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Market-based Asset Management And Shareholder Value: Investigating The Roles Of Human Capital And Factor Markets In Maximizing Returns On Customer Relationships

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MARKET-BASED ASSET MANAGEMENT AND SHAREHOLDER VALUE:
INVESTIGATING THE ROLES OF HUMAN CAPITAL AND FACTOR MARKETS IN
MAXIMIZING RETURNS ON CUSTOMER RELATIONSHIPS

by

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ABSTRACT

The accountability of marketing investments continues to be a key area of concern for researchers and practitioners (MSI Research Priorities, 2008). In particular, market-based assets, specifically customer relationships, and their potential impact on firm performance are a significant source of interest. Though research in this area continues to grow, little is understood about how investments in human capital and the acquisition of alliance partners through factor markets relate to customer relationship management and the impact of customer relationships on performance. This dissertation presents two studies which, together, investigate how investments in market-based assets influence on abnormal stock returns.

In the first study, the resource-based view of the firm (Barney 1991) is used to posit several hypotheses related to investments in human capital. The hypotheses are tested using ten years of data from the U.S. airline industry and analyzed using a mixed-effects methodology. Results indicate that investments in customer service personnel impact abnormal stock returns through their impact on customer relationships. Moreover, these investments tend to have decreasing returns in terms of their impact on customer relationships, and the relative strength of this relationship is shown to be contingent upon a firm's service delivery capabilities, advertising expenditures, and operating focus. This study helps clarify how market-based assets are managed, how investments in specific resources used to manage them relate to stock returns, and why the same dollar invested in human capital by different firms can lead to different levels of returns.

The second study also takes a resource-based view of the firm and the management of market-based assets. From this perspective, alliances are considered as external resources acquired in strategic factor markets (Barney 1986) for the purpose of complimenting a focal firm's strategy and performance. This study investigates the long-term impact of alternative types of alliances and the potential impact of alliance partners' customer relationship management capabilities on a focal firms' performance.

Just as in study one, ten years of U.S. airline data are used, and a mixed-effects methodology is implemented to test hypotheses. Results indicate that the direct benefits of horizontal marketing alliances tend to be positive, but dependent upon the extensiveness of the alliance. Furthermore, it is revealed that the impact of a partner's customer relationship management capabilities on a focal firm's performance is contingent upon whether the partner's capabilities are similar or dissimilar relative to the focal firm. In short, results indicate that when differences exist, the positive impact of a focal firm's customer relationship management capabilities can be reduced to almost zero if that firm allies with a less competent partner.

Taken together, these studies tend to suggest that firms which learn to successfully manage investments in customer relationships may risk nullifying expected positive returns if they simultaneously select alliance partners which are less successful at managing such investments. Similarly, firms which are not able to improve their own management of customer relationships can potentially limit the potential negative consequences by allying with more able firms. In all, this dissertation helps address the accountability issue for marketers.

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CHAPTER ONE: GENERAL INTRODUCTION

Marketing strategy is a key element of a firm's ability to develop a competitive advantage and create value for shareholders. However, the success of a given strategy is connected, in part, to its available resources (Wernerfelt 1984; Barney 1991; Day 1994). Relationships with alliance partners and relationships with customers are two particularly valuable market-based resources (Srivastava, Shervani, and Fahey 1998; Srivastava Fahey and Christensen 2001). Whereas marketing research has made advances in defining the value of these resources, progress in explaining how marketers can develop and manage these market-based resources is limited (Srivastava, Shervani, and Fahey 1999; Rust, Lemon, and Zeithaml 2004).

The accountability of marketing investments is a key area of concern for researchers and practitioners (MSI Research Priorities, 2008). Here, I focus on how marketers can impact abnormal stock returns through the management of customer relationships and horizontal marketing alliances. First, I investigate the potential for human capital to drive stock returns through its impact on customer relationships. Whereas others have focused on the economics of superstars (e.g., Rosen 1981; Groysberg, Lee, and Nanda 2008), I focus on the ability of commodity employees to create a competitive advantage. Specifically, I investigate how the combination of a firm's strategic decisions and service delivery capabilities impact the idiosyncratic returns of a firm's investment in customer service employees.

Second, I investigate how decisions made in factor markets impact the return on a firm's investments in customer relationships. Firms acquire alliance partners from factor markets based upon their ability to allow a focal firm to supplement its existing bundle of resources to achieve a

desired strategic position (Barney 1986). However, what happens to the return on a firm's investments in customer relationships if it selects a partner which has poor customer relationship management capabilities? Is the return on marketing impacted by decisions made in factor markets? I investigate these relationships in the context of service-oriented horizontal marketing alliances.

I approach the topics in each study from the resource-based view of the firm (Wernerfelt 1984; Barney 1991). The resource-based view of the firm postulates that long-term performance advantages result from sustainable resource advantages derived from the employment of valuable, inimitable, and non-substitutable resources and capabilities (Wernerfelt 1984; Barney 1991). Such resources can be internally possessed, such as human resources, or can arise from the commingling of the firm with the external environment, such as customer relationships or alliances (Srivastava et al. 1998). Because my research is centered upon strategic resource management, this is a preferable theoretical lens.

Regarding the first study, the purpose is twofold. First, I consider how a firm's investments in commodity employees impact stock returns. Marketers study the drivers of sales persons' performance (e.g., Dixon, Spiro, and Jamil 2001) and customer service representatives' performance (e.g., Singh, Goolsby, and Rhoads 1994), but the ultimate value of investments in these assets are rarely identified. Moreover, these resources are rarely considered as strategic drivers of a competitive advantage. Rather, it is more common for researchers to study the strategic value of star performers (e.g., Rosen 1981; Groysberg, Lee, and Nanda 2008). However, it is role players in a firm who are most often responsible for building and managing

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customer relationships. Thus, there is a need to go beyond the mere management of these personal, as is done in marketing, and to expand our strategic view of such human capital.

Second, I integrate marketing literature on the drivers of service quality (e.g. Parasuraman, Zeithaml, and Berry 1998; Roth and Jackson 1995), the outcomes of service quality (Zeithaml, Berry, and Parasuraman 1996), and the relationship between customer satisfaction and stock value (e.g. Aksoy et al. 2008; Fornell et al. 2006). The advances made in each area are substantial, independently, but there has been little effort to integrate these literature streams and investigate the strategic drivers of satisfaction. As such, it is difficult to clearly decipher whether the impact of strategic investments by one firm will have the same impact as an identical investment in another firm.

This study is carried out in the context of the airline industry, using 10 years of cross-sectional data. The findings indicate that the impact of investments in commodity employees on stock returns is positive, and mediated by customer (dis)satisfaction. Moreover, these investments provide decreasing returns in their tendency to influence customer (dis)satisfaction, and the nature of the returns is contingent upon a firm's strategic operating focus, advertising investments, and service delivery capabilities. This suggests that, while role players are significant in determining a firm's market capitalization, the return on investment in these employees must be managed within the idiosyncratic strategic posture of each firm.

In chapter 3, a second study is performed to investigate whether returns on investments in customer relationships are affected by a firm's decisions in factor markets. Relationships with alliance partners and relationships with customers are capable of providing a competitive advantage to a focal firm. Consequently, both resources can improve a firm's short-term and

long-term performance (e.g., *customer relationships*: Aksoy et al. 2008; Fornell et al. 2006; *strategic partner relationships*: Anand and Khanna 2000; Das, Sen, and Sengupta 1998). However, I propose that there is an inherent risk in viewing the management of these two market-based assets independently.

Strategic alliances are "the pooling of skills and resources by alliance partners, in order to achieve one or more goals linked to the strategic objectives of the cooperating firms" (Varadarajan and Cunningham 1995, p. 283). The primary purpose of this study is to investigate whether the alignment (Madhok and Tallman 1998; Das and Teng 2000) of customer management capabilities between partnering firms is likely to have an impact on the overall value-creating tendency of an alliance for each partner. In essence, I propose that an alliance creates value by allowing a focal firm access to resources which it cannot or will obtain on its own, but that it also has an inherent risk of destroying value by selecting partners' which are less capable at managing customer relationships.

I study this potential in the context of horizontal marketing alliances in the airline industry. This context allows a unique opportunity to study horizontal marketing alliance between service providers. In general, each of the service providers is pursuing a horizontal integration strategy, wherein each firm is attempting to grow by creating a partner out of a rival (Varadarajan and Rajaratnam 1986). In the process, each firm integrates particular services to achieve a more competitive position for itself in the market (e.g., Hill and Hellriegel 1994; Harrison et al. 1991), and, in the process, exposes its customers to the relationship management capabilities of the partner firm. Again, I adopt a resource-based perspective (Wernerfelt 1984;

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Barney 1991) to investigate these relationships, so as to use a common theoretical lens in connecting alliance partner selection and customer relationship management capabilities.

The results of this study indicate that the integration of complementary services by competitors relates to positive abnormal stock returns for a focal firm. This effect is theorized to result from the synergistic affects of the complementary services (Harrison et al. 1991; Stafford 1994). However, the results also indicate that when a firm with high customer relationship management capabilities selects a partner with low customer relationship management capabilities the value-creating tendency of the focal firm's capabilities can be wiped out. Moreover, a firm with low capabilities cannot easily compensate by allying with a firm with high capabilities. Thus, the evidence suggests that horizontal marketing alliances in service industries have the potential to be both value creators and value destroyers.

Taken together, these studies help clarify the processes by which strategic marketing investments add value to a firm. They indicate specific decisions which managers can make to increase the potential value of market-based resources (Srivastava, Shervani, and Fahey 1998; Srivastava Fahey and Christensen 2001), and they highlight contingencies to the potential effectiveness of these decisions. The study in chapter 2 highlights the value of considering investments in role players, or commodity employees, when managing market-based assets. The second study, in chapter 3, highlights the value-creating and value-destroying potential of horizontal alliance partners chosen in factor markets. Overall, theoretical contributions are made to the resource-based view of marketing strategy, and managerial implications related to the accountability of marketing are clearly outlined.

CHAPTER TWO: HUMAN CAPITAL, CUSTOMER RELATIONSHIPS, AND ABNORMAL STOCK RETURNS

Introduction

The accountability of marketing investments continues to be a key area of concern for researchers and practitioners (MSI Research Priorities, 2008). When executives face decisions on whether to improve service quality, increase advertising, or adjust operations it is critical to have some understanding of the strategic and financial implications of such decisions. Research into the return on marketing is growing (e.g. Rust et al. 2004), and one particular area of growth has been the connection between investments in service quality, satisfaction, and stock performance (e.g. Aksoy et al. 2008; Zeithaml, Berry, and Parasuraman 1996).

Researchers have considered the drivers of service quality (e.g. Parasuraman et al. 1998; Roth and Jackson 1995), the outcomes of service quality (Zeithaml, Berry, and Parasuraman 1996), and the relationship between satisfaction and stock (e.g. Aksoy et al. 2008; Fornell et al. 2006). However, strategic-oriented research connecting resource investments, service capabilities, customer-perceived quality, and stock performance is lacking.

Service operations, employees, customers, and profits are all critical elements determining the success of service organizations (Heskett, Sasser, and Schlesinger 1997; Kamakura et al. 2002). Of course, knowing where to spend and how to spend in order to get a proper return on quality improvements is critical (Rust, Zahorik, and Keiningham 1995). But what makes an investment more or less profitable for a firm? Service organizations, in particular, face several challenges in managing productivity and quality (Anderson, Fornell, and Rust

1997). It is possible that the same dollar, invested in two different organizations, will provide very different returns.

One way to approach the impact of a strategic decision is to consider whether it will provide a competitive advantage to the organization (Peteraf 1993). The resource-based view of the firm specifies that rare resources and capabilities, assuming that they are valuable, are what provide organizations a competitive advantage (Barney 1991). In other words, one can approach a marketing investment decision from the perspective of the value it will add to the complex bundle of resources and capabilities under the control of a specific firm.

This study presents a resource-based perspective (Barney 1991; Wernerfelt 1984) of the shared conceptual elements of the service profit chain (Heskett, Sasser, Schlesinger 1997; Kamakura et al. 2002) and the return on quality framework (Rust et al. 1995). The purpose is to show how service delivery capabilities and investments in customer service employees impact stock value. It presents theoretical expectations for how an organization's operating focus, advertising, and experience can act as contingencies to the effectiveness of investments in customer service employees and how an organization's business model can act as a contingency to the relative value of service delivery capabilities. In addition to these contingencies, the synergistic properties of human capital (i.e. service delivery personnel) and service delivery capabilities are examined.

Objective, detailed data from the airline industry is used for hypothesis testing. This context provides a clear distinction between different business models and allows for hypotheses to be tested in a single mature industry. The data captures investments in customer-service employees, service delivery capabilities, operating decisions, and customer-focused advertising

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investments and links these strategic factors to customers' observable behavioral responses to dissatisfaction with overall service quality. In turn, these behavioral responses to dissatisfaction are shown to mediate the impact of strategic marketing decisions on abnormal stock returns.

<u>Theoretical Framework and Hypotheses</u>

Resource-Based View of Internal and External Resources

The resource-based view of the firm (RBV) postulates that the exploitation of valuable, rare resources and capabilities contributes to a firm's competitive advantage (Barney 1991). In turn, a firm's competitive advantage enables it to improve its short-term and long-term performance (Barney 1991; Powell 2001). Long-term performance advantages result from sustainable resource advantages derived from the employment of valuable, inimitable, and non-substitutable resources and capabilities (Wernerfelt 1984; Barney 1991). In general, resources can be internally possessed, such as human resources or raw materials, or they can arise from the commingling of the firm with the external environment, such as customer relationships or alliances (Srivastava et al. 1998).

In the current context, I focus on how service firms' internal service delivery capabilities and personnel-based service resources impact the development of external market-based relational resources and, subsequently, above normal financial performance. Next, I provide a brief resource-based perspective of these elements. Then, relationships between these constructs and contingencies are hypothesized.

Personnel-based customer service resources. This study uses the term personnel-based customer service resources to identify employees whose main responsibility is to interact with customers and manage customers' experiences. These employees may be considered boundary

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spanners (Stamper and Johlke 2003) or frontline service employees (Elmadag, Ellinger, and Franke 2008).

The critical role of such employees in delivering service quality and completing the service-profit chain is not debated (Parasuraman et al. 1985; Heskett et al. 2008). An organizations' human resources can directly impact customer perceptions about service quality (Kamakura et al. 2002). That is, if the personnel-based customer service resources are valuable, they are expected to positively impact the satisfaction levels of a firm's customer base. In turn, higher levels of satisfied customers can create a competitive advantage that leads to above average financial returns (Aksoy et al. 2008; Fornell et al. 2006).

I purposefully distinguish these resources as personnel-based because most organizations will have other resources that are employed in servicing customers. For example, customers service quality judgments may also be influenced by physical facilities and tangible materials (Parasuraman et al. 1985) or intellectual resources such as advertising communications or brands (Mehta, Chen, and Narasimhan 2008).

In this study, I am also making a distinction between personnel closely connected to servicing customers and other personnel. This allows the theoretical explanations and empirical results to remain focused on how marketers can manage resources contributing to customer service initiatives and, subsequently, help validate the return on marketing investments (Rust et al. 2004).

Service delivery capabilities. Capabilities bring tangible assets together and enable them to be deployed advantageously (Day 1994). Capabilities are intangible. They can be manifested

in many ways, one of which is service delivery (Day 1994). Service delivery capabilities allow

an organization to perform value-creating service tasks effectively (Krasnikov and Jayachandran

2008). For example, the flight departure process for an airline can involve members of 12

distinct functions, and the consistent, efficient accomplishment of the task can lower operating

costs and improve passengers' perceived quality of the airline (Gittell 2003). For example,

Southwest's ability to lead the airline industry in gate turnaround times reflects a high level of

service delivery capabilities.

Customer service capabilities (Moore and Fairhurst 2003) and customer response

capabilities (Jayachandran, Hewett, and Kaufman 2004) are marketing capabilities which have

previously been linked to performance. Within their respective studies, customer service

capabilities included providing quality products and handling customer complaints and customer

response capabilities included the rapidity of responses and the propensity to respond. Both

constructs are commonly measured using self-report surveys. Here, service delivery capabilities

represent the ability to perform key service tasks effectively, and it is measured with observable,

validated performance data.

To clarify, the construct as it is presented here does not represent the "product" features

related to services. For example, in relation to the current conceptualization of service delivery

capabilities, the providing of desired physical features of a phone would not be considered

service delivery. However, the clarity and availability of phone reception would be included.

Developing external relational resources. Market-based resources may be either

relational or intellectual, and relational assets are related to the relationships between a firm and

key external stakeholders (Srivastava et al. 1998). These relationships are formed on the basis of

value delivered to customers, in part, by service quality and experiential benefits (Srivastava et al. 2001). From a resource-based perspective, firms can establish a competitive advantage with established relational resources which are difficult or costly to imitate and capable of providing an advantage which leads to financial performance benefits (Barney 1991; Srivastava et al. 2001).

One outcome of perceived service quality can be increased satisfaction with a company's service (Zeithaml et al. 1996). Satisfied consumers, in turn, may be more likely to pay higher prices (Homburg, Koschate, and Hoyer 2005), to provide positive word of mouth (Brown et al. 2005), to repurchase from a focal firm (Mittal and Kamakura 2001), and to develop loyal purchasing behaviors towards firms which consistently satisfy them (Oliver 1999). These outcomes of well-managed customer relationships represent a competitive advantage for firms. Thus, customer relationships, if properly managed, are capable of providing above average long-term performance (Fornell et al. 2006; O'Sullivan and Abela 2007).

To be clear, the current study does not focus on measuring customer relationships, per se. Rather, the focus is on understanding how to strategically manage dissatisfaction levels. I argue that if dissatisfaction is properly managed, then two competitive benefits can arise. First, the development of valuable external relational resources (i.e. customer relationships) is more likely. Second, negative behaviors associated with dissatisfaction (Zeithaml et al. 1996) can be averted, thus protecting brand equity (Srivastava et al. 2001). However, though brand equity and customer relationships are neither directly modeled nor measured, the current study does asses how internal resources impact customer dissatisfaction levels and, subsequently, abnormal stock

returns. Here, successful strategic management of external relational resources (i.e. lowering dissatisfaction) is a proxy for gaining a competitive advantage.

