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Audit Client Satisfaction and Engagement Profitability

by

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To Quoc, my elevator

ABSTRACT

This study examines client satisfaction and engagement profitability for a Big 4 audit firm. I obtain proprietary client data from the firm's national office, including satisfaction survey responses and profitability (realization) rates. I examine the roles of service quality dimensions that are distinguished by the audit firm and its clients. In my models of satisfaction ratings and realization rates, I control for abnormal discretionary accruals, as well as client and engagement characteristics, such as client size, financial performance, industry, and billed hours. I find that audit clients' satisfaction is determined primarily by their perceptions of the audit firm's service customization and responsiveness. Engagement profitability is positively associated clients' with perceptions of communications effectiveness. The assignment of expert audit personnel contributes to engagement profitability, but not to client satisfaction.

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Chapter 1: Introduction

This study investigates the factors that contribute to audit client satisfaction and the profitability of audit engagements. I analyze a proprietary dataset to empirically examine what satisfies audit clients and what makes them profitable to the audit firm. I obtain client satisfaction ratings from a Big 4 audit firm, as well as fees and realization rates from audit and non-audit services, and explore the roles of and service delivery (clients' perceptions of service quality, clients' priority status, assignment of distinguished industry experts), while controlling for client and engagement characteristics and accounting quality (abnormal discretionary accruals).

Prior auditing research emphasizes technical expertise qualities and reports evidence of fee premiums for audit firm size, and local office and individual auditor industry expertise (Fung et al. 2012, Zerni 2012, Reichelt and Wang 2010; Francis and Yu 2009; Balsam et al. 2003; Ferguson et al. 2003; Francis et al. 1999; Becker et al. 1998; Francis and Stokes 1986). While accounting quality and auditor expertise may be valued by financial statement users, client managers and audit committee members, other features of the audit may contribute to client satisfaction and engagement profitability.[1]

The marketing literature suggests that consumers place significant importance on intangible aspects of service delivery. Practitioner-oriented professional services literature suggests that clients perceive superior service experiences more clearly than technical work, and that technical superiority is

[1] An exception is Behn et al. (1997, 1999).

merely a ‘hygiene’ factor that is necessary to avoid losing clients (Maister 1997). What remains unclear is how service attributes are associated with audit client satisfaction and economic returns to the audit firm. In a model of competitive market forces, Porter (1980) argues for the viability of a product differentiation strategy along intangible dimensions that are difficult for competitors to imitate and for customers to substitute. Accordingly, the current study broadens prior auditing literature by examining intangible service delivery process attributes (such as responsiveness, understanding the client’s business and proactively communicating with the client) as additional dimensions of audit quality. By analyzing an audit firm’s service quality commitments to clients, conveyed in its proprietary client satisfaction survey, my study sheds light on what makes clients satisfied with their auditors, and how auditors generate profits on audit engagements.

In addition, whether there is a link between audit client satisfaction and economic returns to the audit firm remains an empirical question. Prior research in other settings suggests that client satisfaction is an important nonfinancial performance measure and is positively associated with financial performance as clients continue their relationship with their service provider into the long-term (Chen 2009, Ittner and Larcker 1998 and Anderson et al. 1997). However, the findings indicate that economic returns diminish at higher levels of customer satisfaction (Ittner and Larcker 1998). Research also reports that the satisfaction-profitability link is contingent upon the nature of the industry (Anderson et al. 1997) and the relative importance or power of various stakeholders (Chen 2009).

In the context of audits, Behn et al. (1999) attribute higher fees to greater client satisfaction with the audit team, but fees are not positively associated with any of the audit quality attributes in their survey. They conjecture that this audit fee premium is attributable to a dimension of service quality that is not documented in the literature. My investigation of service qualities documents a broader set of dimensions that are privately observed in the auditor-client relationships.

As an alternative to measuring economic returns from client engagements through fee levels, I analyze realization rates to more precisely account for audit production costs and profit margins. The realization rate is the amount of fees collected on an engagement, relative to a target fee that is calculated by multiplying hours worked by standard rates (comprised of full costs plus a profit margin) for each grade of labour. Realization rates represent an important metric that accounting firms use to measure engagement profitability. While the extant literature focuses on audit fees, it is possible that larger, riskier, complex clients are more costly to audit (O'Keefe et al. 1994, Simunic 1980), and potentially less profitable to the accounting firm. The realization rate captures the audit firm's achievement of a cost-plus-profit target for an engagement. This rate represents clients' willingness to pay for certain dimensions of audit quality. Furthermore, this measure reflects the accounting firm's ability to realize returns from client engagements by efficiently performing work within budget and/or by negotiating prices. Partners' and managers' performance evaluations are based on a scorecard, and one element in this scorecard is the actual realization rates on their client portfolio. The current study examines engagement realization rates for audit and

total (including allowable non-audit) services to gain a comprehensive perspective on what makes clients profitable to the firm.

The major obstacles to studying client satisfaction are the sensitivity of engagement profitability data and concerns about client confidentiality. The national Canadian office of one Big 4 audit firm provided a client dataset.[2] Included in the dataset are client survey ratings of overall satisfaction with the accounting firm, as well as client perceptions of quality attributes that the firm identified as its standards of professional service. Client survey responses offer perspectives of executives and audit committee members who make decisions on hiring, terminating and compensating auditors. Although the audit firm's survey cannot be reproduced in this paper, examples of the issues raised in client satisfaction surveys from publicly available practitioner resources are included in Appendix A (AICPA, Maister 1997). The audit firm's questionnaire includes service quality dimensions for technical competence, professional competence, communications effectiveness, service customization and responsiveness. The audit firm's ability to differentiate itself from competitors along these intangible service dimensions can generate client satisfaction and engagement profitability.

I also examine service delivery attributes that the firm implements to enhance service quality: clients' priority status and the assignment of expert personnel. The sample is stratified by including two types of publicly-listed clients: those in the accounting firm's "priority" program (which involves

[2] The firm obscured client identities. These measures are detailed in Chapter 3 in the description of the research method.

enhanced service quality and national office monitoring for the firm's most significant accounts), and those representing the firm's "average" clients. The audit firm invests considerable efforts in differentiating service quality for priority clients, including more frequent contact with senior personnel, industry networking opportunities, prompt responsiveness, and other activities to make the client feel important. Examining clients from different tiers parallels the way in which the accounting firm tracks information for relationship management purposes, and also allows me to observe whether the differentiated client service provided by the audit firm is associated with client satisfaction and engagement profitability.

Individual auditors' industry expertise was captured by having the firm indicate whether the audit engagement partner and lead senior manager assigned to the client represent top national industry experts. The audit partner is responsible for managing the client relationship and providing high-level expertise, while the senior manager is responsible for the conduct of fieldwork. Their expertise has the potential to enhance client satisfaction and command a fee premium if their contribution to performing the engagement is valued by clients. Furthermore, these individuals play a role in setting the budgets and pricing that contribute to engagement profitability.

Accounting, client and engagement attributes that are significant in prior audit pricing studies are included in the dataset (see Hay et al. 2006 for a meta-analysis of the extant literature). Abnormal accruals and the presence of income-increasing accruals are included to control for the possibility that clients place

pressure on auditors to allow favourable financial reporting. To measure accounting quality, the accounting firm was provided with a database of discretionary accruals for its clients, which was calculated using the modified Jones' model (Dechow et al. 1995). Client characteristics include client's size (measured by total assets), financial performance and industry. Engagement characteristics include the mix of audit and non-audit services, whether the engagement is new or takes place during busy season, and billable hours.

I perform factor analysis on the client survey responses and identify four dimensions that characterize audit service quality: 1) communication of issues (timeliness and effectiveness); 2) technical and professional competence (quality of audit work); 3) customized service delivery (understanding and tailoring to the client's needs) and 4) responsiveness (promptness and accessibility for inquiries). I then conduct a regression analysis and find that the primary determinants of client satisfaction are clients' perceptions of customized service delivery and responsiveness. Consistent with product differentiation strategies proposed by Porter (1980) and Anderson et al. (1997), satisfaction is driven by intangible qualities that are customized to the client's needs. However, priority status and assignment of expert personnel are not associated with greater satisfaction.

My main analysis employs regression models to analyze the determinants of engagement realization rates. The factors that contribute to engagement profitability are different from those that drive satisfaction. I find that clients' perceptions of communications effectiveness are associated with superior realization rates. In addition, the assignment of a top industry expert senior

manager is associated with higher audit realization rates. Taken together, these results suggest that clients prefer a high contact relationship with the audit firm, in which auditors convey the distinct quality and value of their work. The manager may also enhance profitability by applying expertise to control costs and perform the audit efficiently (Fung et al. 2012, Dopuch et al. 2003). I also find that busy season clients are associated with higher realization rates, indicating that the audit firm offers discounts during periods of excess labour capacity.

My study improves our understanding of factors affecting client satisfaction and engagement profitability. I extend prior research by investigating not only the accounting, client and engagement characteristics that are linked to audit quality, but also the client service aspect that audit firms invest in to generate and maintain profitable client relationships. My results suggest that the audit firm competitively positions itself to generate profits by seeking to satisfy clients through service delivery activities. By studying the linkage between client satisfaction survey responses and realization rates, I provide insight into the role that client relationship management plays in the profitability of professional service firms.

In the next chapter, I discuss the accounting literature on audit markets and quality, and I develop my hypotheses. In Chapter 3, I describe the sample and define the variables included in my analyses. Chapter 4 reports on the determinants of client satisfaction. Chapter 5 examines the determinants of engagement profitability. I provide concluding remarks in Chapter 6.

Chapter 2: Literature Review and Hypothesis Development

2.1 Quality distinction in the market for audits

The conduct of audits is enforced by professional accounting bodies, oversight boards, and stock exchange listing requirements. This standard of audit quality is enforced by sanctions, litigation and damages to reputation when audit firms fail to comply with requirements. Empirical findings suggest that quality distinctions can be made among audits through observable outcomes (e.g., Francis 2011 proposes a framework for audit quality research). The outcomes of the audit can be observed through the auditor's report and the client's financial statements. Audit quality has been represented using numerous constructs: auditors' propensity to issue qualified opinions (e.g., Butler et al. 2004; Craswell et al. 2002) or going concern opinions (e.g., DeFond et al. 2002; Li 2009); auditor litigation (e.g., Palmrose 1988; Lys and Watts 1994); financial statement restatements (e.g., Kinney et al. 2004; Palmrose and Scholz 2004); and accounting (or earnings) quality (e.g., see Francis 2011 for a comprehensive review).

Examining accounting quality to learn about audit quality acknowledges the auditor's accountability to the ultimate audit consumers, the users of financial statements, whose interests lie in the quality of financial reporting. Prior research on audit markets has studied how differentiation among firms contributes to fee premiums and accounting quality, with audit firms, local offices, and individual partners as units of analysis. Auditing researchers have examined the effect of audit firm and office size (Francis and Yu 2009, Reynolds and Francis 2001,

Becker et al. 1998) and industry specialist expertise (Fung et al. 2012, Reichelt and Wang 2010, Balsam et al. 2003, Ferguson et al. 2003) on audit fees and discretionary accruals. The main finding of these studies is that larger offices of Big 4 firms, and local offices that are industry leaders, are better able to constrain clients' opportunistic use of discretion over accruals and earn higher fees, and thus differentiate themselves from competitors through higher quality audits (Francis 2011).

Studies of audit fees center on the influence of accounting quality, and client and engagement characteristics. A number of studies test the association between audit fees and accounting quality (using abnormal discretionary accruals as a proxy) (Ashbaugh et al 2003; Chung and Kallapur 2003; Gul et al. 2003; Frankel et al. 2002); though findings are mixed, the posited association between fees and accruals is based on the premise that clients place economic pressure on auditors to allow more favourable financial reporting. The literature reports robust findings for associations between audit pricing and indicators of client size, risk and complexity (Schelleman and Knechel 2010, Knechel et al. 2009, Hay et al. 2006, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994, DeAngelo 1981, Simunic 1980). These studies also report the significance of engagement attributes, including the mix of audit and non-audit services, the timing of the audit during busy or low seasons, and whether the client is new to the audit firm. In addition, client and engagement characteristics have been linked to accounting quality (Lawrence et al. 2011, Kinney et al. 2004). It is important to account for the influence of these factors on audit fee premiums, since audit firms

can generate profits not only by commanding a premium from delivering qualities that clients want from audits, but also by controlling the costs of producing audits.

While prior research has focused on audit attributes that financial statement users and other external stakeholders can observe to appraise audit quality, the conduct of an audit also involves intangible service dimensions in the performance of audit work. Auditors not only produce a report accompanying the financial statements, but also deliver a service that is directly experienced by the audit consumers internal to the auditor-client relationship, namely the managers and audit committee members who hire, fire, evaluate and compensate the audit firm. Audit service delivery relates to the process of performing audit work, such as being responsive and accessible regarding client inquiries, demonstrating an understanding of the client's business, and proactively communicating with the client. The impact of privately observable service features is important because they shape the auditor-client relationship, and they are distinct from one engagement to another. The publicly observable audit attributes are essential to clients and audit firms because financial reporting failures are costly, but it is less clear whether and how clients value superior service quality.

