysis offered support for the significance of the hypothesized relationships within our framework. Figure 3 provides a graphical depiction of these findings. In summary, the three key attributes characterizing a customer's problem situation are highly associated with variance in solution profitability. However, in the case of one problem-related antecedent, problem importance, the direction of the relationship did not match our expectation. An additional analysis failed to find a significant effect for a curvilinear relationship between importance and profitability. Likewise, the characteristics of the two solution configuration

dimensions in our framework significantly influence engagement gross margin. On a relative basis, of all the variables in our framework, problem clarity proved to be among the more important antecedents to solution engagement profitability. In the next chapter, we discuss these findings further, including their implications for marketing research and practice.

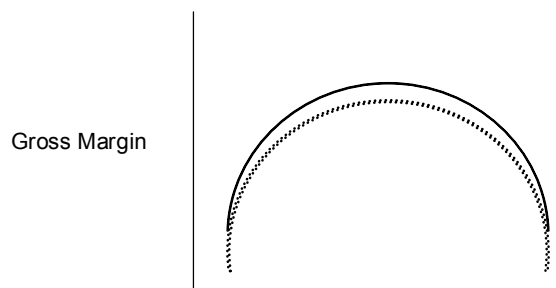


———— Hypothesized Relationship
 - - - - - Results of Analysis

FIGURE 4
Illustrative Depiction of Hypotheses and Results



H4: Cross-Product Integration



H5: Customization

———— Hypothesized Relationship
 - - - - - Results of Analysis

FIGURE 4

Continued

CHAPTER 7

IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

In this final chapter, we discuss the results of our study. Specifically, we offer potential theoretical and managerial implications of our findings. We also note important limitations of the study. We conclude by highlighting potential avenues of future research stemming from these results.

Theoretical Implications

The emerging solutions marketing strategy is a major development within the business-to-business arena. But, unfortunately, we know little about this phenomenon. This dissertation advances our understanding of solutions and makes a number of theoretical and managerial contributions. At a theoretical level, we suggest that this research contributes in at least three areas.

First, and at the most broad level, this study represents the first empirical examination of the solutions strategy, answering the call for research on this topic by numerous researchers (e.g., Day 2004; Dhar, Menon, and Maach 2004; Tuli, Kohli, and Bharadwaj 2007; Vargo and Lusch 2004). While a modest number of academic papers and a larger body of managerial publications have discussed solutions, these efforts have been conceptual and generally supportive of this strategy. Unfortunately, there has yet to be any empirical assessment of this distinctive marketing model. As noted by many authors, solutions epitomize a strategy in which practice has outpaced academic inquiry (Deighton and Narayandas 2004; Sawhney 2006). This research offers the opportunity to evaluate solutions more critically by gaining insight into the factors associated with customer project profit. In particular, this analysis

highlights the contingent and complex nature of the solutions model. Our results support the need for additional research to understand this phenomenon more fully.

Second, this study suggests the need to explore further the role played by customer situational characteristics in business marketing. As noted decades ago by scholars such as Levitt (1960), and most recently reiterated by Vargo and Lusch (2004), ultimately, marketing is concerned with addressing a need of a customer. Given this, it is interesting to observe that customer problem characteristics represent a relatively under-explored class of variables within the industrial marketing literature. This seems especially surprising given the recent emphasis on building close, problem-solving partnerships with buyers (Weitz and Bradford 1999). Identifying and addressing important customer problems is seen as a key differentiation strategy for sellers (Hancock, John, and Wojcik 2005; Rackham and DeVincentis 1999). In the case of complex business markets, our findings support the view that customer problem attributes are highly related to at least one critical organizational outcome, namely, contract profitability. As a result, we believe this dissertation contributes by reinforcing the importance of more closely examining the role of different problem characteristics. The introduction of theoretical perspectives and concepts from the organizational problem-solving literature should encourage additional research by business marketing academics.