Above normal financial performance. Performance refers to the economic value that a firm captures from its competitive advantage (Newbert 2008). Performance is ultimately a function of the effectiveness with which a firm exploits its resource and capability combinations (Newbert 2008). Effective exploitation is subsequently theorized to create competitive advantages. Competitive advantages are what allow a firm to extract above normal financial performance (Powell 2001). Above normal financial performance is thus modeled in this study as a way of verifying weather the market-based resources being studied (i.e. customer relationships) are truly valuable and capable of creating competitive advantage.

In summary, the resource-based view postulates that valuable resources and capabilities, if successfully leveraged, can create one or more competitive advantages which are a means of realizing above normal performance results. In this study, the focus is on connecting investments in internal personnel-based customer service resources and internal service delivery capabilities to advantages in external customer relationship resources. These external market-bassed resources have been shown in previous literature to be capable of providing competitive advantages that lead to, among other things, insulation from competition in the form of behavioral loyalty, increased good will through positive word of mouth, and an ability to charge higher prices. Following from such literature and previous findings, these external market-based resources are believed to mediate the impact of the specified internal resources and capabilities on above normal financial performance. Following is the development of theoretical hypotheses related to these relationships, their respective functional forms, and their contingencies.

Service Delivery Capability and Customer Relationships

Three functional areas in which capabilities can be developed are R&D, marketing, and operations, and among them marketing capabilities have been considered the most valuable (Krasnikov and Jayachandran 2008). Past research has shown that the construct of service capabilities is positively related to self-report measures of financial performance (Moore and Fairhurst 2003) and to self-report measures of goal-achieving performance (Jayachandran et al. 2004).

This is the first identified study that seeks to connect observable service delivery capability to customer responses. An organization's capability to consistently deliver services in a manner which meets or exceeds pre-purchase expectations is expected to lead to higher levels of perceived service quality (Parasuraman et al. 1985). Similarly, providing high levels of service quality can be expected to lead to positive behavioral responses (Zeithaml et al. 1996), which represent successful management of customer relationships. Thus,

> H1: Service delivery capabilities are negatively related to customer
> dissatisfaction.

Contingency to the relationship between service delivery capability and customer relationships

This study conceptually defines the business model as the structure, content, and governance of transactions between a firm and its exchange partners (Zott and Amit 2008). In particular, I consider two alternative business models. The first is a novelty model, and the second is an efficiency model (Zott and Amit 2007). This business model concept has grown out of research focusing on organizational structure and information technology (Mendelson 2000; Amit and Zott 2001). Thus, while similar theoretical concepts can also be found in research on

market-based assets (Frels, Shervani, and Srivastava 2003), the current conceptualization of business models is preferred because it clearly separates the business model from a firm's resources and capabilities.

An efficiency business model is designed to provide basic services that other firms provide, but to provide them in a more cost effective way. "Efficiency centered design refers to the measures that firms take to achieve transaction efficiency through their business models," (Zott and Amit 2007, p. 185). Such designs focus on reliability and simplicity. As a result, it is expected that their service delivery capabilities are absolutely critical. By design they do not provide additional service elements beyond those that are explicitly necessary their industry. As such, failure in their key area of service can be disastrous.

In contrast, novelty business models constantly seek new ways of conducting economic exchanges through the ways in which they connect with different parties in product and factor markets (Zott and Amit 2007). For example, American Airlines and United Airlines were the major backers of Hotwire.com in 2000. Similarly, hub-and-spoke airlines are constantly looking to create and expand alliances and expand their frequent flyer program partners. They are designed to capture a larger market share with greater heterogeneity in customers, hence heterogeneity in customer preferences (Fornell 1992). The novelty business model is designed to provide augmented service offerings reaching beyond the basic service elements that might be expected in an industry, often at the cost of overall productivity (Anderson et al. 1997). Assuming that these augmented offerings provide value, the service delivery capabilities of a novel-designed firm may have less impact on aggregate levels of dissatisfaction. Therefore, the following contingency is expected.

H2: The negative relationship between service delivery capabilities and customer dissatisfaction is moderated by an organization's business model such that the relationship is stronger (weaker) for efficiency models (novelty models).

Customer Service Personnel Investments (CSPI) and Customer Relationships

According to the service profit chain literature, customer service employees are a valuable resource in creating service quality (Heskett et al. 2008). However, for them to be effective, organizations must invest in their customer service personnel by providing training, proper tools, and financial benefits. Such investments can increase employees' perceived organizational support which, in turn, affects employees' performance (Rhoades and Eisenberger 2002). Here, the question is to what extent do customer service personnel investments (CSPI) add to the value of these human resources?

The resource-based view identifies value as a dimension of a resource that indicates its potential contribution to a competitive advantage. Value can be seen as the "difference between the perceived benefits gained by the purchase of a good and the cost to the enterprise," (Peteraf and Barney 2003, p. 314). In other words, investments in customer service personnel may be seen as valuable to the extant additional investments lead to additional increases (decreases) in customer (dis)satisfaction. We know that customer service employees impact perceived service quality. But is there a point at which investments in these resources provide diminishing returns?

Investing in customer service for the purpose of decreasing customer dissatisfaction levels is akin to a revenue emphasis of generating a return on quality (Rust, Moorman, and Dickson 2002). Extant literature relating employees to service quality and customer satisfaction has shown that positive drivers of employee's commitment to or delivery of service quality

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include managerial coaching (Elmadag et al. 2008), increasing employee self-efficacy (Hartline and Ferrell 1996), and organizational socialization (Hartline, Maxham, and McKee 2000). Thus, previous literature suggests that the relationship between investments in customer service personnel and customer dissatisfaction is negative.

To more clearly see the practical nature of the relationship between dissatisfaction and CSPI, consider this scenario from previous literature. A group of researchers was forced into a lay-over situation on a flight because of issues beyond the control of the airline. The late-night staff for the airline was understaffed and harried. The researchers and all other passengers faced increasing levels of dissatisfaction as a result of the airline's failure to invest in sufficient staffing, training, and support for the customer service personnel (Hart, Heskett, and Sasser Jr. 1990). In this example, additional CSPI could have tempered the customers' perceived quality. In other words, higher investments in customer service personnel could have created greater value for the firm in the form of higher satisfaction levels among customers.

Of course, it is reasonable to expect that investments in training, tools, and extra staff could also have exceeded the impact on customers' perceived quality. Previous literature has suggested that investments in quality, particularly for service firms, provide diminishing returns because some investments may lead to improvements that are not valued by customers (Rust et al. 1995). In other words, at some level, there is the potential that CSPI will cease to increase the value of customer service personnel resources because it will cease to provide positive (negative) changes in the development (prevention) of customer (dis)satisfaction. This leads to the following expectation:

H3: The relationship between CSPI and dissatisfaction is curvilinear, such
that the relation is negative and exhibits decreasing returns.

Contingencies to the relationship between CSPI and customer relationships

CSPI X Advertising investments: Advertisements have been show to have the ability to
alter sense made of an experience retrospectively (Deighton and Schindler 1988). Such effects
are referred to as transformative effects of advertising, and they are realized only in the presence
of consuming or experiencing the service being advertised (Mehta et al. 2008). Additionally,
advertising has been positively connected to brand equity (Sriram, Balachander, and Kalwani
2007). Overall, research connecting advertising to consumers' perceived quality and brand
equity suggest that investments in advertising can be a manner in which firms can manage
dissatisfaction levels.

Considering that advertising can impact post-consumption judgments, it is reasonable to
anticipate that advertising investments may impact the realized value of investments in customer
service personnel. Essentially, I suggest that dual investments in advertising and customer
service personnel may be wasteful. The question is whether increases in advertising investments
affect the curvature of the relationship between CSPI and dissatisfaction. This is an important
issue to firms which face decisions in which resources should be bolstered (Rust et al. 2004).

Conceptually, investments in advertising can be seen as investments to directly influence
the value of external relational assets (Srivastava et al. 2001). From this perspective, lower levels
of investments in customer service employees may be more valuable (i.e. have a greater impact
on dissatisfaction levels) at higher levels of advertising investments. However, as investments in
customer service personnel increase, the relative rate of return may deteriorate more rapidly at

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higher levels of advertising than at lower levels. This would suggest that the CSPI –

dissatisfaction relationship is more convex at higher levels of advertising investments.

From previous research on the transformative properties of advertising, it is recognized

that exposure to more ads over time can increase their transformative impact (Mehta et al. 2008).

In the current context, increases in advertising expenditures can realistically be tied to increases

in the frequency of ads, hence consumers' exposure to ads. Therefore, I expect the following:

> H4: Advertising investments will moderate the curvilinear relationship
> between CSPI and dissatisfaction, such that the negative relationship
> between CSPI and dissatisfaction is weakened as advertising increases,
> whereas the positive relationship between CSPI and dissatisfaction is
> strengthened at higher levels of advertising investments (the curve is more
> convex).

CSPI X operating focus: A firm's operating focus is its commitment to channel energies

into a particular operational activity (Heskett 1986). To clarify how operating focus is used in

this study, it is important to recognize the distinction between operating focus and business

model. This is because the two constructs have commonly been blended into one in previous

research in the context of the airline industry (Lapré and Tsikriktsis 2006; Luo and Homburg

2008). I refer to a firm's business model as its structural template (Zott and Amit 2008), and its

operating focus as a strategic commitment (Heskett 1986).

Strategic selection of a particular set of operating activities is a choice which relates to

the manner in which an organization will implement its product-market strategy (Hrebiniak and

Joyce 1985; Zott and Amit 2008). For example, in the airline context firms choose the number

of different aircraft models which they will operate. When a firm chooses a broad (narrow)

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operating focus it implicitly requires its employees to accommodate a greater (less) degree of heterogeneity in their customer service roles.

Regarding customer service personnel, the concern is whether a broader (narrower) operating focus impacts the value creation of additional investments. Previous research indicates that consistent norms and roles (Hyatt and Ruddy 1997) and greater standardization of work practices (Gilson et al. 2005) tend to lead to greater customer-perceived satisfaction levels. When operations are more homogenous, natural consistency in norms and roles and standardization of work practices are likely to persist. However, a broader operating focus can lead to a greater array of service situations wherein norms, roles, and standardization are more difficult to institute. Consequently, the value derived from additional investments in customer service personnel may be greater when energies have to be channeled into a broader array of activities. Therefore

> H5: Operating focus will moderate the curvilinear relationship between CSPI and dissatisfaction, such that the negative relationship between CSPI and dissatisfaction is strengthened (weakened) under a broader (narrower) operating focus, whereas the positive relationship between CSPI and dissatisfaction is weakened (strengthened) under a broader (narrower) operating focus (the curve is less convex under a broader operating focus).

> *CSPI X Experience*: Service organizations can increase productivity through experience, or learning by doing (Darr, Argote, and Epple 1995). Following the learning curve perspective, experience has been tied to improvements in many performance criteria, including the management of dissatisfaction (Lapré and Tsikriktsis 2006). As activities are replicated, people and organizations gain experience, and, in turn, learn how to improve. Consequently, experience

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may provide a way for investments in customer service personnel to be spent more efficiently. Experience can help organizations learn how to staff, who to hire, how to train, and what to train.

Of course, training of customer service personnel is also a way of learning (Adler and Clark 1991). Thus, while CSPI may decrease dissatisfaction levels, these investments should be more efficient as organizations gain experience. In particular, the combination of higher levels of investments in customer service personnel and higher levels of experience may be likely to decrease dissatisfaction much more than investments in customer service personnel, alone. In contrast, lower levels of experience will likely have little impact on the relationship between CSPI and dissatisfaction. Essentially, both the level of investments and the degree of experience should be able to increase the value of customer service personnel resources.

> H6: Experience will moderate the curvilinear relationship between CSPI and dissatisfaction, such that the negative relationship between CSPI and dissatisfaction is strengthened (weakened) as experience increases (decreases), and the positive relationship between CSPI and dissatisfaction is (stronger) weaker as experience (increases) decreases (the curve is less convex at higher levels of experience).

CSPI X Service delivery capability: Capabilities in the broadest sense refer to the capacity to deploy resources (Amit and Schoemaker 1993; Day 1994). Capabilities related to delivering highly reliable service will rely on the deployment of multiple resources (Gittell 2003). In regards to managing instances of service failure, customer service personnel are one of the most critical resources deployed (Hart et al. 1990; Swanson and Kelley 2001). But how do an organization's service delivery capabilities impact the investments made in customer service personnel? This question has not been directly addressed in previous literature.

Generally, very few studies have considered the interaction effects of resources and capabilities (Newbert 2007), though there is evidence that different capabilities can interact and lead to performance improvements (Song et al. 2005). When capabilities and resources have been collectively studied, they have generally been found to have a positive impact on competitive advantages (Newbert 2008).

In marketing, a stream of literature has focused on how organizational procedures impact the service delivery of boundary-spanning employees. For boundary spanning employees, effective customer service delivery can require conscientiousness, responsiveness, flexibility, and courteous behavior (Parasuraman et al. 1988). Organizational factors relating to fairness (Bettencourt, Brown, and MacKenzie 2005) and employees perceptions of shared values with the organization (Maxham and Netemyer 2003) have been connected to improvements in service delivery. However, as these examples highlight, the existing approaches tend to focus on tactical, or managerial, issues rather than strategic issues.

Recall, capabilities are complex bundles of knowledge which are exercised through organizational processes (Day 1994). A firm that can coordinate multiple resources in a manner that delivers highly reliable service (Gittell 2003) may be able to also coordinate organizational procedures which encourage shared values and a sense of fairness. Thus, it is plausible that firms with high service delivery capabilities may realize greater benefits from investments in customer service personnel. Note that this is not suggesting that greater investments will help handle customers after a service failure. Rather, I am arguing that firms with high levels of service delivery capabilities are more efficient at managing investments in customer service personnel. Specifically, the following relationship is expected:

H7: Service delivery capability will moderate the curvilinear relationship between CSPI and dissatisfaction, such that the negative relationship between CSPI and dissatisfaction is strengthened (weakened) at higher (lower) levels of service delivery capability, and the positive relationship between CSPI and dissatisfaction is weaker (stronger) at higher (lower) levels of service delivery capability (the curve is less convex at higher levels of service delivery capabilities).

The Mediating Role of Customer Relationships

Conceptually, in this study I consider dissatisfaction as an indicator of the development of external, market-based relational resources (Srivastava et al. 1998; Srivastava et al. 2001). As outlined above, I expect that customer service personnel investments (CSPI) and service delivery capabilities will impact dissatisfaction levels, and I specify expected contingencies to these relationships.

I further expect that dissatisfaction levels will act as a mediator between the highlighted internal resources and capabilities and stock performance. As discussed previously, this is because the development of a satisfied customer base (one with lower dissatisfaction) is seen as capable of creating a competitive advantage. Indeed, the competitive advantages related to the establishment of a satisfied customer base are well documented in marketing literature (Oliver 1999; Brown et al. 2005; Homburg et al. 2005). Additionally, the connection between satisfaction and firm performance is well documented (Fornell et al. 2006). However, the strategic antecedents to this competitive advantage are not well understood.

Recently, researchers have suggested that "studies that test the direct relationship between resources/capabilities and performance may be incomplete," (Newbert 2008, p. 762).

This is because the theoretical nature of the resource-based view is such that resources and capabilities are postulated to build competitive advantages, and it is the competitive advantage which leads to performance gains (Barney 1991; Peteraf and Barney 2003). Thus, I suggest that CSPI and service delivery capabilities impact stock returns through their relationship on building and maintaining customer relationships.

> H8: The positive impact of customer service personnel investments (CSPI) and service delivery capabilities on abnormal stock returns is mediated by their impact on customer dissatisfaction, such that the relationship between customer dissatisfaction and abnormal financial performance is negative.

Data and Methodology

Sample and Data

I collected information from a variety of sources to develop a database of 11 airlines to test my hypotheses. My data collection entailed collecting data on from the U.S. Department of Transportation (DOT), COMPUSTAT, and the Center for Research in Security Prices (CRSP). The data for each of the 11 airlines was integrated at the quarterly level for 10 years, from 1997 to 2006. Similar to previous research utilizing the airline industry as its context for analysis, (Lapré and Tsikriktsis 2006) I analyzed quarterly data. Thus, airline-by-quarter is the level of analysis.

In all, the analysis for hypotheses 1-7 was done a sample of 374 airline-quarter observations. Table 1 identifies the airlines, the quarters used in analysis, and an explanation for why some potential airline-quarter observations were not included. From this sample of 374 observations, a total of 336 airline-quarter observations were used in testing hypothesis 8. Due

to bankruptcies, 38 observations were excluded in the analysis of hypothesis 8 because excess returns could not be calculated for the respective airline-quarter observations[1]. Collectively, the airlines in these samples account for over 95% of total revenues generated by U.S. airlines.

Airlines are mandated by law to report financial and operating data to the Bureau of Transportation Statistics (BTS) division of the DOT. As such, the data has been accepted as accurate and reliable by researchers in multiple disciplines (e.g. (Lapré and Tsikriktsis 2006; Dixit and Chintagunta 2007). Additionally, the accounting and reporting standards established by the government require far greater detail to be reported by airlines than is commonly found in COPUSTAT or even in SEC filings. For example, airlines are required to submit expenditures by specific categories, such as by the function which employees fulfill. This allows me to separate expenses for customer service personnel from expenses related to other personnel such as pilots, engineers and executives. Furthermore, I am able to capture advertising and promotion expenditures directed towards passengers separate from advertising expenditures appropriated for cargo and from sales and reservation expenditures. Finally, unlike with COMPUSTAT and SEC information, these complete details are required to be reported on a quarterly basis.

