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Understanding the role of Expectation Disconfirmation Theory on IT outsourcing success

Colleen Schwarz

Louisiana State University and Agricultural and Mechanical College

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UNDERSTANDING THE ROLE OF
EXPECTATION DISCONFIRMATION THEORY
ON IT OUTSOURCING SUCCESS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Interdepartmental Program in Business Administration (Information Systems and
Decision Sciences)

by

Colleen Schwarz

B.S., University of Central Florida, 1999

M.B.A., University of Houston, 2002

May 2011

To my husband Andy
and
To my children

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I would first like to thank God for blessing me with such a loving family and always providing for us.

“But those who hope in the LORD will renew their strength; they shall mount up with wings like eagles; they shall run and not be weary; they shall walk and not faint.” – Isaiah 40:31

I am forever thankful for my amazing husband Andy and his continuous love, support, and encouragement.

I am also grateful to my sweet children who are such a blessing to my life and have always pointed me towards the most important things in life.

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ABSTRACT

Outsourcing has become a ubiquitous phenomenon, but IT outsourcing success has been elusive. Over half of the outsourcing contracts are ended prematurely and some organizations are beginning to backsource. This research employs a unique lens to understand outsourcing. Although most IT outsourcing studies employ absolute success measure, this research utilizes expectations and disconfirmations to predict success. Specifically, the Expectation Disconfirmation Theory is used to understand the role of various types of expectations on IT outsourcing success. A Delphi study of IT outsourcing experts in addition to a survey on success is utilized to present a triangulation of data to support the value of understanding how a client's expectations impact that elusive goal of IT outsourcing success.

CHAPTER 1. INTRODUCTION

“I will tell you that I’m not big on outsourcing...If you want to lose control of your operation, outsource it...If “they” have your data what do you have when the relationship goes sour? Nothing but promises and attorney’s bills.” - IT Architect at Sedgwick County (Kansas) IT Department

1.1 Introduction

Since the genesis of outsourcing in the mid-1980s (Dibbern et al, 2004), outsourcing has become a ubiquitous phenomenon (Sparrow, 2003). More than 1.3 million additional Western jobs will vanish by 2014 due to the increased movement of work to India and other offshore locations (Bougarel, 2011). With a slowing economy, Gartner analyst Linda Cohen proposes that outsourcing will increase even more. "Whenever there's a downturn people outsource more, not less. Organizations want to take costs out wherever they can. CFOs are pounding on their CIOs to just outsource it, just offshore it." (Overby, 2008). This growth in the practice of outsourcing appears to represent a logical business strategy as the organizations ponder the anticipated benefits of developing this relationship.

However, many outsourcing ventures have been unable to achieve the elusive status of ‘success’. The inability to achieve success in the IT outsourcing relationship oftentimes negatively influences the organization financially. According to CIO magazine, "numerous surveys indicate that anywhere from 17 percent to 53 percent of customers have not realized business value/return on investment from offshore outsourcing." (Kaushik, 2008, p. 1).

Outsourcing issues have also caused other negative results. From a client’s view, outsourcing of high risk functions can introduce both increased risk but can also provide at least a perceptual decrease in liability for any accidents that can be traced back to the vendor (Hansen,

2008). For example, outsourcing has been identified as a potential contributor to the disastrous BP oil spill (Cullen, 2010). Indeed, BP in addition to Transocean, and Halliburton have all resisted accepting responsibility for the incident. They have instead attempted to shift the blame to their “partners”. This detracting of blame demonstrates historical negative impacts of disastrous outsourcing relationships. For example, TotalFina disavowed any responsibility for the *Erika* oil spill of 1999, diverting the liability to their outsourcing vendor. Conversely, Exxon could not deflect the liability for the *Exxon Valdez* spill in 1989, as they did not outsource the venture (Hansen, 2008). Therefore, outsourcing arrangements have introduced liability into organizations over issues which they may or may not have had control over.

Additionally, numerous outsourcing deals have been prematurely terminated, with a study by DiamondCluster finding that over 50% of outsourcing contracts ended prematurely (Weakland, 2005). For example, Indiana Family and Social Services Administration's 10-year, \$1.6 billion privatization contract with IBM ended when both parties decided to sue each other in May 2010 which left the client with a huge bill and no new services (McGarrah, 2011). Sprint's \$400 million outsourcing arrangement with IBM concluded with a failure to achieve the cost savings promised in the five-year deal (Travis, 2006). Some organizations have even made the decision to backsource (Whitten and Leidner, 2006) after their outsourcing experiences were deemed to be unsuccessful.

Some organizations approach this issue of potential failure by focusing on tightening their contract and SLAs. This approach, however, has not been particularly effective. According to KPMG's outsourcing survey, 60% of respondents claim that problems with their outsourcing provider are almost always people-related. In essence, successful outsourcing is more highly

correlated with relationships between clients and vendors than tight contracts and SLAs (Rossi, 2007).

Recent research on outsourcing has focused more on the IT outsourcing relationship than on contracts, realizing the impossibility of codifying each possible occurrence in an outsourcing agreement. By shifting the focus to improving the IT outsourcing relationship, an outsourcing partner can mitigate the most significant issues that may hinder success of the outsourcing deal. This research serves to build upon the current trend towards understanding outsourcing failures by studying the ‘people’ elements of the relationship between the client and the vendor. However, I will argue that there is a gap in our current understanding of the IT outsourcing relationship. Specifically, there exists a lack of focus on the expectations of the client throughout the development of the relationship. Drawing upon Expectation Disconfirmation Theory (EDT), I posit that outsourcing failures can be better interpreted by shifting our focus to understanding client expectations.

Previous research has indicated that expectations exert a significant positive effect on satisfaction (Lin et al, 2009; Szajna and Scamell, 1993) and perceived performance (Spreng and Chiou, 2002; Staples et al, 2002; Wanous et al, 1992). Furthermore, expectations about a technology can exert a more significant influence on satisfaction than experience-based norms (Susarla et al, 2003). Therefore by extending research on expectations into the IT outsourcing literature, we posit that we can better understand a client’s perceptions of the level of success of the IT outsourcing relationship.

One of the prominent theories on expectations is the Expectation-Disconfirmation theory (EDT), which has been examined in the marketing literature for quite a few years (Oliver, 1977, 1980; Santos and Boote, 2003) in addition to Hospitality and tourism research (Fallon and

Schofield, 2003). In the IT discipline, this theory has been applied most often in IT adoption or IT usage studies (Venkatesh and Goyal, 2010; Bhattacharjee et al, 2008; Bhattacharjee and Premkumar, 2004; Susaria et al, 2003), but it has yet to be applied to IT outsourcing research. I propose that the use of EDT as a theoretical lens to understand IT outsourcing success can provide valuable insight. However, before proceeding to an understanding of expectations, we must first define what is meant by outsourcing.

1.2 Outsourcing Defined

Although the practice of outsourcing has existed in America for more than a century, the focus today has shifted from the outsourcing of architectural design work and product manufacturing to the offshoring of information technology (Haugen et al, 2009). This \$400 billion a year boom in outsourcing and offshoring can be attributed to the Internet revolution which facilitated the transfer of data to other regions of the world (Haugen et al, 2009).

Outsourcing simply refers to the practice of shifting a job to an outside firm (Epping, 2009). Similarly, offshoring can be defined as the practice of relocating a job to another country where wage rates are lower (Epping, 2009).

The variety of outsourced work is expanding exponentially (Epping, 2009). Selective sourcing occurs when a company allocates some portion of its internal functions to outside vendors (Gupta & Gupta, 1992). The client organization retains the functions that can be performed more successfully by the internal IS department than an external vendor (Lacity et al, 1995). The remaining functions are outsourced. Typical candidate functions that may be outsourced include: data center operations, software development and maintenance, support operations, data communications network, disaster recovery, training and back-office clerical tasks, and integrated system development (Apte & Mason 1995).

Researchers have posited that an organization who decides to engage in IT outsourcing receives many benefits. Some researchers contend that selective outsourcing enables greater flexibility as well as increased control over the vendors which leads to a greater degree of success (Lacity and Willcocks, 1998; Apte & Mason 1995; Holohan 2000; Sridhar & Balachandran 1997).

Furthermore, selective sourcing enables client organizations to reap the advantages of economics of scale in their IT function. IT outsourcing vendors possess more resources for producing generic IS services as they serve a larger customer base with a generic IS service than one typical company needs. Thus, the market cost of producing these generic functions will be less than the production costs the client organization would incur (Jayatilaka et al, 2003).

Regardless of the role outsourcing plays in an organization, the outsourcing partners will enter the relationship with a particular set of expectations. While we know that expectations are important, we lack a theoretical lens to understand the role of expectations in IT outsourcing success.

1.3 Expectations

We posit that one of the most important, but often overlooked, factors to consider in an outsourcing relationship is expectations. Each partner enters the relationship with a set of expectations relating to the various facets of the deal. Oftentimes, one party is either unaware of their partners' expectations or they may misread their partner's expectations. Either way, when expectations fail to be met and factors that one partner deems to be important are not valued by the other partner, then disaster visits the IT outsourcing relationship.

Many researchers view the determinants of IT outsourcing success as absolute, where higher levels of customer service or trust will lead to greater levels of success. Based on this

precept, researchers have developed various models employing particular factors to predict success. For example, Information exchange activities (Rai et al, 2009), Outsourcing management competence of the client (Bharadwaj et al, 2010), and Prompt payment (Koh et al, 2004) have all been found to lead to success. Even with a plethora of studies regarding factors that lead to success (Bharadwaj et al, 2010; Rai et al, 2009; Lee et al, 2004; Levina and Ross, 2003; Wang, 2002; Lee and Kim, 1999), the achievement of IT outsourcing success in organizations has been elusive.

Thus, we propose an alternative lens to view factors which lead to IT outsourcing success. Specifically, we posit that the direct value of these IT outsourcing success factors does not constitute the most important aspects. Instead, one must take into account their partners' expectations with regard to these factors.

For example, suppose that an individual who is about to arrive at the airport for their flight expects that the flight will be delayed for about one hour since it is sprinkling outside, but is surprised to find that the flight departs only 10 minutes late. Their expectation was not confirmed (disconfirmation); however, the outcome was better than they had expected (positive disconfirmation). This situation may even cause them to experience a satisfied or delighted affective state – as a result of their flight leaving earlier than they had expected. This satisfied state is a necessary but not sufficient condition to lead the individual to deem the trip a success.

Contrast this situation with an individual who expects that their flight will leave on time despite the fact that it is sprinkling outside. When the flight is delayed for 10 minutes, the passenger's expectation is also not confirmed (disconfirmation); however, the outcome was worse than they had expected (negative disconfirmation). This individual may experience a dissatisfied affective state, and the trip will most likely not be labeled a success.

In each scenario, the passenger's situation was the same in the absolute sense. However, each passenger's affective state was different as a result of their divergent expectations. Therefore, by accounting for the passenger's expectations, one can better predict the passenger's decision to constitute the trip a 'success'.

We propose that a similar relationship exists between IT outsourcing partner's expectations and their resulting affective states. Specifically, we posit that by understanding and managing an IT outsourcing partner's expectations and resulting affective states (i.e. – whether they were satisfied or dissatisfied), an organization can more effectively develop a successful outsourcing relationship. In order to study the impact of the client's expectations on the IT outsourcing relationship, I will utilize Expectation Disconfirmation Theory.

The dissertation is comprised of four chapters. Chapter 1 has presented an introduction to the problem being studied. Chapter 2 reviews relevant literature, highlighting the problems with past research. Chapter 3 will include the research methodology, including data collection methodology techniques for the research. The final chapter, Chapter 4, discusses the implications of the research for academics and practitioners and limitations for this dissertation

CHAPTER 2. LITERATURE REVIEW

As outlined in the introduction, expectations play a critical (and under-theorized) role in explaining IT outsourcing success. To theorize the influence of expectations, I will draw upon Expectation Disconfirmation Theory. In this chapter, I will outline the theory and the application within the outsourcing literature. I will conclude with the research model that will be empirically tested.

2.1 Expectation Disconfirmation Theory

In 1957, Leon Festinger developed Cognitive Dissonance theory (CDT) to explain how dissonance between an individual's cognition and reality influence their subsequent cognition and/or behavior (Bhattacharjee and Premkumar, 2004). CDT posits that when an individual possesses two or more elements of knowledge that are related to each other but manifest inconsistencies, then the individual experiences a state of discomfort (Harmon-Jones and Harmon-Jones, 2007). Festinger (1957) termed this state of discomfort as dissonance.

The unpleasant state of dissonance compels an individual to attempt to reduce the inconsistency between cognitions. In order to reduce the dissonance, individuals may increase the importance of consonant cognitions, decrease the importance of dissonant cognitions, subtract dissonant cognitions, or even add consonant cognitions (Harmon-Jones and Harmon-Jones, 2007).

Researchers have most often studied attitude change in response to a state of dissonance. Typically, individuals alter their attitude relating to the cognition that is least resistant to change. Knowledge about recent behavior represents the cognition most resistant to change; therefore, the remaining cognition would become a candidate for attitude change, which would reduce one's feeling of dissonance (Harmon-Jones and Harmon-Jones, 2007). The reduction of

cognitive dissonance constitutes a necessary condition for the development of satisfaction (Hausknecht et al, 1998).

In summary, CDT posits that when reality fails to match an individual's expectations, then they experience psychological discomfort. In an effort to reduce this discomfort, the individual will distort one or both of the ideas in order to align their expectations and reality (Staples et al, 2002).

In an IT outsourcing context, CDT would advocate that prior to entering into an outsourcing relationship, a client's cognitions (e.g., beliefs, attitude) are generally based on second-hand information, such as industry reports, conferences, trade journals, or vendor claims, communicated through impersonal or mass media channels. The information that clients utilize to form their expectations about IT outsourcing relationships may in fact be exaggerated (by vendors or advertisers) in order to close a deal, or it may represent extreme or unrealistic situations (such as folklore exchanged by colleagues with unusually negative or positive experiences with IT outsourcing, because complaining/complimenting often occurs when experiences are either unusually positive or negative). Either way, these factors may cause the information used to form a client's expectations to be less reliable or stable. However, as the client gains actual experience with their IT outsourcing partner, they will evaluate the extent to which their original cognition aligns with their first-hand experience. As cognitions are generally more mutable than behaviors, the client will adjust their cognitions to coordinate their expectations with reality and reduce dissonance. As the client collects more first-hand experiences with their IT outsourcing partner, a client's cognitions will reach a steady-state equilibrium and become more realistic based on observed behaviors (Bhattacharjee and Premkumar, 2004).

Based on CDT, Expectation-Disconfirmation theory (EDT) delineates a process model relating pre-usage expectations about a product or service and the post-usage perceptions of the product or service (Bhattacharjee and Premkumar, 2004).

Specifically, EDT proposes that individuals experience a multi-stage process when making product repurchase decisions. First, consumers form an initial expectation about a product or service before using it for the first time. If they have previous experience with this service, then their expectations tend to be more realistic; however, if they lack first-hand experience with the service, then their expectations may derive from alternative sources (Halstead et al, 1994). These expectations may be based on feedback from prior users, media reports, or marketing initiatives. Next, the consumer uses the product or service for a period of time and evaluates the extent to which their actual experience with the product or service matches their initial expectations. This match, described as *disconfirmation*, in addition to perceived performance is posited to jointly compose a consumer's extent of satisfaction or dissatisfaction with the product or service (Bhattacharjee et al, 2008).

Disconfirmation describes the dissonance between an individual's original expectations and observed performance (Bhattacharjee and Premkumar, 2004). Three types of disconfirmation exist. When actual performance fails to meet an individual's expectations, then negative disconfirmation ensues. This cognition results in dissatisfaction. When actual performance exceeds expectations, then positive disconfirmation occurs. Simple confirmation exists when actual performance equals expectations (Santos and Boote, 2003; Oliver, 1980).

The nature of satisfaction resulting from these various cognitions does not constitute a resolved debate (Santos and Boote, 2003). Although general agreement exists that individuals feel satisfied when there is positive disconfirmation, and they feel dissatisfaction when there is

negative disconfirmation (Venkatesh and Goyal, 2010), simple confirmation does not enjoy this level of concurrence among researchers (Santos and Boote, 2003). Although some research suggests that satisfaction arises from an individual getting what they want [i.e. – simple confirmation] (Hunt, 1991), others posit that simple confirmation merely leads to a neutral state of neither satisfaction nor dissatisfaction (Erevelles and Leavitt, 1992). Furthermore, other researchers have suggested that simple confirmation could in fact lead to dissatisfaction if the individual's expectations relate to a negative outcome, and the actual performance confirms their minimum tolerable level of expectation (Buttle, 1996). Santos and Boote (2003), however, expand the explanation of the affective state resulting from simple confirmation. Specifically, they propose that depending on an individual's initial expectations, simple confirmation can in fact lead to any affective state.

Santos and Boote (2003) developed a conceptual model of expectation standards, post-purchase affective states and affective behaviors (see Figure 1). They propose that certain expectation standards (expectations compared to performance) lead to particular post-purchase affective states (satisfaction or dissatisfaction) which leads to a particular affective action (complement and complaining behavior). They posit that individuals do not have merely one expectation relating to the performance of a product or service, but instead they possess a set of expectations (Santos and Boote, 2003). I will employ this framework of expectations in this study to understand the relationship between certain cognitions about an IT outsourcing relationship and particular affective states.