The negative relationship between one problem-related variable, problem importance, and profitability was an unexpected finding in this study. A consistent message, especially within the industrial buyer behavior literature, is that suppliers should actively pursue sales opportunities defined as important by the prospect (e.g., Bunn and Liu 1996). Among many things, the suggestion has been that such deals involve less price sensitive buyers, thus create an opportunity to gain higher returns for suppliers. This logic provided the basis for our

second hypothesis. However, the results of our initial analysis indicated the significant, but negative influence of importance on solution contract profitability. Our *post hoc* test of a potential curvilinear relationship between problem importance and profit was not significant. Our empirical findings imply the need to examine more closely the attributes associated with customer problem importance.

Our conjecture, based upon informal follow-up discussions with managers, is that problems perceived as critical to the buying firm present a dilemma for the customer-facing team. While individuals on the selling side of the dyad may be aware the need to meet adequate profitability targets, potentially this realization is counterbalanced by the account team's interest in helping a customer address a critical, high visibility issue. One manager recalled a recent project in which his team faced the challenge of implementing an integrated IT accounting system for two merging companies. The importance of executing a successful solution was well understood within the solution team, and the scope and complexity of the project was greater than expected due to last-minute changes in the customer's operations. Failure to meet the project deadline could result in severe regulatory penalties and lower credit ratings for the customer. As a result of these factors, the solutions supplier invested additional time and effort into the project, including more experienced personnel and additional software enhancements. In this example, genuine concerns for the consequences of not delivering the best possible solution to the customer were greater than the objective for higher profitability.

A supplier's investment in achieving customer goals ahead of their own profitability may be motivated by implicit or explicit customer pressure, signifying a form of interfirm opportunism (Stump and Heide 1996; Wathne and Heide 2000). At the same time, this motivation may originate within the members of the supplier's account team, many of whom

may seek to achieve (and are typically evaluated on) high customer satisfaction rather than gross margin contribution (Joseph 2001). The risk of sacrificing profit in order to deliver the best possible solution to an important customer problem may represent a practical limitation of a strong market or customer orientation within the firm's customer-facing organization. A number of studies have addressed the potential upside of a high customer orientation within the salesforce (e.g., Siguaw, Brown, and Widing 1994), but there is limited research into the downside risk of this perspective. Our findings suggest that problem importance may be one of many moderators to use in furthering our understanding of why firms persist in underperforming relationships (Anderson and Jap 2005; Bharadwaj and Narayandas 2005).

A third theoretical implication of this research involves levels of analysis used in business marketing research. As emphasized previously, our study examines the impact of various antecedents on a unique outcome: individual customer contract profitability. Perhaps one of the most dominant themes within the marketing community over the last decade is the importance of profitability as a critical outcome of interest (e.g., Rust et al. 2004; Srivastava, Shervani, and Fahey 1999). As a result, there is a growing body of profitability-focused literature, the vast majority centered on the *customer* level of analysis in the context of consumer-product markets (e.g., Reinartz and Kumar 2000; Rust, Lemon, and Zeithaml 2004). Unfortunately, there is a surprising absence of profitability research focused on industrial markets (Bowman and Narayandas 2004), with little to no work addressing individual customer contracts. However, within complex business-to-business markets, defined by a smaller number of large dollar-volume sales contracts – some representing tens or millions of dollars of revenue, examining complex transactions may be especially fruitful. Thus, another

contribution of this dissertation is the introduction of large-scale and complex transactions as an alternative level of analysis within industrial marketing.

Managerial Implications

This study presents several implications to managers seeking to implement the solutions model. In particular, the findings support the need for to managers to pay close attention to their sales opportunity and investment decision making. Not every opportunity yields equal return. Despite increasing profitability pressure on sales managers, the implicit focus of the extant industrial relationship literature has been on maximizing volume, customer satisfaction, and loyalty (e.g., Dwyer, Schurr, and Oh 1987; Homburg, Workman, and Jensen 2002). This study attempts to augment this dominant view by providing insight into how various opportunity factors affect transaction-specific profitability. Thus, the findings of this research offer managers practical guidance in better allocating their finite resources to those opportunities with the greatest promise of financial return.