The one limitation of this data source is that most of the information is only required to be reported by airlines which have at least one percent of total domestic scheduled-service passenger revenues and operate aircraft with passenger capacity of more than 60 seats. Additionally, some of the more detailed accounting information is only required of airlines

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[1] This smaller dataset yields qualitatively similar results to the larger sample under model 3. Though not tested in this study, it would be interesting for future research to utilize hazard modeling and examine if investment in customer service employees indicate the likelihood of bankruptcy.

which are have total operation revenues of $1 billion or more. As is noted in table 1, this can

limit the ability to include young airlines, particularly young low-cost airlines, in some research.

Table 1:
Airlines Used in Analysis for Chapter 2

Airline	Quarters in Sample (total number of observations)[a]	Reason for Adding/Deleting
Alaska	Q2, 1997 – Q4, 2006 (39)	N/A
America West	Q2, 1997 – Q4, 2005 (35)	Merger with U.S. Airways [b]
American	Q2, 1997 – Q4, 2006 (39)	N/A
Continental	Q2, 1997 – Q4, 2006 (39)	N/A
Delta	Q2, 1997 – Q4, 2006 (39)	N/A
JetBlue	Q2, 2005 – Q4, 2006 (7)[c]	Not required to report all data prior to 2005 [d]
Northwest	Q2, 1997 – Q4, 2006 (39)	N/A
Southwest	Q2, 1997 – Q4, 2006 (39)	N/A
TWA	Q2, 1997 – Q4, 2001 (19)	Merged with American Airlines [b]
United	Q2, 1997 – Q4, 2006 (39)	N/A
US Airways	Q2, 1997 – Q4, 2006 (39)	N/A

[a] The first quarter of observed data for each airline was deleted prior to analysis because each independent variable was used at time t-1 during analysis.
[b] Using a dummy (1 = merger with respective airlines) yields the same qualitative results.
[c] Excluding these seven observations from the dataset yields the same qualitative results.
[d] Financial data reported on Form 41 to the DOT is required only by air carriers which are sufficiently large. This data was part of the analysis, and JetBlue was not required the necessary prior to 1995 due to its size. JetBlue began operations in 1999

In addition to the data which airlines are required to report, the DOT also makes it easy

for airline passengers to register complaints against airlines. Specifically, passengers can file

complaints in writing, by telephone, by e-mail, or in person. Registered complaints are

categorized as being related to one of several issues. Complaints are accepted, registered, and

made public on a monthly basis in the Air Traffic Consumer Report (ATCR) which is published

online. Complaints can be related to any perceived level of quality that fails to meet

expectations. For example, some of the issues for which complaints as registered and recorded

include, but are not limited to, the following:

> cancellations, delays, oversold flights, problems in making reservations
> and obtaining tickets, incorrect information about fares or fares in general,
> problems obtaining refunds for lost tickets, claims for lost or delayed
> baggage, inadequate meals, treatment of passengers, civil rights offenses,
> misleading advertising, injury to animals, and frequent flyer problems.

Table 2 lists the construct definitions, operational definitions, and sources of data for

variables that are used in the current study. However, beyond the definitions, it is important to

understand the nature of the data in the context of the airline industry and in the context of

previous strategy literature. To help clarify, I connect the conceptual and practical elements of

the data in the following discussion of the operationalization of constructs. When necessary, I

also compare and contrast the current operationalization of constructs to that of previous

research.

Operationalization of Constructs

   Dissatisfaction: I use the aggregate rate of actual third-party complaints (Singh 1988) per

100,000 passengers to measure dissatisfaction. These complaints are directly made from

passengers to the government. In real terms, this measure increases for an airline when an

element of service is deemed as being below expected levels, and customers since that their only

redress is to report the issue to a governing authority. I include complaints across all potential

categories to measure this variable. Service quality literature provide a strong theoretical link

between dissatisfaction and complaining behavior (Zeithaml et al. 1996), and others have used this measure for similar purposes in previous literature (Lapré and Tsikriktsis 2006).

Experience: Organizations have the opportunity to identify more productive routines and practices as they repeat certain tasks (Reagans, Argote, and Brooks 2005). In the airline industry, tasks associated with servicing customers are associated with the departure of flights. Every group of passengers being transported represents a series of service exchanges revolving around the transportation of each individual. Airlines are required to report the number of departures made each month to the DOT. I use this data to capture experience. Following common practice in management literature (e.g., Lapré and Tsikriktsis 2006), I calculate the cumulative departures made by a given airline since the beginning of the observation period. In testing the hypotheses, the log of cumulative experience is used.

Business model: The Bureau of Transportation Statistics defines airline business models as being regional, low-cost, or network (aka legacy). In the current research, only network and low-cost business models are represented. Southwest, JetBlue, and America West are all low-cost airlines. These airlines represent efficiency business models. Alaska, American, Continental, Delta, Northwest, US Airways, and United are all network airlines. These airlines represent novelty business models. I use this measure because it is the industry standard and because it is closely representative of the construct it represents.

Table 2:

Construct and Operational Definitions and Sources of Data for Chapter 2

Construct	Construct Definition (Source)	Variable Name	Operational Definition (measurement)	Data Source
		Dependent Variables		
Dissatisfaction	The result of ex ante expectations about a product or service exceeding ex post perceptions of the product or service (Lapre 2006; Zeithaml, Berry, and Parasuraman 1996)	Dissatisfaction	Manifested third-party consumer-complaint behavior (Sing 1988) registered by the customer to the DOT. (Rate of complaints registered per 100,000 passengers flown).	DOT (Consumer reports)
Size adjusted returns	Excess stock returns for a firm relative to returns of firms with similar market capitalization over a specific period of time (O'Sullivan and Alba 2007; Rust, Moorman, and Dickson 2002).	SAR	The difference between a firm's buy-and-hold stock return for a quarter and the equivalent value-weighted return of the CRSP size decile portfolio to which the focal firm is associated.	CRSP
		Independent Variables		
Organizational experience	The cumulative operating history of the organization (Lapre and Tsikriktsis 2006; Reagans, Argote, and Brooks 2005).	Experience	Cumulative take-offs made by an airline at all airports since the first quarter of 1997. (log of cumulative take-offs)	DOT (Form 41)
Business Model	A structural template of how a focal firm transacts with customers, partners, and vendors; that is, how it chooses to connect with factor and product markets (Zott and Amit 2008).	Business Model	Low-cost (1) carrier or Legacy carrier (0) as identified by DOT. Low cost carriers are defined by the elimination of traditional passenger services and a focus on lowering infrastructure costs (dummy coded).	DOT (RITA [a])
Operating focus	A commitment to channel energies into a particular operational activity (Heskett 1986)	Operating Focus	Number of distinctive models of aircraft operated by an airline (count of total model types).	DOT (Form 41)
Service delivery capability	The ability to perform value-creating service tasks effectively. The ability that resides in organizational processes and routines that are difficult to replicate. (Krasnikov and Jayachandran 2008)	Service delivery capability	The percentage of all flights arriving on time for an airline in a specific quarter (decimal representation of percentage)	DOT (Consumer reports)

Construct	Construct Definition (Source)	Variable Name	Operational Definition (measurement)	Data Source
		Independent Variables		
Transformative advertising effectiveness	The influence of advertising on how consumers experience and evaluate the quality of the service from subsequent consumption (Mehta, Chen, and Narasimhan 2008)	Advertising investment	The portion of total expenses incurred in creating public preference for the air carrier and its services (log of quarterly expenditures).	DOT (Form 41)
Personnel-based customer service resources	Human resources which directly affect customer perceptions about service quality. (Heskett, Sasser, and Schlesinger 1997; Kamakura et al. 2002)	Customer service personnel investments (CSPI)	Compensation of ground personnel and flight attendants (not other members of the flight crew) who are responsible for interacting with customers. This includes expenses allocated to employee training, employee insurance plans, and other support materials required by employees (log of quarterly expenditures).	DOT (Form 41)
		Control Variables		
Quarterly differences	Seasonal differences affecting complaints or stock returns.	Quarterly dummies	Used for quarters 1, 2, and 3. Used in both the dissatisfaction and stock models.	N/A
External shock	Dissatisfaction-specific effects resulting from events on September 11, 2001.	Nin eleven	If time, t, is 2nd quarter 2001 or later, then 1. Used only in the dissatisfaction models. Annual dummies capture this effect in stock models.	N/A
Yearly differences	Year-specific effects related to events affecting the financial markets.	Annual dummies	Used for 1998 to 2006. Used only in the stock models	N/A
Profitability	Profitability signals financial information (Luo 2007)	Profitability	Net income / total assets	COPUSTAT
Leverage	The amount of debt signals financial information (Rao, Agarwal, and Dahloff 2004)	Leverage	Long-term debt / total assets	COPUSTAT
Age	Commonly recognized in marketing and strategy as influencing firm performance (O'Sullivan and Abela 2007)	Age	Number of years the airline has been in business.	Company reports

Operating focus: A business model is a structural template (Zott and Amit 2008), and an operating focus is a strategic commitment (Heskett 1986). In the airline industry, firms decide on the different types of aircraft models which will be required to deliver the services they deliver. Greater variety in the lengths of flights offered and greater augmentation of in-flight services requires firms to operate a more heterogeneous fleet of aircraft. Fleet heterogeneity can vary even within firms of the same business model. For example, during the period observed in this study, among the low-cost business model carriers, JetBlue operates a maximum of 2 aircraft models, Southwest operates a maximum of 4 aircraft models, and America West operates a maximum of 6 aircraft models. Among the legacy business model carriers, Alaska operates a maximum of 6 models, TWA operates a maximum of 12 models, American operates a maximum of 14 models, and the other airlines operate anywhere from a maximum of 15 to a maximum of 18 aircraft models. Furthermore, some of the legacy airlines other than Alaska operate as few as 7 different aircraft models at different periods.

Thus, to fully capture the heterogeneity of operating focus among airlines and among business models, I use the number of different aircraft models that an airline operates during a given quarter to represent its operational focus. In this research, greater heterogeneity among the aircraft models being operated at a given time represents a less operating focus. Less heterogeneity represents greater operating focus. Similarly, (Haunschild and Sullivan 2002) use the heterogeneity of aircraft models to represent operating complexity.

Service delivery capability: Researchers at the University of Nebraska at Omaha publish an annual Airline Quality Rating (AQR) report which ranks and compares the performance of airlines. Their ratings are calculated by weighting multiple performance factors. The weights are

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established by surveys of industry experts who rank the factors according what consumers would rate as the most important on judging airline quality. The highest weighted factor is on-time arrival. Thus, I use the percentage of flights arriving on-time each quarter as the measure of service delivery capability for each airline.

Advertising investment: I measure advertising investment by using data which airlines are federally mandated to report to the DOT for advertising and publicity expenses which are directly assignable to passengers. According to federal accounting guidelines this measure accounts only for expenses incurred in creating public preferences for the air carrier and its services. It includes the costs of all radio and print advertisements. This measure does not include sales solicitation expenses, advertising expenses assignable to cargo transportation, or the cost of employees and office related to advertising activities. Whereas most researchers use COMPUSTAT data for this measure (McAlister, Srinivasan, and Kim 2007), the use of federally mandated data reports is assumed to represent a more standardized representation of the data. Furthermore, the use of DOT data allows me to utilize only data which represents only advertising and promotions directed towards consumers, which indicates a more reliable operationalization of the construct being represented.

Customer service personnel investment (CSPI): A unique aspect of the accounting and reporting procedures required by the DOT is that airlines must report expenses on a much more detailed level than they do for other institutions. This allows me to capture expenses related to employees whom are responsible for serving customers on the ground and in the air. The employees accounted for in this variable include customer service managers, flight attendants, doormen, gate personnel, ticket counter personnel, reservation and ticketing personnel, and

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baggage handling personnel. This measure captures their compensation, medical benefits, retirement funding, training, and the tools necessary to allow them to perform their jobs. However, it does not include expenses for transportation and operations personnel such as engineers, plain maintenance crews, executives, or pilots.

Interaction terms: I created an interaction term to account for differences in service delivery capabilities across different business models by multiplying these two variables. Additional interaction terms were created by multiplying CSPI and $CSPI^2$ with each of the respective variables representing service delivery capabilities, operating focus, advertising investment, and experience. In all, nine interaction terms were estimated. All the continuous independent variables were mean-centered prior to constructing the interaction terms for ease of interpretation (Echambadi and Hess 2007).

Size adjusted returns: The dependent variable in hypothesis 8 is an airline's size-adjusted abnormal stock return (SAR) for one quarter. This return represents the difference in the holding period return for the airline and the value-weighted return on the NYSE/AMEX/Nasdaq Capitalization Decile portfolio which correlated with the airline's capitalization during the respective quarter. The holding period return is equal to {(share price in period t – share price in period t-1) + (cash and cash dividends)]/share price in period t-1}. After calculating the monthly holding period return for both the airline and its associated value-weighted capitalization portfolio, the monthly period returns for each were independently compounded within each quarter. Then, the two compounded holding period returns were differenced. This allowed me to generate a measure of the abnormal stock return generated for each airline-quarter observation.

The use of abnormal stock returns as a dependent measure is growing in preference over alternative measures such as ROA or Tobin's Q (Jacobson and Mizik 2009). This method of operationalizing abnormal stock returns has been used in previous marketing studies (Rust et al. 2002), and it has been advocated as an acceptable measure of excess returns in financial literature (Barber and Lyon 1997). Several alternative measures of abnormal stock returns exist and were tested, but the qualitative results do not change. Thus, only this measure is reported.

Control variables. In the dissatisfaction models I control for quarterly differences in traffic (e.g. crowded holiday travel) and differences in customers (e.g. increases in vacation travelers during the summer) using dummy variables. I also used a dummy variable for the events of September 11, 2001 (1 for quarter 3, 2001 or after). This is because, empirically, there was a significant drop in overall complaints after Sept. 11, 2001 for several years. Though the exact reason for this is unclear, it is important to account for the effects of such external shocks.

In the stock return models, quarter-specific and year-specific effects on stock returns were controlled for using quarterly and annual dummy variables. To control for financial fundamentals related to stock returns, I included measures of net income and long-term debt (Luo 2007). Finally, I controlled for age-specific effects on firm valuation (O'Sullivan and Abela 2007).

Model Specification and Estimation

First, I checked for collinearity problems in the data using multiple diagnostics on the uncentered data: bivariate correlations, variance inflation factors, and the condition indices. These multiple diagnostic measures revealed no major collinearity problems. Also, I randomly sampled observations and estimated multiple models from the comprehensive dataset. The

coefficients of the simple effects were relatively stable indicating no collinearity problems.

Table 3 provides the means, standard deviations, and correlation matrix of the mean-centered

variables used in both the dissatisfaction and stock return models.

Dissatisfaction model. Hypotheses 1 was tested using Model 1, hypotheses 2 and 3 were

tested using Model 2, and hypotheses 4 – 7 were tested using Model 4 (Table 4). The full

model, Model 4, can be specified in the following equation.

Dissatisfaction $_{it}$ = f (β1Quarter1 + β2Quarter2 + β3Quarter3 + β4 nine eleven +
β5 Experience$_{it-1}$ + β6 Business model$_{it-1}$ + β7 Service delivery capability$_{it-1}$ +
β8 Advertising investment$_{it-1}$ + β9 Operating focus$_{it-1}$ + β10 SDP $_{it-1}$ +   (1)
β11 SDPI$_{it-1}$^{2} + β12 (Service delivery capability$_{it-1}$ * Business Model$_{it-1}$) +
β13(SDPI$_{it-1}$*Service delivery capability$_{it-1}$) + β14(SDPI$_{it-1}$^{2}*Service delivery capability$_{it-1}$) +
β15 (SDPI$_{it-1}$*Advertising investment$_{it-1}$) + β16 (SDPI$_{it-1}$^{2}*Advertising investment$_{it-1}$) +
β17 (SDPI$_{it-1}$*Operating focus$_{it-1}$) + β18 (SDPI$_{it-1}$^{2}*Operating focus$_{it-1}$) +
β19 (SDPI$_{it-}$ *Experience$_{it-1}$) + β20 (SDPI$_{it}$^{2}*Experience$_{it-1}$)

My data consists of correlated longitudinal data, where each airline accounts for multiple

airline-quarter observations. As a result, these within-subject correlations must be controlled in

order to obtain unbiased coefficient estimates (Ballinger 2004). Therefore, as suggested by

(Echambadi, Campbell, and Agarwal 2006), I used mixed models to control the within-subject

correlations in both the dissatisfaction and stock return models.

For the dissatisfaction models, the estimated mixed effects model can be specified as

follows:

$$y_{it} = X_{it}\beta + Z_i b_i + \varepsilon_{it} \tag{2}$$
$$b_i \sim N_q(0,\Psi) \tag{3}$$
$$\varepsilon_{ij} \sim N_N (0,\sigma^2\Lambda_{it}) \tag{4}$$

where y_{ij} represents the dissatisfaction of consumers of the ith airline for the tth quarter. X_{it} is the

$N \times p$ model matrix corresponding to the fixed effects and β is the $p \times 1$ vector of fixed-effect

coefficients. Specifically, I used CSPI, $CSPI^2$, service delivery capability, advertising

investment, operating focus, experience, and the cross-products of CSPI and $CSPI^2$ with these

variables as fixed effects. Also, quarter-specific dummy variables and a nine-eleven dummy

variable were used as additional fixed effects in the model as control variables. Z_i is the $N \times q$

model matrix that represented the airline-specific heterogeneity using a random effects

specification. ε_{it} is the $N \times 1$ vector of errors for each observation. Ψ represents the $q \times q$

unstructured covariance matrix for the airline random effects. The intercept was allowed to vary

across airlines. Finally $\sigma^2 \Lambda_{ij}$ is the $N \times N$ covariance matrix for the errors. I estimated these

mixed effect models using restricted maximum likelihood estimation method using the SAS

Mixed procedure. Table 4 provides the results of the mixed effects regression models.

Stock return model. Hypothesis 8 was tested using Model 6 – Mode 8 (Table 5). Three

separate models were tested to check for the mediating effects of dissatisfaction (Baron and

Kenny 1986). The full model, model 8, can be specified as shown in equation 5. Just as with the

dissatisfaction model, I estimated these mixed effect models using restricted maximum

likelihood estimation method using the SAS Mixed procedure. Table 5 provides the results of the

mixed effects regression models.