Service quality relates to consumers' perceptions of how the service met their expectations (Anderson et al. 1994; Parasuraman et al. 1991). According to conceptual frameworks of customer satisfaction in the marketing literature, service quality is a distinct construct from satisfaction: quality of the service is the consumer's appraisal of a particular transaction, while a satisfaction with the service is a more holistic assessment of the consumer's service experience,

including perceived value, as well as past, current and future consumption (Bahia et al. 2000; Anderson et al. 1994). Consumer research identifies five dimensions of service quality in the widely used SERVQUAL scale: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman et al. 1991).[3] Consumers rank the following three dimensions as most important to evaluating service quality (p. 449): (1) reliability (the provider's service is dependable and accurate); (2) responsiveness (the provider is willing to help and is prompt); and (3) assurance (the provider's knowledge conveys trust and confidence). In the context of audit markets, the importance of service quality attributes is evident in the sample client feedback surveys in Appendix A. In a survey of controllers, Behn et al. (1999) report a client satisfaction fee premium, which the authors attribute to enhanced service features that were not captured in their questionnaire. Service quality is also central to the audit firm's management of client relationships; Big 4 audit firms, including the one that participated in this study, invest in resources at the head-office level to monitor top-tier clients.[4]

A broader notion of audit quality, which includes service dimensions, can provide insight into the economic forces at work in audit markets because, according to Porter's (1980) model, firms strengthen their competitive position by differentiating their products from competitors'. Porter (1980) argues that the firm can defend against competitive forces if it establishes differentiable qualities that

[3] The audit firm's questionnaire incorporates dimensions of quality that align with those presented by Parasuraman et al. (1991), except for the tangibles dimension, which relates to physical appearances of facilities and staff. I analyze the audit firm's questionnaire in Chapter 4.
[4] I describe the participating firm's monitoring of "priority" clients in section 2.3 on the audit firm's perspective on service quality.

clients can perceive and associate with the product or brand and that are difficult for competitors to replicate. Anderson et al. (1997) present a customer satisfaction model with two dimensions of product quality: (1) standardization quality that is free from errors, and (2) customization quality that meets customers' needs. They posit that customization qualities are most important to client satisfaction and firm profitability in service industries. Fung et al. (2012) and Mayhew and Wilkins (2003) report evidence that successful expertise differentiation can strengthen the auditor's bargaining power to achieve greater returns on engagements. Differentiation through service qualities represents a potentially viable strategy for the audit firm to achieve client satisfaction and engagement profitability.

2.2 Service delivery: Clients' perspectives

One way that audit firms may implement Porter's (1980) product differentiation strategy is by setting distinctive standards for service quality, conveying them to clients, and soliciting feedback from the client to learn how they perceived the firm's performance. The participating audit firm's client satisfaction questionnaire reflects clients' perceptions for the following service quality dimensions, which can be compared to four of Parasuraman's (1991) SERVQUAL factors (in parentheses): 1) *professional competence*, giving the client a sense of assurance in the work performed (assurance); 2) *technical competence*, bringing expert knowledge to bear on the audit work (assurance); 3) *communications*, keeping the client informed of audit work and issues (reliability); 4) *customized service delivery*, intimately knowing and tailoring the

service delivery to the client's specific needs (empathy); and 5) *responsiveness*, being accessible for clients' queries and responding quickly (responsiveness).

The role of service quality is not well understood in the academic literature on audit markets. A collection of auditing studies examines survey responses from controllers and identifies twelve attributes that reflect audit quality with respect to (1) fulfillment of professional auditing standards; (2) technical expertise and competence; and (3) service delivery (Behn et al. 1999; Behn et al. 1997; Carcello et al. 1992). The reported results suggest that the expertise and service components of quality are associated with client satisfaction, which, in turn, is associated with audit fees.[5] Practitioner-oriented books and articles on professional services are mainly focused on delivery of service quality (e.g. communication, responsiveness, and making the client feel important) as the primary factors leading to higher fees and profits, with little discussion of technical quality (e.g., Boress 2007; Dunn and Baker 2003; Maister 1997). Maister (1997) posits that the quality of the service delivery experience is more visible to clients than the technical superiority of work, and he suggests that clients value process more than content. This emphasis on intangible service delivery is evident in the sample client satisfaction survey in Appendix B.

Since service quality is a function of both the clients' expectations and the audit firm's performance (Bahia et al. 2000, Anderson et al. 1994), clients' perceptions will vary from one engagement to another; competitors will not be

[5] In the current study, the accounting firm's survey does not include any questions on auditor performance relative to professional standards.

able to observe or replicate this service performance. If clients perceive that the audit firm has provided high quality on service dimensions, then the audit firm will be distinct from competitors, and clients will not be able to find substitutes for this level of service in the audit market. These features comprise a successful competitive strategy in accordance with Porter's (1980) model and enhance the bargaining power of the audit firm relative to the client. Thus, providing superior quality on the service attributes may position the audit firm to achieve greater client satisfaction and negotiate higher returns on client engagements.

2.3 Service delivery: Audit firm's perspective

The audit firm invests in managing client relationships through various intangible service delivery efforts. I extend the academic literature by examining the role of two audit firm activities that are intended to enhance service delivery: 1) granting priority status to a distinguished tier of clients (based on client importance to the firm); and 2) assigning the firm's best industry experts to the client engagement.

One aspect of the audit firm's service delivery is a program that involves identifying clients that are important to the firm, based on revenues and market development strategies, and making commitments to these clients for enhanced service quality. These clients are considered to be in the top tier of the audit firm's portfolio, and the national office has identified them as key client relationships. The audit firm aims to make clients with this status feel important by offering higher quality service, including greater accessibility to senior personnel, more frequent contact and communications, industry networking opportunities and

faster responsiveness. The national office monitors service levels for priority clients by conducting annual client satisfaction surveys to solicit feedback.[6]

Audit client satisfaction and engagement profitability may be impacted by the intangible service activities that are privately experienced by priority clients. If clients perceive and value the feeling of being important to the audit firm, they may assign higher satisfaction scores and be more willing to pay fee premiums. At the same time, priority clients may have higher service expectations, which can negatively influence consumer satisfaction (Anderson et al. 1994). Furthermore, priority clients may be more costly to serve than other clients because of the resources that the audit firm has committed to delivery higher quality service. These clients also have greater bargaining power because of their economic importance to the audit firm, potentially enabling them to negotiate fee reductions (Fung et al. 2012, Porter 1980).

Another aspect of the audit firm's service delivery is its selection of personnel assigned to client engagements. Prior research provides evidence that audit firms can adopt a differentiation strategy of developing expertise through industry specializations. Using industry market leadership and concentration as proxies for specialized expertise, the literature attributes audit fee premiums to the audit firm's local city expertise in the United States (Fung et al. 2012, Reichelt and Wang 2010) and to individual audit partners in Sweden (Zerni 2012). I extend the literature by investigating the audit firm's assignment of individual audit engagement partners and senior managers who have been identified by the audit

[6] I describe the client satisfaction survey in section 3.2 on research method.

firm as its most distinguished industry experts. The assignment of an industry expert as the lead engagement partner or the lead senior manager is a substantial commitment of the audit firm's resources to provide a high level of client service, and this gesture represents a service delivery quality that is privately observed by the client. In Canada, the audit firm signs the auditor's report, such that only the auditor and client know which individual personnel are assigned to the audit engagement. I examine the roles of both the engagement partner and the senior manager because they may differ in their impact client satisfaction and engagement profitability. Expert audit partners provide very senior technical resources and also have relationship management responsibilities (i.e., they have interests in the audit firm's client portfolio), while expert senior managers engage in more contact with the client and have responsibilities for fieldwork conduct.

Personnel assignment could strengthen the audit firm's competitive position, as substitutes for individuals' highly specialized expert knowledge would be difficult for clients to locate at other audit firms (Porter 1980). At the same time, it is possible that technical expertise is only important to clients up to a certain level where audits are performed free from deficiencies, and any audit firm efforts to deliver superior expertise quality may go unnoticed.[7] Clients' technical requirements only entail auditor competence (Maister 1997). In this sense, technical expertise quality may represent standardization quality, which plays a lesser role in customer satisfaction in service industries (Anderson et al. 1997). Technical expertise can be difficult for clients to distinguish among Big 4

[7] At the same time, severe consequences of auditors' errors would be visible signals of quality failures.

audit firms (Fiolleau et al. 2012), and may be especially difficult to distinguish within one firm. Even though audit firms make significant investments in developing specialized technical resources, these qualities may not sufficiently differentiate the firm from competitors in the market for audit services. However, audit personnel have the potential to contribute to engagement profitability not only by negotiating fee premiums but also by drawing upon expertise to conduct the audit more efficiently (Fung et al. 2012, Mayhew and Wilkins 2003).

2.4 Generating engagement profitability through service delivery

The accounting literature cited above reports evidence of differing fee levels for distinguishable quality among audit firms. However, if higher fees are driven by size, risk and complexity attributes of audit clients, then it is essential to account for the costs of performing the audit that are impacted by these client characteristics (O'Keefe et al. 1994; Francis and Stokes 1986; Simunic 1980). Furthermore, the investment in service activities to retain and develop long-term relationships with satisfied customers can be costly (Anderson et al. 1994). Hence, I study the realization rate as an important factor that contributes to engagement profitability and reflects economic returns to the audit firm.[8]

Engagement realization rates reflect the firm's ability to achieve cost-plus-profit targets from a particular client. Since audit firms are profit-seeking enterprises, partners and managers in the participating Big-4 firm are evaluated on their ability to realize returns on engagements by controlling production costs and

[8] Other ways to enhance profitability include managing engagement team composition, effective budgeting, and setting fee levels.

by negotiating prices. By taking into account production costs in performing the engagement, the realization rate offers a more comprehensive perspective on profitability than fees. Realization rates and profit margins have been studied as indicators of audit production efficiency in prior research (Schelleman and Knechel 2010; Dopuch et al. 2003; Simunic and Stein 1996; O'Keefe et al. 1994). Hackenbrack and Hogan (2005) take a different approach to the construct, positing that low realization rates reflect friction in the auditor-client relationship, which interferes with the auditor's ability to realize a fair rate of return on an engagement.

According to the economics literature, in order to sustain profits and defend against buyers with significant bargaining power (i.e., those who can place economic pressure on the firm by negotiating fee discounts or by switching to alternative providers with similar products), firms must differentiate their products and solidify customer relationships (Porter 1980). This imperative motivates audit firms' client feedback programs, including the firm in this study; gathering feedback after performing the audit initiates a conversation where the client reveals its service quality expectations, so that the audit firm can more precisely convey the value of its work. Such a strategy can strengthen the firm's bargaining power vis-à-vis its clients by establishing high switching costs if clients perceive and value intangible service qualities (Anderson et al. 1997; Porter 1980).

While it is essential (for both the audit firm and the client) that the audit is performed in a way that upholds accounting quality and addresses the client's

size, risk and complexity characteristics, these audit attributes focus on the demands of financial statement users. I examine how clients (i.e., managers and audit committee members) value other, privately experienced service attributes that differentiate the audit firm from competitors, which will be reflected in higher client satisfaction and greater economic returns to the audit firm. Prior studies report that audit firms can achieve differentiation and generate fee premiums through industry specialization (Fung et al. 2012, Zerni et al. 2012, Mayhew and Wilkins 2003). Anderson et al. (1997) provide evidence that satisfaction in service industries depends heavily on customization qualities (meeting the customer's needs). Chen (2009) reports that client satisfaction with customer service, rather than satisfaction with value, is positively associated with future revenues. Maister (1997) also posits that the service experience is main driver of profits. While I expect service quality to contribute to client satisfaction and engagement profitability, there remains the possibility that auditors' service efforts are superfluous to the engagement and not perceived or valued by clients. If clients adopt the view that the audit is a compliance exercise to satisfy capital market demand for audits, then the auditor would only be able to differentiate on fees and not on service quality attributes.

Service delivery attributes may influence audit client satisfaction in a different manner than they contribute to engagement profitability. Anderson et al. (1994) report that higher satisfaction increases customer loyalty and willingness to pay premiums to the firm, leading to a higher return on investment for the firm that increases at a diminishing rate. In a study examining customer satisfaction as

a nonfinancial performance measure that predicts future revenues, Ittner and Larcker (1998) report that the association between these measures is nonlinear, such that increases in economic returns occur at certain satisfaction thresholds and these increases diminish at high levels of satisfaction. In an auditing setting, Behn et al. (1999) document a positive association between audit fees and client satisfaction with the audit team, but they find that the audit attributes that contribute to satisfaction are not associated with fee premiums.

The above discussion leads to the following hypotheses:

H1: Controlling for client and engagement characteristics and accounting quality, service delivery attributes are positively and significantly associated with audit client satisfaction ratings.

H2: Controlling for client and engagement characteristics and accounting quality, service delivery attributes are positively and significantly associated with engagement realization rates.

In Figure 1, I summarize the hypothesized relationships among audit attributes, client satisfaction and engagement profitability. Prior research tests the relationship between audit characteristics and engagement profitability (link 1) with an emphasis on audit fees and publicly observable factors that reflect audit demands of financial statement users (link 2). While these demands must be addressed by the audit to ensure financial reporting quality, it is not clear how these factors differentiate the firm and contribute to client satisfaction (link 3). Privately observable service delivery characteristics (priority status, expert

personnel and service quality dimensions) have greater potential to differentiate the audit firm from competitors and enhance client satisfaction (link 3 and H1). The audit firm has greater bargaining power vis-à-vis satisfied clients who may be willing to pay fee premiums to the audit firm (link 4). Since higher engagement profitability (realization rates) is achieved through a combination of fee premiums and cost control, service attributes may contribute to engagement profitability differently from the way they influence client satisfaction (link 5).

Chapter 3: Research Method

3.1 Research Site

A Big 4 audit firm participated in the study. Personnel from the Canadian national office provided client data from its records. The current study focuses on the audit firm's public clients that are listed on the Toronto Stock Exchange. The national office has a client relationship management program that involves assigning distinguished status for a subset of clients that represent the audit firm's largest accounts in terms of total service fees, which includes both public and private clients. For the purposes of the current study, I label these accounts as priority clients. The audit firm conducts feedback surveys annually for priority clients. These surveys are also conducted periodically for all other public and private audit clients, but on a less frequent basis. Refer to Appendix A for a list of requested data.

3.2 Client Satisfaction Survey

The firm employed a marketing research consultant to develop the satisfaction survey. The service quality attributes in the questionnaire were identified by consulting the firm's clients and professionals. These attributes include professional competence, technical competence, communications, customization and responsiveness. The questionnaire collects ratings on these service dimensions and an overall rating of the client's satisfaction with the accounting firm.[9] Ratings assess the professional services received as a whole; thus, if audit clients received significant tax and non-audit services, their evaluations would reflect their satisfaction with the entire service package.

Client representatives, including CEOs, CFOs, other management personnel and audit committee members, respond to the questionnaire. The national office, rather than the engagement team, is responsible for administering the survey after the year-end engagement is completed. The audit firm provided satisfaction ratings from its most recent client surveys at the time of data collection in 2010.