At a practical level, the results suggest that managers should invest in deal review processes to ensure they adequately consider customer situational factors. In the case of solutions, encouraging account teams to more closely monitor and debate the nature of the customer's problem appears critical. To implement this focus, firms must improve the problem diagnostic and definition skills of account teams. As firms move to more complex sales strategies, salespeople will need to adopt problem-framing capabilities traditionally possessed by consultants. Recently, limited research advances the idea that a consulting orientation can improve sales force performance (Pelham 2002). Despite the appeal of a consultative mindset, managers must balance the advantage of this long-term approach with their salespersons' inherent interest in short-term customer wins. In addition, the outcome of our hypothesis

examining the attribute of problem importance suggests that managers should consider how to best balance the account team's sincere interest in effectively solving a customer's problem with a supplier's inherent interest in appropriate levels of contract profitability.

This study also reinforces the need for active collaboration across functions and product units of a solutions firm. Such interaction is especially important during the up-front solution design phase of a customer project, when decisions are made about the degree of product configuration and integration. Some members of the firm may have an interest in over-investing in customization or integration with the goal of maximizing customer satisfaction or competitive differentiation. Yet, as this study highlights, such decisions can have important project profitability implications. Getting the balance "right" requires a candid dialog among managers across different units of the firm. The traditional thinking has encouraged the development of cooperative relationships across different organizational functions, but recent research finds that "coopetitive" may be a better approach to improve financial and customer outcomes (Luo, Slotegraaf, and Pan 2006). In such a model, firms foster a simultaneous emphasis on cooperation and competition within intra-organizational groups. Solutions managers might also turn to the new product development process for potential ideas to increase effective cross-functional coordination and risk management in the context of a solutions strategy (Cooper 2001; Joshi and Sharma 2004).

Moreover, this research reiterates the importance of thoughtful management of customization investments. The results demonstrate that there is a declining financial return for suppliers as customization reaches a certain point. Some customization is rewarded with higher profitability, but contracts that go too far in their customization efforts are at risk of generating lower profit. Formal knowledge management systems (Cliffe 1998; Spender 2000)

might offer one approach to modifying such customization profitability patterns. Particularly, firms should consider more formalized processes for collecting and more widely disseminating successful methodologies and solution platforms. A formal position might be created with the charge of collecting, packaging, and rapidly distributing best practices from one successful engagement to other account teams within a similar industry market. This knowledge management strategy would provide a means of creating more repeatable solutions that leverage transaction-specific investments with one customer across other accounts. Sawhney (2006) refers to such an approach as a “solutions factory”, which inverts the traditional product-development mindset from the internal research and development function to the marketplace.

Finally, making wise solutions opportunity investment decisions requires access to better information, most fundamentally, reasonably accurate data about sales and product costs. At a broader level, our findings imply that firms must have a better view of their sales opportunity development costs as well. An important element in this study was the fact that the sponsoring firm tracked pre-contract costs incurred by various members of the account team as they developed specific sales opportunities. Because of the extremely long sales cycles of many solutions contracts, this approach provided a more accurate view of each project’s cost structure than if the firm had only accounted for direct product costs. There is no doubt that such data are very difficult to collect, but given their important role in the decision-making designed to optimize profits of each customer contract, firms should consider adopting this cost accounting practice.