$\text{SAR}_{it} = f\ \beta1\text{-}\beta3(\text{Quarter}_{t1\,-t3}) + \beta4\text{-}\beta12(\text{Year}_{t2\text{-}t10}) + \beta13\ \text{Age}_{it-1} + \beta14\ \text{Experience}_{it-1}$
$+ \beta15\ \text{Business model}_{it-1} + \beta16\ \text{Service delivery capability}_{it-1} +$ $\qquad\qquad$ (5)
$\beta17\ \text{Advertising investment}_{it-1} + \beta18\ \text{Operating focus}_{it-1} + \beta19\ \text{CSPI}_{it-1}\ +$
$\beta20\ \text{Dissatisfction}_{it-1} + \beta21\ \text{Profitability}_{it-1} + \beta22\ \text{Leverage}_{it-1}.$

<div align="center">Results</div>

H_1 posits a negative relationship between service delivery capabilities and dissatisfaction.

Results from Model 1 in Table 4 indicate that the main effect of service delivery capabilities on

dissatisfaction is both negative and significant (β = -5.943; p < 0.01). H_2 posits that this negative relationship is moderated by a firm's business model. Specifically, the expectation is that an efficiency model will strengthen the relationship. Recall that firms with an efficiency model are coded as "1" in the data. Model 2 reveals that the impact of the interaction term of business model on service delivery capability is negative and significant (β = -6.667; p < 0.01). Thus, evidence in support of hypothesis 1 and hypothesis 2 is found.

H_3 posits that the curvilinear relationship between customer service personnel investments (CSPI) and dissatisfaction. Results from Model 2 indicate that there is a statistically significant, negative relationship between CSPI and dissatisfaction (β = -.505; p < 0.05). Furthermore, there is a positive relationship between $CSPI^2$ and dissatisfaction (β = .294; p < 0.05). The latter relationship suggests a curvilinear relationship, and combined, these two relationships denote a potential U-shaped relationship between CSPI and dissatisfaction, indicating support for H_3.

Furthermore, the explanatory power of the quadratic model, including the interaction between service delivery capability and business model, was evaluated using a log likelihood ratio test, i.e. twice the difference between the unrestricted and restricted log likelihood values. The log likelihood ratio test revealed that the quadratic model explains significantly more than the linear model (χ^2 = 31.0 > $\chi^2_{critical,}$ 2 d.f.; p < 0.001). In addition, as suggested by Homburg, Koschate, and Hoyer (2005), I compared the fit of the models using Akaike Criterion (AIC) values. The AIC value for Model 2 (970.8) is smaller than the AIC values for Model 1 (982.3) implying that the quadratic specification of CSPI and the interaction of business model with

service delivery capability contribute over and above the linear specification in explaining dissatisfaction.

Figure 1 provides a visual illustration of the relationship between CSPI and dissatisfaction and Figure 2 provides a visual illustration of the moderating impact of an organization's business model on its service delivery capability.

In addition to the hypothesized effects of CSPI and service delivery capability, results from Model 2 in Table 4 shows the impact of nine-eleven, experience, and operating focus on dissatisfaction. The estimate for nine-eleven is negative and significant. This indicates that all airlines realized a decrease in dissatisfaction levels after the 3rd quarter of 2001. The estimate for experience is positive and significant. This results is different from what has been reported in research conducted on earlier time periods in the airline industry (Lapré and Tsikriktsis 2006). The estimate for operating focus is positive. This indicates that when airlines have a broader operating focus (i.e. they operate a more heterogeneous fleet of aircraft) they experience greater levels of dissatisfaction. Finally, the estimate for advertising investments is not significant. Even though the estimate is negative, as might be expected based upon previous research (e.g. Mehta et al. 2008), the confidence interval for this estimate does cross zero and include the potential for positive estimates.

Table 3:
Descriptive Statistics and Correlations for Variables Used in Chapter 2

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Complaint rate [a]	1.49	1.30	1.00								
2. Nine eleven [b]	.54	.50	-.41	1.00							
3. Experience	.00	1.10	-.10	.60	1.00						
4. Business model [b]	.21	.41	-.09	.04	-.10	1.00					
5. Operating focus	.00	3.85	.29	-.15	.19	-.71	1.00				
6. Service delivery capability	.00	.05	-.39	.32	.27	.06	.03	1.00			
7. Advertising investment	.00	1.15	-14	-.02	.32	-.05	.07	.02	1.00		
8. Customer service investment	.00	.73	.02	.13	.61	-.48	.68	.18	.51	1.00	
9. Customer service investment^2	.53	.55	.10	-.17	-.47	.15	-.48	-.33	-.17	-.48	1.00
10. Size Adjusted Returns [a]	-.003	.37	-.15	.04	.01	.04	-.08	.02	-.02	-.00	.03

* $p < 0.05$.
** $p < 0.01$.
[a]   DV = Total number of customer complaints per 100,000 passengers
[b]   Model estimated with quarter-specific control variables
Notes: Each entry reports an unstandardized parameter estimate; standard errors appear in parentheses

Table 4:
Fixed Effects Parameter Estimates for Drivers of Dissatisfaction

	Model 1	Model 2	Model 3	Model 4
1. Intercept	2.029**	1.817**	1.637**	1.656**
	(.242)	(.235)	(.209)	(.219)
2. Nine eleven	-1.566**	-1.495**	-1.499**	-1.513**
	(.147)	(.144)	(.143)	(.146)
3. Experience	.763**	.761**	.670**	.691**
	(.085)	(.083)	(.084)	(.096)
4. Business model	.633	.730*	.872*	.886*
	(.460)	(.402)	(.386)	(.400)
5. Operating focus	.144**	.164**	.147**	.143**
	(.030)	(.030)	(.042)	(.044)
6. Service delivery capability	-5.943**	-4.276**	-1.193	-1.978
	(.983)	(.761)	(1.551)	(1.558)
7. Advertising investment	-.067	-.057	-.156*	-.162
	(.065)	(.063)	(.079)	(.082)
8. Customer service personnel investment	-.618**	-.505*	-.921**	-.939*
	(.231)	(.222)	(.226)	(.232)
9. Customer service personnel investment^2		.294*	1.023**	1.011*
		(.166)	(.292)	(.351)
10. Service delivery capability X business model		-6.667**	-7.971**	-7.872**
		(2.029)	(2.367)	(2.374)
11. Customer service personnel investment X advertising investment			.250*	.250*
			(.149)	(.150)
12. Customer service personnel investment ^{2} X advertising investment			.254*	.285*
			(.158)	(.177)
13. Customer service personnel investment X service delivery capability			-2.495*	-2.974
			(1.490)	(1.511)
14. Customer service personnel investment ^{2} X service delivery capability			-4.776**	-4.785**
			(1.806)	(1.823)
15. Customer service personnel investment X operating focus			-.135**	-.140**
			(.046)	(.051)
16. Customer service personnel investment ^{2} X operating focus			.110*	.123*
			(.052)	(.057)
15. Customer service personnel investment X experience				.007
				(.123)
17. Customer service personnel investment ^{2} X experience				-.045
				(.113)
-2 Log likelihood	956.3	940.8	916.9	916.6
AIC	982.3	970.8	958.9	962.6
AICC	983.3	972.1	961.5	965.8
BIC	987.5	976.8	967.2	971.8

* $p < 0.05$.
** $p < 0.01$.
[a] DV = Total number of customer complaints per 100,000 passengers
[b] Model estimated with quarter-specific control variables
Notes: Each entry reports an unstandardized parameter estimate; standard errors appear in parentheses

Table 5:
Fixed Effects Parameter Estimates Models Testing the Mediation of Dissatisfaction

	Model 5 (DV = SAR)	Model 6 (DV = SAR)	Model 7 [b] (DV = SAR)
1. Intercept	.262*	-.617	-.257
	(.093)	(.523)	(.565)
2. Dissatisfaction	-.037*		-.037*
	(.019)		(.022)
3. Business model		-.175	-.212
		(.239)	(.239)
4. Operating focus		-.023**	-.017*
		(.009)	(.010)
5. Service delivery capability		-.025	-.324
		(.419)	(.455)
6. Advertising investment		-.027	-.031
		(.022)	(.022)
7. Customer service personnel investment		.124**	.123**
		(.050)	(.050)
8. Profitability	-.139	-.154	-.178
	(.266)	(.267)	(.267)
9. Leverage	.110	.197	.167
	(.180)	(.217)	(.217)
10. Age	-.001	-.003	-.004
	(.001)	(.004)	(.005)
-2 Log likelihood	233.0	228.6	225.9
AIC	271.2	272.6	271.9
AICC	273.6	275.8	275.4
BIC	278.7	281.4	281.0

* $p < 0.05$.
** $p < 0.01$.
[a] Model estimated with quarter-specific and year-specific control variables
[b] Model 3 was also estimated using Cumulative Abnormal Returns as the dependent variable, and the results were qualitatively the same. The only difference was that the profitability estimate was positive and significant (b = .410, SE = .206).
Notes: Each entry reports an unstandardized parameter estimate; standard errors appear in parentheses

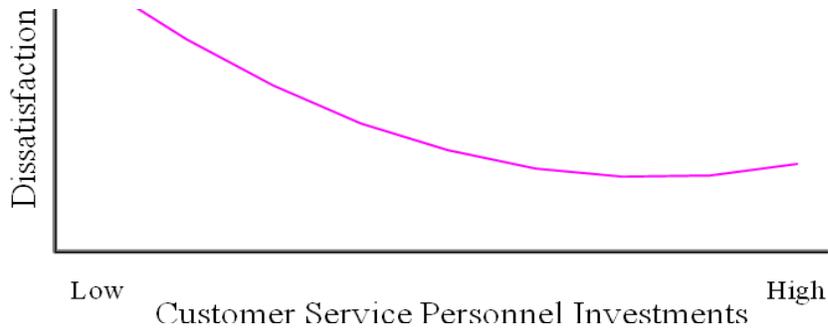**Figure 1:**
The Curvilinear Relationship between Customer Service Personnel Investments and Dissatisfaction
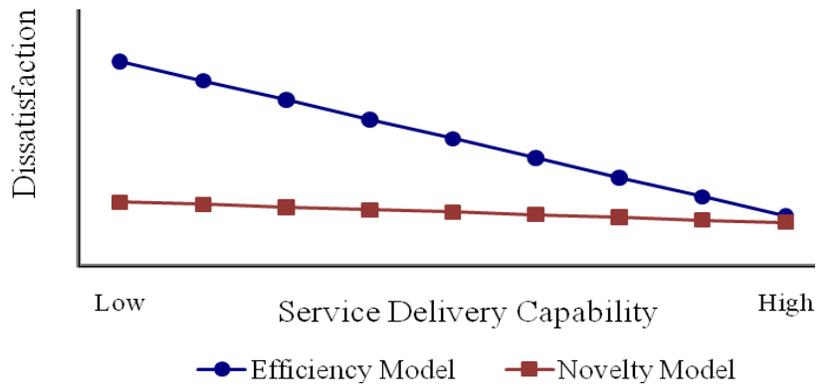
Figure 2:
The Moderating Effect of Business Model on the Relationship between Service Delivery Capabilities and Dissatisfaction

I next examined the contingent effects of the operating focus, advertising, service delivery capabilities, and experience on the relationship between CSPI and dissatisfaction. In the first step, I added the interaction effects of CSPI with operating focus, advertising, service delivery capabilities, and experience. Log likelihood ratio test revealed that this model with the first order interaction terms explained significantly more than the quadratic model ($\chi^2 = 19.0 >$ $\chi^2_{critical,}$ 4 d.f.; $p < 0.001$). Then, in the second stage, the interaction effects of $CSPI^2$ with operating focus, advertising, service delivery capabilities, and experience were added. Log likelihood ratio test revealed that this model with the quadratic interaction terms explained significantly more than the model with first order interactions ($\chi^2 = 29.4 > \chi^2_{critical,}$ 4 d.f.; $p < 0.001$). Model 4 provides the results of the full model with quadratic interaction terms.

As shown before in Models 1 and 2, the first contingent model, Model 4, also reveals support for the curvilinear effects of CSPI on extension attitudes. However, though the simple effects for experience, business model, advertising investments and operating focus were as seen in Model 2, the simple effects for service delivery capability were not significant. Furthermore, the interaction terms for CSPI and experience and CSPI-squared and experience were not significant. This indicated that H_6 was not supported. Experience does not appear to moderate the curvilinear relationship between CSPI and dissatisfaction. Subsequently, Model 3 was tested, in which the interaction of experience with both terms of CSPI was excluded. Noting that the AIC for Model 3 (958.9) was less than the AIC for Model 4 (962.6), Model 3 was used to assess the results related to H_4, H_5, and H_6. In Model 3, the simple effect of advertising investments is negative and significant, but the other results were relatively unchanged as compared to Model 4.

With respect to the interaction effects, H_4 posits that advertising investments would moderate the curvilinear relationship between CSPI and dissatisfaction. Results from Model 3 in Table 3 indicate that both the coefficients of CSPI and advertising investments ($\beta = .250$; $p < 0.05$) and CSPI-squared with advertising investments ($\beta = .254$; $p < 0.05$) are positive and significant. Taken together, these two results reveal that the negative relationship between CSPI and dissatisfaction is weakened at higher levels of advertising investment and the positive relationship is strengthened at higher levels of CSPI [2]. Thus, H_4 is supported. Figure 3 displays the visual representation of the moderating role of advertising investments on the CSPI – Dissatisfaction relationship. Specifically, I computed the simple slopes of CSPI at three different levels of advertising investments: at mean values of advertising investments and 1.5 standard deviations above and below the mean values. Statistical tests indicate that the simple slopes at all three different levels of advertising investments are different from zero.

Results from Model 3 in Table 4 also reveal that the linear effect of CSPI with operating focus ($\beta = -.135$; $p < 0.01$) is negative and significant and the quadratic effect of CSPI with operating focus ($\beta = .110$; $p < 0.05$) is positive and significant. Taken together, these two results reveal that the negative relationship between CSPI and dissatisfaction is strengthened when firms adopt a broader operating focus and weakened when firms adopt a more narrow operating focus. Thus, H_5 is fully supported. Figure 4 displays the visual representation of the moderating role of

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[2] Let Dissatisfaction = $b_0 + b_1$ CSPI $+ b_2$ CSPI$^2 + b_3$ CSPI * Advertising + b_4 CSPI^2* Advertising. The coefficients b_1, is negative, b_2 and b_3 and b_4 are positive. Then, at mean levels of Advertising, which happens to be zero in the mean-centered data, d(Dissatisfaction) / d(CSPI) = $b_1 + 2b_2$CSPI. At higher and lower levels of Advertising, d(Dissatisfaction) / d(Advertising) = $(b_1 + b_3$Advertising) + 2$(b_2 + b_4$Advertising)CSPI. As can be readily seen, the second term 2$(b_2 + b_4$Advertising)CSPI is not as positive for lower values of Advertising vis-à-vis higher values of Advertising.

operating focus on the CSPI – dissatisfaction relationship. The simple slopes are significantly different from zero for all levels of operating focus.

H_6 posits that service delivery capability would moderate the curvilinear relationship between CSPI and dissatisfaction. Results from Model indicate that the coefficient of CSPI and service delivery capability is negative and significant (β = -2.495; p < 0.05) and the quadratic effect of CSPI with service delivery capability is also negative and significant (β = -4.776; p < 0.01). Taken together, these two results reveal that the linear part of the relationship between CSPI and dissatisfaction strengthened at higher levels of service delivery capability. Additionally, the curvature of the relationship is less convex for higher levels of service delivery capability. Thus, H_7 is fully supported. Figure 5 displays the visual representation of the moderating role of customer service capability on the CSPI – dissatisfaction relationship. The simple slopes are significantly different from zero for all levels of customer service capability.

The results for H_8 can be seen by comparing Model 5, Model 6, and Model 7 in Table 5. According to Baron and Kenny (1986), mediation of dissatisfaction would be shown if a) variations in the levels of CSPI and service delivery capability affected dissatisfaction, and the variations in CSPI and service delivery capability affect abnormal returns in the absence of dissatisfaction; b) variations in dissatisfaction affected abnormal stock returns; and c) when the path from dissatisfaction to abnormal returns is controlled for, the relationship between CSPI and service delivery capability and abnormal returns is not significant.
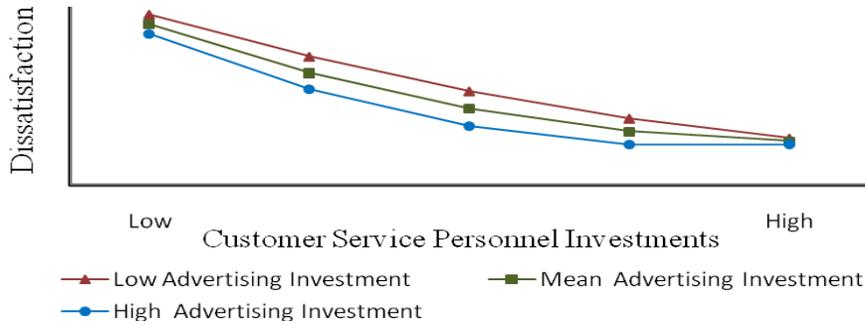
Figure 3:
The Moderating Effect of Advertising on the Relationship between Customer Service Personnel Investments and Dissatisfaction
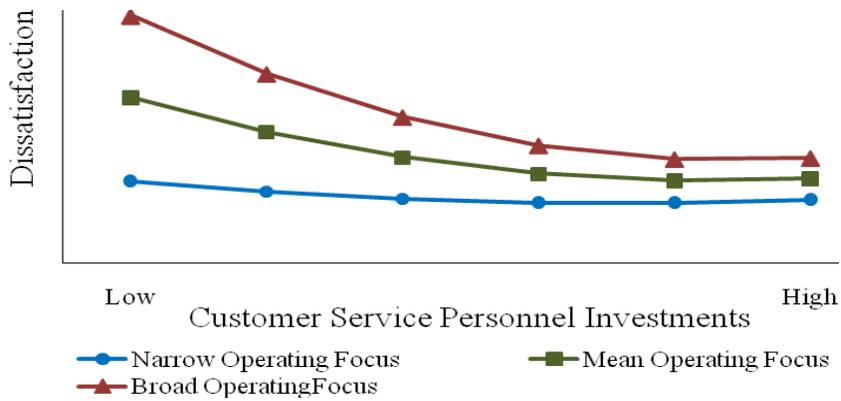
Figure 4:
The Moderating Effect of Operating Focus on the Relationship between Customer Service Personnel Investment and Dissatisfaction

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The results for H_8 can be seen by comparing Model 5, Model 6, and Model 7 in Table 5. According to Baron and Kenny (1986), mediation of dissatisfaction would be shown if a) variations in the levels of CSPI and service delivery capability affected dissatisfaction, and the variations in CSPI and service delivery capability affect abnormal returns in the absence of dissatisfaction; b) variations in dissatisfaction affected abnormal stock returns; and c) when the path from dissatisfaction to abnormal returns is controlled for, the relationship between CSPI and service delivery capability and abnormal returns is not significant.