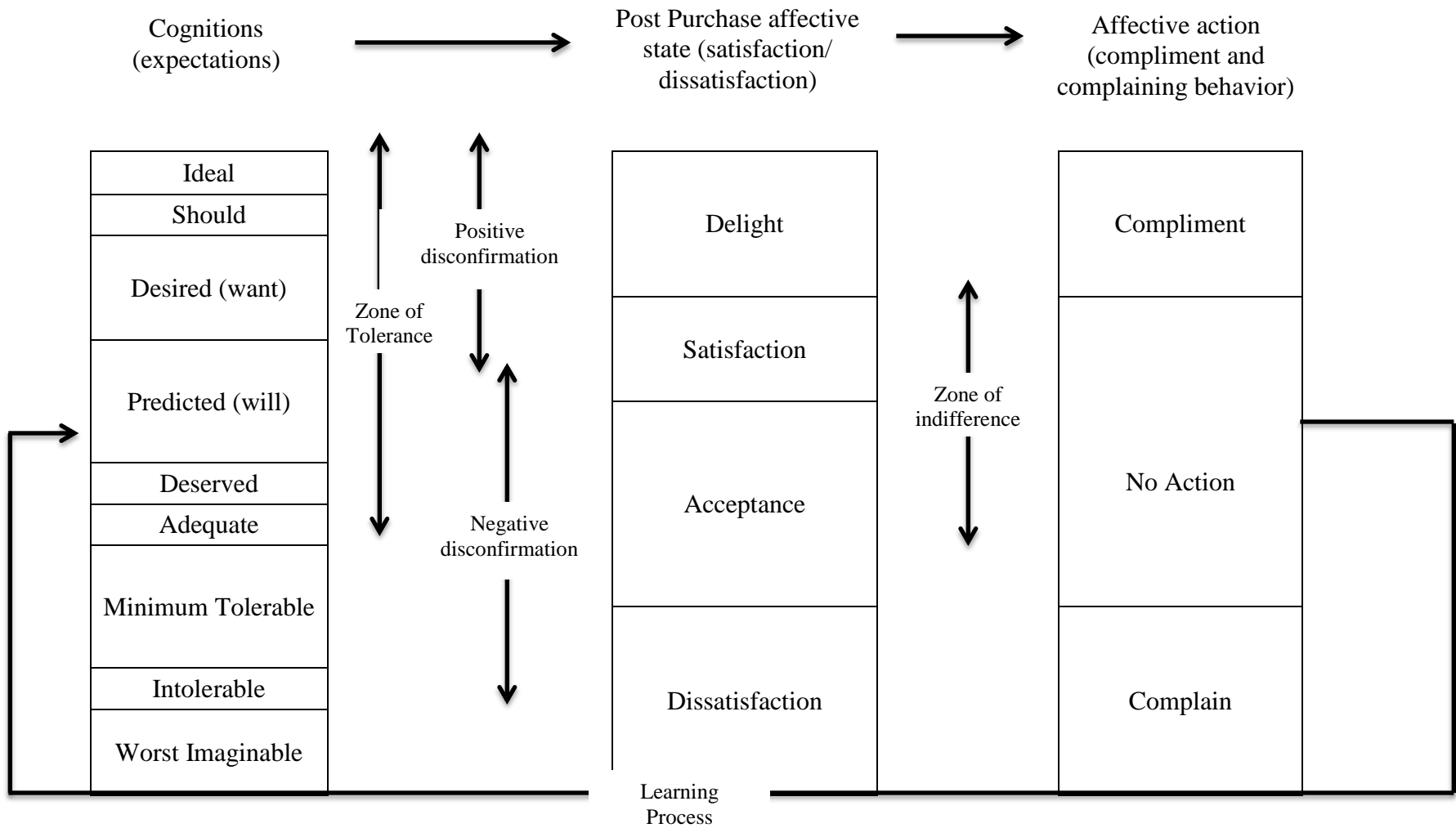
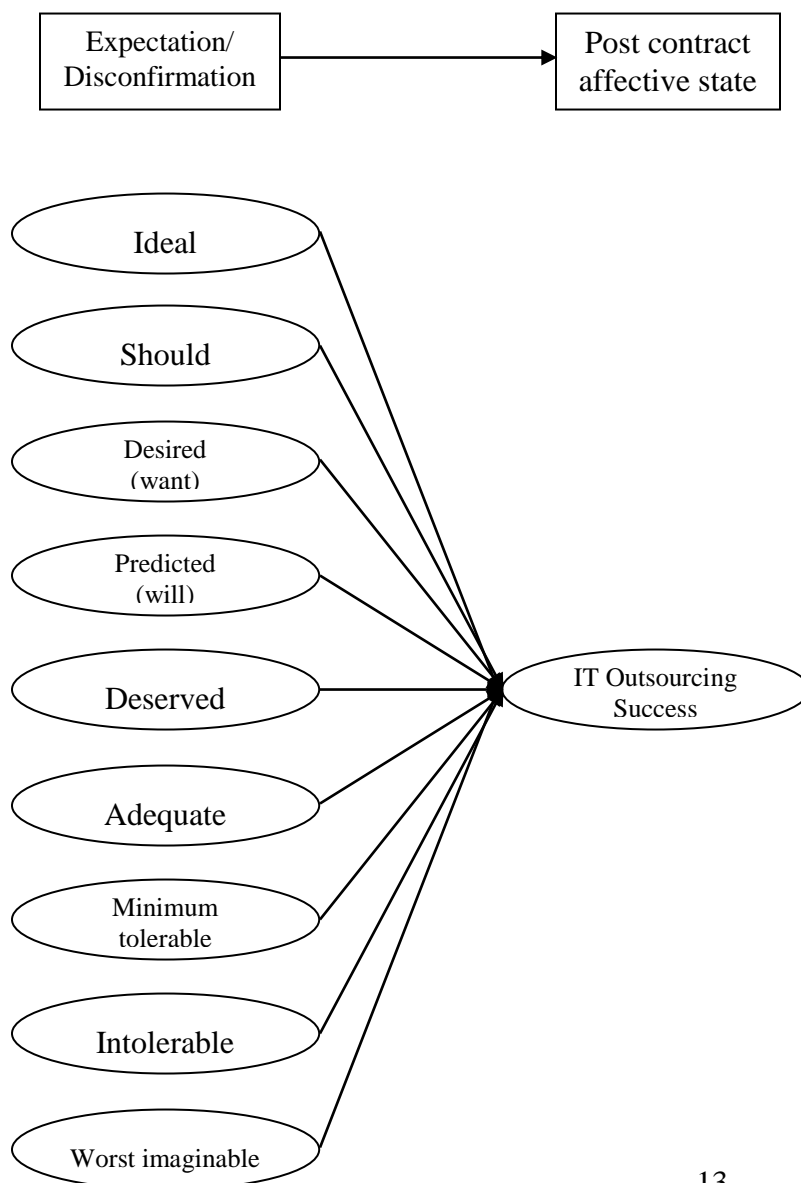


Figure 1 Santos and Boote Model of Satisfaction

2.2 EDT in the Literature

Expectation-Disconfirmation theory (EDT) has been examined in the marketing literature for quite a few years (i.e. - Oliver, 1977, 1980; Santos and Boote, 2003; Diehl and Poynor, 2010) in addition to Hospitality and tourism research (i.e. - Fallon and Schofield, 2003) and Psychology (i.e. - Gotlieb et al, 1994). EDT has been employed by researchers to better understand consumer satisfaction, complaining behaviors, and repurchase intentions (Picazo-Vela, 2009; Hsu et al, 2006; Bhattacharjee and Premkumar, 2004; Patterson et al, 1997).



EDT has been more recently introduced in IS research. This theory has been applied most often in IT adoption or IT usage studies (Venkatesh and Goyal, 2010; Bhattacharjee et al, 2008; Bhattacharjee and Premkumar, 2004; Susarla et al, 2003), but it has yet to be applied to IT outsourcing research. While outsourcing expectations have been sparsely researched in the IT literature (examples include Ho, Ang, and Straub, 2003 and Lacity and Hirschheim, 1994), most

Figure 2 EDT Model of Outsourcing Success

published papers on this topic have been either atheoretical or narrowly focused on a unique type of an outsourcing arrangement, and none have utilized EDT. Therefore, I posit that applying the EDT lens to IT outsourcing research would provide valuable insight and constitute a contribution to knowledge. This study will close that gap in the literature.

Thus, I am proposing that a client's expectations about the IT outsource relationship influence their post contract affective state, Success. Yet, these expectations are grounded in the argument that the individual is making a judgment of the performance of the vendor against some a priori standard. Yet, what are these standards? We will explore this next.

2.3 Standards in EDT

Many organizations are seeking that elusive IT outsourcing relationship with another corporation which results in final products of higher quality, superior service levels, and reduced costs. Clients and vendors both desire a "successful" outsourcing relationship. However, with a focus solely on direct effects of success factors and little consideration given to partners' expectations, it is not surprising that so many organizations struggle with developing a successful outsourcing experience. By shifting our focus away from the absolute values of success factors and towards outsourcing partners' expectations, we can better understand, predict, and even facilitate success in an IT outsourcing relationship.

In Lacity et al's (2009) review of IT outsourcing literature, the researchers organized the research into six topic areas. The current research concerns the most highly researched topic in IT outsourcing success¹. Specifically, I am investigating the determinants of IT outsourcing

¹ According to the number of articles included in the Lacity et al (2009) review of IT outsourcing literature.

satisfaction, which involves determining the practices that increase the likelihood a client's outsourcing decision will be successful (Lacity et al, 2009).

Although much research has been conducted on IT outsourcing success, a significant amount of work remains to be done. For example, many papers have been devoted to determining predictors of IT outsourcing success (e.g. - Seddon et al, 2007; Koh et al, 2004; Lee et al, 2004), but expectations have been scarcely mentioned. This research will fill the gap in the literature to address the role expectations play in the IT outsourcing relationship.

2.4 The Complex Nature of Satisfaction Judgments for Services

An individual's development of their level of satisfaction with the IT outsourcing relationship, which can be characterized as a service, differs from the development of their level of satisfaction with a product purchase.

According to Satisfaction research, the evaluation process for services presents a unique situation from the evaluation process for products (Haistead et al, 1994; Churchill and Surprenant, 1982; Day, 1977). Specifically, the manner in which individuals form satisfaction judgments for services (as opposed to products) is perceived as being (1) more difficult (Parasuraman et al, 1985) (2) based on evaluations of process as well as outcome (Gronroos, 1982), and (3) based on different types and sources of expectations (Zeithaml et al, 1993).

Therefore, while we may utilize satisfaction research on product purchases as a basis for our research, we realize that certain intricacies exist when consumers of a service such as IT outsourcing "consume" that service.

I, however, posit that as the consumption of services tends to involve a more complex satisfaction process, it tends to involve a wider range of needs and expectations. Therefore, the codification of the specific factors used in an individual's evaluation of their satisfaction of the

service becomes more difficult to establish if an absolute standard is implemented. Therefore, I propose that by focusing on expectations I can better understand this complex phenomenon.

This argument correlates with Cullen et al's (2008) findings that although goals may differ between organizations, a client's utilizes his/her own organization's goals when making an assessment of satisfaction (Cullen et al., 2008). The use of satisfaction, essentially weighing costs against benefits (Seddon et al, 2007), provides a consistently valid outcome measure (Cullen et al., 2008). Cullen et al. (2008) concluded that satisfaction always constitutes a valid IT outsourcing outcome measure, but more specific measures are not always valid. Thus, examining expectations constitutes a more reliable measure of satisfaction and success than utilizing absolute values of certain factors. I will test this conclusion to see its applicability to IT outsourcing success.

Therefore, I have discussed how expectations play a role in explaining satisfaction. Drawing upon EDT, I posit that the extent to which the vendor meets the clients' expectations explains the degree of (dis)satisfaction. Yet, what exactly are those standards? And, what does previous work in outsourcing say about how to develop a successful IT outsourcing relationship?

2.5 Gap in the Literature

To answer the above questions, I conducted a literature review of extant IT outsourcing success research (see Appendix A for details). My literature search uncovered the fact that the set of factors utilized to measure IT outsourcing success varies across studies; in fact, many different sets of factors are employed in IT outsourcing success research. For example, Trust of the client in the vendor (Rai et al, 2009), Outsourcing management competence of the client (Bharadwaj et al, 2010), and Prompt payment (Koh et al, 2004) represent some examples of factors that have been utilized to predict IT outsourcing success.

Lacking a compelling reason to select one particular set of factors to utilize in this research, I designed a study to uncover a salient set of factors that could be used to predict IT outsourcing success. My intention involved determining the most important factors that IT outsourcing experts utilize to define IT outsourcing success. These factors would constitute the most prominent issues that IT outsourcing professionals utilize when determining success. By applying the EDT lens and calculating the levels of (dis)confirmation of each of these factors for each respondent, I hypothesize that they would provide a significant explanation for an individual's level of satisfaction with an IT outsourcing relationship.

Having determined that the best data could be collected from IT outsourcing experts, I considered which methodology to select in order to gather meaningful data. I could have selected to conduct a traditional survey to gather input from experts in the area to collect this information. However, I determined that the Delphi method constitutes a preferable methodology for a rigorous query of experts (Okoli and Pawlowski, 2004). I therefore conducted a Delphi study among outsourcing experts to create the independent variables, the set of factors that IT outsourcing experts utilize to define IT outsourcing success, to be used for this research.

2.6 Description of Delphi Study

The Delphi method has become a popular tool utilized in information systems research (Okoli and Pawlowski, 2004; Schmidt, 1997) to obtain consensus from a group of experts by using repeated responses of questionnaires in addition to controlled feedback (Nevo and Chan, 2007). Specifically, I utilized the Delphi method to identify and prioritize the top criteria IT outsourcing experts and top academic researchers who study IT outsourcing use to define IT outsourcing success.

A Delphi study does not rely on a statistical sample that intends to represent a particular population. The focus, instead, becomes the selection of qualified experts (Okoli and Pawlowski, 2004).

I determined that a broadening of perspectives was necessary to develop a more comprehensive understanding of IT outsourcing success. Therefore, I selected experts for two distinct panels – an academic panel of IT outsourcing researchers and a practitioner panel of IT outsourcing practitioner experts. The additional viewpoints of IT outsourcing success from the two panels allowed for balancing of the practitioner’s experience with the knowledge of academic experts.

2.7 Practitioner Expert Panel

Thus, I decided that the best method to establish the expert panels was to not limit myself to one geographical area. Instead, I utilized the Internet, and specifically a business-oriented social networking website, to select experts for the practitioner panel from across the globe.

The experts for the practitioner panel were selected to participate in the survey by qualifying through my screening process. First, I searched through the members in a business-oriented social networking website and selected the individuals who displayed extensive experience in IT outsourcing, including both vendors and clients. The “experts” were then sent an e-mail in which I explained the research I was conducting and asked a few qualifying questions about their experience. If their answers demonstrated that they possessed extensive experience with IT outsourcing, then they were invited to participate in the survey. The following is a listing of the job titles of the participants who completed all Delphi surveys, with many of them employed at Fortune 500 companies across the globe.

Table 1 Job Titles of Delphi Participants

Job Titles
➤ CEO
➤ CIO
➤ Vice President
➤ Director
➤ CTO
➤ Senior Executive
➤ Consultant
➤ Managing Partner
➤ CIO

The Delphi literature recommends approximately 10 to 18 people in each panel (Okoli and Pawlowski, 2004). As I knew that attrition would be an issue with this group of highly experienced participants, I wanted to start with approximately 20 practitioner experts from the practitioner panel, in order to prepare for attrition. Therefore, 21 practitioner experts participated in the first survey. As anticipated, attrition was present with the practitioner expert panel, and 9 practitioner experts completed all the surveys in the Delphi study.

2.8 Academic Expert Panel

Similar to the practitioner panel, my goal with the academic panel was to create a panel of experts in the area, namely academic experts who research IT outsourcing. Therefore, I employed the publish/perish database to determine the top IT outsourcing academic researchers.

I then e-mailed them invitations to participate in the study. I sent out 45 invitations, with 15 academic experts agreeing to participate.

Although I knew there would also be attrition in the academic panel, I did not believe it would be as significant as with the practitioner expert panel. Thus, I began the study with 16 academic experts on the academic panel. Ten academic experts from across the globe completed all the surveys in the Delphi study.

2.9 Delphi Study Method

I utilized the procedure outlined in Okoli and Pawlowski (2004) and Schmidt (1997) in the design of the Delphi study. The study involved three general steps: (1) brainstorming for a list of the important definitions of IT outsourcing success; (2) narrowing down the original list to the most important definitions; and (3) ranking the list of important definitions of IT outsourcing success.

The Delphi study consisted of five rounds of surveys. For each round, a Web-based survey was created and e-mailed to the respondent, with the subject being given two weeks to complete and submit their thoughts. In order to participate in a subsequent round, the respondent was required to complete the assessment for the prior round.

In the first phase (brainstorming), we treated experts as individual respondents, not distinguishing between panels (Okoli and Pawlowski, 2004).

- **Questionnaire One.** In the first round our objective was for the experts to list relevant criteria they use to define IT outsourcing success. We utilized an open-ended question, namely, ‘What are the top 6 criteria you use to define IT outsourcing success?’. We followed recommendations from Okoli and Pawlowski (2004) and requested six criteria in order to focus the respondent on the most significant criteria, yet not wanting the task

to be cognitively overwhelming by leaving the question totally open-ended. The experts provided 162 criteria, with some responses being duplicates. Therefore, we consolidated the lists (regardless of panel), removed exact duplicates, and unified terminology (Okoli and Pawlowski, 2004). We grouped the responses and developed 18 consolidated lists.

- Questionnaire 2. The purpose of this survey was for the experts to validate our consolidation and rewording of their list of the relevant criteria they use to define IT outsourcing success. Specifically, I stated “If you agree with our assessment and believe that the category descriptions are accurate...then you can continue to the next page and the next category. However, if you have any comments about the category description or the item(s) contained in the category, then you can enter your comments in the textbox”. Although a majority of the responses were positive, we made minor changes in response to the expert’s feedback. After refining the final version of the consolidated lists, we ended with 19 criteria.

In the second phase (narrowing down) we treated the experts as two distinct panels, a practitioner expert panel and an academic expert panel.

- Questionnaire 3. The objective of the third survey was to begin narrowing down the criteria to determine the most important criteria. We sent the list of criteria to each expert and asked them to select the ten most important criteria. Specifically, the third round question was ‘Select the top ten most important criteria you use to define IT outsourcing success’. For each panel, we retained the factors that were selected by more than half of the experts in that panel. Thus, we narrowed the list down to 11 criteria for the practitioner expert panel and 9 criteria for the academic expert panel.

In the third phase (ranking), we asked the experts in each panel to continually rank the criteria until a consensus is reached.

- Questionnaire 4. The intention of the fourth round was for the experts in each panel to rank the criteria on their pared-down list. Specifically, we asked the experts in each panel to “Click and drag the statements to rank the most important criteria you use to define IT outsourcing success”. We then used Kendall’s *W* to assess consensus for each list within each panel. The results are as follows:

Table 2 Panel Agreement from Questionnaire 4 of Delphi Study

Panel	Kendall’s W
Practitioners	.252 (<i>Weak agreement</i>)
Academics	.332 (<i>Weak agreement</i>)

- Questionnaire 5. As the Kendall's *W* value did not indicate consensus, we administered an additional survey. We shared the panel’s responses from questionnaire 4 with all members of the panel, and we then asked them to re-rank each list. Specifically, we said “Taking into account the rankings from the last survey, click and drag the statements to rank the most important criteria you use to define IT outsourcing success”. We again used Kendall’s *W* to assess consensus for each list within each panel. The results are as follows:

Table 3 Panel Agreement from Questionnaire 5 of Delphi Study

Panel	Kendall’s W
Practitioners	.820 (<i>Unusually Strong agreement</i>)
Academics	.639 (<i>Strong agreement</i>)

Since the Kendall's *W* indicated that the panels had reached consensus, it was not necessary to administer additional surveys.

2.10 Final Results of Delphi Study

The data collected from the Delphi study of IT outsourcing experts provided us with the most important criteria used to determine the primary set of factors that IT outsourcing experts utilize to define IT outsourcing success according to IT outsourcing practitioner and academic experts.