3.3 Data Collection

The national office of the audit firm provided client satisfaction and financial data on a sample of 70 publicly-listed audit clients without revealing their identities. All financial figures in the dataset are multiplied by a constant number known only to the audit firm to further mask client identities. The sample includes 35 observations from audit clients on the firm's list of priority accounts

[9] The audit firm's questionnaire is not included here due to confidentiality. Refer to Appendix A for examples of client satisfaction surveys from publicly available sources.

(i.e. the largest accounts, which are specially monitored by a national office unit) and 35 observations from the remainder of its portfolio of clients. The priority clients were selected first, and then a sample of non-priority clients (in the same year and industry) was selected to stratify the sample of audit clients. The observation years range from 2007 to 2010. Six priority clients in the sample are repeated in different years. Three observations had missing values in their financial data; thus, the final sample for the regression analysis in Chapters 4 and 5 is made up of 67 observations.

Chapter 4: Client Satisfaction: What Do Clients Want from Their Audit Firm?

In this chapter, I test H1 and examine how service delivery qualities contribute to client satisfaction with their audit firm. The client relationship management efforts described in Chapter 3 (i.e., monitoring priority status clients and soliciting feedback through satisfaction surveys) indicate that audit firms devote considerable resources to providing high levels of service quality in order to achieve client satisfaction. I broaden the notion of audit quality by studying these intangible service qualities that are only observable to those internal to the auditor-client relationship. Thus, service delivery is a potentially successful differentiation strategy that is difficult for competitors to replicate (Porter 1980), and service delivery may generate client satisfaction with audit firm. I control for client and engagement characteristics that have been associated with audit pricing and may reflect client demands. The dependent variable of interest in this analysis

is audit clients' satisfaction ratings of the audit firm. For a list and summary of all variable definitions, refer to Table 1.

4.1 Factor Analysis of Service Quality Attributes

I conducted a maximum likelihood factor analysis (Everitt 2004) of the clients' survey responses to investigate the structure underlying these multiple attributes of service quality. The participating audit firm provided responses from 70 client satisfaction surveys. Clients gave ratings for five service quality dimensions that are listed in categories in the firm's satisfaction questionnaire: 1) professional competence, 2) technical competence, 3) communications, 4) customized service delivery, and 5) responsiveness. The questionnaire includes 23 individual items that are organized under these categories, and respondents provide a rating of their agreement with these items. I performed the factor analysis on the 23 items with oblique (promax) rotation, which allowed the factors to be correlated. My analysis distinguished the service quality constructs that demonstrated common response patterns. The results are presented in Table 3.

Four factors emerged from the analysis to characterize client perceptions of service quality. Three factors have eigenvalues greater than 1, and a fourth factor has an eigenvalue close to 1. Together, these factors explain 90.92% of the variance. I label these four factors: 1) communication (*COMM*); 2) technical and professional competence (*TECH*); 3) customized service delivery (*CUSTOM*); and 4) responsiveness (*RESPONSE*). Overall, the factor analysis validates the firm's service quality constructs because most of individual questionnaire items

load on the relevant category. The analysis identifies the following exceptions: the technical competence and professional competence categories are combined into one factor; also, survey items 1.3, 5.6 and 1.2 (which all relate to informing and communicating with the client) appear to be miscategorized in the questionnaire because they load on the factor for communication (*COMM*) instead of the category under which they are placed in the audit firm's survey.

The four service delivery dimensions from the factor analysis of the audit firm's survey map closely to four of the five service quality attributes presented in the SERVQUAL model by Parasuraman et al. (1991), which has been applied and validated extensively in the marketing literature. The audit firm's survey presents questionnaire items that differ from the SERVQUAL instrument, and it does not include any items that relate to the SERVQUAL dimension of *tangibles* (i.e., the appearance of staff and physical facilities); however, the robust research findings make the SERVQUAL instrument a relevant benchmark for comparison. Factor 1 for communication (*COMM*) assesses the timeliness and effectiveness of the audit firm's communications with the client on engagement-related issues, which parallels the dimension of *reliability* in the SERVQUAL model. Technical and professional competence Factor 2 (*TECH*) relates to the SERVQUAL dimension of *assurance*, as it demonstrated high loadings for items that represent the quality of work performed by the audit firm. Customized service delivery Factor 3 (*CUSTOM*) reflects items that demonstrate tailoring services to the client's needs and understanding the client's business, and it is similar to the *empathy* dimension in the SERVQUAL model. Factor 4 for responsiveness (*RESPONSE*) evaluates

the firm's promptness and accessibility for client inquiries, congruent with *responsiveness* in the SERVQUAL model. I calculate factor scores for *COMM, TECH, CUSTOM* and *RESPONSE* for each observation to investigate the association between these audit service delivery dimensions and client satisfaction.[10]

4.2 Research Design

i) Dependent Variable

Client Satisfaction Rating

The client's rating captures the respondent's (CEO's, CFO's, other management personnel's or audit committee members') overall satisfaction with the audit firm. This rating is measured in the audit firm's client satisfaction survey questionnaire. I create a dichotomous variable to measure overall client satisfaction because, based on discussions with the participating firm, the client ratings are skewed towards high values and exhibit a bimodal distribution. I corroborated this distribution with the descriptive statistics for *SAT* in Table 4 Panel A and the graph in Panel B. I transformed the firm's ratings scale to have a minimum of 0 and a maximum of 1 in order to obscure the firm's identity and proprietary questionnaire. The median satisfaction rating is 0.9, the lowest rating is 0.4, and the highest (and most frequently observed) rating is 1. The

[10] To investigate whether my four client service factors are associated with the other independent or control variables in my study, I regressed the factor scores for *COMM, TECH, CUSTOM* and *RESPONSE* as dependent variables. None of the test variables were associated with these four service quality factors, with the exception of a positive and significant association between priority status (*PRIORITY*) and the communications factor (*COMM*). All of the regression models had low predictive power (low coefficient of determination for each of the models).

dichotomous variable *TOPSAT* is coded one if the overall satisfaction rating is above the median and zero if it is below the median. 34 observations have a value of 1 for *TOPSAT*.

ii) Test Variables – Service Delivery

Service Quality Variables from Audit Firm Survey Questionnaire

I include the factor scores for each observation from the analysis in section 4.1: communications (*COMM*), technical and professional competence (*TECH*), *customization* (*CUSTOM*) and responsiveness (*RESPONSE*). These four variables measure the audit clients' perceptions of service quality based on respondents' direct experience with the audit firm. These service quality attributes are potentially valuable dimensions of audit quality that could demonstrate service customization and differentiate the audit firm from competitors, and they can only be observed and evaluated by the client. Thus, delivering high quality service on these dimensions may be a successful competitive strategy (Porter 1980). In accordance with H1, I expect these variables to be positively and significantly associated with client satisfaction.

Priority Status

This variable captures the accounting firm's service commitments to the client: *PRIORITY* is coded one if the firm considers the client a priority account. As described in section 3.1, the audit firm manages the client relationship through a dedicated national office program to monitor service levels. Priority status

reflects the firm's deliberate efforts to offer its highest standard of service for the top tier of clients. A key feature of this client relationship management program is more frequent contact between the auditor and the client, which could give auditors the opportunity to better ascertain the clients' specific needs and perform service delivery activities that are only observable to those within the auditor-client relationship. Assigning priority status to clients is a differentiation strategy that would be difficult for competitors to imitate (Porter 1980). I thus expect *PRIORITY* to be positively and significantly associated with audit client satisfaction, in accordance with H1. Table 2 reports that 33 observations in the sample have priority status.

Assignment of Industry Expert Personnel

Individual auditor industry expertise is measured at the audit partner and senior manager level. Prior audit quality and audit pricing literature has noted the importance of studying industry specialist expertise at the local office level (Fung et al. 2012, Reichelt and Wang 2010) and the individual partner level (Zerni 2012). In the current study, the industry expertise of the partner and senior manager are assessed separately because their assignment to the audit engagement could vary in their impact on client satisfaction. Expert audit partners provide very senior technical resources and also have relationship management responsibilities (i.e., they have interests in the audit firm's client portfolio), while expert senior managers have more contact with the client and have responsibilities for fieldwork conduct.

If the client perceives and values that the firm has assigned an individual whom the firm recognizes as a leading industry expert, then they will likely be highly satisfied with the audit firm. Furthermore, if these experts possess unique industry knowledge and experience, then it would be difficult for the client to find substitutes in the audit market and it would strengthen the competitive position of the audit firm (Porter 1980). The roles of the lead audit partner and lead senior manager both entail important aspects of audit service delivery, and I expect them to be positively and significantly associated with client satisfaction in accordance with H1.

The definitions of auditor industry expertise were developed in collaboration with the participating audit firm. For each observation, one partner from the firm's national office identified the lead audit partner and lead senior manager as top national industry experts. Figure 2 summarizes the criteria for assigning auditors to levels of expertise. *TOPPARTNER* is coded one if the partner has practiced in the industry for longer than ten years, has a client portfolio comprised of greater than 75 percent from the industry, participates in internal and external industry-specific networks, contributes to thought leadership in the industry, and is a lead for a priority account in the industry. *TOPMANAGER* is coded one if the senior manager has practiced in the industry for longer than five years, has a client portfolio comprised of greater than 50 percent from the industry, participates in internal industry-specific networks and contributes to thought leadership in the industry. Table 2, reports that 27

observations (40 percent) are assigned top expert partners, and 31 observations (47 percent) are assigned top expert senior managers.

Figure 2: Assignment of Auditor Industry Expertise Levels

Indicator of Expertise	Top Manager	Top Partner
Years of practice in industry	> 5 years	> 10 years
% of client portfolio represented by industry	50%	75%
Participates in internal industry-specific networks	Yes	Yes
Participates in external industry-specific networks	Maybe	Yes
Contributes to thought leadership in industry	Yes	Yes
Leads a priority account in industry	No	Yes

iii) Control Variables

Accounting quality

Abnormal discretionary accruals (*DACC*) represent the auditor's ability to constrain the client's opportunistic use of discretion over accruals. This proxy for accounting quality implies that auditors perform high quality audits when they successfully withstand such client pressure and produce better quality financial reporting (Francis 2011). A small magnitude of abnormal accruals suggests little deviation from accrual behaviour at peer companies in the same industry and year (DeChow et al. 1995). Large magnitudes of abnormal accruals, as well as the incidence of income-increasing accruals, are potential indicators of violations of Generally Accepted Accounting Principles and are associated with accounting investigations by securities regulators (DeChow et al. 1996). While clients would likely prefer to avoid such sanctions and seek credibility from their auditors (Francis et al. 1999), clients may also be more satisfied when an auditor does not constrain management's discretion over accruals, because companies appear to

manage earnings so that they can avoid losses and decreases in income (Burgstahler and Dichev 1997). The association between audit fees and quality has been tested in prior research (Ashbaugh et al 2003; Chung and Kallapur 2003; Gul et al. 2003; Frankel et al. 2002); therefore, it is important to control for the auditor's role in producing accounting quality. Because of mixed findings reported in these studies, it is not clear how audit clients perceive or assess accounting quality and whether it influences satisfaction.

The participating accounting firm was provided with a database of total and abnormal accruals for all of its publicly-listed audit clients using data from Compustat annual, enabling the firm to search for the clients in its sample and input the relevant accruals values from the database. For observations selected by the firm that do not have accruals amounts in this database[11], the accounting firm was provided with a spreadsheet with expected accruals coefficients by industry and year to enable them to input financial statement data and then input the accruals values into the dataset.

Following Dechow et al. (1995), I estimate abnormal discretionary accruals using Equation (3) [i.e., Total Accruals in Equation (1) less Expected Total Accruals in Equation (2)] based on the modified Jones (1991) model:[12]

Total Accruals: $$TA_{it} = \beta_0(1/A_{it-1}) + \beta_1 \Delta REV_{it} + \beta_2 PPE_{it} + e_{it} \qquad (1)$$

where:

[11] The Compustat database may omit entries due to missing values or input errors.
[12] I estimated expected accruals coefficients by industry (two-digit SIC code) and year, and I required at least 10 observations in each industry and year. I truncated the top and bottom percent of the distribution of all variables.

TA_{it} = total accruals minus operating cash flow for company *i* for year *t* divided by total assets (AT) at the end of year *t*-1

A_{it-1} = total assets for company *i* at the end of year *t*-1

ΔREV_{it} = change in revenue from prior year for company *i* for year *t* divided by total assets at the end of year *t*-1

PPE_{it} = gross PP&E for company *i* at the end of year *t* divided by total assets at the end of year *t*-1

e_{it} = error term assumed to have normal OLS regression properties

Expected Total Accruals:

$$ETA_{it} = \hat{\beta}_0 (1/A_{it-1}) + \hat{\beta}_1 (\Delta REV_{it} - \Delta REC_{it}) + \hat{\beta}_2 \frac{PPE_{it}}{} \quad (2)$$

where:

$\hat{\beta}_0$ to $\hat{\beta}_2$ = estimated coefficients from Equation (1)

ETA_{it} = expected total accruals for company *i* in year *t*

ΔREC_{it} = change in accounts receivable from prior year for company *i* in year *t*

Abnormal Discretionary Accruals:

$$DACC_{it} = TA_{it} - ETA_{it} \quad (3)$$

DACC measures abnormal discretionary accruals for the client in the financial statements for the fiscal year ending prior to the client satisfaction survey. Since I am interested in income increasing accruals, I use the signed value of abnormal accruals in developing my models. Table 4 indicates, on average, a low value of abnormal accruals (mean = 0.115, median = 0.009). I also include a dummy variable *INCDACC* to indicate whether discretionary accruals increased the client's income. Table 2 reports that 36 (53.73 percent) have income increasing accruals.

Client Characteristics

I control for client characteristics, consistent with prior studies that identify client size, risk and complexity as determinants of audit fee premiums

(Causholli et al. 2010, Schelleman and Knechel 2010, Knechel et al. 2009, Hay et al. 2006, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994, Simunic 1980). The auditing literature also reports that client characteristics are a key determinant of accounting quality (Lawrence et al. 2011; Kinney et al. 2004). I do not develop expectations of how these variables will relate to client satisfaction, but I include them as control variables in my model. *ASSET* is the client's size, measured by total assets at fiscal year-end prior to the survey date; the audit firm protected clients' identities by applying a multiplier to this figure. *LOSS* represents the client's financial performance, indicating whether the client reported a loss (coded one) in the fiscal year prior to the survey date. In the sample, 23 observations (34 percent) recorded a loss. *INDUSTRY* is a dummy variable based on the one-digit SIC code for each industry in the sample of clients. Table 2 describes the industries and the distribution of the observations in these industries. For the analysis, *INDUSTRY7* and *INDUSTRY8* were aggregated because both classifications represent service industries and few observations were categorized under SIC code 8. In the regression models, the comparison industry is *INDUSTRY1*.