Looking at Model 5, the path from dissatisfaction to abnormal stock returns is negative and significant ($\beta = -.037$; $p < 0.05$). Looking at Model 6, the path from CSPI to abnormal returns is positive and significant ($\beta = .124$; $p < 0.01$) and the path from service delivery capability to abnormal returns is not significant. Looking at Model 7, the full model, the path from dissatisfaction to abnormal returns is negative and significant ($\beta = -.037$; $p < 0.05$) and the path from CSPI to abnormal returns is positive significant ($\beta = .123$; $p < 0.01$). The path from service capability to abnormal returns is not significant.

Though this suggests that dissatisfaction only partially mediates the relationship between CSPI and abnormal returns, the AIC for Model 7 (271.9) and the AIC for Model 6 (727.6) is higher than the AIC for Model 5 (271.2). The difference between the AIC, and the other fit statistics which penalize for adding variables to a model, for Model 5 and Model 6 indicates that modeling abnormal returns without dissatisfaction does not fit the data well. Similarly, adding all three variables (going from Model 6 to Model 7) does improve the fit, but not relative to Model 5, the model with only dissatisfaction and the control variables. Thus, H_8 does receive some support, though future tests on different data sets may help clarify whether full or partial

mediation is the best way to describe the role of dissatisfaction in connecting CSPI and service delivery capabilities to abnormal stock returns.
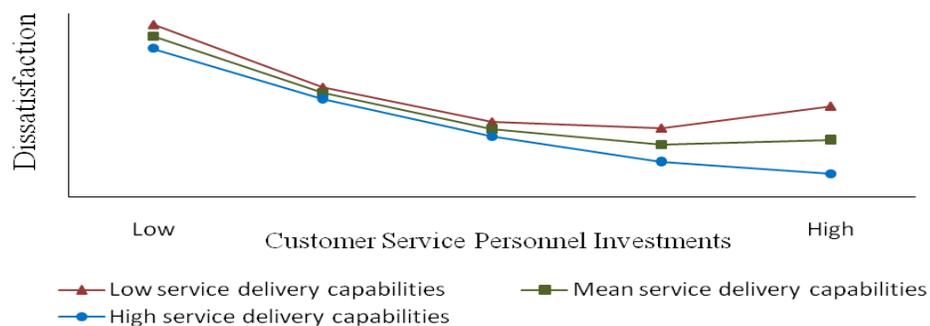
Figure 5:
The Moderating Effect of Service Delivery Capabilities on Customer Service Personnell Investments and Dissatisfaction

Discussion

The purpose of this study is to show how investments in customer service employees and service delivery capabilities impact stock value through customer dissatisfaction with overall service quality. Additionally, the study tries to explain some contingencies describing when a greater return of investments in service quality might be expected (Rust et al. 1995). To achieve these goals, a resource-based perspective of the firm (Barney 1991) was adopted. Conceptually, this study argues that internal resources and capabilities can effectively create external relational resources, and these relational resources, in turn, can be a source of competitive advantages that lead to increased performance results.

Overall, results suggest that while increasing investments in customer service personnel is effective, there are diminishing returns. Additionally, the investment will be most valuable for

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firms with a broad operating focus, high service delivery capabilities, and low advertising investments. Beyond investments in customer service personnel, commitment to improving service delivery capabilities can also help improve financial performance, though the improvement is only realized through the development of external customer relationship resources. Furthermore, the impact which service delivery capabilities have on the development of customer relationships is stronger for firms adopting an efficiency business model (Zott and Amit 2007).

These results provide both managerial and theoretical guidance. Managerially, the study reveals that not every organization will receive the same benefits from attempts to improve their customer service personnel resources. Being attentive to the return on quality framework (Rust et al. 1995) can help managers optimally apply the service profit chain (Hesket, Sasser, Schlesinger 1997; Kamakura et al. 2002). In particular, managers should consider the bundle of resources and capabilities representing their organization, their organization's business model, and their current and future operating focus when deciding how much to invest in customer service employees.

Theoretically, this study adds to the continuing work promoting the resource-based view in marketing theory (Srivastava et al. 2001; Krasnikov and Jayachandran 2008). Specifically, it provides greater insight into the role of marketing capabilities in determining performance (Krasnikov and Jayachandran 2008) and it presents contingencies that should be considered when working with return on quality (Rust et al. 1995) and service profit chain (Heskett, Sasser, Schlesinger 1997; Kamakura and Mittal 2002). Furthermore, whereas others have focused on the economics of superstars (e.g., Rosen 1981; Groysberg, Lee, and Nanda 2008), I focus on the

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ability of commodity employees to create a competitive advantage. The results in this research highlight that there is clear theoretical, not to mention practical, benefit to further research focusing on the economics of commodity employees (i.e. customer service personnel).

Limitations of this study provide paths for future research. The fact that only the airline industry was studied presents opportunities for future research to see if industry factors might moderate some of the relationships that are presented. Additionally, studies using attempting to directly measure competitive advantage would be helpful. Finally, this work could be extended by directly measuring resources rather than looking at investments in resources.

CHAPTER THREE: ABNORMAL STOCK RETURNS AND HORIZONTAL MARKETING ALLIANCES: WHAT TO LOOK FOR IN FACTOR MARKETS

<u>Introduction</u>

Marketing strategy is a key element of a firm's ability to develop a competitive advantage and create value for shareholders. However, the success of a given strategy is connected, in part, to its available resources (Wernerfelt 1984; Barney 1991; Day 1994). Relationships with alliance partners and relationships with customers are two particularly valuable market-based resources (Srivastava et al. 1998; Srivastava et al. 2001). Whereas marketing research has made advances in defining the value of these resources, progress in explaining how marketers should collectively develop and manage these market-based resources is limited (Srivastava, Shervani, and Fahey 1999; Rust et al. 2004).

In general, marketing alliances are formed to increase demand of existing products, create new brands or product extensions, enter new markets, or to achieve some combination of these goals. When a firm is seeking to increase demand of an existing product, it may seek external resources which, if connected to an existing brand, improve the brand's power and consumers' awareness of it. This is often the case in many co-branding efforts with celebrities or between credit card companies and retailers (e.g., Rolfe 2003). In the case of co-marketing a new brand, firms may consider partners who, not only have necessary technological capabilities, but also have their own established brand reputations and customer base (e.g., Vanketesh, Mahajan, and Muller 2000). When the purpose of a marketing alliance is to enter a new market, firms may seek partners with established distribution capabilities or greater knowledge of customers and other intermediaries (e.g., Varadarajan and Cunningham 1995). However, the nature of alliances

involving the addition of services to existing offerings has received much less focus, particularly in the context of horizontal alliances (Bourdeau, Cronin Jr., and Voorhees 2007).

This study addresses both the lack of knowledge related to horizontal marketing alliances in service industries, and the lack of understanding in how marketers should collectively develop and manage alliances and customer relationships. Firms acquire alliance partners from factor markets based upon their ability to allow a focal firm to supplement its existing bundle of resources to achieve a desired strategic position (Barney 1986). However, what happens to the return on a firm's investments in customer relationships if it selects a partner which invests more or less in customer relationship management? Is the return on marketing impacted by decisions made in factor markets?

I address these research questions through the theoretical lens of the resource-based view of the firm (Wernerfelt 1984; Barney 1991). The resource-based view of alliances suggests that the performance implications of the partners' respective resources and capabilities are contingent upon their relative combination in a given alliance. In the current context, the alignment (Madhok and Tallman 1998; Das and Teng 2000) of customer relationship management capabilities between the firms and the alignment of integrated services is studied. Whereas previous literature is relatively silent how firms should view the impact of these two factors in marketing alliances, I propose that there is an inherent risk in viewing the management of these two market-based assets independently. In essence, I propose that, though alliances can create value by allowing a focal firm access to resources which it cannot or will not obtain on its own, service-related horizontal alliances also have an inherent risk of destroying value by reducing the effectiveness of a firm's investments in customer relationships.

I study this potential in the context of horizontal marketing alliances in the airline industry. This context allows a unique opportunity to study horizontal marketing alliance between service providers. The airline industry is characterized by relatively active behaviors in factor markets and changes in both alliance partners and the level of cooperation within specific alliances occurs on a rather consistent basis. This allows me the opportunity to investigate the impact of different levels of service integration between firms. The extensiveness of service integration is studied as a means of assessing different degrees of synergy (Hill and Hellriegel 1994; Harrison et al. 1991) created in service-oriented horizontal marketing alliances.

The results of this study indicate that the synergistic integration of complementary services by competitors relates to positive abnormal stock returns for a focal firm. However, the results also indicate that when a firm with high customer relationship management capabilities partners with a firm with low customer relationship management capabilities, then the value-creating tendency of the focal firm's capabilities can be wiped out. Moreover, a firm with low capabilities is not guaranteed positive returns from customer relationships by allying with a firm with high capabilities. Thus, the evidence suggests that horizontal marketing alliances in service industries have the potential to be both value creators and value destroyers.

Next, I outline the theoretical framework for this study and present support for my proposed hypotheses. This section will highlight the resource-based perspective of alliances and customer relationships. Then, the data and methodology are explained and results are discussed. Finally, a discussion of the results is provided, limitations are highlighted, and areas for future research are suggested.

Market-Based Assets

Strategic relationships with alliance partners and relationships with customers are considered market-based assets (Srivastava et al. 1998; Srivastava et al. 2001). Both of these resources are capable of providing a competitive advantage to a focal firm, and consequently, both resources can improve a firm's short-term and long-term performance (e.g., *customer relationships*: Aksoy et al. 2008; Fornell et al. 2006; *strategic partner relationships*: Anand and Khanna 2000; Das et al. 1998). However, I propose that there is an inherent risk in viewing the management of these two market-based assets independently.

This section follows the resource-based view of competitive advantages (Barney 1991; Powell 2001) in studying the value-creating tendency of these market-based assets. It builds support for the assertion that an alliance partner's ability to manage customer relationships has consequences on the realized value of a focal firm's management of customer relationships. Specifically, this section proposes that the establishment of one market-based asset (strategic relationships with alliance partners) can potentially attenuate or magnify the value of investments in another market-based asset (customer relationships). Furthermore, it extends the research on horizontal marketing alliances by investigating the value-creating tendencies of service-oriented marketing alliances (Bourdeau et al. 2007).

First, brief reviews of the resource-perspective on alliances and customer relationships are presented. Then, hypotheses regarding the direct and contingency effects of a partner's customer relationship management are developed. Finally, the value creating ability of different

types of service-oriented marketing alliances are hypothesized. Overall, the goal is to assess the potential direct and indirect effects of horizontal marketing alliances so as to provide a conceptual view of the net value of such alliances. In reading the following hypotheses, it is helpful to note that, in the empirical testing, customer relationship management capabilities are captured by realized levels of customer complaints, a measure of customer dissatisfaction. This operationalization and others will be discussed in greater detail in the section following this one.

Resource Perspective of Strategic Horizontal Marketing Alliances

Strategic alliances are "the pooling of skills and resources by alliance partners, in order to achieve one or more goals linked to the strategic objectives of the cooperating firms," (Varadarajan and Cunningham 1995, p. 283). As this definition of strategic alliances highlights, there are many facets of alliances which can be studied, and there are also several theoretical perspectives from which to study a given aspect of alliances (Shenkar and Reuer 2006). I adopt a strategic resource perspective of alliances (Barney 1986; Barney 1991; Das and Teng 2000) and focus on horizontal marketing alliances (e.g., Bucklin and Sengupta 1993; Oum et al. 2004; Garrette, Castaner, and Dussauge 2009). Specifically, this study focuses on marketing alliances formed in pursuit of horizontal integration strategies in a service context. These alliances represent a growth strategy in which a firm attempts to create a partner out of a rival, and to grow by integrating resources to achieve a more competitive position in the market (Varadarajan and Rajaratnam 1986).

In technology-based horizontal alliances, a firm generally attempts to gain knowledge of or access to means of production or R&D which it does not possess internally (e.g., Gulati 1995). Some horizontal alliances involve the attainment of partners for both technology and marketing

activities, such as those related to product development and positioning (e.g., Bucklin and Sengupta 1993). In horizontal alliances which are strictly marketing-based, the focal firm is often seeking an external resource (i.e. a partner) which allows the firm the opportunity to increase demand of existing products in current markets, enter new markets, or expand the products or services it currently offers its customer base (Smith and Barclay 1997; Das et al. 1998; Oum et al. 2004).

As stated, this study focuses on selecting partners from factor markets to allow a focal firm to grow by integrating resources with a competitor (i.e., horizontal integration strategies). In the context of the airline industry, which this study uses as a manner of testing specific hypotheses, this involves providing customers with service to additional cities and providing customers additional means of earning loyalty rewards through cooperation with an allying firm. Thus, in this context, these strategic alliances also mean that the focal firm may increase the number of customers utilizing its own services by way of its partner(s). However, previous studies in this industry clearly highlight that this latter factor is not the basis for beginning such strategic alliances. Rather, industry executives state that the strategic incentive for airlines to enter alliances is to increase the value of their focal brand (Kalligiannis, Iatrou, and Mason 2006) through increased services and, hopefully, perceptions of increased service quality via their alliance networks (Wang and Horsburgh, 2007).

From a resource-based perspective, firms rely upon bundles of resources to compete (Barney 1991), and strategic alliances are one type of relational, market-based asset upon which a firm may rely (Srivastava et al. 1998). Specific alliance partners are acquired from factor markets (Barney 1986), and they are selected based upon their ability to allow a focal firm to

supplement its existing bundle of resources to achieve a desired strategic position. Horizontal alliances, in particular, are formed by firms at the same level of the value chain, and commonly occur between competitors in the same industry. The intended result of such alliances is a competitive advantage for each firm.

The resource-based view of alliances suggests that the potential for a competitive advantage is "based on the effective integration of the partner firms' valuable resources" and capabilities (Das and Teng 2000, p. 48). In other words, assuming that a firm intelligently pursues and capably manages a relationship via a factor market, the ultimate value of the relationship is, in part, a factor of the combined resources and capabilities of each partner. In strategy research, this phenomena is generally studied by considering the contribution of a partner's resources to a joint activity, and is conceptualized as resource alignment (e.g., Madhok and Tallman 1998; Dussauge, Garrette, and Mitchell 2004). Resource alignment refers to the matching and integration of partner firms' resources in an alliance (Das and Teng 2000).

Resource integration is often perceived as a more critical success factor in technology alliances (Das et al. 1998) and joint ventures (Koh and Venkatraman 1991) than it is in marketing alliances because the factor market for technological resources is perceived to be more competitive (Das et al. 1998). In other words, the common belief is that there is greater scarcity in markets for firms with specific technological know-how or manufacturing capacity than in markets for firms which are able to provide additional services for a focal firm's customers. As such, the issue of resource alignment has received little attention in marketing alliance literature.

However, in cases where marketing alliance partners are relied upon to provide services, firms must also consider each potential partner's customer relationship management capabilities.

It is highly likely that the pool of potential partners will be marked by firms with widely varying abilities to manage customer relationships. In other words, in service-related marketing alliances, the factor market to consider is the market for firms particularly levels of customer relationship management capabilities and service offerings. In most industries, it is highly likely that this market is equally as scarce as the market for technological know-how or manufacturing capacity. For instance, it well known that results of the American Customer Satisfaction Survey (ASCI) in service-related industries often indicates a wide variation in satisfaction levels among firms. Thus, I propose that it is absolutely necessary to consider the issue of resources alignment not only in terms of services provided, but also in terms of overall customer relationship management capabilities.

Resource Perspective of Customer Relationships

Customer relationships are critical market-based assets because they provide a competitive advantage capable of creating abnormal stock returns (e.g. Fornell et al. 2006; Aksoy et al. 2008). These relationships are formed on the basis of value delivered to customers, in part, by service quality and experiential benefits (Srivastava et al. 2001). Extant literature has shown that, in service industries, these resources are managed, in part, through the development of customer service capabilities (Moore and Fairhurst 2003) and customer response capabilities (Jayachandran et al. 2004). Of course, chapter two in the current research has identified additional strategic factors that influence overall customer relationship management. From a resource-based perspective, customer relationships provide a competitive advantage because they are difficult or costly to imitate and they are capable creating financial performance benefits (Barney 1991; Srivastava et al. 2001).

For instance, perceived service quality can lead to increased satisfaction (Zeithaml et al. 1996), and satisfied consumers, in turn, may be more likely to pay higher prices (Homburg et al. 2005), to provide positive word of mouth (Brown et al. 2005), to repurchase from a focal firm (Mittal and Kamakura 2001), and to develop loyal purchasing behaviors toward firms which consistently satisfy them (Oliver 1999). Similarly, if dissatisfaction is properly managed then the development of customer relationships is more likely, negative behaviors associated with dissatisfaction can be averted (Zeithaml et al. 1996), and a firm's brand equity can be protected (Srivastava et al. 2001).