According to the IT outsourcing practitioner experts, the top criteria used to determine IT outsourcing success (in order of importance) is:

1. **Client acquires additional capabilities** – gains in services or capabilities that the client was unable to develop on their own or was too costly to develop on their own (e.g., specialized skills/knowledge, economies-of-scale)
2. **Achievement of objectives on time** – delivering the project or service on time, based on the initial estimate or as defined through the change control process
3. **Client receives financial benefits**– meets or exceeds expected cost savings (e.g., produces increase in ROI of projects, lower cost of goods, increased profit margins, increased return to shareholders) while containing costs
4. **Improved quality** – quality improvement (can be measured by performance metrics)
5. **The arrangement allows for flexibility to accommodate changing circumstances/needs** – Flexibility of the arrangement to handle normal cyclical ups and downs of the business demands, meet changing/new requirements, provide support for future business growth

6. **Effective communication between partners** – incorporates defined processes that include reactive and pro-active reporting and feedback to facilitate effective communication and problem resolution between the outsourcing partners
7. **Contractual clarity** - clearly-defined contractual agreement with tangible KPIs (key performance indicators), clear service level expectations, and an explicit path to effectively deal with disputes
8. **Partners develop a mutually beneficial relationship** – mutually beneficial, trusting relationship between client and provider; win-win; a real partnership
9. **Mutual satisfaction** – mutual satisfaction with the outcome, includes client, vendor, and end users
10. **SLAs (service-level agreements) are met or exceeded** – increased service level
11. **The partners desire to continue the relationship** – the partners desire to continue working together

According to the IT outsourcing academic experts, the top criteria used to define IT outsourcing success (in order of importance) is:

1. **Client acquires additional capabilities** – gains in services or capabilities that the client was unable to develop on their own or was too costly to develop on their own (e.g., specialized skills/knowledge, economies-of-scale)
2. **Achievement of objectives on time** – delivering the project or service on time, based on the initial estimate or as defined through the change control process
3. **Improved quality** – quality improvement (can be measured by performance metrics)

4. **Client receives financial benefits**– meets or exceeds expected cost savings (e.g., produces increase in ROI of projects, lower cost of goods, increased profit margins, increased return to shareholders) while containing costs
5. **Provider achieves financial benefits**– profitability targets are met
6. **The arrangement allows for flexibility to accommodate changing circumstances/needs** – Flexibility of the arrangement to handle normal cyclical ups and downs of the business demands, meet changing/new requirements, provide support for future business growth
7. **Partners develop a mutually beneficial relationship** – mutually beneficial, trusting relationship between client and provider; win-win; a real partnership
8. **Mutual satisfaction** – mutual satisfaction with the outcome, includes client, vendor, and end users
9. **SLAs (service-level agreements) are met or exceeded** – increased service level

I then utilized the results of the Delphi study to develop a set of factors that IT outsourcing experts utilize to define IT outsourcing success and applied these factors in a model to predict IT outsourcing success.

Below is a table displaying the inclusion of each criterion in each panel's final list of the top criteria used to define IT outsourcing success.

Table 4 Criterion from Delphi Study Panels

Factors	Practitioner	Academic
Client acquires additional capabilities	Yes	Yes
Achievement of objectives on time	Yes	Yes
Client receives financial benefits	Yes	Yes
Improved quality	Yes	Yes
The arrangement allows for flexibility to accommodate changing circumstances/needs	Yes	Yes
Effective communication between partners	Yes	-
Contractual clarity	Yes	-
Partners develop a mutually beneficial relationship	Yes	Yes
Mutual satisfaction	Yes	Yes
SLAs (service-level agreements) are met or exceeded	Yes	Yes
The partners desire to continue the relationship	Yes	-
Provider achieves financial benefits	-	Yes

Within this study, the set of factors that IT outsourcing experts utilize to define IT outsourcing success includes the dimensions (criteria) that *both* panels included in their final list. This structuring gives us eight factors:

- ✓ Client acquires additional capabilities
- ✓ Achievement of objectives on time
- ✓ Client receives financial benefits
- ✓ Improved quality
- ✓ The arrangement allows for flexibility to accommodate changing circumstances/needs
- ✓ Partners develop a mutually beneficial relationship
- ✓ Mutual satisfaction
- ✓ SLAs (service-level agreements) are met or exceeded

I will now discuss the development of the research model.

2.11 Proposed Research Model

The goal of this research involves the study of IT outsourcing success through the lens of EDT. Specifically, I hypothesize that a client's level of (dis)confirmation between their expectations and the perceived performance of their most significant issues relating to the IT outsourcing relationship determines IT outsourcing success. In order to test this broad hypothesis, I will first discuss the factors included in the model from a theoretical standpoint and then present the research model.

2.12 Dependent Variable – Perceived IT Outsourcing Success

IT outsourcing success represents one of the most common dependent variables in IT outsourcing research. As the value of IT outsourcing to the client is difficult to measure (Levina and Ross, 2003), success has been conceptualized utilizing a variety of different measures. Satisfaction is commonly utilized as a measure of success (eg, Rai et al, 2009; Seddon et al, 2007; Koh et al, 2004; Levina and Ross, 2003; Saunders et al, 1997; Grover et al, 1996), and it acts as a proxy for the perceived effectiveness of the outsourcing relationship (Koh et al, 2004). In addition, measures such as intention to continue the outsourcing relationship (Koh et al, 2004) and Project Cost Overruns (Rai et al, 2009) have also been employed to measure success of the IT outsourcing relationship. As satisfaction represents the most accepted measure of success in addition to my belief that it theoretically characterizes one of the most important outcomes from the IT outsourcing relationship, this study has adopted client satisfaction as the measure for the dependent variable IT outsourcing success.

In order to test the role of expectations on IT outsourcing success, I created a model to test expectation standards in addition to three tests of the most important IT outsourcing success factors discovered in the Delphi study.

The first model involves a test of the hierarchy of expectation standards. It employs the theoretical hierarchy of expectation standards developed by Santos and Boote (2003). I tested which expectation standards possess the most significant relationship with IT outsourcing success. Therefore, this research will not only provide a contribution to knowledge to the IT outsourcing literature but also to the Expectation Disconfirmation Theory research stream.

The second model and the first model testing the most important IT outsourcing success factors involves the *should* expectation standard. Drawing from EDT and the Santos and Boote (2003) *should* expectation standard, I posit that the (dis)confirmation between expectations and performance of each client's most important IT outsourcing criteria explains IT outsourcing success.

The third model and the second model testing the most important IT outsourcing success factors involves the *minimum tolerable* expectation standard. Drawing from EDT and the Santos and Boote (2003) *minimum tolerable* expectation standard, I theorize that the (dis)confirmation between expectations and performance of each client's most important IT outsourcing criteria explains IT outsourcing success.

Thus, I can compare the results from each model to determine the factor's predictive power of Success. Additionally, the *should* expectation standard model and the *minimum tolerable* expectation standard model were employed to determine which success factors impact IT outsourcing success under the various expectation standards. I hypothesize that particular success factors will significantly impact success under certain expectation standards but not under other expectation standards. By understanding the influence of the various types of expectations about these success factors on IT outsourcing success, we can increase our understanding of how these success factors impact a client's overall determination of success in

an IT outsourcing relationship. Furthermore, the hierarchy of expectation standards model and the other models will provide insight into IT outsourcing success by applying the EDT lens to the IT outsourcing phenomenon.

With the hypotheses in mind, I will be testing the research models depicted below.

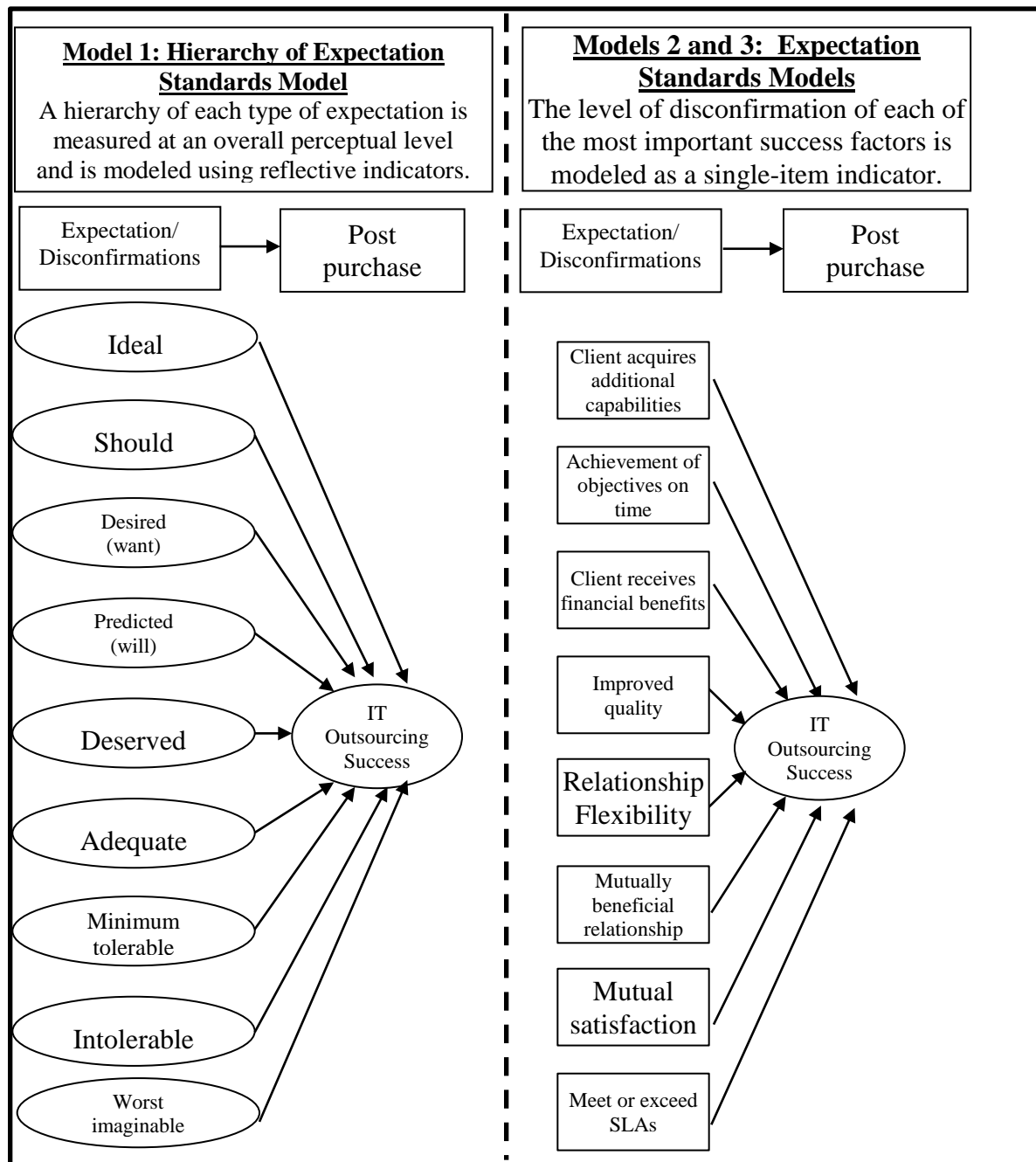


Figure 3 Proposed Research Model

CHAPTER 3. RESEARCH METHODOLOGY

Drawing upon Expectation Disconfirmation Theory, I have outlined a series of competing models to understand how expectations influence IT outsourcing success. The objective of this chapter involves outlining the research methodology used to empirically test the models and then discuss the implications of the results on explaining IT outsourcing success. Before discussing the results, the operationalization of the constructs will first be articulated.

3.1 The Quantitative Approach

The quantitative data approach enables a researcher to direct questions to a respondent in order to measure the IT outsourcing vendor's expectations, disconfirmations, level of satisfaction, and their perceptions of IT outsourcing success. The measurement of these constructs using a quantitative method requires the development of an instrument to administer to the respondents. In this study, each type of expectation, the various aspects of IT outsourcing, and their associated success outcomes constitute examples of latent variables. Latent variables depict variables that cannot be measured directly, but can be measured by linking it (the latent variable) to a set of items that can be measured directly. For example, in order to measure a client's perspective of how well the vendor met the client's expectations of what they believe they *should* receive regarding specific aspects of the outsourcing arrangement, eight separate items were developed in a survey instrument to assess the client's perspective. Thus, a quantitative method for analysis allows the researcher to model these latent variables using survey items. The quantitative approach chosen for this study involves structural equation modeling (SEM). Before this approach can be discussed, the method for developing the survey will first be presented.

3.2 Survey Development

Based upon the conceptualization of the constructs, all of the constructs to be studied were defined and items were created. Since this study marks the first attempt to measure expectation disconfirmation in IT outsourcing, the 9 standards/types of expectations have never been applied to outsourcing. Therefore, appropriate items to measure the salient constructs in this study were not in existence. Utilizing Santos and Boote's (2003) expectation standards and applying them to the IT outsourcing success factors discovered in the Delphi study, the researcher developed constructs for the various types of expectation disconfirmation regarding IT outsourcing success. After each of the constructs were defined, items were generated based on the definitions of the latent constructs. The construct names, definitions, and items for those constructs are summarized in Appendix C below.

The items utilized to measure IT outsourcing success were adapted from existing measures (Chin and Lee, 2000).

3.3 Pre-testing the Instruments

After the survey was designed, a pilot study was conducted to check the feasibility and to improve the design of the research instrument. The measurement instrument was pre-tested using 3 individuals from the target sample in addition to 3 academicians. The individuals were given the online survey and asked to provide feedback on the clarity and understandability of the instrument. Although most of the feedback was positive, modifications were made to certain questions based upon feedback from the respondents in the pilot study. None of the responses from the pilot study were included in the final data set.

3.4 Sample

In order to test the proposed research models, a national survey was conducted in December 2010 to collect data for this study. The population of interest is the Chief Information Officers or senior IS managers in firms that have engaged in outsourcing. The researcher followed a systematic approach in constructing the mailing list for the survey.

First, firms that could serve as the sample were identified. To locate firms, a database of top IT executives, *The Directory of Top Computer Executives*, was employed as the basis for the sample. The Directory has been utilized in prior publications (e.g. Ravichandran & Rai, 2000) and hence constitutes a reliable source for the sample.

Following the methodology proposed by Dillman (1978, 2000), the researcher employed the following steps. First, all members of the sample were sent a personalized e-mail. The purpose of this message was to inform the respondents that they had been selected for the survey. Respondents indicated their interest in participating by responding to the e-mail. They were then sent an e-mail with an embedded link that directed them to the web-based survey. There were 157 respondents who indicated an interest in participating. Thus, the universe to be considered for the survey was 157 respondents.

A total of 106 usable responses was received for a response rate of 68%. This response rate is higher than the average response rate of 48.8% found in Yu and Cooper's (1983) meta-analysis of response rates and much higher than to those obtained in many IS surveys on outsourcing (i.e., Mani et al, 2010). The profile of the respondents will be discussed next.

3.4.1 Profile of Respondents

Forty percent (40%) of the respondents were employed as the IT Director/Manager or Assistant IT Director/Manager, with 24% describing their job title as Chief Information Officer,

Chief Technology Officer, Chief Security Officer, or Associate Chief Information Officer (Table 5). The highest number of respondents (41%) had between 25 and 30 years of business experience (Table 6). Additionally, 29% of the respondents had been with their organization for 6-10 years (Table 7). An equal number (24%) of the respondents had either 5-8 years or 9-12 years of outsourcing experience (Table 8).

Table 5 Job Titles of Respondents

	Frequency	Percent
Chief Information Officer/Chief Technology Officer/Chief Security Officer/Associate Chief Information Officer	25	23.6
IT Director/Manager or Assistant IT Director/Manager	42	39.6
Vice President/Associate Vice President	11	10.4
IT Area Manager (i.e. - Infrastructure Manager, Data Center Manager, etc.)	24	22.6
Other (i.e. - Software Engineer, Network Administrator)	4	3.8
Total	106	100.0

Table 6 Years of Business Experience

	Frequency	Percent
0-6 years	4	3.8
7-12 years	6	5.7
13-18 years	9	8.5
19-24 years	24	22.6
25-30 years	43	40.6
31-36 years	13	12.3
37+ years	7	6.6
Total	106	100.0

Table 7 Number of Years with Organization

	Frequency	Percent
0-5 years	21	19.8
6-10 years	31	29.2
11-15 years	17	16.0
16-20 years	12	11.3
21-25 years	8	7.5
26-30 years	11	10.4
31 + years	6	5.7
Total	106	100.0

Table 8 Years of Outsourcing Experience

	Frequency	Percent
0-4 years	20	18.9
5-8 years	25	23.6
9-12 years	25	23.6
13-16 years	13	12.3
17-20 years	11	10.4
21-26 years	8	7.5
27 + years	3	2.8
Decline to Respond	1	.9
Total	106	100.0

3.4.2 Profile of Organization

Forty-three percent (43%) of the respondents work at an organization with less than 1,000 employees (Table 9). Twenty six percent (26%) of respondents work in organizations with more than 120 employees in the IT department, and 25% of respondents work in organizations with less than 20 employees in the IT department (Table 10).

Table 9 Organization Size

	Frequency	Percent
Less than 1,000 employees	45	42.5
1,000-2,000 employees	13	12.3
2,001-3,000 employees	17	16.0
3,001-4,000 employees	5	4.7
4,001-5,000 employees	5	4.7
5,001-6,000 employees	6	5.7
More than 6,000 employees	15	14.2
Total	106	100.0

Table 10 IT Department Size

	Frequency	Percent
Less than 20 employees	26	24.5
20-40 employees	20	18.9
41-60 employees	15	14.2
61-80 employees	6	5.7
81-100 employees	6	5.7
101-120 employees	5	4.7
More than 120 employees	27	25.5
Decline to Respond	1	.9
Total	106	100.0

3.4.3 Profile of Outsourcing Contract

Thirty percent (30%) of the respondents outsource infrastructure, while 26% outsource application or website development (Table 11). The greatest number of respondents (43%) have outsourcing contracts with values of less than \$250,000, and 22% of the contacts are valued at over \$1,500,000 (Table 12). For 48% of the respondents, the outsourcing contract was less than 10% of the IT Budget (Table 13). A majority (66%) of the respondents have been with their vendor less than 4 years (Table 14). The greatest number of respondents (22%) reported that the length of their outsourcing contract was 1 year (Table 15). Forty-three percent (43%) of

respondent reported that over 90% of their outsourcing contract had been completed (Table 17). A majority of the respondents (66%) have run less than 5 projects with their vendor (Table 18). A majority of the respondents (83%) are still working with their vendor (Table 16). Thirty two percent (32%) of the respondents have contact with their vendor less than once/month, and 26% of the respondents have contact with their vendor several times a week (Table 19).