Engagement Characteristics

Audit engagement characteristics are included as control variables because prior research reports their association with accounting quality (Kinney et al. 2004) and audit pricing (Causholli et al. 2010, Schelleman and Knechel 2010, Knechel et al. 2009, Hay et al. 2006, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994, Simunic 1980). Service mix of all professional services is

indicated by *NASPERCENT*, which quantifies the percentage of revenues from the client attributable to tax and other allowable non-audit services. Non-audit service (NAS) fees are primarily from the audit firm's provision of tax services, and Table 4 indicates that NAS ranges from 4% to 87% in the sample.

NEW indicates whether the client is new to the audit firm; a client may be have a high level of satisfaction with a new audit firm if it switched because of dissatisfaction with a previous auditor. *NEW* is coded one if the audit firm acquired the client within two years of the client's fiscal year-end prior to the survey date. Table 2 reports that a small number (6) of clients in the sample are new to the audit firm.

HOURS equals the number of hours recorded for all personnel assigned to the audit engagement relating to the client's fiscal year-end prior to the survey date. There is a wide range of audit hours observed in the sample (minimum = 243, maximum = 24,476) as reported in Table 2, which is the result of stratifying the sample by including large priority clients and "average" clients. Since audit hours are strongly correlated with client size (Spearman correlation = 0.653), I estimate a separate model that excludes *ASSET* and includes *HOURS* as a control variable.

4.3 Tests of Hypotheses

i) Correlation Analysis

Table 5 reports correlation analysis (Spearman correlation coefficients). Consistent with H1, which predicts that service quality is associated with client

satisfaction, the correlation analysis indicates that the dummy variable for top client satisfaction (*TOPSAT*) is positively correlated with all four service quality factors, *COMM* (0.666), *TECH* (0.640), *CUSTOM* (0.740) and *RESPONSE* (0.507). Counter to H1, priority status and top expert partner assignment are negatively correlated with client satisfaction, but these relationships are not significant. Top expert manager assignment is positively, but not significantly, correlated with client satisfaction. None of the control variables for accounting quality, client and engagement characteristics are significantly correlated with client satisfaction.

These results partially support H1, and they suggest that clients' perceptions of service quality drive the likelihood of assigning top satisfaction scores. However, the audit firm's service activities (designating priority status and assigning top expert personnel) do not appear to generate client satisfaction.

ii) Logistic Regression Model: Client Satisfaction

I estimate a logistic regression model to investigate the determinants of client satisfaction. The dichotomous dependent variable for client satisfaction, *TOPSAT*, bisected at the median rating, is regressed on service quality dimensions and control variables for accounting quality, client attributes and engagement attributes that may be associated with satisfaction or quality based on prior studies on audit pricing (e.g., Hay et al. 2006, Simunic 1980).

Model 1: Client Satisfaction

$$TOPSAT = b_0 + b_1COMM + b_2TECH + b_3CUSTOM + b_4RESPONSE$$

$$+ b_5 PRIORITY + b_6 TOPPARTNER + b_7 TOPMANAGER + b8DACC + b_9 INCDACC + b_{10} NASPERCENT + b_{11} LOSS + b_{12} NEW + b_{13} LNASSET + b_{14\text{-}19} INDUSTRY_{2\text{-}7} + e$$

where:

LNASSET	=	the natural log of total assets at fiscal year-end prior to the survey date
COMM	=	factor score for communications quality attributes
CUSTOM	=	factor score for customized service delivery quality attributes
DACC	=	signed value of abnormal discretionary accruals
INCDACC	=	1 if discretionary accruals are income increasing, and 0 otherwise
INDUSTRY1-INDUSTRY8	=	client's industry based on one-digit SIC codes
LOSS	=	1 if the client recorded a loss, and 0 otherwise
NASPERCENT	=	percentage of total revenues from the client attributable to tax and other non-audit services
NEW	=	1 if the audit firm acquired the audit engagement within two (2) years of the client's fiscal year-end prior to the survey date
PRIORITY	=	1 if the client is a priority account specifically monitored by a national office program, and 0 otherwise
RESPONSE	=	factor score for responsiveness quality attributes
TECH	=	factor score for technical and professional competence quality attributes
TOPMANAGER	=	1 if the lead audit senior manager is designated a top national expert: has practiced in the industry for longer than five years, has a client portfolio comprised of greater than 50 percent from the industry, participates in internal industry-specific networks and contributes to thought leadership in the industry; and 0 otherwise
TOPPARTNER	=	1 if the lead audit partner is designated a top national expert: has practiced in the industry for longer than ten years, has a client portfolio comprised of greater than 75 percent from the industry, participates in internal and external industry-specific networks, contributes to thought leadership in the industry, and is a lead for a priority account in the industry; and 0 otherwise
TOPSAT	=	1 if overall satisfaction rating is greater than the median, and 0 otherwise
e	=	the error term, assumed to have normal OLS regression properties

Table 6 reports on the logistic regression analysis for client satisfaction. The coefficient of determination for the full model is greater than that of the control variable model (pseudo-R^2 of 0.714 and 0.142, respectively), and the full model is significant (based on the chi-square of 49.678, p=<0.001).

Two of the service quality factors are positively associated with a top satisfaction rating, which partially supports the H1 prediction that service delivery plays a role in audit client satisfaction. Clients are more likely to assign top satisfaction scores when they perceive high quality on the dimensions for responsiveness (*RESPONSE*) (1.412, p=0.044) and customization (*CUSTOM*) (2.449, p=0.002). The remaining two service quality factors, technical and professional competence (*TECH*) and communications (*COMM*) are not significant.

Contrary to H1, assignment of priority status is not a significant factor in client satisfaction (0.085, p=0.476). This result might obtain because priority status clients may have higher expectations of service commitments from their auditors.[13] Such clients could have greater bargaining power or a sense of entitlement because of their economic importance to the audit firm (Chung and Kallapur 2003). In addition, large organizations that engage multiple professional service firms could have numerous service quality experiences against which to compare the audit firm. The lack of significance of priority status is consistent with the findings of Anderson et al. (1994), who document a negative effect of high customer expectations on satisfaction. In the same vein, client satisfaction may be associated with engagement scope or complexity, since such clients may demand a higher level of service quality from their auditors. However, the control

[13] In particular, priority clients may demand top industry expert personnel to lead audit engagements as a gesture of the audit firm's commitment to the client (Fiolleau et al. 2012). To further explore the possibility that priority clients have higher service expectations from industry experts, I re-estimated a regression model that included interaction terms for priority status (*PRIORITY* x *TOPPARTNER* and *PRIORITY* x *TOPMANAGER*), but I did not observe any main effects or interaction effects for these variables (not tabulated).

variable for client size in the satisfaction model is not significant. As sensitivity tests, I estimate audit hours and audit fees as control variables in separate models because they are strongly correlated with client size. When *LNASSET* is replaced by *LNHOURS* or *LNAUDITFEE* as a control variable for engagement scope, I observe the same pattern as the main analysis, where *CUSTOM* and *RESPONSE* are positively and significantly associated with top satisfaction scores (not tabulated).

Counter to H1, I find no association between the firm's assignment of top industry expert personnel and audit client satisfaction. The coefficient for top expert engagement partner is positive but not significant (1.280, p=0.132), and the coefficient for top lead senior manager is negative but not significant (-0.697, p=0.327). Although prior studies report that audit fee premiums are associated with local office-level expertise (Fung et al. 2012, Reichelt and Wang 2010, Francis and Yu 2009) and individual partner expertise (Zerni 2012), it appears that audit clients do not perceive the audit firm's assignment of a distinguished expert. It is possible that individual expertise differentiation within an audit firm may not be explicitly conveyed to clients, because the audit firm's imperative may focus more on the firm's expertise reputation at the brand level, rather than at the partner or senior manager level.[14]

None of the control variables for accounting quality or client and engagement characteristics are significant in the control variable only model. In

[14] The audit firm's questionnaire asks clients to rate their satisfaction with the audit firm (rather than their satisfaction with the individuals assigned to the engagement team).

the full model, the coefficient for the percentage of total fees attributable to non-audit services (*NASPERCENT*) is negative and significant (-12.080, p=0.047). This result indicates that clients that engage the audit firm for a higher proportion of non-audit services are less likely to assign top satisfaction scores. Clients with a high demand for NAS may perceive the audit firm as a broader professional services provider and set higher service quality expectations; higher expectations may have a negative effect on satisfaction (Anderson et al. 1994). In addition, two of the industry dummy variables are significantly associated with top satisfaction ratings. These results suggest that the audit firm differentiates itself from competitors more successfully in certain industries, which provides further support for the argument that industry specialization is a viable differentiation strategy (Fung et al. 2012, Zerni 2012, Mayhew and Wilkins 2003).[15]

I do not find any association between the remaining control variables (*DACC, INCDACC, LOSS, NEW, LNASSET*) and audit client satisfaction. As a test of sensitivity, I re-estimate the logistic regression model by omitting the non-significant control variables. I find that the pattern of results reported above holds, even without the non-significant control variables.

My analysis partially supports H1 and suggests that clients' perceptions of service quality contribute to satisfaction, but the audit firm's service quality activities do not contribute to client satisfaction. Furthermore, I find that audit characteristics observable outside of the auditor-client relationship (accounting

[15] I do not identify which of these industries is significant, in order to protect confidentiality of the data.

quality, client and engagement attributes) are not associated with top client satisfaction ratings. With respect to specific service quality factors, in contrast to the consumer research on service quality (Parasuraman et al. 1991), dimensions of responsiveness and empathy appear to be more important drivers of top satisfaction scores than reliability and assurance in the audit setting. Reliability and assurance on audit work may be minimum standards that meet the requirements of professional competence and regulatory compliance, but responsiveness to specific client needs presents a salient service distinction to audit clients. This result is consistent with the central importance of customization quality to customer satisfaction in service industries, as proposed by Anderson et al. (1997) and Maister (1997). My findings suggest that clients want their auditors to deliver high quality service. As a competitive strategy, service quality has the potential to strengthen the firm's bargaining power vis-à-vis clients through product differentiation and enhanced client satisfaction (Porter 1980).

Chapter 5: Engagement Profitability: What Makes Clients Profitable to the Audit Firm?

In the previous chapter, I examined the audit service quality characteristics that are associated with client satisfaction. In this chapter, I study whether these service attributes, as well as client satisfaction, contribute to engagement profitability. Importantly, this study examines whether service delivery attributes generate economic returns to the audit firm. Again, I control for accounting quality, client attributes and engagement characteristics that have been associated with audit fees in prior literature. An implicit assumption in the literature is that

fees represent a reliable proxy for the profitability of an audit client. However, due to the constraints of research access to audit production costs and profit data, the validity of this assumption is unclear. In my primary analysis, I analyze overall realization and audit realization rates to examine engagement profitability.

I specify the variables and my expectations for my engagement profitability models in the next section. For a description of how the test variables and control variables were developed, refer to section 4.2. A summary list of the variables and their definitions is included in Table 1.

5.1 Research Design

i) Dependent Variables

Engagement Profitability

Engagement profitability is measured by actual realization rates, calculated by the participating audit firm, for all professional services (*ALLRATE*) and for those specific to the audit engagement (*AUDITRATE*). For client engagements, a standard fee is first determined by multiplying a standard charge-out rate for each individual by the reported number of hours that individual worked on the engagement. The standard charge-out rate is a cost-plus-profit target for personnel based on rank, experience, geography and prevailing market conditions, and thus reflects the labor cost of each specific individual in the audit team (rather than a blended rate by rank across audit firm). The actual realization

rate equals fees collected compared to the standard fee.[16] For example, if collected fees are equal to the standard fee, the realization rate would be 100%.

The realization rate is an indicator of economic returns to the audit firm on its client engagements. This rate takes into account the possibility that the audit firm can generate returns on its client portfolio through both pricing premiums and cost control. Prior studies have examined audit realization rates to study audit fee premiums and production efficiency (Knechel et al. 2009, Hackenbrack and Hogan 2005, Dopuch et al. 2003, O'Keefe et al. 1994). Table 4 reports an average audit realization rate of 57%, with a minimum of 30% and a maximum of 114%. These rates are lower and have a narrower ranger than audit realization rates reported in other auditing research, which may be a feature of the Canadian audit market in my sample compared to U.S. data in prior studies.[17]

I estimate models for both the audit realization rate and the overall realization rate because they may contribute different profit margins to the audit firm. Although prior research suggests that non-audit service fees from audit clients may lead to higher profit margins (Simunic 1980), the major regulatory changes brought about by the Sarbanes-Oxley Act of 2002 (SOX) may have altered the relationship between audit fees, consulting fees and the respective profitability of providing these services. Table 4 reports similar distributions for audit and overall realization rates.

[16] Incidental out-of-pocket costs are billed separately (or remain unbilled) and are, therefore, excluded from the realization rate calculation.
[17] Hackenbrack and Hogan (2005) report a mean of 73%, minimum of 22% and maximum of 144%. O'Keefe et al. (1994) report a mean of 71%, minimum of 24% and maximum of 145%.