Of course, customer relationships are managed at a cost. The development and maintenance of strong customer relationships is difficult because firms must balance strategic initiatives to expand revenues through quality improvements with initiatives to increase efficiency and reduce costs (Rust et al. 2002; Mittal et al. 2005). Thus, the level of customer relationship management success can be viewed as a reflection of executive decisions and organizational capabilities related to customer relationship management. In other words, firms strategically decide the emphasis they place on developing these relational assets.

If a firm makes a strategic investment in developing and supporting strong customer relationships, it is critical that decisions which might compromise this investment are avoided. Similarly, if decisions which might boost the return on this investment exist, then they should clearly be considered. Considering the fact that the accountability of marketing investments is such an important element of modern business (MSI Research Priorities 2008; Rust et al. 2004), the impact of decisions on these valuable resources must be considered. Furthermore, if a firm's competitive advantage is in some manner tied to customer-based resources, then the strategic

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relevance of potential contingencies is amplified. From this perspective, my proposition that it is absolutely necessary for alliance-seeking firms to consider the issue of resource alignment not only in terms of services provided, but also in terms of overall customer relationship management capabilities, appears to be well supported.

The Impact of Focal Firm and Partner Firm Customer Relationship Management Capabilities on Performance

Recall, the resource-based view of market-based assets (i.e. customer relationships) theorizes that strong customer relationships can provide a competitive advantage, hence above average performance levels (Srivastava et al. 2001), because they allow a firm the ability to extract greater rents for their services. The positive (negative) relationship between customer satisfaction (dissatisfaction) levels and abnormal performance measures has been supported in previous studies (e.g. Fornell et al. 2006; Aksoy et al. 2008), but the impact of this market-based asset has not been studied in the context of marketing alliances. Furthermore, the results of the study in chapter two supported this relationship, indicating a significant negative relationship between customer dissatisfaction and abnormal stock returns in the context of the airline industry. Of course, the sample in chapter two contained a mixture of airline-quarter observations which did and did not include airlines with alliances. Here, the first step in assessing the impact of service-based marketing alliances and alliance partners' customer relationship management is to verify whether the impact of a focal firm's customer dissatisfaction has a similar, negative main effect.

It could be argued that such intangible, relational resources provide no impact on abnormal stock returns in a context dominated by networks of alliance relationships.

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Conceptually, in a context of competitor-dominated horizontal alliances, it could be theorized that the increased focus on competitors may reduce each firm's customer orientation to the extent that all firms have similar, low levels of customer relationship management capabilities (Rindfleisch and Moorman 2003). In such a context, the ability of customer dissatisfaction levels to explain differences in performance may be negligible.

However, firms following a horizontal integration strategy (Varadarajan and Rajaratnam 1986) in an industry marked by a proliferation of such strategies are likely to realize that some level of customer-service differentiation is beneficial. Additionally, though several firms in this industry pursue such a strategy, there still exists a great deal of competition with firms which do not. Thus, one could theorize that, even among firms which pursue a horizontal integration strategy, management of customer relationships still impacts each firm's performance. As such, the following replication hypothesis is tested.

> H1: A focal firm's ability to manage customer relationships is positively
> related to its abnormal stock returns, such that as the level of customer
> dissatisfaction decreases, the level of abnormal stock returns increases.

Previous studies involving horizontal alliances have found it advantageous to investigate both the possibility of main effects and interaction effects of different factors (Luo, Rindfleish, and Tse 2007). As such, prior to discussing the role of resource alignment, the potential main effect of an alliance partner's customer relationship management capability is hypothesized. This practice is done with the understanding that, if interaction effects are found, then only the resulting net effects are eventually relevant.

Extant research on airline passengers suggests that firms should be cognizant of partners' customer relationship management capabilities. Weber (2005) surveyed airline customers and found that, from the customer's perspective, baggage handling assistance in case of problems and high overall service quality rate among the most important factors in determining the perceived value of alliance partners. Additionally, overall perceived service quality, speed of check-in, and frequent-flyer services by the operating airline have all been connected to increases in perceived benefits of customers flying alliance-related routes (Wang and Horsburgh 2007). Thus, it seems plausible a focal firm can extract a competitive advantage, hence abnormal performance benefits, by allying with a partner which possesses above average customer relationship management capabilities.

As such, evidence that a marketing alliance partner can do things to increase a customer's perceived benefits related to a service which the partner provides in cooperation with a focal firm suggests that the partner's customer relationship capabilities are a value-creating element of such an alliance. Conceptually, such value-creating potential is a key purpose of alliances. The ability to draw upon the strengths of another firm is a thought to be a major advantage of strategic alliance strategies relative to single-firm strategies (Das and Teng 2000). Here, the question is whether the ability of a partner firm to manage customer dissatisfaction translates directly into the ability of a focal firm to earn above average rents. Theoretically, the behaviors commonly related to higher (lower) levels of customer satisfaction (dissatisfaction) should be realized even if a customer's (dis)satisfaction is being managed by an alliance partner in some instances.

Of course, if the partner firm does not manage customer relationships well, then the anticipated advantage of a strategic alliance could become a realized disadvantage. If customers

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do not perceive benefits in utilizing a partner's services, then the alliance partners' poor

customer relationship capabilities could be a value-attenuating element in regards to the overall

net value of such an alliance. In other words, whereas the other elements of the alliance and the

focal firm's relationship management capabilities may be positive influences on performance,

the cumulative positive gains may be less as a result of a partner's poor relationship management

capabilities.

Overall, this line of reasoning suggests that an alliance-partner's customer relationship

capabilities may directly impact the performance results of a focal firm. That is, regardless of the

focal firm's customer relationship capabilities, hence its level of customer dissatisfaction,

selection of an alliance partner which has low customer relationship management capabilities,

hence high levels of customer dissatisfaction, may lead to lower levels of performance for the

focal firm. As such, the following main-effects hypothesis is proposed.

> H2: A partner firm's ability to manage customer relationships is positively
> related to a focal firm's abnormal stock returns, such that as the level of a
> partner firm's customer dissatisfaction decreases, the level of a focal
> firm's abnormal stock returns increases.

The Interdependence of Focal Firm and Partner Firm Customer Relationship Management

Hypothesis 1 and hypothesis 2 suggest that a focal firm's and partner firm's customer

relationship management, respectively, may have an independent impact on the performance of

the focal firm. However, the resource-based view of alliances suggests that the performance

implications of the partners' respective resources and capabilities are likely contingent upon their

relative combination in a given alliance. In the current context, this suggests that the alignment

(Madhok and Tallman 1998; Das and Teng 2000) of customer relationship management

capabilities between the firms is likely to have an impact on the value-creating tendency of an alliance for each partner

In discussing the nature of resource alignment, it is helpful to first reflect on the context. First, recall that this study is comparing the role of resource alignment in the context of horizontal marketing alliances established between competitors for the purpose of integrating service-related resources. In other words, customer relationship management capabilities are necessarily a performing element of the alliance (Das and Teng 2000). Second, note that the performance measure being utilized is the abnormal stock return of a focal firm. Thus, unlike studies which focus on collaborative performance (e.g., Hennart 1988; Sarkar et al. 2001) the firm-specific impact of resource alignment is being assessed.

Given the types of alliances being studied and the performance indicator being selected, the pertinent alignment factors to consider are resource similarity (Chen 1996; Das and Teng 2000) and status similarity (Podolny 1993; Chung, Singh, and Lee 2000). A graphical representation of the four possible scenarios resulting from the integration of customer relationship management capabilities is provided in Figure 6. The figure identifies the defining resource combinations of alternative focal-partner pairs and the relative overall impact of each combination on the abnormal stock returns of the focal firm. That is, it identifies the hypothesized direction of change in stock returns, and the relative magnitude of change if the simple effects are in the directions suggested in H1 and H2, and the interaction effects are in the directions suggested in H3.

First, consider the issue of resource similarity. Resource similarity refers to the relative comparability of each firm's customer relationship management capabilities. Though the

capabilities are similar in type, if they are different in their relative levels (e.g., high-low), then the capabilities are considered to be dissimilar (Chen 1996; Das and Teng 2000). In contrast, if both firms have relatively high or relatively low capabilities (i.e., similar levels) then the capabilities are considered to be similar. The resource-based perspective of alliance specifies that the integration of performing capabilities (Das and Teng 2000) results in either a supplementary (i.e., similar capabilities) or complementary (i.e. dissimilar capabilities) combinations.

Second, consider the status similarity of the two firms' capabilities. Status refers to the perceived quality or value of the capability (Podolny 1993; Chung et al. 2000). If customer relationship management capabilities of a firm are considered to be of high quality, then the firm is perceived as having high status in regards to customer relationship management, whereas low quality indicates low status. Conceptually, the status of a focal firm and partner firm can be described as a signal to customers and to current and potential stakeholders in financial markets (Podolny 1993). As such, the interesting relationships lie in cell 2 and cell 3 in figure 6. When the signal of the partner firm is contrary to that of a focal firm, is it possible that the focal firm's net benefit from complementary customer relationship management capabilities is positive in one instance, but not in the other?

Partner Firm	Focal Firm	
	High Capabilities **(Low Dissatisfaction)**	**Low Capabilities** **(High Dissatisfaction)**
High Capabilities **(Low Dissatisfaction)**	**Cell 1** *Resource combination:* Supplementary capabitilities High-high status similarity *Overall Impact:* Most postive impact on stock returns	**Cell 2** *Resource combination:* Complementary capabilities Low-high status similarity *Overall Impact:* Uncertain magnitued, but worse than cell 1, better than cell 4
Low Capabilities **(High Dissatisfaction)**	**Cell 3** Complementary capabilities High-low status similarity *Overall Impact:* Uncertain magnitued, but better than cell 4, worse than cell 1	**Cell 4** Supplementary capabilities Low-low status similarity *Overall Impact* Most negative impact on stock returns

Figure 6:
The Four Potential Integration Combinations of Customer Relationship Management Capabilities and the Theorized Impact of Each on Focal Frim Performance

In cell 1 and cell 4 (figure 6), the relationships appears to be rather strait forward. In a

supplementary scenario the two firms are integrating similar capabilities through their alliance

(Das and Teng 2000). This scenario is similar to what researchers describe as scale alliances

(Hennart 1988; Dussauge, Garrette, and Mitchell 2000) in the context of production-based

alliance contexts. In those studies, the contribution of similar resources or capabilities is

beneficial because the joint efforts can increase the productivity of operations beyond the

individual efforts of each partner. However, in a service-based context, similarity in customer

relationship management capabilities can indicate that both firms are either strong in their

management (i.e. similar high status) or they are both weak (similar low status).

If both firms have strong capabilities, then it can be theorized that customers and investors receive positive signals about the quality of each firm, whereas negative signals are received when supplementary capabilities are weak. In either case, it seems logical that the expected cumulative value of the scenarios depicted in cell1 and cell 4 are in line with the cumulative predictions of H1 and H2. Essentially, in the case of supplementary capabilities, the reinforcing nature of the partner's signal should lead to more extreme impacts on stock returns for the focal firm in the same direction as the expected return of the focal firm's capabilities. Conceptually, this expectation posits that the relative strength of (cell 1) or lack of (cell 4) competitive advantage relating to a firm's customer relationships (Srivastava et al. 2001; Barney 1991) is judged by the market to be reinforced when the firm gains supplementary resources or capabilities as a result of entering a strategic alliance

Returning to the relationships in cell 2 and cell 3 (figure 6), the potential outcomes are not as clear. First, consider cell 2. When firms collaborate to co-produce or co-market a product, then non-redundant, complementary competencies create synergies which improve alliance performance (e.g., Hill and Hellriegel 1994; Harrison et al. 1991). However, the potential impact of complementary competencies in regards to managing market-based assets (i.e. customer relationships) is not clear. Moreover, the impact of such complementary capabilities on a focal firm is not strait forward.

Marketing literature would suggest that strategic or tactical actions which reduce the perceived service quality of a service will result in higher levels of customer dissatisfaction (e.g. Parasuraman et al. 1998; Roth and Jackson 1995). In turn, this dissatisfaction signals lower quality, and future customer relationships are negatively affected (Zeithaml et al. 1996).

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Furthermore, the signal of lower quality, hence depleted levels of customer-based relational assets, has negative consequences in regards to investors' expectations of future performance (Srivastava et al. 1998; Fornell et al. 2006; Aksoy et al. 2008).

Thus, based on resource-based perspectives of customer relationships from marketing literature, partner combinations which are characterized as being in cell 2 or cell 3 could potentially cause the overall impact of such resource combinations to be negative. If this result is true, the practical consequences may have serious implications. For example, a focal firm investing heavily in customer relationships may forfeit all potential benefits if it aligns with a partner whose customer relationship management capabilities are sub-par (i.e. cell 3).

This raises the issue of whether alliance combinations positioned in cell 2 allow a focal firm to compensate for lower customer relationship management capabilities by allying with a firm which is more capable of managing customer relationships. Again, the resource-based perspective of complementarity as is relates to cooperative performance would suggest that this is the case (e.g., Das and Teng 2000; Sarkar et al. 2001). However, the actual outcome, similar to cell 3, depends on whether or not customers, hence stakeholders, respond more strongly to the signal of quality related to the focal firm or the partner firm when assessing the overall benefits of an alliance to the focal firm. The exact magnitude and direction of these assessments in cell 2 and cell 3 are unclear, but it seems logical that cell 2 signals are more negative than those in cell 1 and more positive than those in cell 4. Similarly, the overall signals from cell 3 should be more positive than those in cell 4, but more negative than those in cell 1.

Some empirical evidence in previous service alliance contexts also suggests that the outcomes of partners' customer relationship management capabilities may be contingent on each

other. Bourdeau and colleagues (2007) study vertical service alliances, and find that when the

partner's service quality is high and the focal firm's service quality is high (representing high-

high status similarity as in cell 1, though their context involved complementary services), then

customers tend to state the highest repeat purchase intentions for the primary service provider.

They also find that there are spillover effects of a partner's service quality, such that differences

in status have deteriorating effects for perceived quality of a focal firm (representing the

potential for the relative ordering of overall impact shown in cell 3).

In sum, though the relative magnitude of the effect is unclear, it is plausible to expect that

the competitive-advantage-creating tendency of a focal firm's customer relationship management

capabilities is contingent upon that of its partner's. Advantages, hence performance, are expected

to be lower going from a scenario depicted in cell1 to a scenario depicted in cell 2 or cell 3. In

contrast, advantages, hence performance, is expected to be greater going from a scenario

depicted in cell 4 to a scenario depicted in cell 2 or cell 3.

> H3: An alliance partner's ability to manage customer relationships
> positively moderates the impact of a focal firm's management of customer
> relationships, such that as a partner's level of customer dissatisfaction
> increases the positive impact a focal firm's decrease in customer
> dissatisfaction on its own stock returns is less (and vice-versa).

Extensiveness of Service Integration and Firm Performance in Horizontal Marketing Alliances

From a resource-based perspective, competitor alliances are theorized to have positive

financial performance implications as a result of facilitating efficient resource sharing and

information flow (Lado, Boyd, and Hanlon 1997; Luo et al. 2007). Horizontal marketing

alliances which involve the sharing of services between competitors are expected to be most

effective at influencing performance when complementary services are integrated (Das and Teng 2000). This is because the integration of complementary resources allows a focal firm to grow its market offerings without directly investing in the necessary resources. Indeed, this is the underlying motive behind horizontal integration strategies (Varadarajan and Rajaratnam 1986). However, what is not known is whether the relative extensiveness of partners' service-based alliance impacts the stock returns of each partner.

In the airline industry, horizontal integration strategies can consist of partners cooperatively integrating reciprocal loyalty rewards (i.e. frequent flyer benefits), selling customers seats on each others' flights, and coordinating scheduling activities. Additionally, when domestic alliance partners are also part of an international alliance (e.g., Continental and Delta have an alliance agreement and are both members of the Skyteam world alliance), then additional benefits resulting from the network (Lavie 2006; Boyd and Spekman 2008) may exist. Overall, the relative extensiveness of a given horizontal alliance in this industry is defined by the extent to which a focal airline and a partner integrate their services (Oum et al. 2004; Oum and Park 1997). In particular, alliances which only integrate loyalty programs are the lowest form of cooperation, and the relative extensiveness increases as partner pairs further integrate their own flight networks and the networks of common alliance partners. As such, the airline industry provides a good context in which to examine the effects of service integration extensiveness in horizontal marketing alliances.

Previous research in the airline industry has looked at several outcomes potentially related to the relative level of cooperation among firms, but not stock returns. At lower levels of cooperation, for example, Lederman (2007) argues that reciprocal loyalty programs, the most

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basic form of cooperation, create greater value for a focal airline's flights. However, Armantier and Richard (2008) focus on one year of data from the extensive integration of flight services and loyalty program between Continental and Northwest in 1999, and find mixed evidence regarding customer benefits. Oum and colleagues (2004) also find mixed results regarding the impact of service integration extensiveness on firm performance. Overall, they found that horizontal alliances do not impact profitability, though they do find some evidence that very high levels of cooperation tends to increase firm profitability. However, overall firm productivity is found to be more responsive to different levels of cooperation.

As an alternative to these previous studies, I argue that the performance effects of different levels of cooperation among service providers may be best viewed in terms of the competitive influence which alternative levels of integration provide. Specifically, I argue that the relative extensiveness of service integration is a measure of relative competitive position. As a firm strategically integrates additional complementary resources via more extensive cooperation with a partner, the alliance should place the firm in a more competitive position (Barney 1991; Bucklin and Sengupta 1993). Consequently, the increased competitiveness of the firms should increase the ability of the firm to earn abnormal returns, which will be recognized in financial markets.

In sum, I posit that the synergistic affects of complementary services (Harrison et al. 1991; Stafford 1994) increases as the extensiveness of service integration increases. Consequently, firms in service industries gain a greater competitive advantage at higher levels of service integration. Thus, firms seeking horizontal integration strategies (Varadarajan and

Rajaratnam 1986) in a service industry will see greater abnormal stock returns as the relative extensiveness of their alliances with competitors increases.