Table 11 Type of Outsourcing

	Frequency	Percent
Infrastructure	32	30.2
Application/Website Development	28	26.4
Staff Augmentation (i.e. – Help Desk)	15	14.2
ASP (i.e. – Google Apps, e-mail)	13	12.3
Total Outsourcing	9	8.5
Other	3	2.8
Decline to Respond	6	5.7
Total	106	100.0

Table 12 Value of Outsourcing Contract

	Frequency	Percent
0-\$250,000	45	42.5
\$250,001-\$500,000	9	8.5
\$500,001-\$750,000	5	4.7
\$750,001-\$1,000,000	4	3.8
\$1,00,001-\$1,250,000	3	2.8
\$1,250,001-\$1,500,000	3	2.8
Over \$1,500,000	23	21.7
Decline to Respond	14	13.2
Total	106	100.0

Table 13 Outsourcing as Percentage of IT Budget

	Frequency	Percent
0-10%	51	48.1
11-20%	16	15.1
21-30%	11	10.4
31-40%	5	4.7
41-50%	0	0
51-60%	0	0
Over 60%	3	2.8
Decline to Respond	20	18.9
Total	106	100.0

Table 14 Years with Vendor

	Frequency	Percent
0-4 years	70	66.0
5-8 years	18	17.0
9-12 years	9	8.5
13-16 years	3	2.8
17-20 years	2	1.9
21-24 years	0	0
25+ years	1	.9
Decline to Respond	3	2.8
Total	106	100.0

Table 15 Length of Contract

	Frequency	Percent
Less than 1 year	15	14.2
1 year	23	21.7
2 years	10	9.4
3 years	12	11.3
4 years	8	7.5
5 years	12	11.3
6+ years	14	13.2
Decline to Respond	12	11.3
Total	106	100.0

Table 16 Still Working with Vendor

	Frequency	Percent
Yes	88	83.0
No	17	16.0
Decline to Respond	1	.9
Total	106	100.0

Table 17 Percentage of Contract Completed

	Frequency	Percent
0-15%	5	4.7
16-30%	10	9.4
31-45%	5	4.7
46-60%	13	12.3
61-75%	12	11.3
76-90%	9	8.5
Over 90%	45	42.5
Decline to Respond	7	6.6
Total	106	100.0

Table 18 Number of Projects Run with Vendor

	Frequency	Percent
Less than 5 projects	70	66.0
5-10 projects	10	9.4
11-15 projects	3	2.8
16-20 projects	4	3.8
21-25 projects	2	1.9
26-30 projects	3	2.8
More than 30 projects	6	5.7
Decline to Respond	8	7.5
Total	106	100.0

Table 19 Contact Frequency with Vendor

	Frequency	Percent
At least once/day	10	9.4
Once/day	0	0
Several times/week	27	25.5
Once/week	9	8.5
A few times a month	17	16.0
Once/month	8	7.5
Less than once/month	34	32.1
Decline to Respond	1	.9
Total	106	100.0

3.5 Analyzing the Survey Data

With the latent constructs and items developed and the data collected, a technique is needed that allows the researcher to empirically test the research models. To achieve this objective, I selected to utilize Structural Equation Modeling (SEM), a second generation data analysis technique that allows the researcher to link the items generated to the latent constructs the items were designed to measure. After linking the items to their associated constructs, the SEM approach enables the researcher to relate each of the constructs to one another in a theoretically defined manner to determine the statistical relationship between each of the latent constructs.

While many techniques of SEM exist, the two best known approaches are the covariance-based methodology (found in software such as LISREL, AMOS, and EQS) and partial-least squares (found in software such as PLS-Graph). When choosing between these methods, a researcher must examine assumptions of the normality of data, sample size, the nature of the indicators, and the objective of the research. While covariance based approaches require a normal distribution of data and a range of sample sizes of 200 to 800 (based upon the power analysis of the model) (Chin and Newsted, 1998; Chin and Gopal, 1995), PLS does not have

these restrictions on normal data, and sample sizes can range from 30 to 100, depending upon the model (Chin and Newsted, 1998; Gefen et al, 2000).

Given that the sample size for the data is small ($n=106$) and the study was exploratory, the partial least squares approach was chosen. For the purpose of analyzing the data, the PLS-Graph (version 3.00, build 1130) software was selected and was utilized for all quantitative analyses, unless otherwise noted.

The analysis will proceed as follows. First, for each model, both the measurement and structural models will be presented. The measurement model (also called the outer model) examines the relationships between the latent constructs and their associated items. Therefore, analyzing the measurement model requires a researcher to determine how well the items that were created *individually* measure the construct that they were intended to reflect, then to see how well the items *individually* measure on the other constructs in the model (that they were not intended to reflect). Following this analysis, all of the items that were intended to measure each construct *compositely* were analyzed to determine how well they reflect the construct as a group. Then the group of items was measured to ensure that they (as a group) adequately measure the construct they were intended to reflect, instead of the non-intended construct.

Following the analysis of the measurement model involves the analysis of the structural model. The structural model (also called the inner model) analyzes the relationships between the various latent variables. This model is operationalized as a result of the theoretical development. In the quantitative analysis, the latent constructs are linked to one another to ascertain the statistical strength of the relationship between the constructs and the predictive power of these links.

For the quantitative data, three separate models were run: a Hierarchy of Expectation Standards Model (HES model), in which a hierarchy of each type of expectation standard is measured at an overall perceptual level and is modeled utilizing reflective indicators; a Should Expectation Standard model, in which the level of disconfirmation is assessed utilizing the Should expectation standard for each of the most important success factors which are modeled as single-item indicators; and, a Minimum Tolerable Expectation Standard model, in which the level of disconfirmation is assessed utilizing the Minimum Tolerable expectation standard for each of the most important success factors which are modeled as single-item indicators. I will first discuss the Hierarchy of Expectation Standards Model.

3.6 The Hierarchy of Expectation Standards Model (HES model)

3.6.1 Measurement Model Results

The first step in analyzing the measurement model involves an examination of the adequacy of the measures. Examining the individual item reliabilities, represented by their loadings to their respective construct, ensures that the items are measuring the constructs as they were designed. As Chin (1998) states, “standardized loadings should be greater than 0.707 But it should also be noted that this rule of thumb should not be as rigid at early stages of scale development. Loading of .5 or .6 may still be acceptable if there exist additional indicators in the block for comparison basis” (p. 325). Further, Barclay, Higgins & Thompson (1995) state that when scales developed for a particular research context are utilized in a different context, the items may display low loadings. Table 20 presents the item loadings and weights obtained from the *Hierarchy of Expectation Standards* model using each type of expectation standard.

Table 20 Factor Loading and Weights for Hierarchy of Expectations Model

Variable	Weight	Loading
Success		
SAT7	0.5058	0.9916
SAT6	0.5027	0.9915
Deserved		
ODS1	0.3366	0.9858
ODS2	0.3367	0.9847
ODS3	0.3421	0.9839
Adequate		
ADQ1	0.3414	0.989
ADQ2	0.3196	0.9822
ADQ3	0.3536	0.9852
Minimum Tolerable		
OMN1	0.3346	0.981
OMN2	0.3355	0.9838
OMN3	0.3462	0.9869
Intolerable		
INT1	0.3364	0.9856
INT2	0.3288	0.979
INT3	0.3499	0.9904
Worst Imaginable		
WRS1	0.3419	0.985
WRS2	0.3234	0.9886
WRS3	0.3471	0.9896
Should		
OSH1	0.3421	0.9859
OSH2	0.3364	0.9787
OSH3	0.3399	0.9812
Predicted		
PDC1	0.3698	0.9802
PDC2	0.3014	0.9638
PDC3	0.3554	0.9766
Ideal		
IDE1	0.3368	0.9896
IDE2	0.3397	0.9865
IDE3	0.3349	0.9899
Desired		
WNT1	0.3366	0.9766
WNT2	0.3378	0.9804
WNT3	0.3481	0.9771

Examining the weights for each of the constructs, all of the items had loadings of 0.95 or higher. Thus, all of the elements met the requirement as prescribed by Chin (1989) which indicates that the measures are individually adequate in their validity. However, this finding does not necessarily demonstrate that the items were able to load only on the construct for which they are intended.

To determine if the items load on other constructs as well as on their theorized construct, cross-loadings were computed and are presented in Appendix D. In order for cross-validated items to be included in the finalized data set, the loading must be larger on the intended construct than any other constructs. From this analysis, the items to be used in the subsequent analyses were finalized and no items were eliminated.

Utilizing the loadings from the constructs in Table 21, composite reliabilities were created for the variables in the HES model.² Table 21 below displays the number of items in each scale and the composite reliabilities for each construct. The results indicate that all of the variables exceeded the recommended value of 0.80 and thus are reliable.

² Composite reliability $\rho_c = \frac{(\sum \lambda_i)^2 \text{var } F}{(\sum \lambda_i)^2 \text{var } F + \sum \Theta_{ii}}$, where λ_i , F , and Θ_{ii} , are the factor loading, factor variance, and unique/error variance respectively. Chin and Gopal (1995) suggest that while Cronbach's alpha represents a lower bound estimate of internal consistency, *composite reliability* (Werts, Linn and Joreskog, 1974) constitutes a better reliability estimate.

Table 21 Composite Reliabilities of Constructs in Hierarchy of Expectations Model

Construct	Number of items	Composite Reliability
Ideal	3	0.992
Should	3	0.988
Desired/Want	3	0.985
Predicted/Will	3	0.982
Deserved	3	0.99
Adequate	3	0.99
Minimum Tolerable	3	0.989
Intolerable	3	0.99
Worst Imaginable	3	0.992
IT Outsourcing Success	2	0.992

Finally, as a means of evaluating discriminant validity, the average variance extracted for each construct should be greater than the squares of the correlations between the construct and all other constructs (Fornell and Larcker, 1981). Furthermore, the correlations between the constructs should be lower than the square root of the average variance extracted. In Table 22 below, all of the average variance extracted (AVE) are greater than the recommended 0.50 level and the square root of the average variance extracted (on the diagonal, in bold) is greater than the correlations between the constructs.

Table 22 Discriminant Validity for the Hierarchy of Expectation Standards Model

	AVE	Ideal	Should	Desired/Want	Predicted/Will I	Deserved	Adequate	Minimum Tolerable	Intolerable	Worst Imaginable	Success
Ideal	0.977	0.988									
Should	0.964	0.841	0.982								
Desired/ Want	0.957	0.899	0.869	0.978							
Predicted/ Will	0.948	0.417	0.492	0.443	0.974						
Deserved	0.97	0.866	0.914	0.886	0.394	0.985					
Adequate	0.971	0.756	0.779	0.816	0.477	0.825	0.985				
Minimum Tolerable	0.968	0.746	0.833	0.807	0.451	0.841	0.794	0.984			
Intolerable	0.97	0.61	0.71	0.684	0.416	0.71	0.722	0.83	0.985		
Worst Imaginable	0.976	0.46	0.608	0.535	0.448	0.617	0.621	0.733	0.815	0.988	
Success	0.983	0.776	0.86	0.82	0.457	0.833	0.743	0.874	0.792	0.685	0.991

3.6.2 Structural Model Results

Therefore, the model below depicts the proposed *Hierarchy of Expectations* (HEM) model, measuring an IT outsourcing client's overall level of disconfirmation of their IT outsourcing experience utilizing each of the expectation standards, and relating these constructs to IT outsourcing success.

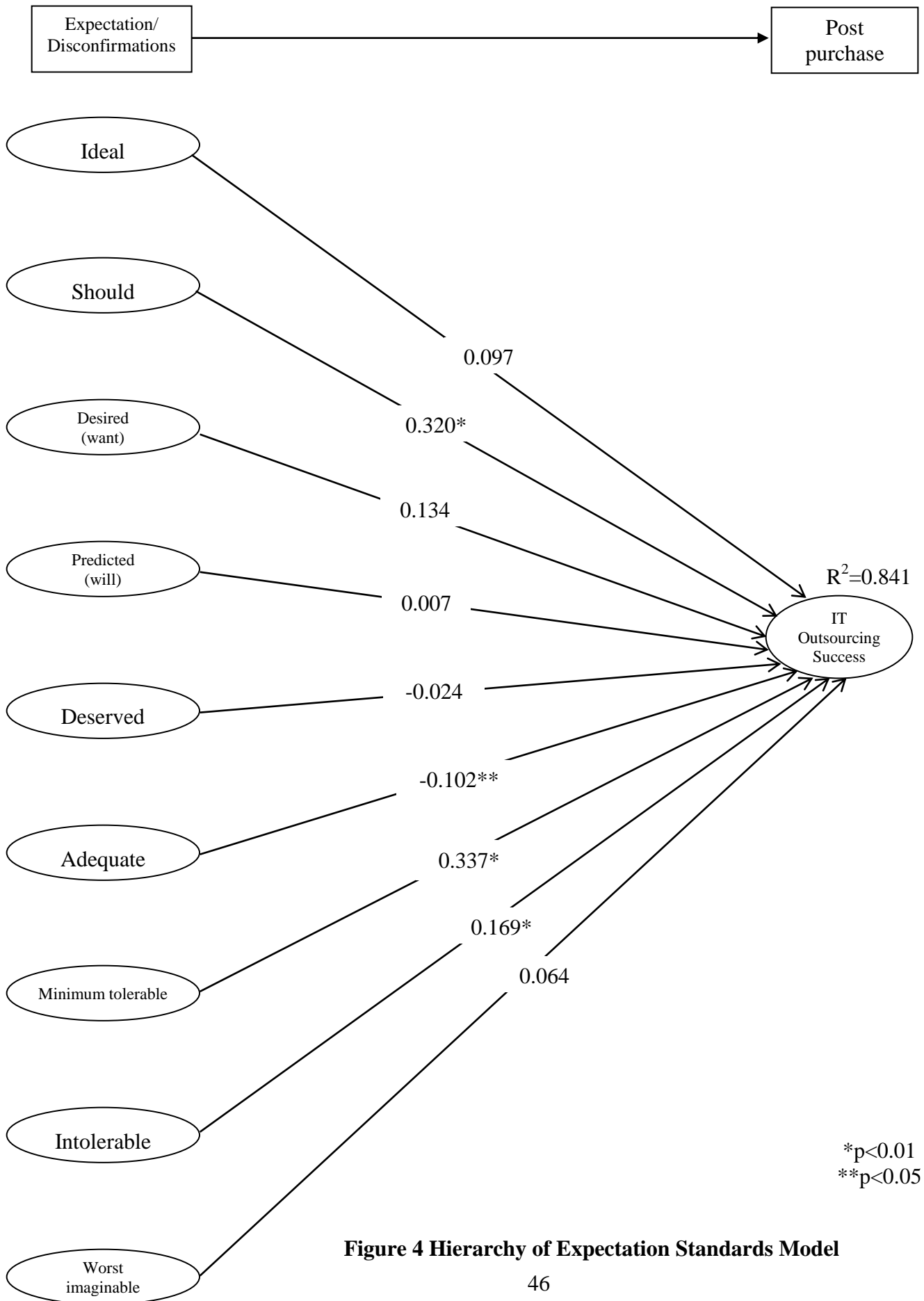


Figure 4 Hierarchy of Expectation Standards Model

3.6.3 Discussion of Hierarchy of Expectations Model

The results of the analysis suggest that certain expectation standards, specifically *minimum tolerable*, *should*, *intolerable*, and *adequate* expectation standards exert significant influence on IT outsourcing success, while the other expectation standards (*ideal*, *desired/want*, *predicted/will*, *deserved*, and *worst imaginable*) display no significant impact on success.

Although the r-squared was high ($r^2=0.841$), the results exhibited troubling signs. Specifically, the data displayed a high degree of correlation among constructs (see table 22), and the data contained multiple instances where the sign of the effect was negative which seems theoretically questionable. These impacts can signal multicollinearity (Williams, 2010; Hair et al, 2006; Kline, 2005), which can be defined as the “extent to which a variable can be explained by the other variables in the analysis” (Hair et al, 2006, p. 2). Multicollinearity can signal the presence of second-order constructs. Therefore, I continued my inspection of the data.

As an exploratory technique, I theoretically and empirically examined the patterns of correlations. Based upon my analysis of the relationships among the constructs, I posit that there exists a series of second- and third-order constructs. Specifically, I propose that *ideal* and *desired/want* appear to represent a second-order construct, which I term *idealized*. Furthermore, I postulate that *deserved*, *should*, and *adequate* also represent a second order construct which I term *upper level*. I believe that these two second-order constructs, *idealized* and *upper level* represent a third order construct called *upper ideal*. Moreover, I hypothesize that *minimum tolerable*, *intolerable*, and *worst imaginable* represent a second order construct, which I term *lower level*. Moreover, I posit that the second-order constructs composed of *ideal* and *desired/want* in addition to *deserved*, *should*, and *adequate* represent a third-order construct. I then proceeded with my analysis using the repeated indicators approach (Chin et al, 2003;

Lohmöller, 1989) to model my second and third order constructs, with the factor loadings and weights included below in Table 23.

Table 23 Factor Loading and Weights for Extended HES Model

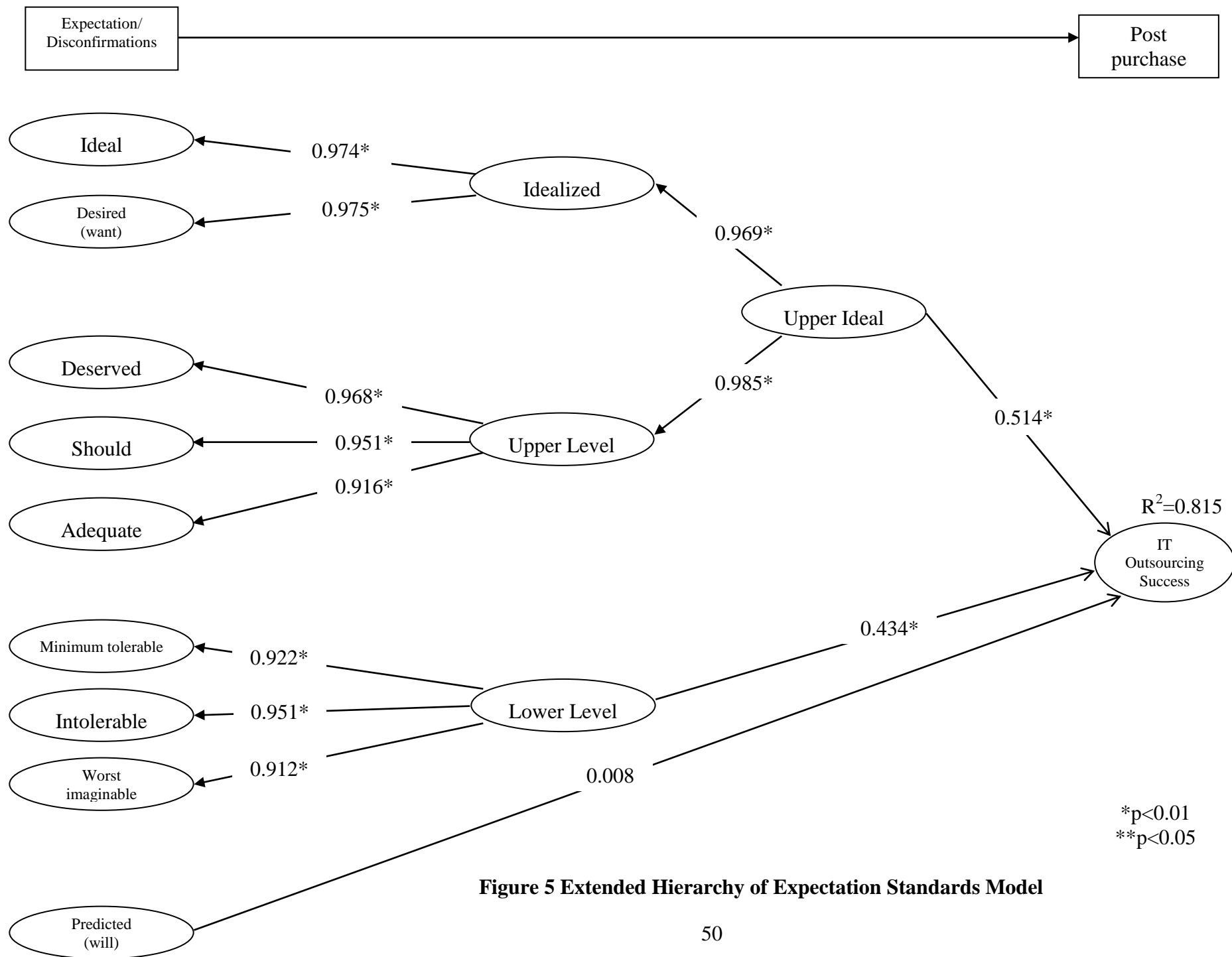
Variable	Weight	Loading
Upper Level		
OSH1	0.1215	0.9439
OSH2	0.1193	0.9284
OSH3	0.1196	0.9291
ODS1	0.1232	0.9563
ODS2	0.1219	0.9477
ODS3	0.1229	0.955
ADQ1	0.1164	0.9094
ADQ2	0.113	0.8844
ADQ3	0.117	0.9134
Idealize		
IDE1	0.1739	0.9637
IDE2	0.1742	0.9613
IDE3	0.1745	0.9659
WNT1	0.1726	0.9488
WNT2	0.1731	0.9486
WNT3	0.1755	0.9603
Lower Level		
INT1	0.1254	0.9516
INT2	0.1199	0.9049
INT3	0.1265	0.9523
OMN1	0.1237	0.9128
OMN2	0.1227	0.9033
OMN3	0.1239	0.9054
WRS1	0.117	0.8984
WRS2	0.1146	0.8877
WRS3	0.1191	0.9154
Upper Ideal		
OSH1	0.0745	0.9375
OSH2	0.0728	0.9147
OSH3	0.0735	0.9224
ODS1	0.0745	0.952
ODS2	0.0737	0.9391
ODS3	0.0745	0.9472
ADQ1	0.0684	0.8833

ADQ2	0.0655	0.8536
ADQ3	0.0695	0.8897
IDE1	0.0721	0.9174
IDE2	0.0727	0.9272
IDE3	0.0722	0.922
WNT1	0.0729	0.9236
WNT2	0.0734	0.9318
WNT3	0.0749	0.948

These loadings validate the presence of second- and third-order constructs. The analysis of the structural model appears on the next page.