Limitations

This study has a number of limitations. First, we utilize data obtained from a single firm, which some suggest, may limit the generalizability of the findings. However, in light of the potentially confounding differences in firm structures, products, and customers, we believe use of a single firm contributes to our results. In addition, our framework required collection of relatively unique data, particularly customer problem and contract profitability information, that can be very challenging to obtain using multiple-firm design. The ability to match objective contract revenue and cost data with descriptive details of specific sales opportunities across a large number of transactions provides an especially useful perspective on complex business relationships. However, obtaining and controlling for differences in such variables across many firms would be impractical. In addition, we note that the unit of analysis in this study was the individual customer engagement. The number and diversity of engagements within our dataset provided significant variance, which should decrease potential generalizability concerns.

In addition, several constructs in the framework were captured using single-item and/or subjective measures designed by the firm. We conducted a secondary assessment of a subset of the engagements to increase our confidence in these measures. The results of this exercise were favorable and provided added assurances. In light of the data collection challenges inherent in most business-to-business research (Bowman and Narayandas 2004), we believe the benefits of the measures included in our dataset counterbalance any potential limitations.

Finally, our research design does not allow us to make any claims of causality between the independent variables and our dependent variable in the framework. Although driven by theoretical perspectives and the views of practicing managers, the results of this study merely

indicate correlational relationships between certain variables. As a next step in the exploration of this emerging topic, we expect future research will adopt other methods to evaluate our findings further.

Future Research

Our study suggests the importance of exploring a number of additional research questions. First, researchers should investigate how various moderators influence solution profitability. By design, our framework offers a preliminary view of solution success, yet several moderating conditions likely affect the profitability of solution engagements. It would be interesting to assess how our findings generalize to different industry sectors and product markets. Although the technology industry is a primary adopter of the solutions model, other project-based industries, such as engineering and construction, and transportation, have embraced the strategy as well. We believe the attributes defining the customer problem and solution's configuration are equally applicable in these sectors, but there may be other industry-specific factors worth examining. Moreover, we believe a range of variables describing the competitive environment (its intensity, for instance) should be examined as potential moderators.

One of the more intriguing characteristics of solutions is the group-based sales and delivery process. As we describe, members of solution teams represent diverse elements within the selling organization, and potentially come from third party partner companies. This fact implies the need to explore further the nature of group interaction and decision making in this context. Given the problem-solving goal of solutions, there is an important need to research how various situational and process variables influence one of the most important activities of these groups – customer problem framing or definition. Within organizational

psychology, there is an emerging body of literature devoted to group problem solving. This stream has only begun to examine how different relational demographic and process factors contribute to the effectiveness and efficiency of group problem solving. To date, this research has used experimental designs, typically using simplified logic problems addressed by teams of undergraduates or MBAs. We believe extending this research to settings with more ecological validity (Zaltman, Pinson, and Angelmar 1973), such as complex sales environments, can improve our understanding in this area.

Finally, it is important to investigate how profitability of a solution engagement interacts with long-term customer equity. Our view is that firms first seek to maximize the financial contribution of the individual engagement, especially given the magnitude of these projects. But, over time, suppliers might find themselves delivering multiple solutions to the same buyer. In such a case, additional research is required to explicate the tradeoffs between short-term engagement profit and long-term returns with a single customer. Such research has the potential to bridge more fully the peculiarities of certain industrial markets with the growing body of CRM literature.

Conclusion

In recent decades, business-to-business firms have embraced the ideal of the marketing concept. The logical extension of this customer-centric movement is the solutions model, which focuses on the solving of unique customer problems using a customized product. Unfortunately, we know little about the factors explaining variance in the success or failure of this new strategy. As we found in our preliminary field interviews and as described in managerial publications, the need to increase the profitability of individual solutions contracts is a major, if not the most critical concern. On the surface, this issue appears conceptually

related to the current CRM discourse among academics and practitioners, which focuses on how to best optimize customer selection and resource allocation to maximize profitability. To date, CRM research has given primary attention to more transaction-oriented consumer markets and focused almost exclusively on optimizing tactical marketing-specific investments, such as promotion, communications, and customer service management. In this research however, we sought to extend this thinking to complex business markets by evaluating two key major categories of antecedents of solution profitability and doing so at the individual customer contract level of analysis. The results of this study should encourage additional attention on this important topic.