As an additional analysis, I estimate regression models with engagement fees as the dependant variable. Engagement fees are the amounts collected from each client, and large fees can contribute significantly to the audit firm's profits. A large body of literature examines the determinants of audit pricing (Hay et al. 2006) and the association between audit quality dimensions and audit fees (Francis et al. 2011). *AUDITFEE* measures revenues collected for audit services provided to the client in the year. *ALLFEE* represents revenues from all professional services provided to the client during the year. Fees for total and audit services are dependent variables in the supplemental analysis.

ii) Test Variables – Service Delivery

Service Quality Variables from Audit Firm Survey Questionnaire

Service quality is measured by the factor scores from audit client survey responses, calculated in section 4.1: *COMM*, *TECH*, *CUSTOM* and *RESPONSE*. In Chapter 4, I find that the customization (*CUSTOM*) and responsiveness (*RESPONSE*) factors are positively associated with audit client satisfaction. While these factors may contribute to high satisfaction scores, it is important to investigate whether clients are willing to pay more to auditors who deliver high quality service. If audit firms can successfully differentiate their audits through service activities that are difficult for competitors to imitate, then they may be in a stronger bargaining position vis-à-vis clients to negotiate fee premiums on engagements (Porter 1980). In accordance with H2, I expect the four service

quality factors to be positively and significantly associated with audit and overall realization rates.

Priority Status

PRIORITY is coded one if the firm assigns priority status to the audit client. Through its client relationship management program, the audit firm has set client expectations for an enhanced level of service quality, and it dedicates significant resources to meet these expectations. If the audit firm distinguishes itself through the service efforts committed to priority clients, then clients may be willing to pay a premium because it would be difficult to find a substitute audit firm (Porter 1980). Treating clients with priority status may thereby strengthen the bargaining power of the audit firm in negotiating fees. I thus expect *PRIORITY* to be positively and significantly associated with audit and overall realization rates, in accordance with H2.

Assignment of Industry Expert Personnel

TOPPARTNER and *TOPMANAGER* are coded one if the audit firm recognizes the lead engagement partner and lead senior manager as top national experts. Fung et al. (2012) and Mayhew and Wilkins (2003) report that audit firms earn fee premiums by substantially differentiating their office-level industry expertise from competing offices in the local market; Zerni (2012) reports a similar finding at an individual partner level. In addition, a high degree of industry expertise has been associated with financial reporting quality (Reichelt and Wang 2010, Francis and Yu 2009), which is one outcome of the audit. Both

the audit partner and the senior manager may generate economic returns by negotiating fee premiums and/or by controlling the costs of performing the audit. Thus, I expect *TOPPARTNER* and *TOPMANAGER* to be positively and significantly associated with audit and overall realization rates in accordance with H2.

iii) Control Variables

Client Satisfaction Rating

TOPSAT measures whether the audit client assigns a high satisfaction rating to the audit firm in the survey questionnaire. *TOPSAT* is coded one if the overall satisfaction rating is above the median. Anderson et al. (2004) report that higher satisfaction increases customer loyalty and willingness to pay premiums to the firm, leading to a higher return on investment for the firm. In an auditing setting, Behn et al. (1999) find that client satisfaction with the audit team (but not satisfaction with the audit firm) is positively associated with fees. Furthermore, a high level of satisfaction with the audit firm would increase the client's switching costs and place the auditors in a strong bargaining position for setting fees (Porter 1980). I expect *TOPSAT* to be positively associated with realization rates and, thus, I include it as a control variable in my investigation of audit service quality.

Accounting quality

DACC (abnormal discretionary accruals) and *INCDACC* (income-increasing discretionary accruals) are proxies for accounting quality. These

variables control for clients' potential demand for accounting quality in the final product of the audit, the financial statements. Abnormal and increasing accruals are important concerns for clients and auditors because they are associated with regulatory investigations (Dechow et al. 1996). Prior research presents conflicting evidence on the relationship between abnormal accruals and both audit and non-audit fees. One segment of research reports that audit fees are not associated with abnormal accruals (Larcker and Richardson 2004, Ashbaugh et al. 2003, Chung and Kallapur 2003), while another segment finds a positive association (Hribar et al. 2011, Gul et al. 2003, Frankel et al. 2002).[18] Schelleman and Knechel (2010) find a positive association between signed total short-term accruals and audit fees, but not audit profit margins, which suggests that auditors respond to the increased risks of accruals by adjusting audit effort and pricing. I thus control for a potential association between signed abnormal discretionary accruals and realization rates. I also control for income-increasing accruals because companies have a tendency to avoid losses and earnings decreases (Burgstahler and Dichev 1997), and it is possible that auditors may sacrifice accounting quality to satisfy client preferences and generate economic returns.

Client Characteristics

I include control variables for client size, risk, and complexity, which are included in models of audit quality and fee premiums in the auditing literature. Lawrence et al. (2011) find that certain relationships between audit quality and

[18] The level of abnormal accruals is usually the dependent variable in the auditing literature (with the exception of Hribar et al. 2011).

fees reported in prior research do not hold when controlling for client characteristics. Studies also report that client characteristics are associated with economies of scale and auditor effort, and thus contribute to audit pricing (Causholli et al. 2010, Schelleman and Knechel 2010, Knechel et al. 2009, Hay et al. 2006, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994, Simunic 1980).

ASSET is the client's size, measured by total assets. Dopuch et al. (2003) find a positive association between client size and audit realization rates, which may be attributable to economies of scale in performing the audit; however, they find that this relationship does not hold when the sample is split into large and small clients. *LOSS* is coded one if the client reported a loss. Schelleman and Knechel (2010) observe a positive association between audit profit margins and client's operating loss, which suggests that, even though risky audits may be more costly to perform, pricing reflects this element of client risk. *INDUSTRY1-8* is a set of dummy variables based on the client's one-digit SIC code, with *INDUSTRY1* (manufacturing) included in the intercept. The client's industry may influence engagement profitability as more complex industries may be more costly to audit (O'Keefe et al 1994). A key feature of this audit pricing literature is the audit firm's bargaining power and its ability to pass along the costs of the audit to its clients. The audit service quality factors discussed above may shift bargaining power between the client and the audit firm and, thereby, influence the previously reported relationships between these client characteristics and engagement profitability.

Engagement Characteristics

I control for the following engagement characteristics: the mix of audit and non-audit services (*NASPERCENT*); whether the engagement takes place during busy season (*BUSY*); whether the client is new to the audit firm (*NEW*); and auditor effort in terms of total audit hours for all personnel at all ranks (*HOURS*). These variables have been associated with audit efficiency in prior literature (Causholli et al. 2010, Schelleman and Knechel 2010, Hay et al. 2006, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994).

NASPERCENT is the percent of total engagement fees that are attributable to non-audit services. Dopuch et al. (2003) report higher realization rates for clients with a larger proportion of NAS fees. Client engagements with high NAS fees may be more profitable overall if NAS contribute higher margins (Simunic 1980) and/or there is knowledge spillover from providing non-audit services that enhances audit efficiency (Dopuch et al. 2003). The previously reported findings are based on data prior to auditor independence reforms that limited audit firms' provision of non-audit services to audit clients; these reforms may have altered the relationship between the service mix and profitability. In Chapter 4, I find that *NASPERCENT* is negatively associated with audit client satisfaction.

BUSY is coded one if the audit is conducted during busy season (i.e., the client has a December 31 fiscal year end). The audit firm may accept lower margins or fees outside of busy season to utilize audit personnel during idle times,

and prior research reports higher audit fees for busy season clients (Hay et al. 2006). In my sample, 42 observations (62.69%) are busy season engagements.

NEW is coded one if the firm has audited the client for two or fewer fiscal years. The profitability of new engagements may be low because of the auditors' learning curve; brief auditor tenure has been linked to lower financial reporting quality (Johnson et al 2002). Furthermore, the audit pricing literature reports auditor low-balling of fees in the initial years of the audit (i.e., sacrificing short-term profits for long-term profits) in order to acquire the client (DeAngelo 1981).

HOURS equals the number of hours recorded for all personnel assigned to the audit engagement relating to the client's fiscal year-end prior to the survey date. Since fees are based on hours charged to the engagement, audit hours are an important determinant of audit fees. In addition, larger clients require more audit effort. Similar to the analysis in Chapter 4 on client satisfaction, I estimate a model that excludes client size and substitutes audit hours as a control variable.

5.2 Tests of Hypotheses

i) Correlation Analysis

Table 5 reports correlation analysis (Spearman correlation coefficients). Overall (*ALLRATE*) and audit realization rates (*AUDITRATE*) are strongly correlated (0.956). Likewise, total fees (*ALLFEE*), audit fees (*AUDITFEE*) and strongly correlated (0.960). Fees and audit hours are components of the realization rate calculation, and thus they are correlated with overall and audit realization rates.

Consistent with H2 on engagement profitability, realization rates are positively correlated with audit service delivery: correlations with service quality factors, priority status and assignment of top expert personnel are significant. Of the four service quality factors, only communications effectiveness (*COMM*) is significantly correlated with overall and audit realization rates (0.263 and 0.273, respectively). Priority status (*PRIORITY*) is positively correlated with overall realization (0.200) and more strongly correlated with audit realization (0.242). Assignment of a top expert lead senior manager (*TOPMANAGER*), but not engagement partner, is positively correlated with overall and audit realization (0.244 and 0.263, respectively). The pattern of results is slightly different for engagement fees. None of the service quality factors are significantly correlated with total or audit fees, and the sign on the coefficient for the technical competence dimension is negative. Priority status shows a strong positive correlation with total fees (0.719) and audit fees (0.722). Furthermore, assignment of a top expert manager is positively correlated with total fees (0.317) and audit fees (0.370). Overall, these results support H2 and suggest that service quality plays an important role in making clients profitable for the audit firm.

The control variables for client and engagement characteristics are correlated with profitability indicators. Client size (*LNASSET*) and audit hours (*LNHOURS*) are positively correlated with each other (0.653), and with realization rates and fees. This result suggests that larger clients contribute to engagement profitability not only by generating higher fees, but also by contributing larger margins. Client loss (*LOSS*) is negatively correlated with

engagement profitability, and this relationship is significant for total fees (-0.329) and audit fees (-0.293).

The correlation analysis also provides insight into the attributes that characterize priority clients as being large, successful companies with higher demands on auditor effort: priority status is positively correlated with client size (0.560) and audit hours (0.698) and negatively correlated with client loss (-0.316). In addition, priority status is correlated with the assignment of a top expert senior manager (0.283).

ii) Regression Models: Realization Rates

To investigate the determinants of engagement profitability, I estimate ordinary least squares regression models. Overall and audit realization rates are regressed on client service quality dimensions and control variables for accounting quality, client attributes and engagement characteristics based on prior studies of audit pricing and realization rates (Schelleman and Knechel 2010, Knechel et al. 2009, Hay et al. 2006, Hackenbrack and Hogan 2005, Dopuch et al. 2003, Simunic and Stein 1996, O'Keefe et al. 1994, Simunic 1980).

Model 2: Audit Realization Rate

$$AUDITRATE = b_0 + b_1COMM + b_2TECH + b_3CUSTOM + b_4RESPONSE + b_5PRIORITY + b_6TOPPARTNER + b_7TOPMANAGER + b_8TOPSAT + b_9DACC + b_{10}INCDACC + b_{11}NASPERCENT + b_{12}LOSS + b_{13}BUSY + b_{14}NEW + b_{15}LNASSET + b_{16\text{-}21}INDUSTRY_{2\text{-}7} + e$$

Model 3: Overall Realization Rate

$$ALLRATE = b_0 + b_1COMM + b_2TECH + b_3CUSTOM + b_4RESPONSE$$

$$+ b_5PRIORITY + b_6TOPPARTNER + b_7TOPMANAGER + b_8TOPSAT + b_9DACC + b_{10}INCDACC + b_{11}NASPERCENT + b_{12}LOSS + b_{13}BUSY + b_{14}NEW + b_{15}LNASSET + b_{16\text{-}21}INDUSTRY_{2\text{-}7} + e$$

where:

ALLRATE	=	blended realization rate for all professional services provided to the client
LNASSET	=	the natural log of total assets at fiscal year-end prior to the survey date
AUDITRATE	=	realization rate for the client's audit engagement
BUSY	=	1 if the audit engagement is conducted during busy season (i.e., the client's fiscal year-end is December 31), and 0 otherwise
COMM	=	factor score for communications quality attributes
CUSTOM	=	factor score for customized service delivery quality attributes
DACC	=	signed value of abnormal discretionary accruals
INCDACC	=	1 if discretionary accruals are income increasing, and 0 otherwise
INDUSTRY1-INDUSTRY8	=	client's industry based on one-digit SIC codes
LOSS	=	1 if the client recorded a loss, and 0 otherwise
NASPERCENT	=	percentage of total revenues from the client attributable to tax and other non-audit services
NEW	=	1 if the audit firm acquired the audit engagement within two (2) years of the client's fiscal year-end prior to the survey date
PRIORITY	=	1 if the client is a priority account specifically monitored by a national office program, and 0 otherwise
RESPONSE	=	factor score for responsiveness quality attributes
TECH	=	factor score for technical and professional competence quality attributes
TOPMANAGER	=	1 if the lead audit senior manager is designated a top national expert: has practiced in the industry for longer than five years, has a client portfolio comprised of greater than 50 percent from the industry, participates in internal industry-specific networks and contributes to thought leadership in the industry; and 0 otherwise
TOPPARTNER	=	1 if the lead audit partner is designated a top national expert: has practiced in the industry for longer than ten years, has a client portfolio comprised of greater than 75 percent from the industry, participates in internal and external industry-specific networks, contributes to thought leadership in the industry, and is a lead for a priority account in the industry; and 0 otherwise
TOPSAT	=	1 if overall satisfaction rating is greater than the median, and 0 otherwise
e	=	the error term, assumed to have normal OLS regression properties

The full models of realization rates in Panels A and B of Table 7 are significant (F-value=2.03, p=0.023 for audit realization and F-value=1.99,

p=0.027 for overall realization). The coefficients of determination (i.e. adjusted R^2) are 24.7 percent (audit realization) and 23.9 percent (overall realization). F-tests from backward selection of models that include the test variables for service delivery (*COMM, TECH, CUSTOM, RESPONSE, PRIORITY, TOPPARTNER,* and *TOPMANAGER*) indicate that the full model adds predictive power to the realization rate models, and the coefficients of determination (adjusted R^2) of the control variable-only models are 0.2 (audit realization) and 2.6 percent (overall realization).