> H4**:** The extensiveness of service integration in horizontal marketing alliances is positively related to a focal firm's abnormal stock returns, such that higher levels of service integration provide higher levels of returns.

<div align="center">Data and Methodology</div>

Sample and Data

I test each of the above hypotheses using data from the domestic U.S. airline industry. This context is preferable for several reasons, but two are particularly noteworthy. First, focusing on a single-industry context provides a clear understanding of common practices and strategies. This is important, for example, in identifying the extensiveness of service integration in alliances. In depth interviews with industry experts and reviews of years of industry reports have been provided in previous studies (Oum et al. 2004; Oum and Park 1997), and each of these lend support for the validity of the constructs of interest in this context. Furthermore, it is common practice in the airline industry that as alliance become more extensive, the added services are naturally complementary. There are similar benefits in regards to studying customer relationships in this context. The basic service elements are relatively stable and comparable across firms, so dissatisfaction levels for a focal and partner firm can be presumed to be based capabilities related to the management of common relationship factors.

Second, the domestic airline industry provides a context in which horizontal marketing alliances are common. Multiple alliances of different types begin and end over the selected 10-year observation period, and they are reported on in many public sources. Moreover, customer

complaint data are openly reported in a regular basis. This provides both a rich set of data for researchers and a rich set of data for investors and customers. Consequently, it provides a fertile context for studying the impact of horizontal alliances and alliance partners' customer relationship management on stock returns.

I collected information from a variety of sources to develop a database of nine focal U.S. airlines and their domestic competitor alliances over a 10-year period to test my hypotheses. My data collection entailed collecting data on from the U.S. Department of Transportation (DOT), COMPUSTAT, SDC Platinum, various news reports, company websites, and the Center for Research in Security Prices (CRSP). The data for each of the 9 airlines and their alliance partners was integrated at the quarterly level for 10 years, from 1997 through 2006. Thus, airline-partner-quarter is the level of analysis, with the data being stacked so as to provide an airline-quarter observation for each alliance partner of a specific focal airline. In all, the analysis for hypotheses 1-4 was done a sample of 489 observations.

Table 6 identifies the airlines-partner pairs used in analysis, the observed time periods for each alliance, the alliance classification, and the respective number of observations for each. Each alliance pair, its respective timeline, and information used to classify the alliance was cross-validated by at least two sources, as is common practice in alliance research (Oxley and Sampson 2004; Boyd and Spekman 2008). Data was validated by referencing the SDC Joint Venture/Alliance database, searching articles from a variety of news sources such as the *Wall Street Journal* and trade publication using the HighBeam Reseach search engine online, and consulting company websites, annual reports, and government 10-K filings.

Unlike alliance studies which adopt an event study methodology and investigate the impact of alliance announcements on short-term stock values (e.g., Das et al. 1998; Boyd and Spekman 2008), this study utilizes cross-sectional panel data. As such, a given alliance will have two corresponding observations, with one observation for each firm as the focal firm. This approach has been utilized in previous studies (e.g. Oum et al. 2004), but one difference in the current set of data is that not every alliance has two observations. This is because some airlines were in bankruptcy while they were participating in an alliance with a firm which was not in a bankruptcy. For example, in the Continental – Delta alliance, Delta was in bankruptcy for four quarters, whereas Continental was not. As such, there was no dependent variable (size-adjusted returns) for Delta during those observation periods.

Operationalization of Constructs

Dissatisfaction: Dissatisfaction for the focal firm and its respective alliance partner was measured in the same way, and the measure represents the relative customer management capabilities of the firm over a given time period. Dissatisfaction levels are used to capture each firm's capabilities in managing customer relationships. I use the aggregate rate of actual third-party complaints (Singh 1988) per 100,000 passengers to measure dissatisfaction. These complaints are directly made from passengers to the government. In real terms, this measure increases for an airline when an element of service is deemed as being below expected levels. I include complaints across all potential categories of service to measure this variable. Service quality literature provide a strong theoretical link between dissatisfaction and complaining behavior (Zeithaml et al. 1996), and others have used this measure for similar purposes in previous literature (Lapré and Tsikriktsis 2006).

Table 6:
Airlines and Alliance Partners Used in Analysis for Chapter 3

Airline (airline's total observations)	Alliance Partner	Observed Alliance Periods[a]	Type of Alliance	Total Observations[b]
Alaska (107)	American	1999 Q3	Loyalty-only alliance	1
		1999 Q4 – 2004 Q1	LLS alliance	18
		2004 Q2 – 2006 Q4	LES alliance	11
	Northwest	1997 Q2 – 2006 Q4	LES alliance	39
	Continental	1999 Q3 – 2006 Q4	LES alliance	30
	Delta	2005 Q4 – 2006 Q4	LES alliance	8
America West (52)	Continental	1997 Q2 – 2002 Q2	LES alliance	21
		2002 Q3	Loyalty-only alliance	1
	Northwest	1998 Q4 – 2005 Q2	LLS alliance	27
	TWA	2000 Q2 – 2000 Q4	Loyalty-only alliance	3
American (42)	US Airways	1998 Q4 – 2001 Q3	Loyalty-only alliance	12
	Alaska	1999 Q3	Loyalty-only alliance	1
		1999 Q4 – 2004 Q1	LLS alliance	18
		2004 Q2 – 2006 Q4	LES alliance	11
Continental (102)	Northwest	1998 Q2 – 2004 Q3	LES alliance	26
		2004 Q4 – 2006 Q4	LES alliance in network	9
	America West	1997 Q2 – 2002 Q2	LES alliance	21
		2002 Q3	Loyalty-only alliance	1
	Alaska	1999 Q3 – 2006 Q4	LES alliance	31
	Delta	2003 Q3 – 2004 Q3	LES alliance	5
		2004 Q4 – 2006 Q4	LES alliance in network	9

Airline	Alliance Partner	Observed Alliance Periods[a]	Type of Alliance During Observation Period	Total Observations[b]
Delta	United	1998 Q4 – 2003 Q4	Loyalty-only alliance	21
(43)	Northwest	2003 Q3 – 2004 Q3	LES alliance	5
		2004 Q4 – 2005 Q3	LES alliance in network	4
	Continental	2003 Q3 – 2004 Q3	LES alliance	5
		2004 Q4 – 2005 Q3	LES alliance in network	4
	Alaska	2005 Q1 – 2005 Q3	LES alliance	3
Northwest	Alaska	1997 Q2 – 2005 Q3	LES alliance	34
(101)	Continental	1998 Q2 – 2004 Q3	LES alliance	26
		2004 Q4 – 2005 Q3	LES alliance in network	4
	America West	1998 Q4 – 2005 Q3	LLS alliance	28
	Delta	2003 Q3 – 2004 Q3	LES alliance	5
		2004 Q4 – 2005 Q3	LES alliance in network	4
TWA	America West	2000 Q2 – 2000 Q4	Loyalty-only alliance	3
(3)				
United	Delta	1998 Q4 – 2003 Q1	Loyalty-only alliance	18
(22)	US Airways	2003Q1	Loyalty-only alliance	1
		2006 Q2 – 2006 Q4	LES alliance in network	3
US Airways	American	1998 Q4 – 2001 Q3	Loyalty-only alliance	12
(18)	United	2004 Q1 – 2004 Q2	LES alliance	2
		2006 Q1 – 2006 Q4	LES alliance in network	4
			Loyalty-only alliances	74
			LLS alliances	91
			LES alliances	283
			LES alliances in network	41
			Total Observations:	**489**

Length of alliance: In technology-based alliances, the duration of an alliance can be important as a means of allowing firms to learn about each other and respond to each others' actions (Gulati 1995; Dyer and Singh 1998). This socializing effect can be particularly important when alliance firms are part of a larger network (Boyd and Spekman 2008). Thus, while this study focuses on marketing alliances, there is still the potential for learning to occur. Furthermore, hypothesis 4 implicitly involves the analysis of alliances which exist in greater networks.

As such, the length of each alliance is controlled. This variable is a count of the number of quarters since the beginning of an alliance up to the time of each alliance observation. In situations where a bankruptcy occurred in the middle of an alliance, the quarters during the bankruptcy were included in the construction of this variable.

Number of alliances: Some evidence suggests that the total number of competitor alliances can result in lower performance (Ritala, Hallikas, and Sissonen 2008). Also, increasing levels of competitor oriented objectives has been shown to attenuate firm performance as well as the positive impact of competitor alliances activities (Luo et al. 2007). Since firms in the current data tend to have varying numbers of alliances at a given time, it is important to control for this construct. Whereas the explanatory data in this study represents information from the domestic airline industry, only the number of domestic competitor alliances was counted in creating this variable. It may be possible that the number of international alliances, if included, may increase the relative magnitude of this estimate, but the impact on the overall model is for excluding such alliances is believed to be negligible.

Extensiveness of service integration: The extensiveness of service integration was measured following the collective work of Oum and colleagues (2004; 1997). Oum and colleagues body of work includes interviews with industry experts and airline management, as well as surveys of airline management about the critical factors of alliance agreements in the airline industry.

The data used to categorize the extensiveness of integration for each alliance during each quarter was collected from multiple sources, with the basic requirement that at least two source

agree on each element of the data. The data sources included airline websites, trade publications, SEC filings, newspaper articles, and government documents related to congressional oversight of alliances. In all, there were four (4) levels of service integration that were identified. Each level of integration was created as a separate dummy variable, such that a given variable value was one (1) if it defined the particular alliance related to a specific observation and given a value of zero (0) otherwise.

Loyalty-only alliances are defined as alliances wherein partner firms only provide reciprocal frequent flyer program benefits and services. In these alliances, customers can earn frequent flyer miles on either carrier, redeem miles on either carrier, and gain access to each carrier's loyalty lounges. Some of these alliances may additionally include additional loyalty-related benefits, but none of them include the sharing of any services unrelated to loyalty programs. This is considered the lowest level of service integration, and it is the basis for comparison in establishing the estimates for each model shown in Table 8. As such, this variable was not included in the estimated model.

Loyalty and limited service alliances (LLS alliance) are defined as alliances wherein partner firms provide reciprocal frequent flyer programs and they include limited route-level collaboration without combining each airlines overall network (Oum et al. 2004). Route-level collaboration means that only flights services to certain cities are integrated as part of the alliance. The alliances include code-sharing on these few, select services, but flight schedules on these routes tend not to be coordinated (Oum and Park 1997).

Loyalty and extensive service alliances (LES alliance) include integration of loyalty programs as well as extensive integration of services throughout each airline's network of operations. These airlines integrate services to most, if not all, of their destinations, work to filter travelers through each other's hub airports, operate under extensive codesharing agreements, integrate block space sales, and coordinate flight schedules (Oum and Park 1997). In addition, some of these alliances may include some level of equity investment by one or both partners. However, these alliances are still contract agreements between two firms. In other words, the alliance services are not part of a larger, more integrate network of alliance partners.

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Loyalty and extensive service alliances within a network (LES alliance within network) have all of the characteristics of the LES alliances, but they also include contractual agreements between with international alliance partners. Airlines in these alliances promote their own brand, as well as a common alliance brand (Kalligiannis, Iatrou, and Mason 2006). Additionally, these alliances include the integration of several common network ties with other airlines. Airlines in such alliances tend to integrate the maximum amount of services allowable by anti-trust laws.

Size adjusted returns (SAR): Size adjustable returns over for a given quarter for the focal airline is the dependent variable in all hypotheses. This return represents the difference in the holding period return for the airline and the value-weighted return on the NYSE/AMEX/Nasdaq Capitalization Decile portfolio which correlated with the airline's capitalization during the respective quarter. The holding period return is equal to {(share price in period t – share price in period t-1) + (cash and cash dividends)]/share price in period t-1}. After calculating the monthly holding period return for both the airline and its associated value-weighted capitalization portfolio, the monthly period returns for each were independently compounded within each quarter. Then, the two compounded holding period returns were differenced. This allowed me to generate a measure of the abnormal stock return generated for each airline-quarter observation.

The use of abnormal stock returns as a dependent measure is growing in preference over alternative measures such as ROA or Tobin's Q (Jacobson and Mizik 2009). This method of operationalizing abnormal stock returns has been used in previous marketing studies (Rust et al. 2002), and it has been advocated as an acceptable measure of excess returns in financial literature (Barber and Lyon 1997). Several alternative measures of abnormal stock returns exist and were tested, but the qualitative results do not change. Thus, only this measure is reported.

Lagged size adjusted returns (SAR_{t-1}): To control for unobserved airline effects (Jacobson 1990), the lagged value of the dependant variable, size adjusted returns, is included in each model. The lagged returns variable helps control, at least partially, for factors which are related to abnormal stock returns but may be omitted from the model.

Interaction terms: I created an interaction term to account for the effect of a focal firm's dissatisfaction at different levels of a partner-firm's dissatisfaction by multiplying the two respective variables. As with all other continuous independent variables, these variables were mean-centered prior to constructing the interaction terms (Echambadi and Hess 2007).

Other controls: I control for quarterly differences (e.g. crowded holiday travel) and differences in customers (e.g. increases in vacation travelers during the summer) using dummy variables for each quarter. The respective variable for quarter 1 was excluded from the models for estimation. Similarly, year-specific effects on stock returns were controlled for using annual dummy variables. The respective variable for 1997 was excluded from the models for estimation. To control for financial fundamentals related to stock returns, I included measures of profitability and firm size. Size was measured as the log of total assets, and profitability was measures by dividing net income by total assets. I also controlled for age-specific effects on firm valuation (O'Sullivan and Abela 2007), and the impact of a pending bankruptcy. Bankruptcies were controlled by using a dummy variable for the two quarters immediately preceding a bankruptcy and the quarter in which a firm immerged from a bankruptcy.

Model Specification and Estimation

First, I checked for collinearity problems in the data using multiple diagnostics on the uncentered data, bivariate correlations, variance inflation factors, and the condition indices. These multiple diagnostic measures revealed no major collinearity problems. Also, I randomly sampled observations and estimated multiple models from the comprehensive dataset. The coefficients of the simple effects were relatively stable indicating no collinearity problems.

Table 7 provides the means, standard deviations, and correlation matrix of the mean-centered variables used in the testing of all hypotheses.

Hypotheses 1 was tested using Model 2, hypotheses 2 and 3 were tested using Model 3, (Table 8). The full model, Model 3, can be specified in the following equation.

$$\text{SAR}_{ijt} = \beta1\text{-}\beta2(\text{Quarter}_{t1-t3}) + \beta3\text{-}\beta11(\text{Year}_{t2\text{-}t10}) + \beta13 \text{ Age}_{ijt\text{-}1} + \text{B}14 \text{ Bankrupcy}_{ijt\text{-}1} +$$
$$\beta15 \text{ Length of Alliance}_{ijt\text{-}1} + \beta16 \text{ Number of Alliancesl}_{ijt\text{-}1} + \beta17 \text{ LLS Alliance}_{ijt\text{-}1} + \quad (1)$$
$$\text{B}18 \text{ LES Alliance}_{ijt\text{-}1} + \beta19 \text{ LES Alliance within Network}_{ijt\text{-}1} + \beta20 \text{ Dissatisfaction}_{ijt\text{-}1} +$$
$$\beta21 \text{ Partner's Dissatiafaction}_{ijt\text{-}1} + \beta22 (\text{Dissatisfaction}_{ijt\text{-}1}*\text{Partner Dissatisfaction}_{ijt\text{-}1}) +$$
$$\beta23 \text{ Profitability}_{ijt\text{-}1} + \beta24 \text{ Size}_{ijt\text{-}1}.+\text{B}25 \text{ SAR}_{ijt\text{-}1}$$

My data consists of correlated longitudinal data, where each airline accounts for multiple airline-quarrter observations. As a result, these within-subject correlations must be controlled in order to obtain unbiased coefficient estimates (Ballinger 2004). Therefore, as suggested by (Echambadi et al. 2006), I used mixed models to control the within-subject correlations.

The estimated mixed effects model can be specified as follows:

$$y_{ijt} = X_{ijt}\beta + Z_ib_i + \varepsilon_{ijt} \quad (2)$$
$$b_i \sim N_q(0,\Psi) \quad (3)$$
$$\varepsilon_{ij} \sim N_N (0,\sigma^2\Lambda_{it}) \quad (4)$$

where y_{ijt} represents the size-adjusted stock returns of the ith airline for the tth quarter. X_{it} is the N $\times$ p model matrix corresponding to the fixed effects and β is the p $\times$ 1 vector of fixed-effect coefficients. Specifically, I used age, length of alliance, number of alliances, LLS alliance, LES alliance, LES alliance within a network, dissatisfaction, profit, size, the lagged sized-adjusted returns, and the product of dissatisfaction with partner's dissatisfaction with these variables as fixed effects. Also, quarter-specific dummy variables, year-specific dummy variables, and a dummy variable for observations preceding a bankruptcy were used as additional fixed effects in

the model as control variables. Z_i is the $N \times q$ model matrix that represented the airline-specific heterogeneity using a random effects specification. ε_{it} is the $N \times 1$ vector of errors for each observation. Ψ represents the $q \times q$ unstructured covariance matrix for the airline random effects. The intercept was allowed to vary across airlines. Finally $\sigma^2 \Lambda_{ij}$ is the $N \times N$ covariance matrix for the errors. I estimated these mixed effect models using restricted maximum likelihood estimation method using the SAS Mixed procedure. Table 8 provides the results of the mixed effects regression models.

Results

The descriptive statistics of the key variables used to test hypotheses 1 through 4 are provided in Table 7. As all hypotheses were tested using mean-centered data for continuous variables, the statistics presented in Table 7 are for mean-centered data.

H_1 posits a negative relationship between a focal firm's dissatisfaction and a focal firm's abnormal stock returns. Results from Model 1 in Table 8 indicate that the main effect of a focal firm's dissatisfaction on abnormal stock returns is both negative and significant ($\beta = -0.039$; $p < 0.05$). H_2 posits that a negative relationship between a partner firm's dissatisfaction and a focal firm's abnormal stock returns. Model 2 reveals that the impact a partner firm's dissatisfaction on a focal firm's abnormal stock returns is not significant ($\beta = -0.020$; $p > 0.05$). Thus, evidence in support of hypothesis 1 is found, but support for hypothesis 2 is not found.