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APPENDIX A

FIELD INTERVIEW RECRUITMENT AND PROTOCOL MATERIALS

Field Interview Recruitment Email Message

Dear <First Name>:

I am writing to solicit your help in a research project I am conducting here at the University of Georgia. This study seeks to gain a better understanding of the issues impacting companies marketing integrated solutions. In particular, I am interested in learning how some firms appear more successful in designing, marketing, and delivering solutions than others. As you know, the challenges associated with the new solutions approach in B2B markets are significant, and I hope the results of my study will provide some needed insight.

Specifically, I would like to discuss these issues in person or over the phone in the coming weeks. I don't anticipate that this discussion will last more than one hour, but I am flexible to accommodate your schedule. The information I gather will be used for academic purposes only and your responses will be anonymous. At no time will you or your company be identified by name.

I appreciate your busy schedule, but I hope you see the potential benefits of this research and your involvement. As an added incentive, I will share the results of the research with interview participants following the conclusion of the study. Can you please let me know if you might be open to a brief discussion?

Thank you very much for your assistance. I look forward to hearing your thoughts on this topic.

Kind regards,

Brian C. Williams
Doctoral Student – Marketing
Terry College of Business
University of Georgia
bcw@uga.edu

Field Interview Protocol – Senior Executives

Briefly outline project scope, personal background, and overview topic.

Specific questions:

- Thinking about your solutions marketing strategy, what major challenges do you face?
- How do these challenges differ from your traditional product marketing approach?
- How does the solutions approach impact your performance measurement?
- How does your firm measure the performance of the solutions strategy?
- In your view, why are some solution transaction more profitable than others?
- How are solution sales opportunities identified? What is the proposal process and who does it involve?
- Think about a recent solution transaction you consider a success. Can you walk me through the identification, proposal, and delivery process?
- Now, let's do the same for a recent unsuccessful transaction – one that was less profitable than average.
- What are the key solutions trends you see emerging in your company or with competitors?

Field Interview Protocol – Sales Managers and Account Representatives

Briefly outline project scope, personal background, and overview topic.

Specific questions:

- Tell me about your experience in business-to-business sales.
- How does selling solutions differ from traditional product sales?
- In your view, what are the keys to successful solutions sales? What separates successful sales reps from less successful in this new model?
- How do identify a solution sales opportunity?
- Can you describe for me what the proposal process is like and who within the buyer's firm does it involve?
- Are there others in your firm who typically get involved in these pursuits? Can you describe their roles?
- Think about a recent solution transaction you consider a success. Can you walk me through the identification, proposal, and delivery process?
- Now, let's do the same for a recent unsuccessful transaction – one that was less profitable than average.
- What are the key solutions trends you see emerging in your company or with competitors?
- How has your performance management changed since the transition to the solutions strategy? What remains the same?

Post Project Follow-up Email

Dear <First Name>

Thank you very much for your time and insight during the preliminary planning stage of my research. As I mentioned when we talked, I am happy to share with you a summary of the research on understanding solution contract profitability.

As you will note in the report, these findings suggest that a number of key factors contribute to the profitability of individual engagements. In particular, this research suggests that managers should pay considerable attention to the different types of problems present in solution opportunities. To maximize profitability, it might be wise to avoid problems that are considered overly important to buyers as well as projects that involve a great many departments and functions within the buyer's organization. Likewise, there seems to be an optimal balance with regards to the degree of cross-product integration and customization. Too little integration and customization appear to limit profitability just as does too extreme integration and customization. At a minimum, managers and account representatives need to consider these factors explicitly as they evaluate various solution sales opportunities.

Once again, thank you for your cooperation. I hope that you find the enclosed summary useful. Please let me know if you have any questions.

Sincerely,

Brian C. Williams
Terry College of Business
University of Georgia