3.6.4 Discussion of the Extended Hierarchy of Expectation Standards (HES) model

With the use of second- and third-order constructs, all the paths (except predicted/will) become significant, the R^2 equals 0.815, and the analysis enables the data to become more understandable. The first order constructs, namely the expectation standards, display high loadings (all over 0.90) with their second-order factors. Additionally, the third-order factor *upper ideal* demonstrates high loadings (both greater than 0.95) with the second-order constructs *idealized* and *upper level*. Thus, the analysis of the data was enhanced by grouping the expectation standard constructs into second- and third-order factors.



3.7 Should Expectation Standard Model

3.7.1 Measurement Model

For the *should* expectation standard model, each of the standards were modeled as single-items. Additionally, the model employed the same items to measure the dependent variable (success) that were used in the *hierarchy of expectation standards (HES)* model. Since the constructs were modeled as single-items, the loadings for these items were 1; therefore, the only constructs whose items are not 1 are those for success. The weights and loadings for the success construct are included in Table 24 below.

Table 24 Factor Loading and Weights for Success Construct of Should Expectation Standard Model

Variable	Weight	Loading
Success		
SAT6	0.4973	0.9914
SAT7	0.5112	0.9918

The composite reliability of the success construct was established in the hierarchy of expectations model. Thus, the next analysis is the discriminant validity of the standards. The results of this analysis are displayed in table 25 on the next page.

Table 25 Discriminant Validity for the Should Expectation Standard Model

	AVE	Success	Capabilities	Time	Financial	Quality	Flexibility	Partners	Satisfaction	SLA
Success	0.983	0.991								
Capabilities	1	0.767	1							
Time	1	0.618	0.805	1						
Financial	1	0.636	0.715	0.708	1					
Quality	1	0.732	0.825	0.679	0.688	1				
Flexibility	1	0.694	0.78	0.751	0.686	0.733	1			
Partners	1	0.702	0.762	0.716	0.772	0.759	0.843	1		
Satisfaction	1	0.682	0.762	0.736	0.75	0.728	0.809	0.902	1	
SLA	1	0.642	0.727	0.732	0.678	0.72	0.688	0.701	0.783	1

3.7.2 Structural Model Results

The model below depicts the proposed *should* expectation standard model, measuring an IT outsourcing client's level of disconfirmation for each of the most important success factors utilizing the *should* expectation standard, and relating these constructs to IT outsourcing success.

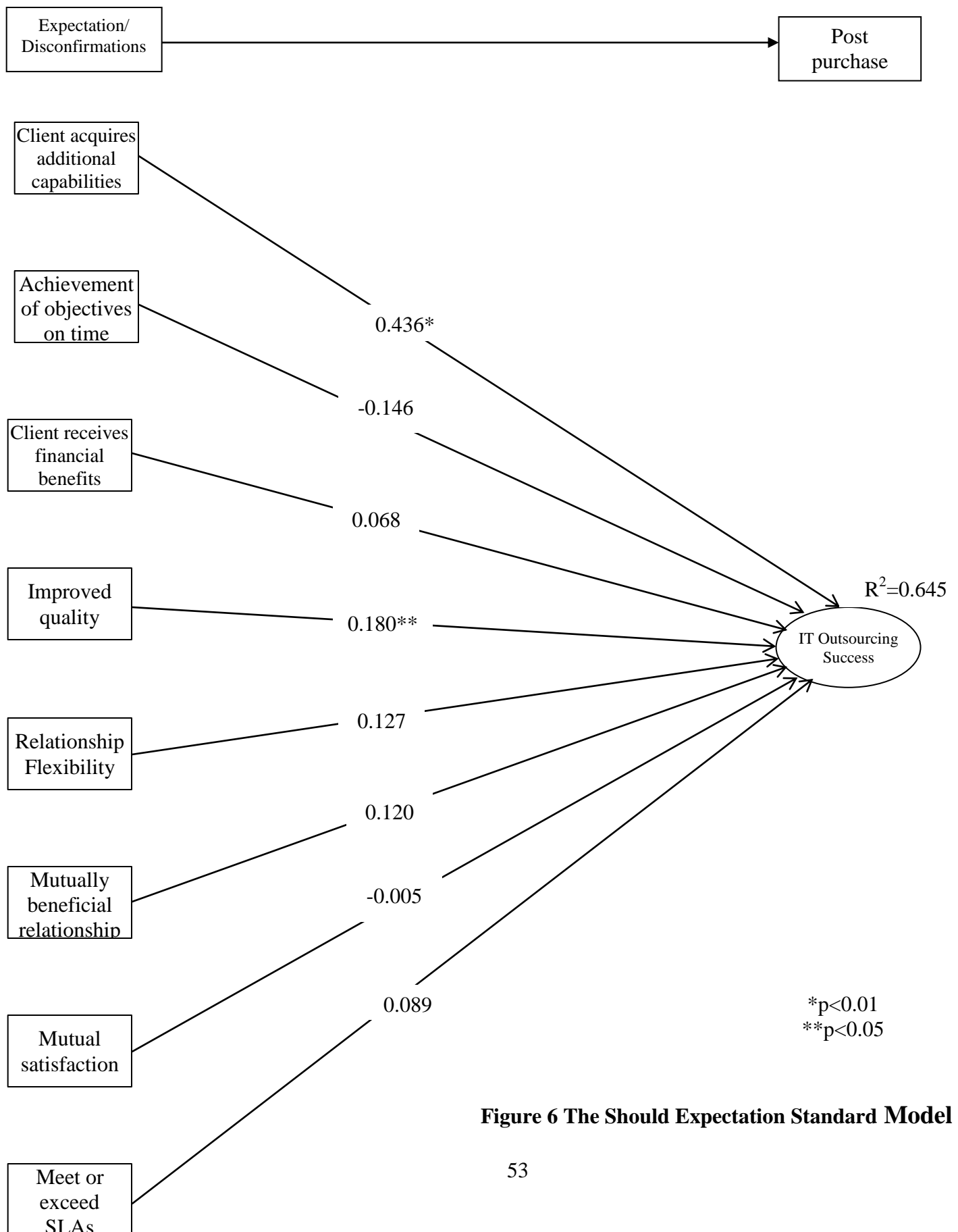


Figure 6 The Should Expectation Standard Model

3.7.3 Discussion of Should Expectation Standard Model

The results of the analysis suggest that certain success factors, specifically the *client acquires additional capabilities* and *improved quality* success factors exert significant influence on IT outsourcing success, while the other success factors (*achievement of objectives on time*, *client receives financial benefits*, *relationship flexibility*, *mutually beneficial relationship*, *mutual satisfaction*, and *meet or exceed SLAs*) display no significant impact on success.

Although the r-squared is high ($r^2=0.645$), the results exhibited troubling signs. Specifically, the data displayed a high degree of correlation among constructs (see table 25), and the data contains multiple instances where the sign of the effect is negative which seems theoretically questionable. These impacts can signal multicollinearity (Williams, 2010; Hair et al, 2006; Kline, 2005), which can be defined as the “extent to which a variable can be explained by the other variables in the analysis” (Hair et al, 2006, p. 2). Multicollinearity can signal the presence of a latent construct. Therefore, I continued my inspection of the data.

As an exploratory technique, I theoretically and empirically examined the patterns of correlations. Based upon my analysis of the relationships among the constructs, I posit that certain success factors reflect underlying latent constructs. Specifically, I propose that *relationship flexibility*, *mutually beneficial relationship*, and *mutual satisfaction* reflect an underlying latent construct, which I term *relationship satisfaction*. Furthermore, I posit that *achievement of objectives on time*, *client receives financial benefits*, and *meet or exceed SLAs* reflect an underlying latent construct, which I term *meet contractual obligations*. Moreover, I hypothesize that *improve quality* in addition to *provide capabilities* each represent separate one-item constructs that do not reflect a larger underlying latent construct.

3.8 Discussion of the Extended Should Expectation Standard Model

3.8.1 Measurement Model

The first step in the analysis of the measurement model is to analyze the items of the exploratory model. As Table 26 demonstrates, each of the items loaded well on their intended construct. To determine if the items loaded on other constructs as well as on their theorized construct, cross-loadings were computed and are presented in Appendix E. The criterion for cross-validated items to be included in the finalized data set is that the loading must be larger on the intended construct than any other constructs. From this analysis, all of the items were used.

Table 26 Factor Loading and Weights for the Extended Should Expectation Standard Model

Variable	Weight	Loading
Relationship Satisfaction		
SHO5	0.3519	0.9318
SHO6	0.3557	0.9642
SHO7	0.3459	0.9514
Meet Contractual Obligations		
SHO2	0.3636	0.9050
SHO3	0.3742	0.8877
SHO8	0.3776	0.8974
Success		
SAT6	0.4988	0.9914
SAT7	0.5097	0.9918

These loadings validate the presence of underlying latent constructs. Next, the composite reliability for the constructs in the model were computed. As Table 27 indicates all of the variables exceeded the recommended value of 0.80 and thus are reliable.

Table 27 Composite Reliabilities of Constructs in Second Order Should Expectation Standard Model

Construct	Number of items	Composite Reliability
Relationship Satisfaction	3	0.965
Meet Contractual Obligations	3	0.925
Improve Quality	1	1.000
Provide Capabilities	1	1.000
IT Outsourcing Success	2	0.992

Finally, the discriminant validity for the extended *should* expectation standard model was created. As a means of evaluating discriminant validity, the average variance extracted for each construct should be greater than the squares of the correlations between the construct and all other constructs (Fornell and Larcker, 1981). Furthermore, the correlations between the constructs should be lower than the square root of the average variance extracted. In Table X below, all of the average variance extracted (AVE) are greater than the recommended 0.50 level and the square root of the average variance extracted (on the diagonal, in bold) is greater than the correlations between the constructs (Table 28).

Table 28 Discriminant Validity for the Extended Should Expectation Standard Model

	AVE	Success	Relationship Sat	Meet Contract	Improve Quality	Provide Capabil
IT Outsourcing Success	0.983	0.991				
Relationship Satisfaction	0.901	0.730	0.949			
Meet Contractual Obligations	0.804	0.705	0.859	0.897		
Improve Quality	1	0.732	0.780	0.776	1	
Provide Capabilities	1	0.767	0.809	0.835	0.825	1

3.8.2 Structural Model

The structural model appears on the next page.

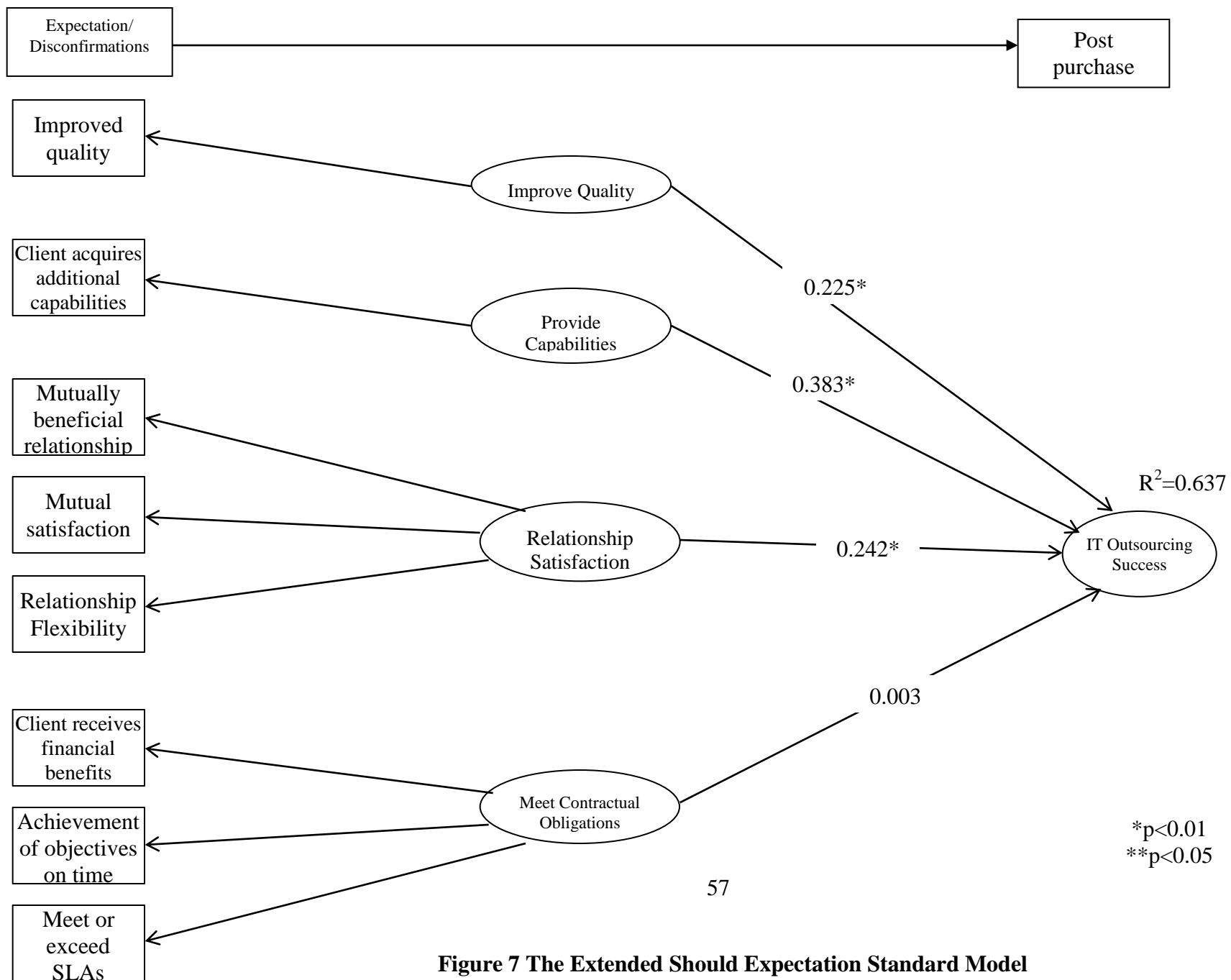


Figure 7 The Extended Should Expectation Standard Model

3.8.3 Discussion of the Extended Should Expectation Standard Model

By grouping certain success factors that reflect underlying latent constructs, all the paths (except *meet contractual obligations*) became significant. Moreover, the R^2 equals 0.637, and the analysis enables the data to become more understandable. The latent constructs, namely *relationship satisfaction* and *meet contractual obligations*, display high loadings (all over 0.85) with the single-item success factors. Thus, the analysis of the data was enhanced by grouping the expectation standards into latent constructs. The model effectively displays the relationship between these success factors and IT outsourcing success.

3.9 Minimum Tolerable Expectation Standard Model

3.9.1 Measurement Model

For the *minimum tolerable* expectation standard model, each of the standards were modeled as single-items. Additionally, the model employed the same items to measure the dependent variable (success) that were used in the *hierarchy of expectation standards* model. Since the items were modeled as single-items, the loadings for these items were 1, therefore the only constructs whose items were not 1 were that of success. The weights and loadings for the success construct are included in Table 29 below.

Table 29 Factor Loading and Weights for Satisfaction Construct of Minimum Tolerable Expectation Standard Model

Variable	Weight	Loading
Success		
SAT6	0.4946	0.9913
SAT7	0.5139	0.9919

The composite reliability of the success construct was established in the hierarchy of expectations model, thus the next analysis is the discriminant validity of the standards. The results of this analysis are displayed in Table 30 below.

Table 30 Discriminant Validity for the Minimum Tolerable Expectation Standard Model

	AVE	Success	Capabilities	Time	Financial	Quality	Flexibility	Partners	Satisfaction	SLA
Success	0.983	0.991								
Capabilities	1	0.734	1							
Time	1	0.685	0.793	1						
Financial	1	0.661	0.751	0.727	1					
Quality	1	0.793	0.901	0.752	0.739	1				
Flexibility	1	0.724	0.849	0.797	0.763	0.799	1			
Partners	1	0.707	0.773	0.733	0.758	0.777	0.834	1		
Satisfaction	1	0.73	0.795	0.75	0.746	0.765	0.859	0.92	1	
SLA	1	0.694	0.778	0.793	0.724	0.811	0.753	0.781	0.802	1

3.9.2 Structural Model Results

The model below depicts the proposed *minimum tolerable* expectation standard model, measuring an IT outsourcing client's level of disconfirmation for each of the most important success factors utilizing the *minimum tolerable* expectation standard, and relating these constructs to IT outsourcing success.