Panel A of Table 7 reports on the audit realization rate. In the satisfaction model (R^2 = 16.6 percent), audit realization is positively and significantly associated with top satisfaction ratings (0.139, p<0.001). However, this relationship does not hold once the service delivery variables (*COMM, TECH, CUSTOM, RESPONSE, PRIORITY, TOPPARTNER,* and *TOPMANAGER*) are added; in the full model, the coefficient for top satisfaction ratings is not significant (0.077, p=0.108). Panel B on includes a satisfaction model for overall realization (R^2=16.6 percent) and also reports a positive and significant coefficient for satisfaction (0.122, p=0.001). This relationship weakens in the full model that includes the service delivery variables; the coefficient for top satisfaction ratings is marginally significant (0.097, p=0.051). According to the results in the full model for audit and overall realization, a top satisfaction rating is not significant in generating engagement profitability.

Consistent with H2, some of the service quality dimensions are associated with realization rates. The coefficient on the communications effectiveness

dimension (*COMM*) is positive and significant in Table 7, Panel A for audit realization (0.053, p=0.041) and in Panel B for overall realization (0.057, p=0.023). In addition, the coefficient on customization (*CUSTOM*) is marginally significant for audit realization (0.047, p=0.065) but not for overall realization (0.022, p=0.218). The responsiveness dimension (*RESPONSE*) is not significant in both models, and the technical and professional competence dimension (*TECH*) has a negative coefficient that is not significant in both models. These results indicate that clients' perceptions of effective communications and, to a lesser extent, customization are service quality factors that contribute to engagement profitability.

Counter to H2, the audit firm's service delivery activity of assigning clients to priority status (*PRIORITY*) is not associated with engagement profitability. Table 7 reports a negative coefficient on priority status that is not significant in either the audit realization rate model in Panel A (-0.002, p=0.517) or the overall realization rate model in Panel B (-0.034, p=0.757). Similar to the analysis in Chapter 4 on client satisfaction, priority status may not contribute to fee premiums if these clients have higher expectations for service quality (Anderson et al. 1994). Given their status, priority clients may also be more costly to serve because the audit firm commits substantial labour resources to deliver enhanced service quality and to manage the client relationship.[19]

[19] To examine potential interactions between assignment of top expert personnel and priority status, I re-estimated ordinary least-squares regression models of audit realization and overall realization that included interaction terms for priority status (*PRIORITY* x *TOPPARTNER* and *PRIORITY* x *TOPMANAGER*), but these models demonstrated specification errors that violated

The audit firm's assignment of a top expert senior manager, but not a top expert engagement partner, is weakly associated with audit and overall realization rates, which partially supports H2. Table 7 reports a positive and marginally significant coefficient for assignment of an expert senior manager (*TOPMANAGER*) in the models of audit realization in Panel A (0.083, p=0.081) and overall realization in Panel B (0.082, p=0.069). I do not find an association between the assignment of a top expert engagement partner (*TOPPARTNER*) and audit realization rates (0.028, p=0.236) or overall realization rates (0.036, p=0.165). In the analysis of satisfaction in Chapter 4, neither of the expert personnel variables was associated with client satisfaction. However, the findings for realization rates suggest that expert personnel contribute to superior returns on client engagements. In contrast with Zerni's (2012) observation that industry specialist partners are associated with higher fees, I find that the lead senior manager, rather than the engagement partner, plays the primary role in contributing profitability. The significance of lead senior manager assignment could result from the senior manager's more frequent and visible contact with the client in the conduct of audit fieldwork. Higher economic returns may be achieved by the senior manager through production efficiency from working with the client or its industry peers (Dopuch et al. 2003), as well as a stronger bargaining position to negotiate fees with the client (Fung et al. 2012, Zerni 2012).

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the assumptions of linear regression (non-normal residuals and residuals not independent from predicted values).

The control variables for accounting quality (*DACC*, *INDACC*) are not associated with engagement profitability. This finding does not support the premise that auditors bend to client pressure and sacrifice accounting quality, as measured by accruals quality, for the sake of profits (Francis 2011, Hribar et al. 2011, Larcker and Richardson 2004, Ashbaugh et al. 2003, Chung and Kallapur 2003, Gul et al. 2003, Frankel et al. 2002, Reynolds and Francis 2001). Instead, audit efforts and pricing may adjust in response to the increased risk of clients with high accruals (Schelleman and Knechel 2010).

I observe that busy season audit engagements are associated with higher realization rates, consistent with prior research (Hay et al. 2006). Table 7 reports a positive and significant coefficient for *BUSY* in the models for audit realization in Panel A (0.083, p=0.031) and overall realization in Panel B (0.078, p=0.030). Lower realization rates on engagements conducted when the audit firm has a lighter client load enables it to utilize labor capacity. The control variables for the remaining engagement characteristics are not significant in the audit and overall realization models. In contrast to the greater margins for non-audit services posited by Simunic (1980), greater *NASPERCENT* is not associated with higher audit and overall realization rates. In a departure from findings previously reported for audit fees (DeAngelo 1981), I do not observe the expected negative association between new clients (*NEW*) and profitability.

Of the control variables for client characteristics, one of the industry dummy factors is significant. Similar to the analysis of client satisfaction in Chapter 4, the association between a specific industry and engagement

profitability provides further evidence of industry specialization as a differentiation strategy for audit firms (Fung et al. 2012, Zerni 2012, Mayhew and Wilkins 2003).[20] The control variables for the remaining engagement characteristics (*LOSS*, *LNASSET*) are not significant in the audit and overall realization models.

As sensitivity tests, I estimate audit hours and audit fees as control variables in separate models because they are strongly correlated with client size. When *LNASSET* is replaced by *LNHOURS* or *LNAUDITFEE* as a control variable for engagement scope, I observe the same pattern as the main analysis, where *COMM*, *CUSTOM*, *BUSY* and *INDUSTRYn* are positively and significantly associated with audit and overall realization rates (not tabulated). The lack of association between audit hours or audit fees and realization rates highlights the importance of examining margins as indicators of engagement profitability; it is difficult to infer from studies of audit fees whether larger clients are more costly to audit and/or audit firms pass along cost savings from economies of scale to the client. As an additional test of the robustness of my findings, I re-estimate the ordinary least squares regression models for audit and overall realization by omitting the non-significant control variables. I find that the pattern of results reported above holds, even without the non-significant control variables.

My findings suggest that clients value audit characteristics that are only observable to those internal to the auditor-client relationship, partially supporting

[20] I do not identify which of these industries is significant, in order to protect confidentiality of the data.

H2. Even though prior research has emphasized audit attributes that financial statement users could observe to evaluate auditors, I provide evidence that the valuable dimensions of audit quality are broader than those visible to outsiders. The service delivery factors associated with engagement profitability appear to be those that involve the most contact with the client. Similar to the analysis in Chapter 4 on the determinants of audit client satisfaction, clients' perception of technical and professional competence is not a significant service quality factor. In contrast to the client satisfaction findings, clients' perception of responsiveness is associated with top satisfaction ratings but does not appear to generate profits. The significance of communications suggests that clients pay more to the audit firm when the auditors clearly and frequently communicate the value of their work. These auditor communications may represent a way for the audit firm to convey how its service is distinct from competitors' and strengthen its relationship with the client through frequent contact. In addition, the assignment of a top expert lead senior manager, who is in charge of the fieldwork conduct and the point of contact with the client, is associated with higher realization rates. My findings suggest that audit service delivery involving a high contact relationship with the client can defend against substitution from competitors and strengthen the audit firm's bargaining power to negotiate fee premiums for its engagements (Porter 1980).

5.3 Additional Analysis of Engagement Fees

I estimate regression models to compare my sample data with prior literature on audit pricing. Furthermore, audit firms might be willing to sacrifice

lower returns for engagements that generate higher fees. In the following ordinary least squares regression models, audit fees and total fees are regressed on client service quality dimensions and control variables for accounting quality and client and engagement characteristics.

Model 4: Audit Fees

$$LNAUDITFEE = b_0 + b_1COMM + b_2TECH + b_3CUSTOM + b_4RESPONSE + b_5PRIORITY + b_6TOPPARTNER + b_7TOPMANAGER + b_8TOPSAT + b_9DACC + b_{10}INCDACC + b_{11}NASPERCENT + b_{12}LOSS + b_{13}BUSY + b_{14}NEW + b_{15}LNASSET + b_{16\text{-}21}INDUSTRY_{2\text{-}7} + e$$

Model 5: Total Fees

$$LNALLFEE = b_0 + b_1COMM + b_2TECH + b_3CUSTOM + b_4RESPONSE + b_5PRIORITY + b_6TOPPARTNER + b_7TOPMANAGER + b_8TOPSAT + b_9DACC + b_{10}INCDACC + b_{11}NASPERCENT + b_{12}LOSS + b_{13}BUSY + b_{14}NEW + b_{15}LNASSET + b_{16\text{-}21}INDUSTRY_{2\text{-}7} + e$$

where:

LNALLFEE	=	the natural log of total fees for all professional services provided to the client
LNASSET	=	the natural log of total assets at fiscal year-end prior to the survey date
LNAUDITFEE	=	the natural log of fees for the audit engagement
BUSY	=	1 if the audit engagement is conducted during busy season (i.e., the client's fiscal year-end is December 31), and 0 otherwise
COMM	=	factor score for communications quality attributes
CUSTOM	=	factor score for customized service delivery quality attributes
DACC	=	signed value of abnormal discretionary accruals
INCDACC	=	1 if discretionary accruals are income increasing, and 0 otherwise
INDUSTRY1-INDUSTRY8	=	1 if the client is in industry 1, 2, …, 6 and 7 (based on one-digit SIC code), and 0 otherwise, where INDUSTRY1 is the comparison industry excluded from the model
LOSS	=	1 if the client recorded a loss, and 0 otherwise

NASPERCENT	=	percentage of total revenues from the client attributable to tax and other non-audit services
NEW	=	1 if the audit firm acquired the audit engagement within two (2) years of the client's fiscal year-end prior to the survey date
PRIORITY	=	1 if the client is a priority account specifically monitored by a national office program, and 0 otherwise
RESPONSE	=	factor score for responsiveness quality attributes
TECH	=	factor score for technical and professional competence quality attributes
TOPMANAGER	=	1 if the lead audit senior manager is designated a top national expert: has practiced in the industry for longer than five years, has a client portfolio comprised of greater than 50 percent from the industry, participates in internal industry-specific networks and contributes to thought leadership in the industry; and 0 otherwise
TOPPARTNER	=	1 if the lead audit partner is designated a top national expert: has practiced in the industry for longer than ten years, has a client portfolio comprised of greater than 75 percent from the industry, participates in internal and external industry-specific networks, contributes to thought leadership in the industry, and is a lead for a priority account in the industry; and 0 otherwise
TOPSAT	=	1 if overall satisfaction rating is greater than the median, and 0 otherwise
e	=	the error term, assumed to have normal OLS regression properties

In Table 8, Panel A reports that audit fees are primarily determined by client size. The coefficient for *LNASSET* is positive and significant (3.06, $p<0.001$). Furthermore, priority status (*PRIORITY*) is also positively and significantly associated with total fees (0.813, $p=0.009$). Similarly, client size and priority status are significant in the total engagement fee model in Panel B (0.328, $p<0.001$, and 0.741, $p= 0.014$, respectively). In addition, two of the industry dummy variables are associated with audit and total engagement fees. [21] The service quality factors (*COMM*, *TECH*, *CUSTOM*, and *RESPONSE*) and the expert personnel indicators (*TOPMANAGER*, *TOPPARTNER*) are not associated with audit or total engagement fees, and F-tests indicate that these variables do

[21] I do not identify which of these industries is significant, in order to protect confidentiality of the data.

not add predictive power to the full models. In contrast to prior research on auditor industry specialization and audit fees (Fung et al. 2012, Zerni 2012), the audit firm's assignment of industry expert personnel does not appear to be reflected in fee levels.

Other than client size and industry, the control variables included in my audit and total fee models were no significant. Consistent with prior research (Ashbaugh et al. 2003; Chung and Kallapur 2003; Reynolds and Francis 2001), as well as my findings related to engagement profitability, I find that neither total nor audit fees are associated with abnormal accruals. I also observe that, similar to the findings in Behn et al. (1999), audit fees are not associated with clients' overall satisfaction with the audit firm. I do not find an association between the control variables for service mix, clients' reporting of losses, busy season or new engagements and audit or total fees, in contrast with prior literature on audit pricing (Hay et al. 2006).

My observation that client size is a strong predictor of fees is consistent with prior research on audit pricing that reports on the robustness of this relationship (Hay et al. 2006, O'Keefe et al. 1994). This finding also emphasizes the need to account for client characteristics and production costs when examining engagement profitability in audit market research.[22] With respect to

[22] An alternative measure of client size is the number of audit hours spent on the engagement. In addition to company size, other factors related to the audit engagement may contribute to this measure: the auditor's assessment of risk; the complexity and scope of the audit; and audit effort. I re-estimate my regression models for engagement realization, overall satisfaction and audit fees, where I replace total assets with audit hours (*LNHOURS*) as the control variable for client size. I find a similar pattern of results compared to the total assets model (not tabulated).

the significance of the priority factor, causality should be interpreted cautiously because the audit firm selects clients for priority status based on the client being highly visible in the audit market and representing an important source of revenue.

Chapter 6: Conclusion

This study investigates the influence of audit service delivery attributes on client satisfaction and engagement profitability. I provide evidence that intangible service dimensions are most strongly and positively associated with satisfaction ratings and realization rates. The audit firm's adoption of a product differentiation approach that emphasizes customization and contact appears to be a viable competitive strategy (Porter 1980; Anderson et al. 1997). While prior research has focused on audit attributes that may be important to financial statement users, I contribute evidence that audit clients value the service attributes that they directly experience in the auditor-client relationship. My examination of proprietary data on engagement realization rates is a more direct test of profitability than audit fees, and takes into account audit production costs and clients' willingness to pay a premium. The service delivery measures in my study represent important dimensions on which the audit firm may differentiate its service from competitors', increase clients' switching costs, and strengthen its bargaining position vis-à-vis clients, in order to maintain long-term relationships with satisfied clients and generate economic returns.