Table 7:
Descriptive Statistics and Correlations[a] among Variables[b] Used in Chapter 3 (N = 489)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Dissatisfaction$_{(t-1)}$	0.00	1.45	1.00												
2. Partner Dissatisfaction$_{(t-1)}$	0.00	1.44	0.50	1.00											
3. Length of Alliance$_{(t-1)}$	0.00	10.09	-0.27	-0.27	1.00										
4. Number of Alliances$_{(t-1)}$	0.00	0.92	-0.06	-0.04	0.26	1.00									
5. Age$_{(t-1)}$	0.00	17.16	-0.44	-0.10	0.03	0.22	1.00								
6. Profits$_{(t-1)}$	0.00	0.05	0.04	0.07	-0.06	-0.10	0.02	1.00							
7. Size$_{(t-1)}$	0.00	0.41	-0.12	-0.16	-0.06	-0.06	0.59	-0.01	1.00						
8. Loyalty-only Alliance$_{(t-1)}$	0.15	0.36	0.26	0.26	-0.29	-0.46	0.07	0.01	0.18	1.00					
9. LLS Alliance$_{(t-1)}$	0.19	0.39	0.12	.012	-0.12	-0.03	-0.26	-0.06	-0.10	-0.20	1.00				
10. LES Alliance$_{(t-1)}$	0.58	0.49	-0.19	-0.19	0.19	0.33	0.07	0.01	-0.16	-0.49	-0.56	1.00			
11. LES Alliance within Network$_{(t-1)}$	0.08	0.28	-0.16	-0.16	0.03	0.04	0.16	0.06	0.19	-0.13	-0.14	-0.35	1.00		
12. SAR$_{(t-1)}$	0.00	0.37	-0.14	-0.11	0.05	0.01	-0.01	-0.02	0.03	-0.10	0.03	0.03	0.04	1.00	
13. SAR$_{(t)}$	-0.02	0.36	-0.01	0.01	0.09	-0.04	-0.04	0.01	-0.01	-0.09	0.06	-0.02	0.07	-0.14	1.00

NOTES: Statistics for variables 1 – 7 variable 12and are for mean-centered data. Time-specific variables controlling for each year in the observation period, each quarter in a year, and each quarter which directly precedes or follows a bankruptcy filing are used in the estimation of each model but they are not shown in this table. The types of alliances (variables 8 – 11) are discussed in Operationalization of Constructs section of this chapter. The following are abbreviations used in this table to save space: LLS = Loyalty and Limited Service; LES = Loyalty and Extensive Service.
[a] Correlations with an absolute value of 0.09 or greater are significant at $p < .05$ levels. These are Pearson correlations, not partial correlations.
[b] Statistics for variables 1to 12 correspond to relationships for lagged forms of each variable relative to the dependent variable, variable 13 (SAR), such that all of the explanatory variables (variables 1 – 12) are for time, t-1, whereas the dependent variable (variable 13) is at time, t

Table 8:
Fixed Effects Parameter Estimates for Models Testing the Impact of Dissatisfaction and Alliance Characteristics, on Abnormal Stock Returns[a,b]

	Model 1 Estimates (Standard Errors)	Mode 2 Estimates (Standard Errors)	Model 3 Estimates (Standard Errors)	F-statistic for Test of Difference between Estimates in Model 3[c] (p-value)	
				LLS Alliance$_{(t-1)}$	LES Alliance$_{(t-1)}$
Intercept	0.031 (0.081)	0.027 (0.081)	-0.064 (0.088)		
Age$_{(t-1)}$	-0.002 (0.002)	-0.001 (0.002)	-0.001 (0.001)		
Length of Alliance$_{(t-1)}$	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)		
Number of Alliances$_{(t-1)}$	-0.061** (0.023)	-0.062** (0.023)	-0.065** (0.022)		
LLS Alliance$_{(t-1)}$	0.155** (0.059)	0.157** (0.059)	0.183** (0.058)	---	---
LES Alliance$_{(t-1)}$	0.132** (0.056)	0.124* (0.056)	0.141* (0.055)	0.87 (0.351)	---
LES Alliance within Network$_{(t-1)}$	0.288** (0.079)	0.284** (0.079)	0.312** (0.078)	3.25 (0.072)	6.83** (0.009)
Dissatisfaction$_{(t-1)}$	-0.039* (0.018)	-0.038* (0.017)	-0.069** (0.022)		
Partner Dissatisfaction$_{(t-1)}$		-0.020 (0.015)	-0.051** (0.020)		
Dissatisfaction$_{(t-1)}$ X Partner Dissatisfaction$_{(t-1)}$			0.030* (0.013)		
Profits$_{(t-1)}$	-0.078 (0.330)	-0.080 (0.330)	-0.074 (0.328)		
Size$_{(t-1)}$	0.045 (0.055)	0.030 (0.055)	0.043 (0.051)		
SAR$_{(t-1)}$	-0.167** (0.045)	-0.162** (0.045)	-0.162** (0.045)		
-2 Log Likelihood	246.5	244.6	239.5		
AIC	298.5	298.6	295.5		
AICC	301.5	301.8	299.0		
BIC	303.6	303.9	301.0		

* $p < 0.05$.
** $p < 0.01$.
[a] DV = Size Adjusted Returns at time, t. Unstandardized parameter estimates are shown.
[b] Model estimated with time-specific variables controlling for each year in the observation period, each quarter in a year, and the quarters around a bankruptcy filing are used in the estimation of each model
[c] Each of the alliance-type variables is a dummy variable, with the Loyalty-only alliance being the basis for comparison. These F-statistics (1, 463) and p-values represent the respective test for $b_i = b_j$ using the estimates from the final model, Model 3.

H_3 posits that an alliance partner's dissatisfaction positively moderates the impact of a focal firm's dissatisfaction. Results from Model 3 indicate that the impact of the interaction term of partner's dissatisfaction on a focal firm's dissatisfaction is positive and significant ($\beta = 0.030$; $p < 0.05$). Furthermore, as suggested by Homburg, Koschate, and Hoyer (2005), I compared the fit of Model with the fit of Model 1 using Akaike Criterion (AIC) values. The AIC value for Model 3 (295.5) is smaller than the AIC values for Model 1 (298.5) implying that the interaction of partner's dissatisfaction on a focal firm's dissatisfaction contributes over and above the main effects specification in explaining abnormal stock returns. Similarly, analysis of the other fit indices also supports this conclusion. Taken together, this suggests support for H_3.

The moderating impact of a partner's management of customer dissatisfaction is graphically represented in Figure 7. The graph was developed using the estimates from Model 3 for dissatisfaction, partner's dissatisfaction, and the interaction of these terms. Since these estimates represent the simple effects and interaction effects at mean levels of the respective firm's dissatisfaction, the dissatisfaction values for each firm being either one (1) standard deviation above the mean or one (1) standard deviation below the mean were used in plotting the points in Figure 7.

As the graph indicates, the relative magnitudes of the cumulative returns for a focal firm's investments in managing customer dissatisfaction tend to be as predicted in Figure 6. The Cell 1 position is represented by the highest point on the graph, and the cell 4 position is represented by the lowest point on the graph. However, the cell 2 and cell 3 positions on the graph, though between these extremes, are both below zero (0) on the y-axis. This indicates that partnering with a less capable partner can destroy all of the value created by more capable firm,

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yet partnering with a more capable may not be able to compensate for low investments in

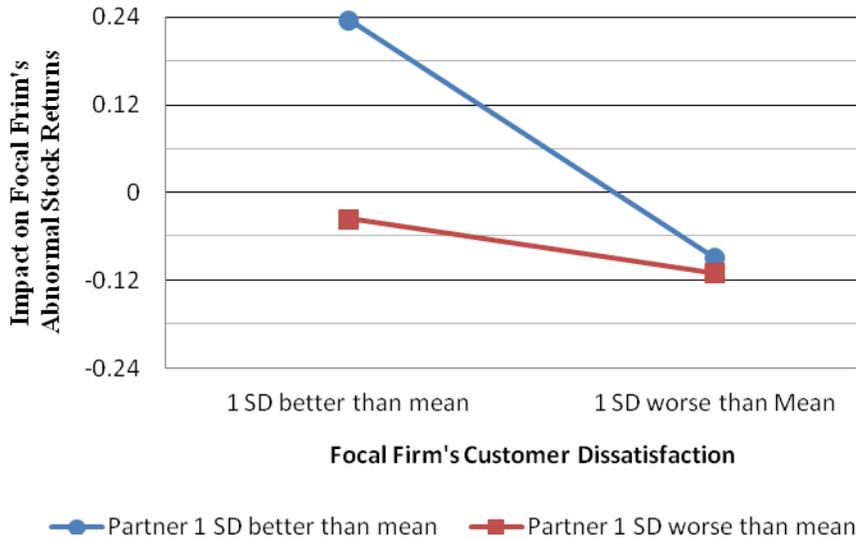customer relationship management by a focal firm.

Figure 7: The Moderating Effect of Alliance Partner's Management of Customer Dissatisfaction on the Relationship between Dissatisfaction and Abnormal Stock Returns for a Focal Firm

H_4 posits that the extensiveness of service integration is positively related to a focal

firm's abnormal stock returns, such that higher levels of service integration provide higher levels

of returns. Results from Model 3 in Table 8 indicate that the expected returns of each of the more

extensively integrated alliances, relative to the loyalty-only alliance, are both positive and

significant ($\beta_{LLS\ alliance} = 0.155; p < 0.01; \beta_{LES\ alliance} = 0.132; p < 0.01; \beta_{LES\ alliance\ within\ netowrk} =$

$0.288; p < 0.01$). However, tests of differences between these estimates suggests that only the

loyalty and extensive service alliances within a network (LES alliance within network) provide

significantly more positive returns in relation to the other forms of alliances ($F(1, 463) = 6.923, p$

< 0.01). Thus, H_4 receives partial support. Adding flight services to an alliance provides better

returns than only integrating loyalty programs, but the extent to which flight services are

integrated appears to provide added value only when the extensive services are integrated between partners which participate in the same, larger alliance network.

Discussion

This study investigates how decisions made in factor markets impact the return on a firm's investments in customer relationships. Results indicate that there is an inherent risk in viewing the management of these two market-based assets independently. Overall, the evidence suggests that horizontal marketing alliances in service industries have the potential to be both value creators and value destroyers. The integration of complementary services can add value to a firm, but the integration of these services can come at a cost. If a firm selects an alliance partner whose capabilities related to customer relationship management are below average, then the partnership can potentially completely negate the value created by the firms' own customer relationship management capabilities.

In addition to the results presented, here, additional post-hoc analyses were run. Specifically, the relative impact of different aspects of customer relationship management capabilities was investigated (e.g. customer service capabilities versus baggage handling capabilities), but the results were not qualitatively different from those presented here. As such they are not presented. Interestingly, the lack of significant changes in the findings during these tests tends to suggest that 1) these results are relatively robust, and 2) overall dissatisfaction tends to accurately capture dissatisfaction with individual relationship management factors.

Additionally, the potential for a focal firm's and partner firm's dissatisfaction impact to be contingent upon the type of alliance was investigated. However, these tests revealed no significant results. Similarly, the potential for non-linear relationships was investigated, but no

support was found. Lastly, multiple alternative control variables were tested in Model 3, and the qualitative results of the fixed effects remained unchanged. These alternative variables included measures for market share, partner's size, both the focal firm's and the partner firm's experience, and an indicator of whether a particular alliance partner was unique (i.e. had only one alliance, which was with a particular focal firm). This provides additional support for the suggestion that the results presented, here, are rather robust.

To further explore the value-destroying tendencies of alliance partners, it is helpful to take a separate look at the impact of forming alliances with partners whose capabilities are above average, and the impact of forming alliances with partners whose capabilities are below average. Figure 8 represents the impact of forming an alliance with a partner whose customer relationship management capabilities are either one (1) standard deviation or a half (1/2) of a standard deviation above average. Similarly, Figure 9 represents the impact of an alliance partner's capabilities at different levels below average. In both scenarios, the focal firm's relative capabilities are considered to be either one have (1/2) of a standard deviation above or below average. Thus, the graphs can be interpreted as representing the relative value-enhancing or value-attenuating consequences of a partner firm's capabilities when a focal firm has made a strategic decision to either invest slightly more or slightly less in its customer relationship management capabilities relative to its competitors.

Figure 8 provides a more detailed understand of cell 1 and cell 2 depicted in Figure 6. If a focal firm partners with a firm which is clearly making substantial strategic investments in customer relationships (identified by the top line), then the focal firm can slightly reduce investments on customer relationships without penalty. In other words, it can still earn overall

positive returns from its market-based assets as a result of its alliance. Moreover, this general result appears to hold, though to a lesser extent, even if the focal firm selects a partner whose investments in customer relationship management is less, but still above the mean. Considering the graph in Figure 8 with the graph in Figure 7, it seems that a focal firm can compensate for reductions in its investment in customer relationship resources as long as it chooses an alliance partner whose investment in such resources is above the industry average.

Figure 9 provides a more detailed understand of cell 3 and cell 4 depicted in Figure 6. If a focal firm selects a partner whose strategic investments in customer relationships is well below average (identified by the bottom line), then the firm will absolutely negate all of its own investments in customer relationships. Moreover, this general result appears to hold even if the focal firm selects a partner whose investments in customer relationship management is relatively larger, but still below average. Considering the graph in Figure 9 with the graph in Figure 7, it seems that a focal firm definitely risks value-destroying consequences if it chooses an alliance partner whose investment in customer relationship management is below the industry average.

Thus, one contribution of this study is to highlight that resource complementarity in regards to customer relationship management can have serious negative consequences. Of course, it is possible for the overall value of a horizontal marketing alliance in a service industry to be positive. The cumulative impact of the extensiveness of complementary service integration and the impact of complementary customer relationship management capabilities can potentially be positive. However, firms must clearly consider the impact of all operating resources and capabilities in the process of strategically selecting alliance partners.
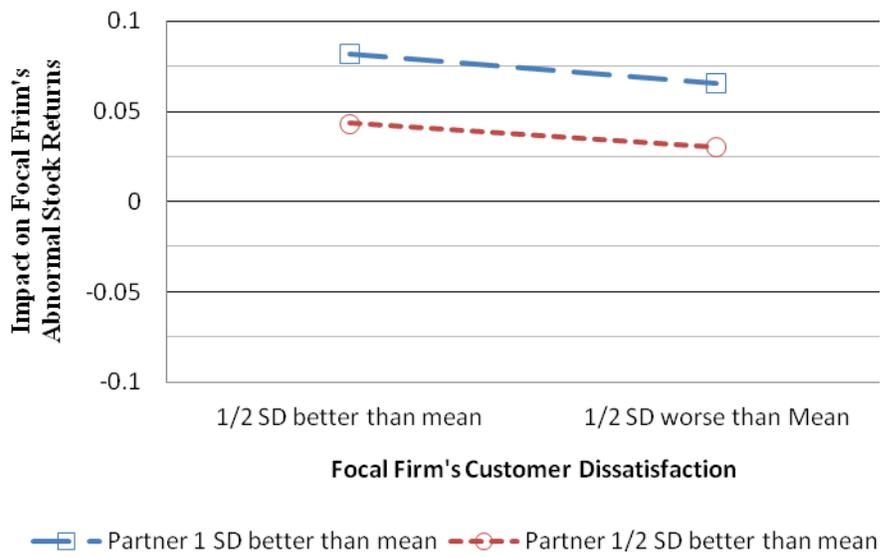
Figure 8:
Impact of Forming an Alliance with a Partner who Manages Customer Dissatisfaction Better than the Industry Average on Abnormal Stock Returns
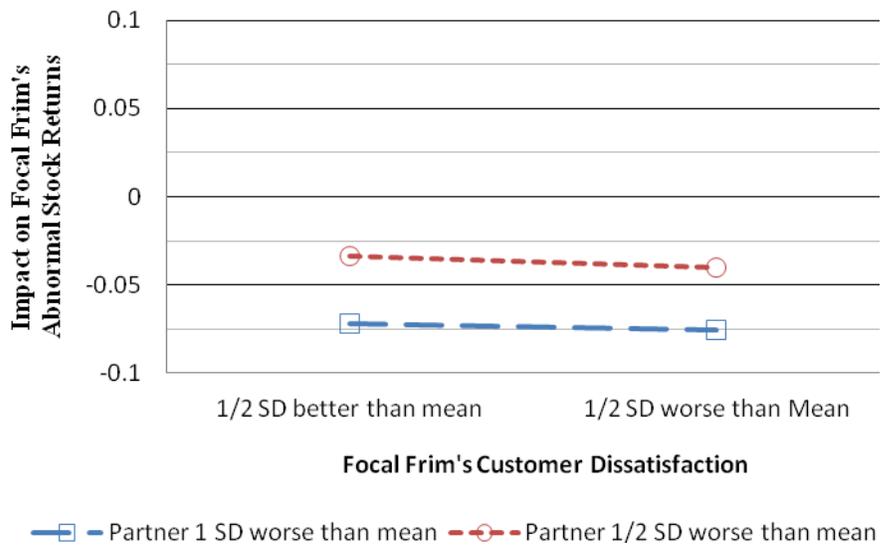

Figure 9:
Impact of Forming an Alliance with a Partner who Manages Customer Dissatisfaction Worse than the Industry Average on Abnormal Stock Returns

In particular, the implication of this study is that firms can potentially get away with decreasing their investments in customer relationships, if they carefully mange their selection of partners in strategic factor markets. This is an important consideration for firms which face the decision to make trade-offs between quality and efficiency.

Of course, the generalization of results should be cautioned since the study focused only on one industry. Future studies investigating marketing alliances across other service industries are warranted. Additionally, this study only focused on domestic alliances. It would be interesting to extend the study to international horizontal alliances. Along the same lines, it would be helpful to follow up on the finding that the extent of service integration provided much higher returns when partners were members of a larger alliance network. It would be interesting to study if the current findings extend to the valuation of alliance network brands.

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