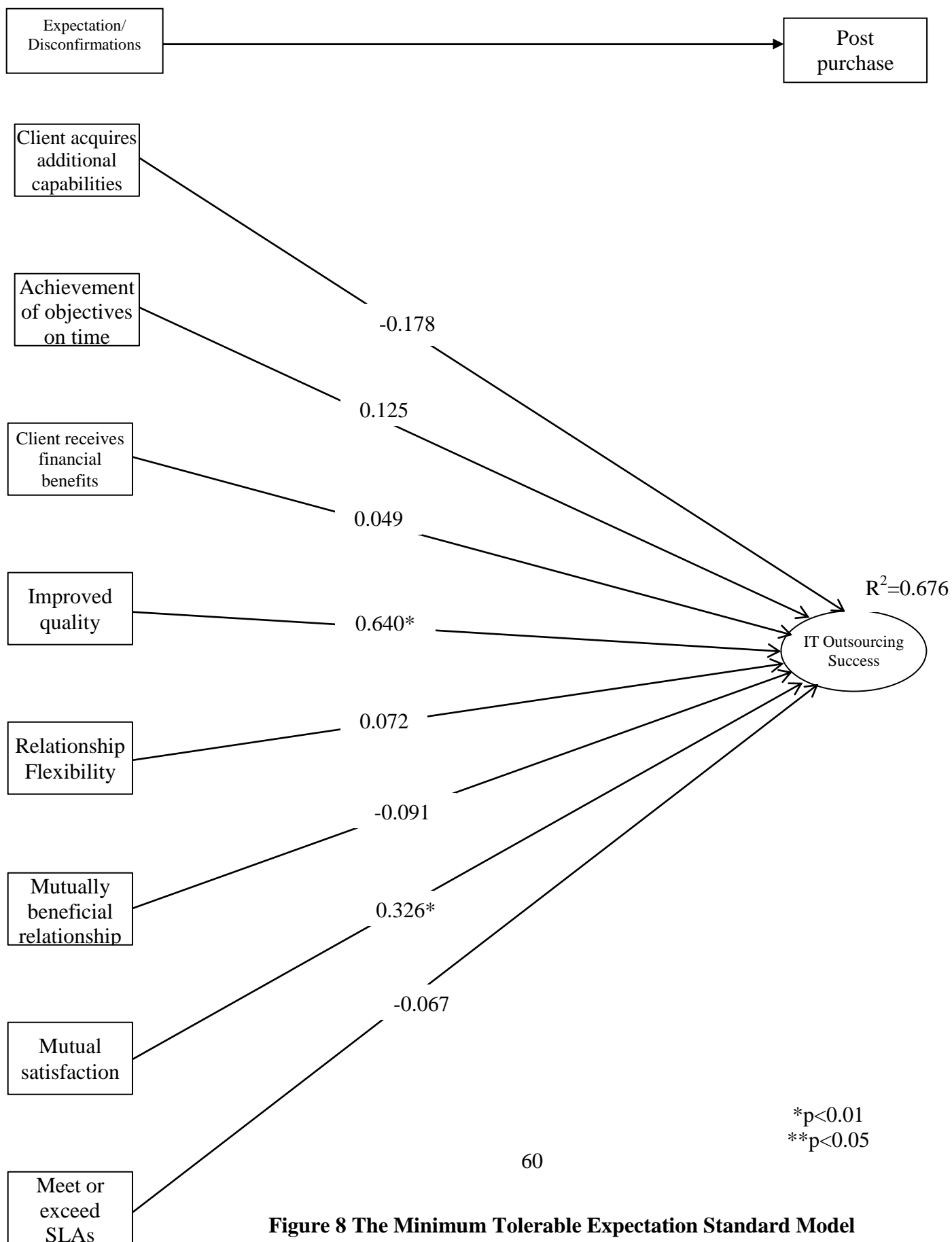


Figure 8 The Minimum Tolerable Expectation Standard Model

3.9.3 Discussion of Minimum Tolerable Expectation Standard Model

The results of the analysis suggest that certain success factors, specifically the *improved quality* and *mutual satisfaction* success factors exert significant influence on IT outsourcing success, while the other success factors (*client acquires additional capabilities*, *achievement of objectives on time*, *client receives financial benefits*, *relationship flexibility*, *mutually beneficial relationship*, and *meet or exceed SLAs*) display no significant impact on success.

Although the r-squared was high ($r^2=0.676$), the results exhibited troubling signs. Specifically, the data displayed a high degree of correlation among constructs (see Table 30), and the data contained multiple instances where the sign of the effect was negative which seems theoretically questionable. These impacts can signal multicollinearity (Williams, 2010; Hair et al, 2006; Kline, 2005), which can be defined as the “extent to which a variable can be explained by the other variables in the analysis” (Hair et al, 2006, p. 2). Multicollinearity can signal the presence of a latent construct. Therefore, I continued my inspection of the data.

As an exploratory technique, I theoretically and empirically examined the patterns of correlations. Based upon my analysis of the relationships among the constructs, I posit that certain success factors reflect underlying latent constructs. Specifically, I propose that *relationship flexibility*, *mutually beneficial relationship*, and *mutual satisfaction* reflect an underlying latent construct, which I term *relationship satisfaction*. Moreover, I posit that *achievement of objectives on time*, *client receives financial benefits*, and *meet or exceed SLAs* reflect an underlying latent construct, which I term *meet contractual obligations*. Conversely, I hypothesize that *improved quality* in addition to *provide capabilities* each represent separate one-item constructs that do not reflect a larger underlying latent construct.

3.10 Discussion of the Extended Minimum Tolerable Expectation Standard Model

The first step of the analysis of the measurement model is to analyze the items of the extended model. As Table 31 demonstrates, each of the items loaded well on their intended construct. To determine if the items loaded on other constructs as well as on their theorized construct, cross-loadings were computed and are presented in Appendix F. The criteria for cross-validated items to be included in the finalized data set, the loading must be larger on the intended construct than any other constructs. From this analysis, all of the items were included.

Table 31 Factor Loading and Weights for the Extended Minimum Tolerable Expectation Standard Model

Variable	Weight	Loading
Manage Outcome		
MIN5	0.3505	0.9394
MIN6	0.342	0.9597
MIN7	0.3534	0.9692
Meet Contractual Obligations		
MIN2	0.3677	0.9219
MIN3	0.3552	0.8928
MIN8	0.373	0.9219
IT Outsourcing Success		
SAT6	0.4949	0.9913
SAT7	0.5135	0.9919

These loadings validate the presence of underlying latent constructs. Next, the composite reliability for the constructs in the model were computed. As Table 32 indicates all of the variables exceeded the recommended value of 0.80 and thus are reliable.

Table 32 Composite Reliabilities of Constructs in Extended Minimum Tolerable Expectation Standard Model

Construct	Number of items	Composite Reliability
Relationship Satisfaction	3	0.970
Meet Contractual Obligations	3	0.937
Improve Quality	1	1.000
Provide Capabilities	1	1.000
IT Outsourcing Success	2	0.992

Finally, the discriminant validity for the extended *minimum tolerable* expectation standard model was created. As a means of evaluating discriminant validity, the average variance extracted for each construct should be greater than the squares of the correlations between the construct and all other constructs (Fornell and Larcker, 1981). Furthermore, the correlations between the constructs should be lower than the square root of the average variance extracted. In Table 33 below, all of the average variance extracted (AVE) are greater than the recommended 0.50 level and the square root of the average variance extracted (on the diagonal, in bold) is greater than the correlations between the constructs.

Table 33 Discriminant Validity for the Extended Minimum Tolerable Expectation Standard Model

	AVE	Outsourc Success	Relationshi p Sat	Meet Contract	Improve Quality	Provide Capabil
IT Outsourcing Success	0.983	0.991				
Relationship Satisfaction	0.914	0.754	0.956			
Meet Contractual Obligations	0.832	0.746	0.877	0.912		
Improve Quality	1	0.793	0.816	0.842	1	
Provide Capabilities	1	0.734	0.843	0.849	0.901	1

3.10.1 Structural Model

The structural model appears on the next page.

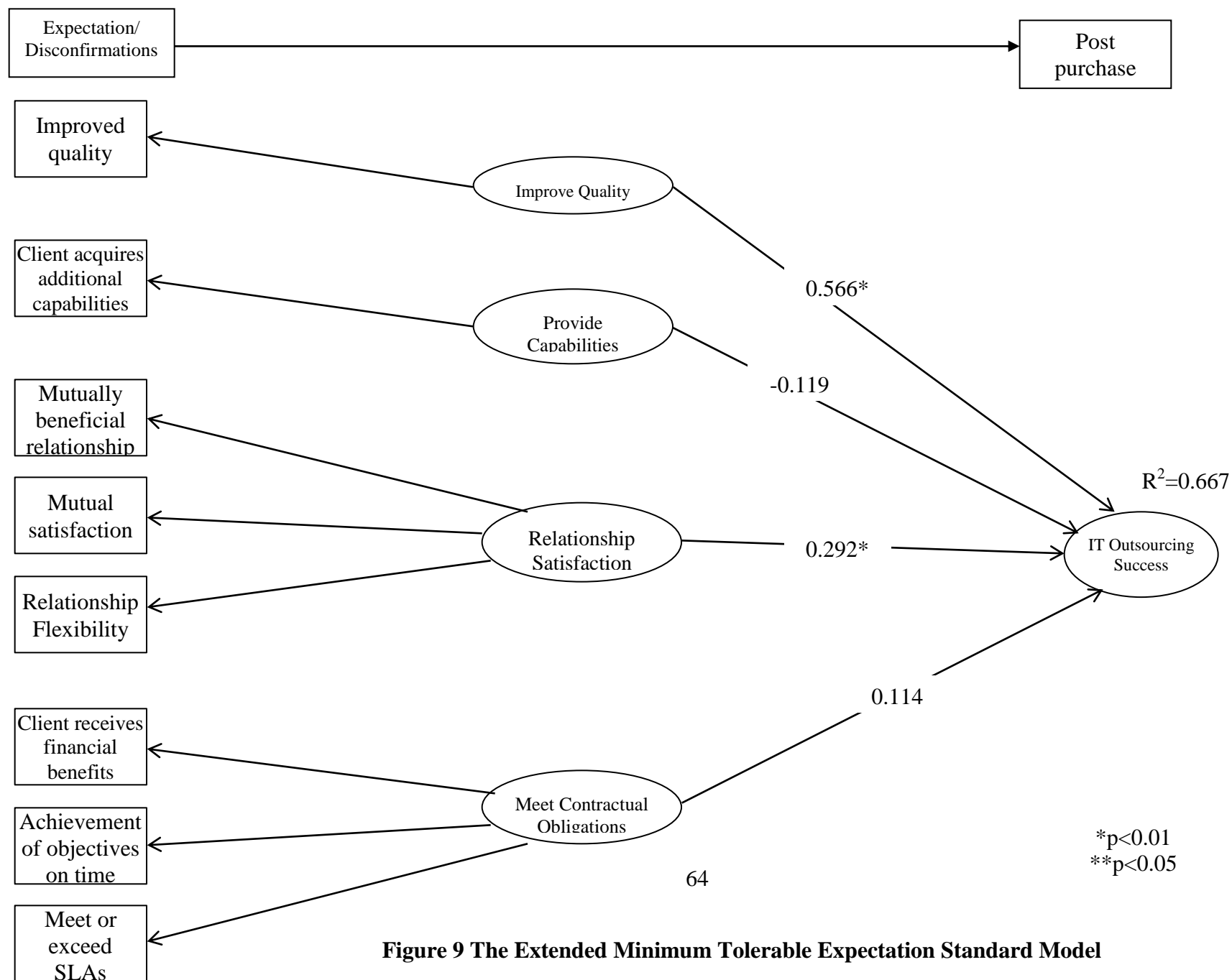


Figure 9 The Extended Minimum Tolerable Expectation Standard Model

3.10.2 Discussion of the Extended Minimum Tolerable Expectation Standard Model

By grouping certain success factors that reflect underlying latent constructs, all the paths (except *meet contractual obligations* and *provide capabilities*) became significant. Moreover, the R^2 equals 0.667, and the analysis enables the data to become more understandable. The latent constructs, namely *relationship satisfaction* and *meet contractual obligations*, display high loadings (all over 0.85) with the single-item success factors. Thus, the analysis of the data was enhanced by grouping the expectation standards into latent constructs. The model effectively displays the relationship between these success factors and IT outsourcing success.

CHAPTER 4. DISCUSSION AND CONCLUSIONS

The achievement of outsourcing success has remained an elusive goal. As an alternative lens, I have proposed that one of the chief drivers of IT outsourcing success involves the expectations the client brings into the relationship. Drawing from Expectation Disconfirmation Theory and the Hierarchy of Expectation Standards model of Santos and Boote (2003), my initial research model proposes a series of expectation standards that are utilized by clients in shaping their views of IT outsourcing success. Moreover, I also propose two competing models which examine the role of expectations on the success factors that influence *IT outsourcing success*. I will now turn to a discussion of each lens including explanations of the differences between the three views, and the implications for research and practice.

4.1 Discussion: Extended Hierarchy of Expectation Standards (HES) Model

Despite the high r-squared, the model of Santos and Boote (2003) was unable to be empirically supported. Therefore, using a combination of theoretical and empirical approaches, I proposed an Extended Hierarchy of Expectation Standards (HES) Model that demonstrates that not only do varying levels of expectations exist but they can also be grouped into second- and third-order constructs. Therefore, this study provides a simplified view of the hierarchy of expectation standards presented by Santos and Boote (2003).

The first group I proposed is the idealized standard, which groups together the *desired/want* and *ideal* expectation standards. While other expectation standards rely on outside influences or parties to form their expectation, these idealized expectations tend to form more introspectively. For example, the *ideal* expectation standard represents enduring wants (Santos and Boote, 2003) and is more stable over time (Churchill, 1979) than the *should* expectation standard.

Similarly, the *desired/want* expectation standard forms without the use of an external standard. One's *desires* develop within that individual, as opposed to the *deserved* expectation standard which employs an outside party (in this case, *industry practices*) to determine the content of the expectations. Furthermore, this grouping of the *ideal* expectation standard and the *desired/want* expectation standard has been suggested in previous work (Zeithaml et al., 1993); however, this research represents the first to include this construct along with the other seven and to apply it to the IT outsourcing context.

The second standard that I propose is the upper level standard, which includes the *deserved* expectation standard, the *should* expectation standard, and the *adequate* expectation standard grouped together. These expectation standards involve an external standard (such as industry practice) which a client utilizes in the development of their disconfirmation evaluation. For example, if employing the *should* expectation standard, the client could base on industry practices what they *should* expect to receive from the outsourcing vendor and then compare their vendors performance with what the client believes they should receive from their outsourcing vendor in order to determine their level of disconfirmation.

These upper level standards also include an element of what a customer thinks they have been promised. When vying to be awarded a contract, vendors may make certain promises or clients may perceive certain statements as promises. When a client believes that a promise has been made, they will seek to determine whether this promise has been fulfilled, and the fulfillment of the promise (or lack thereof) will factor into their assessment of satisfaction with the outsourcing relationship. Thus, for example, the client will seek to employ the *deserved* expectation standard to assess whether they were given what they deserved from the vendor based on perceived promises.

Even the *adequate* expectation standard manifests these upper level characteristics. It can be described as the level of performance the customer will accept (Santos and Boote, 2003). Therefore, perceived promises would impact a client's determination of what they would accept. Specifically, if the vendor fails to meet a perceived promise, this would be deemed to fall below adequate performance, whereas if a vendor meets the perceived promise this would fall above adequate performance. The act of fulfilling a promise would not induce extraordinary positive disconfirmation, as merely fulfilling a promise simply indicates that one has essentially done what they should have done. However, not fulfilling a perceived promise would most certainly entail a level of performance that is below adequate. Therefore, the *adequate* expectation standard includes an element of what a customer believes they have been promised.

The two groupings of *idealized* and *upper level* coalesce around a central idea. They represent an *upper ideal*. This *upper ideal* involves expectation standards exceeding an acceptable level. When vendors meet the expectation standards in the *upper ideal*, they seek to deliver more than acceptable service or products. Instead, these *upper ideal* expectation standards denote standards that if met would likely lead to perceived IT outsourcing success.

In contrast to the *upper level* groupings, I also propose a *lower level* set of expectations, which represent expectations that a vendor must meet and exceed if they ever hope for a client to view the IT outsourcing arrangement as a success. These expectation standards represent the most accessible and manageable expectations to meet. They include the *minimum tolerable* expectation standard, the *intolerable* expectation standard, and the *worst imaginable* expectation standard. They signify the minimum expected of the vendor.

Clients hope to never experience some of the worst case scenarios associated with these *lower level* expectations, and they most likely have never personally experienced (Santos and

Boote, 2003) this *lower level* of performance. However, if the vendor fails to meet these baseline expectations, then the *upper ideal* expectations will surely not be met, and the outsourcing arrangement will not be perceived as a success.

The final construct in the extended HES model is the *predicted/will* expectation standard, which was found to not significantly influence IT outsourcing success. I hypothesize that this concept may have been confusing and too abstruse for the respondents to evaluate. I believe that the process of assessing one's level of disconfirmation in addition to a prediction of how a vendor would behave during the client's next interaction with them was just not comprehensible enough to provide useful information. I have discussed another possible explanation for its non-significance in the *Limitations* section below.

4.2 Discussion: The Extended Should Expectation Standard Model and the Extended Minimum Tolerable Expectation Standard Model

The results from the extended *Should* Expectation Standard model and the extended *Minimum Tolerable* Expectation Standard model empirically validate the results from the Delphi study about the IT outsourcing success factors. This research demonstrates that not only do these success factors predict IT outsourcing success but they can also be grouped together to provide a simplified view of how expectations relating to certain success factors influence a client's perception of IT outsourcing success.

4.2.1 Provide Capabilities

The analysis demonstrates that clients feel that one of the most important things a vendor should provide in order to meet their expectations involves the client *acquiring additional capabilities*. This factor depicts gains in services or capabilities that the client was unable to develop on their own or was too costly to develop on their own (i.e. - specialized

skills/knowledge, economies-of-scale). Additionally, both the practitioner panel and the academic panel in the Delphi study distinguished this factor as the top success factor in the prediction of IT outsourcing success.

This triangulation of the data underscores the fact that one of the most important expectations clients believe they should receive involves *capabilities* that they could not develop on their own. Surely, corporations would gladly enter into an outsourcing arrangement if they expect that the vendor can provide them with specialized skills or knowledge that the client organization does not possess. If these expectations are met and the client receives the anticipated new capabilities, then IT outsourcing success is likely to be achieved.

This factor, however, was found to not represent a significant predictor of IT outsourcing success in the extended *minimum tolerable* expectation standard model, although it did significantly impact IT outsourcing success in the extended *should* expectation standard model. This difference can be explained by the unique influence of the various expectation standards on IT outsourcing success. The *should* expectation standard relates not to what the client feels a service would offer but rather refers to what the vendor should offer (Parasuraman et al., 1985), while the *minimum tolerable* expectation standard depicts the bottom level or lower level of performance acceptable to the client (Miller, 1977). Therefore, while a client feels that the vendor should provide additional capabilities, the client believes it is acceptable if the vendor does not go to the level of providing additional capabilities. Therefore, for those vendors seeking to produce services in the *upper ideal* they should attempt to provide additional capabilities; however, if the vendor is content with delivering IT outsourcing services at the *lower level*, then providing capabilities may not be necessary. Thus, if the vendor does not

provide the client with additional capabilities, they would not meet the vendor's *upper level* expectations, although they could still meet their *lower level* expectations.

4.2.2 Improve Quality

This study also discovered the importance of *quality improvement* in a client's perception of achieving IT outsourcing success. Essentially, the IT outsourcing client expects that a vendor should produce a product or service of higher quality than could be produced internally. By meeting this expectation and providing a higher quality outcome from the outsourcing arrangement, the client is more likely to deem the outsourcing arrangement as successful.