My study of client satisfaction survey responses from managers and audit committee members is a test of what audit clients want from their audit firm,

measured by audit quality dimensions that clients and auditors privately observe and experience. I find that customization and responsiveness are the service quality factors that are associated with client satisfaction. The attributes that generate engagement profitability differ somewhat from those that contribute to client satisfaction. Top satisfaction ratings are not associated with higher realization rates when all of the service delivery variables are added to the engagement profitability model. I observe that customization is weakly associated with audit realization, and not associated with overall realization. Instead, the communications aspect of service quality contributes to higher audit and overall realization rates. Auditor communications with the client could generate profitability by conveying the value of the audit firm's work when negotiating fees, and by coordinating work with among the engagement team to enhance efficiency.

I also observe that the assignment of an industry expert senior manager is associated with higher audit realization rates, but audit clients do not appear to perceive this distinguished personnel assignment in their satisfaction ratings. The senior manager's role in generating incremental returns may be result from enhanced efficiency (Dopuch et al. 2003) or greater bargaining power from industry specialization (Fung et al. 2012, Mayhew and Wilkins 2003). My finding that personnel assignment is not associated with client satisfaction suggests that the audit firm may not convey expertise differentiation of individuals to clients; if the client did not perceive that it was being served by the firm's best industry expert personnel, then it would be difficult for the auditor to negotiate an

expertise premium. In addition, client perceptions of technical and professional competence do not contribute to increased satisfaction or realization rates. Technical audit attributes may be "hygiene factors"[23] necessary to the client engagement, but they do not enhance clients' willingness to pay a premium. This finding provides further support that clients have difficulty making audit quality distinctions based on technical expertise (Fiolleau et al. 2012).

The findings from this study have implications for the regulation of auditor-client relationships. To address concerns that auditors are inclined to win favour with clients, regulators have sought to weaken auditor-client bonds and strengthen professional judgment (e.g., the Sarbanes-Oxley Act of 2002). However, in my analysis, I do not find any association between accounting quality and satisfaction or profitability. Even though high realization rates may be indicative of strong economic bonds between the audit firm and its clients, my findings do not support the premise that auditors bend to client pressure in order to achieve satisfaction or enhance profitability. Instead, the ability of the audit firm to realize superior returns by delivering high quality service indicates the possibility that auditors are in a stronger bargaining position vis-à-vis highly satisfied clients.

Future research is needed to extend the current study and address its limitations. I examine a sample of clients from one Big 4 audit firm with a formal service quality program that includes routine survey feedback and dedicated head office personnel. The differences among professional services firms would be

[23] Practitioner resources assign the label "hygiene factors" to the activities that are required for client relationship maintenance but insufficient for delivering excellent, differentiated service quality (e.g., Maister 1997).

better understood by studying the determinants of client satisfaction and profitability at a peer firm, or at a smaller firm that offers a different value proposition.

The client satisfaction data are from surveys designed and administered by the audit firm, and thus I have no control over the content or the procedure of the survey. There exists a potential bias in the client responses that were gathered by representatives of the audit firm, to the extent that clients felt pressure to evaluate the audit firm favourably during in-person interviews. The positive skew of the distribution of satisfaction ratings in Table 4, Panel B, suggests the potential presence of such a bias. I partly address this pattern of client responses by analyzing client satisfaction as a binary variable that I bisected at the median, but potential bias remains in client ratings on service dimensions, and these ratings should be interpreted with caution. In future studies, researchers should collect this information directly from clients to enhance the range of possible client ratings and to provide more valid and statistically powerful measures of satisfaction and service quality.

One challenge of interpreting the realization rate data is that it is difficult to disentangle whether incremental returns are attributable to the client paying premiums or to the auditor controlling costs. My supplemental analyses of audit hours partly address the need to measure production costs, but the analysis would be improved by examining a breakdown of hours for each rank of personnel. Another limitation is that I match realization rates with the survey year (i.e., the client's fiscal year-end engagement), although there is a potential lag between

customer satisfaction and audit quality indicators and subsequent financial performance (Chen 2009; Ittner and Larcker 1998; Andersen et al. 1994).

The antecedents and consequences of client dissatisfaction are worthy of further study, because dissatisfaction indicates that the audit firm is vulnerable to losing the client. A launching point for such an investigation would be a field study of clients that assigned very low satisfaction ratings. Another potential avenue for future study is the perceptions of different respondents at the client. The current study aggregates survey responses from CFOs, audit committee chairs, controllers, and other client contacts. Even though they jointly determine auditor compensation, managers and directors face different incentives, and they may perceive and value different dimensions of audit and service quality. Lastly, my study provides evidence that a focus on intangibles service quality translates into economic outcomes for auditors, highlighting the need for further research into whether and how these service activities influence accounting judgments and decisions.

BIBLIOGRAPHY

Anderson, E.W., C. Fornell and D.R. Lehmann. 1994. Customer Satisfaction, Market Share, and Profitability: Findings From Sweden. *Journal of Marketing* 58(3): 53-66.

Anderson, E.W., C. Fornell and R.T. Rust. 1997. Customer Satisfaction, Productivity, and Profitability: Differences Between Goods and Services. *Marketing Science* 16(2): 129-145.

Ashbaugh, H., R. LaFond and B. Mayhew. 2003. Do Nonaudit Services Compromise Auditor Independence? Further Evidence. *The Accounting Review* 78(3): 611–639.

Bahia, K., M. Paulin and Jean Perrien. 2000. Reconciliating Literature About Client Satisfaction and Perceived Services Quality. *Journal of Professional Services Marketing* 21(2): 27-42.

Balsam, S., J. Krishnan and J.S. Yang. 2003. Auditor Industry Specialization and Earnings Quality. *Auditing: A Journal of Practice & Theory.*

Becker, C., M. DeFond, J. Jiambalvo and K. R. Subramanyam. 1998. The Effect of Audit Quality on Earnings Management. *Contemporary Accounting Research* 15(1): 1-24.

Behn, B., J. Carcello, D. Hermanson and R. Hermanson. 1997. The Determinants of Audit Client Satisfaction. *Accounting Horizons* 11(1): 7-24.

Behn, B., J. Carcello, D. Hermanson and R. Hermanson. 1999. Client Satisfaction and Big 6 Audit Fees. *Contemporary Accounting Research* 16(4): 587-608.

Bell,T., R. Doogar, and I. Solomon. 2008. Audit Labor Usage and Fees Under Business Risk Auditing. *Journal of Accounting Research* 46(4): 729-760.

Boress, A. 1994. *The I Hate Selling Book: Business-Building Advice For Consultants, Attorneys, Accountants, Engineers, Architects and Other Professionals*. Amacom Books, New York.

Burgstahler, D. and Dichev, I. 1997. Earnings management to avoid earnings decreases and losses. *Journal Of Accounting & Economics* 24(1): 99-126.

Carcello, J., R. Hermanson, and N. McGrath. 1992. Audit quality attributes: The perceptions of audit partners, preparers, and financial statement users. *Auditing: A Journal of Practice & Theory* 11(1): 1-15.

Causholli, M., M. De Martinis, D. Hay, and W.R. Knechel. 2010. Audit Markets, Fees and Production: Towards an Integrated View of Empirical Audit Research. *Journal of Accounting Literature* 29: 167-215.

Chen, C.X. 2009. Who Really Matters? Revenue Implications of Stakeholder Satisfaction in a Health Insurance Company. *The Accounting Review*. 84(6): 1781-1804.

Chung, H. and S. Kallapur. 2003. Client Importance, Non-Audit Services, and Abnormal Accruals. *The Accounting Review* 78(4): 931–955.

Craswell, A. T., D. J. Stokes and J. Laughton. 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* 33(2): 253–275.

DeAngelo, L. 1981. Auditor independence, 'low balling', and disclosure regulation. *Journal of Accounting & Economics*, 3(2): 113-127.

Dechow, P.M., R.G. Sloan and A.P. Sweeney. 1995 . Detecting Earnings Management. *The Accounting Review* 70(2): 193-225.

Dechow, P.M., R. G. Sloan, and A.P. Sweeney. 1996. Causes and Consequences of Earnings Manipulation: an Anlysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research* 13(1): 1-36.

DeFond, M., Raghunandan, K., Subramanyam, K.R., 2002. Do Non-Audit Service Fees Impair Auditor Independence? Evidence from Going Concern Audit Opinions. *Journal of Accounting Research* 40(4):. 1247-1274.

Dopuch, N., M. Gupta, D. Simunic, and M. Stein. 2003. Production efficiency and the pricing of audit services. *Contemporary Accounting Research* 20(1): 47-77.

Dunn, P., and R.J. Baker. 2003. *The Firm of The Future. A Guide for Accountants, Lawyers, and Other Professional Services.* John Wiley & Sons, New York.

Everitt, B. An R and S-plus Companion to Multivariate Analysis. 2004. Springer, London.

Ferguson, A., J. R. Francis, and D. Stokes. 2003. The Effects of Firm-Wide and Office-Level Industry Expertise on Audit Pricing. *The Accounting Review* 78 (2): 429–448.

Fiolleau, K., K. Hoang, K. Jamal and S. Sunder. 2012. *Do Regulatory Reforms to Enhance Auditor Independence Work in Practice?* Working Paper University of Alberta and Yale University.

Francis, J.R. 2011. A Framework for Understanding and Researching Audit Quality. *Auditing: A Journal of Practice & Theory*. 30(2): 125-152.

Francis, J.R. and B. Ke. 2006. Disclosure of fees paid to auditors and the market valuation of earnings surprises. *Review of Accounting Studies* 11:495-523.

Francis, J.R., E.L. Maydew and H.C. Sparks. 1999. The Role of Big 6 Auditors in the Credible Reporting of Accruals. *Auditing: A Journal of Practice & Theory* 18(2): 17-34.

Francis, J. and D. Stokes. 1986. Audit prices, product differentiation and scale economies: Further evidence from the Australian market. *Journal of Accounting Research.* 24(2): 383-393.

Francis, J.R. and M.D. Yu. 2009. Big 4 Office Size and Audit Quality. *The Accounting Review* 84(5)*:* 1521-1552.

Fung, S.Y.K., F. Gul, and J. Krishnan. 2012. City-Level Auditor Industry Specialization, Economies of Scale, and Audit Pricing. *The Accounting Review* 87(4) 1281-1307.

Gul, F. A., C.J.P. Chen, and J.S.L. Tsui. Discretionary Accounting Accruals, Managers' Incentives, and Audit Fees. *Contemporary Accounting Research* 20(3): 441-464.

Hackenbrack, K. and C. Hogan. 2005. Client retention and engagement-level pricing. *Auditing: A Journal of Practice & Theory.* 24(1): 7-20.

Hay, D.C., W. R. Knechel, and N. Wong. Audit Fees: A Meta-analysis of the Effect of supply and Demand Attributes. *Contemporary Accounting Research* 23(1): 141-191.

Hribar, P., T. Kravet and R. Wilson. 2010. *A New Measure of Accounting Quality*. Working Paper, University of Iowa and University of Texas at Dallas.

Ittner, C.D. and D.F. Larcker. 1998. Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer Satisfaction. *Journal of Accounting Research* 36(Supplement): 1-35.

Johnson, V. E., I.K. Khurana, and J.K. Reynolds. 2002. Audit-firm tenure and the quality of financial reports. Contemporary Accounting Research 19 (4): 637.

Knechel, W.R., P.R. Rouse, and C. Schelleman. 2009. A Modified Audit Production Framework: Evaluating the Relative Efficiency of Audit Engagements. *The Accounting Review* 84(5): 1607-1638.

Lawrence, A., M. Minutti-Meza., and P. Zhang. 2011. Can Big 4 Versus Non-Big 4 Differences In Audit-Quality Proxies Be Attributed To Client Characteristics? *The Accounting Review* 86(1): 259-286.

Li, C. 2009. Does client importance affect auditor independence at the office level? Empirical evidence from going concern opinions. *Contemporary Accounting Research* 26(1): 201-230.

Liu, X. and D.A. Simunic. 2005. Profit Sharing in an Auditing Oligopoly. *The Accounting Review* 80(2): 677-702.

Maister, D. 1997. *Managing the Professional Service Firm*. Simon and Schuster, New York.

Mayhew, B.W. and M. S. Wilkins. 2003. Audit Firm Industry Specialization as a Differentiation Strategy: Evidence from Fees Charged to Firms Going Public. *Auditing: A Journal of Practice & Theory* 22(2): 33-52.

O'Keefe, T.B., D.A. Simunic, and M.T.Stein. 1994. The Production of Audit Service: Evidence from a Major Public Accounting Firm. *Journal of Accounting Research* 32(2): 241-261.

Palmrose, Z.V. 1988. An Analysis of Auditor Litigation and Audit Service Quality. *The Accounting Review* 63(1): 55-73.

Parasuraman, A., L. Berry and V. Zeithaml. 1991. Refinement and Reassessment of the SERVQUAL scale. *Journal of Retailing* 67(4): 420-450.

Porter, M.E. 1980. *Competitive strategy: techniques for analyzing industries and competitors.* Free Press, New York.

Reichelt, K.J. and D. Wang. 2010. National and Office-Specific Measures of Auditor Industry Expertise and Effects on Audit Quality. *Journal of Accounting Research* 48(3): 647-686.

Reynolds, J.K., and Francis, J. 2000. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics,* 30(3): 375-400.

Schelleman, C. and W.R. Knechel. 2010. Short-Term Accruals and the Pricing and Production of Audit Services. *Auditing: A Journal of Practice & Theory* 29(1): 221-250.

Schmidt, J.J. 2012. Perceived Auditor Independence and Audit Litigation: The Role of Nonaudit Services Fees. *The Accounting Review* 87(3): 1033-1065.

Simunic, D. A., & Stein, M. T. 1996. The Impact of Litigation Risk on Audit Pricing: A Review of the Economics and the Evidence. *Auditing: A Journal of Practice and Theory* 15(2): 145-148.

Wyatt, A.R. 2004. Accounting Professionalism – They Just Don't Get It! *Accounting Horizons* 18(1): 45-53.

Zeff., S.A. 2003. How The U.S. Accounting Profession Got Where It Is Today: Part II. *Accounting Horizons* 17(4): 267-286.

Zerni, M. 2012. Audit Partner Specialization and Audit Fees: Some Evidence from Sweden. *Contemporary Accounting Research* 29(1): 312-340.