4.2.3 Meet Contractual Obligations

Although a client's expectations regarding the *quality improvement* that a vendor should provide influences their perception of success, the research found that *meeting contractual obligations*, such as *achievement of objectives on time*, *meeting or exceeding SLAs*, or *receiving financial benefits* were not expectations that influence success. These findings may appear surprising, as they have traditionally been prominent in the IT outsourcing research. The research has found, however, that they do not lead to IT outsourcing success. Clients essentially view these factors as functional, almost non-value-adding, items. When they enter into an outsourcing arrangement, they are in essence seeking benefits such as *additional capabilities* and *quality improvements*. Whether or not they achieve such advantages constitutes the composition of factors included in the client's disconfirmation evaluation. These other factors, such as *achievement of objectives on time*, *meeting or exceeding SLAs*, or *receiving financial benefits*, merely represent functional methods used to achieve their true purpose for engaging in outsourcing. For example, if a client engages in outsourcing with a certain vendor and that vendor provides them with *additional capabilities* and *quality improvements* but delivers the

product over budget (failing to *receive financial benefits*) and later than agreed upon (failing to meet the *achievement of objectives on time*), then the client is still likely to consider the relationship a success. In the end, the client received the primary benefits they were seeking from the outsourcing arrangement – even if some of the functional methods (such as *meeting contractual obligations*) did not meet the client’s expectations.

For most clients, if they want only lower costs or other *contractual* factors, then it is most likely not even worth the effort to outsource. With all the intricacies involved with outsourcing, there is much more at stake than financial issues, and the true value in outsourcing involves much more than mere financial savings.

Thus, the client focuses more on evaluating whether the vendor met their expectations regarding *additional capabilities*, *quality improvements*, and *relationship satisfaction* (to be discussed in the next section) than on merely *meeting contractual obligations*.

4.2.4 Relationship Satisfaction

This research also displays the importance of expectations in the evaluation of *relationship satisfaction* in the prediction of IT outsourcing success. Specifically, the client desires their expectations be met with regard to *relationship flexibility*, *mutual satisfaction*, and a *mutually beneficial relationship*. These factors regard the relationship between the client and the vendor and essentially supersede one particular outsourcing project; instead, these factors involve a client’s desire to develop a *flexible*, *mutually beneficial* and *mutually satisfying* relationship that could potentially involve multiple projects. With the creation of a relationship that meets the client’s expectations in these areas, the client will be satisfied and declare the IT outsourcing arrangement as successful. This declaration will, in turn, lead to more IT outsourcing arrangements, which if completed in a similar manner will also lead to *success* and

more outsourcing arrangements with the same vendor. Therefore, by viewing the IT outsourcing arrangement from the relationship level, the client displays their desire to maintain a long-term relationship with the vendor.

Furthermore, with an established relationship with the vendor, the client can more effectively work with the vendor, as the client will become familiar with the vendor. In the development of the relationship with the vendor, the relationship issues that inevitably occur between the outsourcing parties as they struggle for equilibrium in the relationship will be settled and resolved as the relationship settles into a more mutually beneficial place. Therefore, this focus on developing the outsourcing relationship and meeting expectations at the relationship level demonstrates a focus on aspects of the IT outsourcing arrangement that transcend one IT outsourcing project. By meeting a client's expectations regarding *relationship satisfaction*, the client will perceive the IT outsourcing arrangement as successful.

4.3 Limitations

Although this research uncovered information that will be useful in better understanding the role of expectations on IT outsourcing success, certain limitations exist. First, in the survey, I focused only on the clients in the IT outsourcing relationship. Without input from vendors, I lack a more thorough understanding of this phenomenon.

Furthermore, the sample size from the survey was low (n=106). Although the sample contained enough responses to analyze the data, the use of a lower sample size may create a failure to detect a small effect. I posit that the predicted/will expectation standard may have exhibited non-significance since it may represent a small effect. Therefore, I would suggest that future researchers retest this expectation standard with a larger sample size to validate its significance in predicting IT outsourcing success.

I also employed a cross-sectional design in the study which involves an observation of the sample at one point in time. Since an IT outsourcing arrangement develops over time, expectations change over time, and disconfirmations adjust over time, a longitudinal study would provide evidence of how these variations influence *IT outsourcing success* over time.

Therefore, this study has certain limitations, and I would suggest that in the future researchers examine these areas I discussed.

4.4 Implications for Research

This research provides a contribution to the literature in two research streams, namely the IT outsourcing literature and the Expectation Disconfirmation Theory (EDT) research. I will discuss its contribution to each research area separately.

First, this study provides a novel lens with which to view IT outsourcing. When attempting to better understand IT outsourcing success, traditional studies have viewed success factors with absolute measures. This research, however, delved into a client's expectation of the success factors. I posited that absolute values of a success factor do not constitute the best measure for success, and instead I implemented a measure of disconfirmation of the success factors. By incorporating a client's expectations into the success equation, I was able to understand which success factors are most important under certain expectation standards. Thus, I have demonstrated that Expectation Disconfirmation Theory (EDT) represents a valuable lens with which to view outsourcing, and these findings represent a contribution to the IT outsourcing literature.

Furthermore, I have provided a contribution to the Expectation Disconfirmation Theory (EDT) research stream which extends across multiple disciplines including marketing, psychology, and information systems amongst many other areas. By modeling the Santos and

Boote (2003) hierarchy of expectation standards, I discovered second- and third-order constructs within the expectation standards. These groupings simplify the model and increase our understanding of how certain expectations unite. Additionally, by modeling two of the expectation standards with the IT outsourcing success factors, I displayed how differing expectation standards can impacts an individual's perceptions, which in this case involves IT outsourcing success. Therefore, this research provides a contribution to the Expectation Disconfirmation Theory (EDT) literature.

4.5 Future Research

As discussed above, this study provides a contribution to the literature in both the IT outsourcing research area and the Expectation Disconfirmation Theory (EDT) research stream. However, areas for future research still remain. For example, Expectation Disconfirmation Theory (EDT) has proven to represent a valuable lens with which to view outsourcing. Its application, however, is not limited to IT outsourcing research. This theory can be applied to other areas in the discipline, including better understanding student's expectations regarding getting a degree in IT.

Furthermore, more needs to be known about the *predicted/will* expectation standard. Many researchers have discussed this type of expectation (i.e. – Santos and Boote, 2003; Boulding et al, 1993; Spreng and Dixon, 1992; Zeithaml et al, 1993; Oliver, 1981), but this study was unable to detect its relationship to IT outsourcing success. Therefore, more information needs to be known about the *predicted/will* expectation standard's connection to IT outsourcing success.

Moreover, more research should be conducted to see if the Extended Hierarchy of Expectation Standards model applies in contexts other than IT outsourcing success. This study

demonstrates that the expectation standards group together into second- and third-order constructs when the DV is IT outsourcings; however, it is unknown whether the Extended Hierarchy of Expectation Standards model could be applied to understand expectations in different contexts and with different dependent variables.

Next, I will explain the implications for practice.

4.6 Implications for Practice

This research provides practitioners in the IT outsourcing arena with information on how to better understand the impact of a client's expectations on outsourcing. Expectations will not be properly managed without deliberate attention. Managing expectations requires consistent intentional effort to both perceive the partner's expectations and respond to them, whether positively or with resistance, explanation, and then renegotiation. By highlighting the impact of expectations on IT outsourcing, this study encourages practitioners to consider the other parties' expectations when creating the outsourcing arrangement and in the execution of it.

Outsourcing vendors have even rejected large outsourcing contracts if they believe that the other party's expectations are not realistic. They would rather discard a potentially lucrative contract than enter into an arrangement with a partner whose expectations can never be met. Surely, expectations represent an important aspect of the outsourcing arrangement.

This research also emphasizes the importance of developing realistic expectations. A practical implication of this theory for management is to understate expectations in order to maximize the opportunity for positive disconfirmation (Brown et al, 2008; Buckley et al, 1998). For example, the disconfirmation research stream that includes research in the area of job previews supports this belief (Phillips, 1998; Wanous, 1992). Studies have demonstrated that unrealistically high expectations that can be formed when engaging in a new job negotiation can

lead to low job satisfaction after the new employee's expectations are not met (Kotter, 1973). However, research suggests that lowering a perspective employee's expectations by presenting realistic job previews (RJPs) results in desirable organizational outcomes such as reduced turnover and increased satisfaction (Buckley et al, 1998). Thus, when an IT outsourcing vendor presents a realistic view of their abilities and a client discloses a realistic view of their current situation, this candor can lead to increased satisfaction in the IT outsourcing arrangement.

This study explains the impact of expectations on a client's view of IT outsourcing success. With this information, the vendor can heighten their attention level regarding a client's expectations. Additionally, a client can consciously regard their expectations, communicate them to the appropriate parties, and determine if adjustments need to be initiated.

The issue arrives, however, regarding the process of how to understand your partner's expectations and the best method to address them. One option involves including an Intermediary or an outsourcing consultant in developing the contract and shaping realistic expectations. An intermediary with a considerable amount of experience with IT outsourcing arrangements represents a neutral party who can assure the client that they are getting a good deal while simultaneously ensuring that the vendor presents a realistic picture of what outsourcing can provide the organization. The addition of an intermediary can also assist in shaping realistic expectations, so that the partners enter the relationship with a more accurate view of what the IT outsourcing relationship entails. Entering the relationship with more realistic expectations increases the potential for success.

Therefore, this research provides insight into the role of expectations on IT outsourcing success which can be applied by practitioners in their IT outsourcing endeavors.

4.7 Concluding Thoughts

IT outsourcing has brought both potential benefits in addition to many examples of the great organizational losses associated with this practice. With the awareness of the potential for failure, the IT outsourcing industry continues to grow, as organizations communicate their desire to engage in IT outsourcing and their determination to decipher a method that enables successful IT outsourcing relationships. Surely, discovering a novel approach to the issues associated with the difficulty in developing a successful IT outsourcing relationship constitutes an intellectual contribution to both researchers and practitioners. This research seeks to explore the IT outsourcing relationship through the lens of Expectation Disconfirmation Theory (EDT) to understand the effects of expectations on a client's perception of IT outsourcing success. By providing insight into a client's expectations of their IT outsourcing relationship this study will positively impact the rate of achieving that elusive goal of IT outsourcing success.

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APPENDIX

A. LITERATURE REVIEW PROCESS

In my research on success, I examined the extant research on IT outsourcing success. The methodology and results of this literature review is as follows.

In order to create a “structured review process” (Webster and Watson, 2002), I first outlined a methodology to employ in order to locate relevant articles. My methodology was as follows:

- 1) *Define relevant journals.* The criteria I established for a “relevant” journal was an “A level” academic or practitioner journal. I used the Senior Scholars “Basket of Eight” to define A level academic journals and utilized the Web of Science impact factor to define and include three practitioner journals.
- 2) *Define appropriate search terms.* I experimented with multiple search terms (e.g. success, IT outsourcing success, etc) and reviewed the results. Based upon the relevancy of results that were returned, I defined the appropriate search term as “outsourcing success.”
- 3) *Define appropriate search location.* I employed Business Source Complete for the majority of the search, with the exception of EJIS and JSIS (as details below).
- 4) *Define relevant articles.* Certain papers that were found through the search were not included in the final Success Factors literature review. The reason for these exclusions is related to deficiencies with the search engine. Although search engines are useful in narrowing down contents within a database, the results are not meant to be accepted without incorporating individual discretion. Therefore, after utilizing the Business Source Complete search engine to narrow down the articles within the database, I

continued my examination of the actual content of the articles. When I manually searched the articles, I realized that some of the articles were not studying IT outsourcing success per se (they may have just mentioned the term *success* in the abstract). Thus, they were found to be unrelated to this research. However, if the articles studied factors that lead to IT outsourcing success, then the factors were defined as relevant.

Based upon the methodology described above, 21 articles were found and 11 articles were used. The location of these articles is displayed in the table below.

Journal Name	Number of articles found	Number of articles used
European Journal of Information Systems ³	8	2
Information Systems Journal	1	1
Information Systems Research	2	2
Journal of MIS	2	2
Journal of AIS	1	1
MIS Quarterly	2	2
Journal of Strategic Information Systems ⁴	4	0
Journal of Information Technology	0	0
Harvard Business Review	0	0
Sloan Management Review	0	0
California Management Review	1	1

³ This particular journal was not contained within the Business Source Complete database. So, instead I searched through the journal's online database (from their website) to conduct the search for this particular journal. This explains the high occurrence of type 1 errors in the article search as compared to their other journal searches.

⁴ This particular journal was not contained within the Business Source Complete database. So, instead I searched through the ScienceDirect database to conduct the search for this particular journal. This explains the high occurrence of type 1 errors in the article search as compared to their other journal searches.

Each of the relevant articles was read and is summarized in the table in Appendix B. The summary includes: (a) the name of the factor employed as a direct antecedent to predict IT outsourcing success; (b) the definition of the factor employed as a direct antecedent to predict IT outsourcing success; (c) whether the factor was found to be significant; (d) the article citation; and (e) the definition of success employed in the research.

APPENDIX

B. EXTANT IT OUTSOURCING SUCCESS FACTORS

Factor ⁵	Definition	Findings	Source	Success
Contractor Reputation	“the extent to which the client felt that the contractor had developed a reputation for honesty, fairness, and trustworthiness in dealing with its client firms” (p. 168)	Significant	Wang, 2002	“performance attainment in three aspects of software outsourcing: strategic, economic, and technological” (p. 169)
Asset Specificity	“dedicated and human assets” (p. 169)	Significant (positive relationship)	Wang, 2002	
Asset Specificity	“dedicated and human assets” (p. 169)	Not significant (negative relationship)	Wang, 2002	
Post-Contractual Opportunism	“the extent to which the client perceived the contractor’s propensities to distort information and to fail to keep its promises at the post-contractual stages” (p. 169)	Significant (negative relationship)	Wang, 2002	
Uncertainty	“the extent to which the parties had difficulties in predicting system requirements, delivery dates, and costs at the contracting stage” (p. 169)	Marginal (negative relationship)	Wang, 2002	
Partnership Quality	“how well the partnership possesses the features that meet the customer’s need and to what extent it is free from	Significant	Lee and Kim, 1999	“the level of fitness between customers’ requirements and outsourcing outcomes...[assessed in

⁵ Only direct effects are included

Factor⁵	Definition	Findings	Source	Success
	deficiencies” (p. 57)			terms] of achieving the strategic, economic, and technological benefits of outsourcing” (p. 40)
Trust	“degree of confidence and willingness between partners” (p. 57)	Significant	Lee and Kim, 1999	
Business understanding	“Degree of understanding of behaviors, goals, and policies between partners” (p. 57)	Significant	Lee and Kim, 1999	
Benefit/risk share	“Degree of articulation and agreement on benefit and risk between partners” (p. 57)	Significant	Lee and Kim, 1999	
Conflict	“Degree of incompatibility of activities, resource share and goals between partners” (p. 57)	Not Significant	Lee and Kim, 1999	
Commitment	“Degree of the pledge of relationship continuity between partners” (p. 57)	Significant	Lee and Kim, 1999	
Degree of Outsourcing	“the extent of outsourcing” (p. 95); “the difference between the current outsourcing budget and that of three years ago” (p. 98)	Significant	Grover et al, 1996	“the satisfaction with benefits from outsourcing gained by an organization as a result of deploying an outsourcing strategy” (p. 95); “the overall organizational advantage gained from outsourcing strategy” (p. 98)
The degree of outsourcing of applications development and maintenance	“includes systems analysis, design, and construction of application software and the accompanying software maintenance” (p. 106)	Not significant	Grover et al, 1996	
The degree of outsourcing of systems operations	Includes “mainframe and minicomputer operations for daily processing runs, backup and recovery, and systems software maintenance” (p.	Significant	Grover et al, 1996	

Factor⁵	Definition	Findings	Source	Success
	108)			
The degree of outsourcing of telecommunications and networks management	“includes hardware and software development for telecommunications, daily management of voice, video, data, and/or image communications, and network operations and maintenance” (p. 108)	Significant	Grover et al, 1996	
The degree of outsourcing of end-user support	“includes PC procurement, user education and training, and user consulting” (p. 109)	Not significant	Grover et al, 1996	
The degree of outsourcing of systems planning and management	“includes highly asset-specific activities such as project management, personnel management, financial management, and administrative support” (p. 109)	Not significant	Grover et al, 1996	
Quality of Partnership	“fostering a long-term interactive relationship based on trust, communication, satisfaction, and cooperation” (p. 106)	Significant	Grover et al, 1996	
Specialization benefits	“Concentrating on those activities in which the organization has established a distinctive capability, letting others produce supporting goods and services” (p. 239)	Significant	Seddon et al, 2007	Satisfaction of the purchasing organization with IT outsourcing
Market-discipline benefits (obtain better service)	“Identifies conditions in which the purchaser is separated from the provider and a formal transaction takes place under contract” (p. 239)	Significant	Seddon et al, 2007	
Flexibility benefits	“The ability to adjust the scale and scope of production upwards or	Not significant	Seddon et al, 2007	

Factor⁵	Definition	Findings	Source	Success
	downwards at low cost and rapid rate” (p. 239)			
Cost savings	“Lower resource costs of service delivery compared to in-house production” (p. 239)	Not significant	Seddon et al, 2007	
Accurate project scoping	“define precisely the nature and range of services covered in the outsourcing contract, and be flexible in handling customers’ requests for changes in these services” (p. 362)	Not significant	Koh et al, 2004	“overall satisfaction with the contract as well as the...intention to continue the outsourcing relationship” (p. 366)
Clear authority structures	“delineate the decision-making rights and reporting structures in the project, in terms of the roles and responsibilities of all parties involved” (p. 362)	Significant	Koh et al, 2004	
Taking charge	“complete the job and solve problems independently, with minimal customer involvement” (p. 362)	Significant	Koh et al, 2004	
Effective human capital management	“assign high-quality staff to work on the project, and to minimize staff turnover during the project” (p. 362)	Significant	Koh et al, 2004	
Effective knowledge transfer	“educate customer in terms of the necessary skills, knowledge, and expertise associated with using the outsourced system or service” (p. 362)	Significant	Koh et al, 2004	
Building effective interorganizational teams	“invest time and effort to foster a good working relationship among the team of customer and supplier staff working on the project” (p. 362)	Significant	Koh et al, 2004	
Clear specifications	“understand and articulate explicitly and comprehensively the requirements	Significant	Koh et al, 2004	

Factor⁵	Definition	Findings	Source	Success
	for the services covered by the outsourcing project” (p. 363)			
Prompt payment	“pay suppliers on time and not withhold payments unreasonably” (p. 363)	Significant	Koh et al, 2004	
Close project monitoring	“be actively involved in overseeing the project progress by attending project meetings and discussions regularly” (p. 363)	Significant	Koh et al, 2004	
Dedicated project staffing	“assign key employees who possess the required skills and knowledge to work with supplier staff on the project” (p. 363)	Not significant	Koh et al, 2004	
Knowledge sharing	“provide information required by supplier, and to educate supplier with the industry- and firm-specific knowledge necessary to build or operate the system” (p. 363)	Not significant	Koh et al, 2004	
Project ownership	“ensure that senior management provides strong leadership, support, and commitment toward the project” (p. 363)	Significant	Koh et al, 2004	
Fit	“Congruence among critical strategic and structural dimensions that influence performance” (p. 114)	Significant	Lee et al, 2004	<p>“Benefits that may be derived from outsourcing: Strategic or core competence refers to firms’ efforts at ‘redirecting the business and IT into core competencies’ Financial restructuring or cost efficiency refers to ‘improving the business’ financial position’</p>
Decision scope	“The proportion of the IT function in- or out-sourced” (p. 113)	Not significant	Lee et al, 2004	
Contract type	“Who retains control over processes that are not contractually stipulated” (p. 113)	Not significant	Lee et al, 2004	
Contract	“The period of time to which both	Hypothesis	Lee et al,	

Factor ⁵	Definition	Findings	Source	Success
duration	parties are committed to interacting with each other” (p. 113)	was reversed	2004	Technology catalysis refers to ‘strengthening resources and flexibility in technology service to underpin business’ strategic direction” (p. 115, 116) “Selective outsourcing will be more successful than comprehensive or minimal outsourcing” (p. 113) “Buy-in or fee-for-service controls will be more successful than partnerships” (p. 113) “Short-term outsourcing relationships will be more successful than medium- or long-term relationships” (p. 113)
Vendor’s core competencies	“the vendor’s own capabilities” (p. 334)	Significant (case study)	Levina and Ross, 2003	Client satisfaction is measure of success
Environmental Uncertainty	“a dynamic environment [where] organizations have to constantly renegotiate with vendors to cope with the rapid and unpredictable changes” (p. 180).	Hypothesized Negative Relationship	Tan and Sia, 2006	<i>(no specific definition given)</i>
Tight contract	Not a “loose contract” (p. 72) “The classification of the nature of the contract was based on: the inclusion in the contract of the clauses suggested by Lacity and Hirschheim, the use of legal or technical experts, and the respondent's perception of the completeness of the contract” (p. 66)	Significant	Saunders et al, 1997	<ul style="list-style-type: none"> • Economic—the efficiency of the outsourcing arrangement and the extent to which it helped the company avoid a major capital expenditure • Technological—the technological flexibility, new skills, and new technologies afforded as a result of outsourcing
IS is viewed as	IS is viewed as “one of a limited	Significant	Saunders et	

Factor⁵	Definition	Findings	Source	Success
a Core function	number of functions that provides strategic advantage to the company” (p. 64)		al, 1997	<ul style="list-style-type: none"> • Strategic—the strategic advantage, insourcing capability, and changed focus on strategic activities derived from the outsourcing arrangement • Overall Satisfaction with Contract—the overall success of the outsourcing arrangement and the desire to change vendors
Partnership arrangement	“companies...felt their vendors were strategic partners...[rather than] merely...suppliers “ (p. 74) “long-term commitments that allow firms to share risks and rewards and to better manage complex inter-relationships” (p. 65)	Significant	Saunders et al, 1997	
Client participation	“having a client member on the offshore project team” (p. 620)	Significant	Rai et al, 2009	
Information exchange activities	“having client site visits to the vendor and vendor site visits to the client” (p. 621)	Significant	Rai et al, 2009	Project Cost Overruns Client Satisfaction
Trust of the client in the vendor	“one party’s willingness to be vulnerable to another party“ (p. 622)	significant	Rai et al, 2009	
Differences in norms	“having differences in work practices between the client and vendor organizations” (p. 623)	Weak support	Rai et al, 2009	
Differences in values	“having cultural dissimilarity between the client representative and the project team leader” (p. 624)	significant	Rai et al, 2009	
Project leader cultural values	“encompasses values that form the basis of their schemata of how the world works; recognizes that individuals of the same national origin may vary in the degree to which they embrace the values associated with their national culture” (p. 623)	Not significant	Rai et al, 2009	

Factor⁵	Definition	Findings	Source	Success
Business process management competence of the service provider (SPBPMC)	Competence of the service provider to manage the tacit knowledge, performance, and transition of the process (p. 5)	Not significant	Bharadwaj et al, 2010	“the BPO relationship in terms of extension of the contract for another period with the same vendor and enhancing the scope of the work during the outsourcing duration [are the] measures of a successful relationship” (p. 2)
Information technology management competence of the service provider (SPITMC)	Competence of the service provider to manage the hard as well as knowledge-driven (tacit) aspects of technology and ability to maintain robust scalable IT infrastructure	Not significant	Bharadwaj et al, 2010	
Outsourcing management competence of the client (COMC)	In-house core competence required to govern and manage outsourcing arrangements	Significant	Bharadwaj et al, 2010	
BPO outcome	Realizing the intended benefits of outsourcing	Significant	Bharadwaj et al, 2010	

APPENDIX

C. CONSTRUCTS AND ITEMS

Construct	Construct Definition	Item
Vendor Type	Type of outsourcing vendor being described in survey (e.g. infrastructure, application development, etc)	Before beginning, we want you to think of a vendor that you can use as a frame of reference. So that we can better understand your answers, please tell us the type of outsourcing vendor that you will be thinking of while answering the questions (e.g. infrastructure, application development, etc).
Prior Experience	The amount experience with outsourcing a respondent has before this outsourcing arrangement	All items were anchored with the following: <i>What level of prior experience with outsourcing did you have to judge the ability of the outsourcing vendor to...</i>
		...provide my organization with additional capabilities
		... achieve our outsourcing objectives on time
		... achieve the expected financial benefits
		... improve the quality of the outsourced product/service
		... provide flexibility to accommodate my changing circumstances/needs
		... cultivate the development of a mutually beneficial partnership
		... pursue mutual satisfaction with the outcome
Previous Expectations (Specific)	The respondent's expectations about specific aspects of the outsourcing arrangement before the work had begun	... to fully meet the SLAs (service-level agreement)
		All items were anchored with the following: <i>After the contract was finalized but before the work had begun, I expected that the performance of my outsourcing vendor on each of the factors listed below would be...</i>
		Provide my organization with additional capabilities
		Achieve our outsourcing objectives on time
		Achieve the expected financial benefits
		Improve the quality of what we outsourced
		Provide flexibility to accommodate my changing

		circumstances/needs
		Cultivate the development of a mutually beneficial partnership
		Pursue mutual satisfaction with the outcome
		Fully meet the SLAs (service-level agreement)
Previous Expectations (General)	The respondent's expectations about the overall outsourcing arrangement before the work had begun	All items were anchored with the following: <i>After the contract was finalized but before the work had begun, my overall expectations of my outsourcing vendor on each of the following was that...</i>
		The overall performance of my vendor would be...
		The extent to which the vendor would meet the needs of my organization would be...
		My overall experience with my vendor would be...
Actual Performance (Specific)	The vendor's actual performance on specific aspects of the outsourcing arrangement as determined by the client	All items were anchored with the following: <i>How would you judge the performance of your outsourcing vendor on each of the factors listed below...</i>
		Provided my organization with additional capabilities
		Achieved our outsourcing objectives on time
		Achieved the expected financial benefits
		Improved the quality of what we outsourced
		Provided flexibility to accommodate my changing circumstances/needs
		Cultivated the development of a mutually beneficial partnership
		Pursued mutual satisfaction with the outcome
Actual Performance (General)	The vendor's actual performance on the overall outsourcing arrangement as determined by the client	Fully met the SLAs (service-level agreement)
		All items were anchored with the following: <i>All things considered...</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was
IT Outsourcing Success	The client's level of	My overall experience with my vendor was...
		Overall, how satisfied have you been with your vendor?

	satisfaction (both emotional and general) with the vendor in addition to their likelihood to recommend the vendor (word of mouth)	Overall, I am _____ with my vendor. (Very displeased...very pleased)
		Overall, I am _____ with my vendor. (Very frustrated... Very contented)
		Overall, I am _____ with my vendor. (Very disappointed... Very delighted)
		How would you rate your satisfaction with your vendor?
		Are you satisfied with your vendor?
		All things considered, I am _____ with my vendor. (Dissatisfied...Satisfied)
		To what extent does your vendor meet your needs at this time? (Extremely Poor...Extremely Well)
		How do you feel about the performance of your vendor? I feel: (Delighted, Pleased, Mostly Satisfied, Mixed (about equally satisfied and dissatisfied), Mostly dissatisfied, Unhappy, Terrible)
		The following items were anchored with the following: <i>How likely are you, based on your outsourcing agreement, to do the following:</i>
		Recommend the vendor for an outsourcing agreement with another firm
		Speak favorably about the vendor to others
		Share positive experiences with the vendor with others
Should (Specific)	How well the vendor met the client's expectations of what they believe they <i>should</i> receive regarding specific aspects of the outsourcing arrangement	All items were anchored with the following: <i>How would you compare your vendor's performance on the following factors to what you should receive based on industry practices...</i>
		Provided my organization with additional capabilities
		Achieved our outsourcing objectives on time
		Achieved the expected financial benefits
		Improved the quality of what we outsourced
		Provided flexibility to accommodate my changing circumstances/needs

		Cultivated the development of a mutually beneficial partnership
		Pursued mutual satisfaction with the outcome
		Fully met the SLAs (service-level agreement)
Should (General)	How well the vendor met the client's expectations of what they <i>should</i> receive regarding the overall outsourcing arrangement	All items were anchored with the following: <i>All things considered...</i>
		The overall performance of my vendor was... (Much worse than I should receive...Much Better Than I should receive)
		The extent to which the vendor met the needs of my organization was... (Much worse than I should receive...Much Better Than I should receive)
		My overall experience with my vendor was... (Much worse than I should receive...Much Better Than I should receive)
Deserved (Specific)	How well the vendor met the client's expectations of what they believe they <i>deserved</i> from their vendor regarding specific aspects of the outsourcing arrangement	All items were preceded by the following: <i>How would you compare your vendor's performance to what you deserve from your vendor according to industry practices...</i>
		All items were anchored with the following: <i>Much worse than I deserve... Much better than I deserve</i>
		Provided my organization with additional capabilities
		Achieved our outsourcing objectives on time
		Achieved the expected financial benefits
		Improved the quality of what we outsourced
		Provided flexibility to accommodate my changing circumstances/needs
		Cultivated the development of a mutually beneficial partnership
		Pursued mutual satisfaction with the outcome
Deserved (General)	How well the vendor met the client's expectations of what they believed they <i>deserved</i> regarding the overall outsourcing arrangement	Fully met the SLAs (service-level agreement)
		All items were preceded by the following: <i>All things considered...</i>
		All items were anchored with the following: <i>Much worse than I deserve... Much better than I deserve</i>
		The overall performance of my vendor was....

		The extent to which the vendor met the needs of my organization was
		My overall experience with my vendor was...
Minimum Tolerable (Specific)	How well the vendor met the client's expectations of what they believe is the <i>minimum tolerable</i> performance from their vendor regarding specific aspects of the outsourcing arrangement	All items were preceded by the following: <i>How would you compare your vendor's performance to what is minimally acceptable according to industry practices...</i>
		All items were anchored with the following: <i>Much worse than is minimally acceptable... Much better than is minimally acceptable</i>
		Provided my organization with additional capabilities
		Achieved our outsourcing objectives on time
		Achieved the expected financial benefits
		Improved the quality of what we outsourced
		Provided flexibility to accommodate my changing circumstances/needs
		Cultivated the development of a mutually beneficial partnership
		Pursued mutual satisfaction with the outcome
		Fully met the SLAs (service-level agreement)
Minimum Tolerable (General)	How well the vendor met the client's expectations of what they believe is the <i>minimum tolerable</i> performance from their vendor regarding the overall outsourcing arrangement	All items were preceded by the following: <i>All things considered...</i>
		All items were anchored with the following: <i>Much worse than is minimally acceptable... Much better than is minimally acceptable</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was
		My overall experience with my vendor was...
Ideal (General)	How well the vendor met the client's expectations of what they believe is <i>ideal</i> performance from their vendor regarding the overall outsourcing arrangement	All items were preceded by the following: <i>Comparing my vendor's performance to what is the ideal level of performance...</i>
		All items were anchored with the following: <i>Much worse than the ideal level...Much better than the ideal level</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization

		was
		My overall experience with my vendor was...
Desired/Want (General)	How well the vendor met the client's expectations of what they <i>wanted</i> from their vendor regarding the overall outsourcing arrangement	All items were preceded by the following: <i>Comparing my vendor's performance to what I wanted to receive from my vendor</i>
		All items were anchored with the following: <i>Much worse than what I wanted to receive...Much better than what I wanted to receive</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was.....
		My overall experience with my vendor was...
Predicted/Will (General)	How well the vendor met the client's expectations of how they believed the vendor would perform on their next interaction based upon the vendor's past performance regarding the overall outsourcing arrangement	All items were preceded by the following: <i>Based upon my recent experiences with my vendor, I predict that in the future...</i>
		All items were anchored with the following: <i>Much worse than my vendor has performed in the past...Much better than my vendor has performed in the past</i>
		The overall performance of my vendor will be....
		The extent to which the vendor will meet the needs of my organization will be
		My overall experience with my vendor will be...
Adequate	How well the vendor met the client's expectations of what they believe is <i>adequate</i> performance from their vendor regarding the overall outsourcing arrangement	All items were preceded by the following: <i>Comparing my vendor's performance to an adequate level of performance according to industry practices...</i>
		All items were anchored with the following: <i>Much worse than what I should receive...Much better than what I should receive</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was
		My overall experience with my vendor was...
Intolerable	How well the vendor met the	All items were preceded by the following: <i>Comparing my</i>

	client's expectations of what they believe is <i>intolerable</i> performance from their vendor regarding the overall outsourcing arrangement	<i>vendor's performance to what is intolerable according to industry practices...</i>
		All items were anchored with the following: <i>Much worse than intolerable...Much better than intolerable</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was
		My overall experience with my vendor was...
Worst Imaginable	How well the vendor met the client's expectations of what they believe is the <i>worst imaginable</i> performance from their vendor regarding the overall outsourcing arrangement	All items were preceded by the following: <i>Comparing my vendor's performance to the worst imaginable level of performance from my vendor...</i>
		All items were anchored with the following: <i>Much worse than the worst imaginable level of performance...Much better than the worst imaginable level of performance</i>
		The overall performance of my vendor was....
		The extent to which the vendor met the needs of my organization was
		My overall experience with my vendor was...

APPENDIX

D. CROSS LOADINGS FOR THE HIERARCHY OF EXPECTATION STANDARDS (HES) MODEL

	Ideal	Should	Desired/ Want	Predicted /Will	Deserved	Adequate	Minimum Tolerable	Intoler- able	Worst Imagin- able	Success
ADQ1	0.752	0.772	0.811	0.473	0.824	0.989	0.788	0.703	0.611	0.738
ADQ2	0.716	0.739	0.780	0.454	0.793	0.982	0.762	0.708	0.592	0.691
ADQ3	0.764	0.789	0.818	0.482	0.822	0.985	0.796	0.723	0.631	0.764
IDE1	0.990	0.827	0.888	0.413	0.854	0.730	0.731	0.604	0.455	0.767
IDE2	0.987	0.833	0.886	0.402	0.863	0.767	0.744	0.616	0.460	0.773
IDE3	0.990	0.833	0.892	0.421	0.852	0.744	0.738	0.590	0.451	0.762
INT1	0.580	0.702	0.659	0.426	0.712	0.704	0.822	0.986	0.841	0.775
INT2	0.594	0.669	0.659	0.394	0.664	0.697	0.788	0.979	0.748	0.757
INT3	0.628	0.726	0.702	0.410	0.720	0.732	0.841	0.990	0.818	0.806
ODS1	0.864	0.912	0.880	0.376	0.986	0.809	0.833	0.701	0.601	0.816
ODS2	0.840	0.897	0.868	0.383	0.985	0.801	0.832	0.708	0.607	0.816
ODS3	0.856	0.893	0.871	0.406	0.984	0.828	0.819	0.688	0.615	0.829
OMN1	0.718	0.816	0.768	0.425	0.811	0.765	0.981	0.823	0.733	0.849
OMN2	0.730	0.806	0.799	0.449	0.830	0.782	0.984	0.808	0.719	0.851
OMN3	0.754	0.837	0.816	0.456	0.840	0.796	0.987	0.819	0.711	0.879
OSH1	0.838	0.986	0.872	0.498	0.910	0.777	0.828	0.710	0.597	0.851
OSH2	0.810	0.979	0.837	0.477	0.888	0.762	0.814	0.708	0.603	0.837
OSH3	0.829	0.981	0.852	0.474	0.895	0.755	0.813	0.674	0.591	0.846
PDC1	0.443	0.513	0.468	0.980	0.416	0.494	0.479	0.425	0.462	0.478
PDC2	0.352	0.432	0.378	0.964	0.329	0.425	0.382	0.379	0.391	0.389
PDC3	0.413	0.485	0.438	0.977	0.398	0.467	0.447	0.407	0.449	0.459
SAT6	0.778	0.848	0.813	0.455	0.826	0.736	0.858	0.793	0.676	0.992

SAT7	0.761	0.858	0.814	0.451	0.826	0.738	0.875	0.777	0.683	0.992
WNT1	0.873	0.832	0.977	0.445	0.847	0.792	0.777	0.668	0.526	0.792
WNT2	0.869	0.855	0.980	0.417	0.862	0.792	0.794	0.668	0.515	0.795
WNT3	0.895	0.863	0.977	0.437	0.891	0.809	0.798	0.670	0.529	0.819
WRS1	0.458	0.600	0.529	0.437	0.611	0.612	0.720	0.805	0.985	0.685
WRS2	0.424	0.565	0.501	0.440	0.578	0.598	0.700	0.792	0.989	0.648
WRS3	0.480	0.634	0.554	0.450	0.638	0.629	0.750	0.817	0.990	0.695

APPENDIX

E. CROSS LOADINGS FOR THE EXTENDED SHOULD EXPECTATION STANDARD MODEL

	Success	Relationship Satisfaction	Meet Contractual Obligations	Improve Quality	Provide Capabilities
SAT6	.991	.716	.681	.723	.749
SAT7	.992	.731	.717	.728	.771
SHO1	.767	.809	.835	.825	1.000
SHO2	.618	.774	.905	.679	.805
SHO3	.636	.775	.888	.688	.715
SHO4	.732	.780	.776	1.000	.825
SHO5	.694	.932	.790	.733	.780
SHO6	.702	.964	.814	.759	.762
SHO7	.682	.951	.844	.728	.762
SHO8	.642	.763	.897	.720	.727

APPENDIX

F. CROSS LOADINGS FOR THE EXTENDED MINIMUM TOLERABLE EXPECTATION STANDARD MODEL

	Success	Relationship Satisfaction	Meet Contractual Obligations	Improve Quality	Provide Capabilities
MIN1	.734	.843	.849	.901	1.000
MIN2	.685	.795	.922	.752	.793
MIN3	.661	.790	.893	.739	.751
MIN4	.793	.816	.842	1.000	.901
MIN5	.724	.939	.845	.799	.849
MIN6	.707	.960	.830	.777	.773
MIN7	.730	.969	.840	.765	.795
MIN8	.694	.814	.922	.811	.778
SAT6	.991	.732	.717	.772	.706
SAT7	.992	.762	.761	.800	.749

VITA

Colleen Schwarz conducts research on Information Systems topics such as information technology outsourcing, medical informatics, information technology adoption, Virtual Worlds, and creativity with information technology. She earned a Bachelor of Science from the University of Central Florida in 1999, a Master of Business Administration from the University of Houston in 2002, and a Doctor of Philosophy from Louisiana State University in 2011. She grew up in South Florida and currently resides in Baton Rouge, Louisiana. She is married and has three children.