Table 1: Variable Definitions

Variable	Type	Definition
ALLFEE	N/A	total fees for all professional services provided to the client
LNALLFEE	Dependent Variable (Model 5)	the natural log of total fees for all professional services provided to the client
ALLRATE	Dependent Variable (Model 3)	blended realization rate for all professional services provided to the client
ASSET	N/A	total assets at fiscal year-end prior to the survey date
LNASSET	Control Variable	the natural log of total assets at fiscal year-end prior to the survey date
AUDITFEE	N/A	fees for the audit engagement
LNAUDITFEE	Dependent Variable (Model 4)	the natural log of fees for the audit engagement
AUDITRATE	Dependent Variable (Model 2)	realization rate for the client's audit engagement
BUSY	Control Variable	1 if the audit engagement is conducted during busy season (i.e., the client's fiscal year-end is December 31), and 0 otherwise
COMM	Test Variable	factor score for communications quality attributes
CUSTOM	Test Variable	factor score for customized service delivery quality attributes
DACC	Control Variable	signed value of abnormal discretionary accruals
HOURS	N/A	aggregated audit hours charged by all personnel at all ranks assigned to the audit engagement
LNHOURS	Control Variable	the natural log of aggregated audit hours charged by all personnel at all ranks assigned to the audit engagement
INCDACC	Control Variable	1 if discretionary accruals are income increasing, and 0 otherwise
INDUSTRY1-INDUSTRY8	Control Variable	client's industry based on one-digit SIC codes
LOSS	Control Variable	1 if the client recorded a loss, and 0 otherwise
NASPERCENT	Control Variable	percentage of total revenues from the client attributable to tax and other non-audit services
NEW	Control Variable	1 if the audit firm acquired the audit engagement within two (2) years of the client's fiscal year-end prior to the survey date
PRIORITY	Test Variable	1 if the client is a priority account specifically monitored by a national office program, and 0 otherwise
RESPONSE	Test Variable	factor score for responsiveness quality attributes
SAT	N/A	client's overall satisfaction rating of the firm, transformed to a percentage scale
TOPSAT	Dependent Variable (Model 1)	1 if overall satisfaction rating is greater than the median, and 0 otherwise
TECH	Test Variable	factor score for technical and professional competence quality attributes

Table 1: Variable Definitions (continued)

Variable	Type	Definition
TOPMANAGER	Test Variable	1 if the lead audit senior manager is designated a top national expert: has practiced in the industry for longer than five years, has a client portfolio comprised of greater than 50 percent from the industry, participates in internal industry-specific networks and contributes to thought leadership in the industry; and 0 otherwise
TOPPARTNER	Test Variable	1 if the lead audit partner is designated a top national expert: has practiced in the industry for longer than ten years, has a client portfolio comprised of greater than 75 percent from the industry, participates in internal and external industry-specific networks, contributes to thought leadership in the industry, and is a lead for a priority account in the industry; and 0 otherwise

Table 2: Frequency Table of Binary Variables

Variable	N	Description	Value is Equal to 1	
			Frequency	Percent (%)
BUSY	67	Busy season engagement	42	62.69
INCDACC	67	Income increasing accruals	36	53.73
INDUSTRY:	67			
INDUSTRY1		Mining, resources, construction	19	28.35
INDUSTRY2		Consumer goods	6	8.96
INDUSTRY3		Manufacturing supplies	17	25.37
INDUSTRY4		Transportation, energy, utilities	7	10.45
INDUSTRY5		Durable goods, wholesale and retail	5	7.46
INDUSTRY6		Financial services	3	4.48
INDUSTRY7+8		Consumer and commercial services	10	14.93
LOSS	67	Client reported loss in fiscal year	20	29.85
NEW	67	Client is new to audit firm	6	8.96
PRIORITY	67	Client's priority status	33	49.25
TOPMANAGER	67	Lead audit sr. manager is top expert	31	46.27
TOPPARTNER	67	Lead audit partner is top expert	27	40.30
TOPSAT	67	Client satisfaction rating > median	34	50.75

Table 3: Exploratory Factor Analysis of Service Quality Attributes

Results from maximum likelihood factor analysis with oblique (promax) rotation [(a)]

Survey Questionnaire Items[(b)]	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**
3.3	**0.863**	-0.052	0.162	-0.020
3.2	**0.761**	0.023	0.244	-0.077
3.1	**0.730**	-0.058	0.291	0.066
3.4	**0.671**	0.117	0.203	0.013
1.3	**0.585**	0.119	-0.141	0.347
5.6	**0.577**	0.002	-0.080	0.295
1.2	**0.456**	0.376	-0.364	0.394
2.3	-0.087	**0.853**	0.240	0.009
2.1	-0.005	**0.779**	0.275	-0.051
2.2	-0.051	**0.779**	0.360	-0.025
2.4	0.291	**0.600**	0.307	-0.133
4.5	0.254	**0.570**	0.059	0.207
4.1	0.204	**0.542**	-0.102	0.360
4.4	0.197	**0.532**	0.020	0.313
4.1	0.048	0.046	**0.755**	0.216
1.4	-0.021	0.263	**0.731**	0.104
1.3	0.264	0.168	**0.662**	0.007
1.2	0.055	0.171	**0.654**	0.165
5.1	0.122	-0.095	0.325	**0.760**
5.3	0.084	0.034	0.294	**0.706**
5.4	0.106	-0.016	0.109	**0.676**
5.2	0.176	-0.056	0.344	**0.635**
5.5	-0.222	0.291	0.337	**0.616**
Proportion of variance explained	0.735	0.078	0.050	0.030
Eigenvalues	15.087	1.605	1.024	0.955
Labels for factors	Communi-cation (*COMM*)	Technical and Professional Competence (*TECH*)	Customized Service Delivery (*CUSTOM*)	Responsive-ness (*RESPONSE*)

[(a)] Factor analysis based on full sample of 70 survey responses provided by the participating firm.
[(b)] Survey items correspond to the participating firm's five categories of service quality by which questions are organized: 1) professional competence; 2) technical competence; 3) communication; 4) customized service delivery; and 5) responsiveness.

Table 4: Descriptive Statistics of Variables in the Multivariate Analysis

Panel A: Descriptive statistics

Variable	N	Mean	St Dev	Median	Minimum	Maximum
ALLRATE	67	57%	15%	55%	29%	112%
AUDITRATE	67	57%	16%	56%	30%	114%
ALLFEE (in $M)	67	0.947	1.305	0.478	0.015	6.817
LNALLFEE	67	13.027	1.295	13.077	9.626	15.734
AUDITFEE (in $M)	67	0.635	0.879	0.342	0.007	4.704
LNAUDITFEE	67	12.628	1.306	12.743	8.950	15.364
SAT (transformed)	67	0.886	0.119	0.900	0.400	1.000
TOPSAT	67	0.507	0.504	1.00	0	1.00
COMM	67	-0.003	0.992	-0.048	-4.165	1.352
TECH	67	0.007	1.002	0.254	-3.068	1.594
CUSTOM	67	0.004	1.002	-0.081	-4.029	1.964
RESPONSE	67	0.022	0.997	0.221	-3.126	1.602
PRIORITY	67	0.493	0.504	0	0	1.000
TOPPARTNER	67	0.403	0.494	0	0	1.000
TOPMANAGER	67	0.463	0.502	0	0	1.000
DACC	67	0.115	0.705	0.009	-0.369	4.921
INCDACC	67	0.537	0.502	1.000	0	1.000
NASPERCENT	67	0.302	0.166	0.280	0.040	0.870
LOSS	67	0.299	0.461	0	0	1.000
BUSY	67	0.627	0.487	1.000	0	1.000
NEW	67	0.090	0.288	0	0	1.000
ASSET (in $M)	67	3663.000	8134.000	556.775	2.270	48748.000
LNASSET	67	6.252	2.201	6.321	0.821	10.794
HOURS	67	3810	4463	2368	243	24476
LNHOURS	67	7.737	1.015	7.770	5.493	10.105

Industry dummy variables are not reported for brevity.

Panel B: Distribution of satisfaction ratings (*SAT)* (transformed from participating firm's original scale)

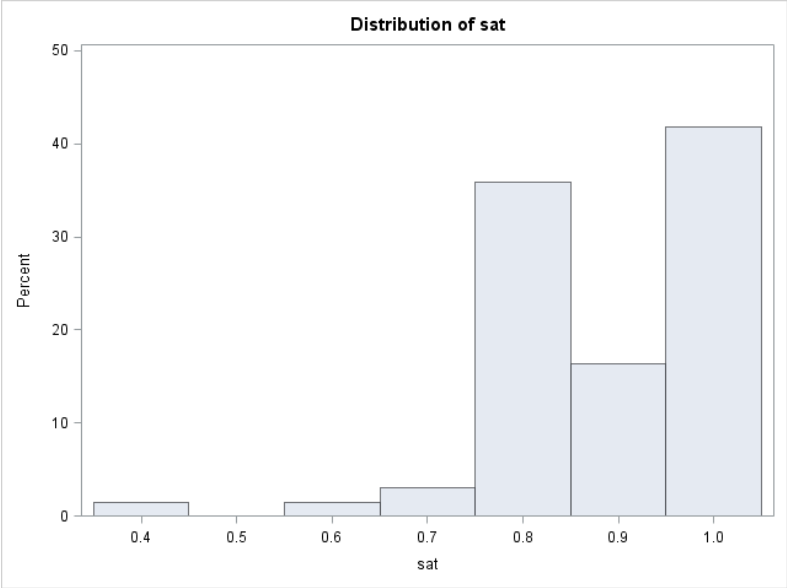


Table 5: Spearman Correlation Matrix

Variables		*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	*P*	*Q*	*R*	*S*
ALLRATE	*A*																			
AUDITRATE	*B*	**0.956**																		
LNALLFEE	*C*	**0.356**	**0.356**																	
LNAUDITFEE	*D*	**0.380**	**0.405**	**0.960**																
TOPSAT	*E*	0.223	0.226	0.025	0.045															
COMM	*F*	**0.263**	**0.273**	0.011	0.033	**0.666**														
TECH	*G*	0.126	0.138	0.161	0.188	**0.640**	**0.705**													
CUSTOM	*H*	0.215	**0.260**	-0.096	-0.088	**0.740**	**0.546**	**0.404**												
RESPONSE	*I*	0.171	0.190	0.028	0.001	**0.507**	**0.610**	**0.581**	**0.371**											
PRIORITY	*J*	0.200	**0.242**	**0.719**	**0.722**	-0.044	0.124	0.145	-0.177	0.087										
TOP	*K*	0.046	0.315	0.044	0.082	-0.043	0.040	-0.002	-0.061	-0.012	0.104									
PARTNER																				
TOP	*L*	**0.244**	**0.263**	**0.317**	**0.370**	0.016	0.040	0.047	0.115	-0.089	**0.283**	-0.030								
MANAGER																				
DACC	*M*	-0.065	-0.053	-0.067	-0.084	0.051	0.159	0.103	0.076	-0.122	-0.048	0.011	-0.104							
INCDACC	*N*	0.000	0.017	-0.054	-0.050	0.044	0.177	0.049	0.071	0.142	0.016	0.091	-0.160	**0.864**						
NAS	*O*	0.035	-0.006	0.193	-0.017	-0.139	-0.063	-0.083	-0.056	0.230	0.099	-0.120	-0.143	-0.007	-0.011					
PERCENT																				
LOSS	*P*	-0.033	-0.052	**-0.329**	**-0.293**	0.186	0.240	0.172	0.250	-0.005	**-0.316**	-0.070	-0.017	-0.120	-0.114	-0.215				
BUSY	*Q*	0.231	0.234	0.222	0.222	0.042	0.115	0.089	0.197	0.115	0.143	0.131	**0.283**	0.137	0.089	0.060	-0.036			
NEW	*R*	-0.142	-0.133	-0.046	-0.011	-0.005	-0.035	0.078	-0.119	-0.051	0.005	0.169	-0.186	-0.095	-0.023	-0.095	0.138	-0.082		
LNASSET	*S*	**0.250**	0.224	**0.764**	**0.684**	-0.090	-0.125	0.071	-0.066	0.072	**0.560**	-0.068	**0.427**	-0.097	-0.147	**0.256**	**-0.400**	**0.247**	-0.208	
LNHOURS	*T*	**0.244**	**0.279**	**0.870**	**0.910**	-0.054	-0.093	0.086	-0.154	-0.017	**0.698**	0.110	**0.302**	-0.133	-0.099	0.014	**-0.285**	0.193	-0.005	**0.653**

Coefficients in **bold** are significant at 5%. Industry dummy variables are not reported for brevity.

Table 6: Logistic Regression Analysis of Top Client Satisfaction Scores

Dependent Variable is the Probability of a Satisfaction Score above Median (*TOPSAT*, N = 67)

Model 1	**Control Variable Only Model**				**Full Model**				
Variable	**Predicted Sign**	**Odds Ratio**	**Coefficient**	**p-value**	**Predicted Sign**	**Odds Ratio**	**Coefficient**	**p-value**	
INTERCEPT			0.287	0.838			2.877	0.420	
COMM					+	1.854	0.617	0.177	
TECH					+	2.082	0.733	0.135	
CUSTOM					+	11.580	2.449	0.002	***
RESPONSE					+	4.105	1.412	0.044	**
PRIORITY					+	1.089	0.085	0.476	
TOPPARTNER					+	3.596	1.280	0.132	
TOPMANAGER					+	0.498	-0.697	0.327	
DACC	?	1.621	0.483	0.337	?	1.605	0.473	0.434	
INCDACC	?	1.147	0.137	0.809	?	0.292	-1.231	0.274	
NASPERCENT	?	0.233	-1.457	0.455	?	<0.001	-12.080	0.047	**
LOSS	?	2.105	0.744	0.272	?	1.435	0.361	0.781	
NEW	+	0.823	-0.195	0.582	+	0.149	-1.906	0.852	
LNASSET	?	0.989	-0.011	0.951	?	1.103	0.098	0.825	
Chi-Square			11.510	0.486			49.678	<0.001	
Pseudo R^2			0.142				0.714		

***Significant at p = 0.01. **Significant at p = 0.05. *Significant at p = 0.10. Coefficient p-values are one-tailed if signed prediction is provided (two-tailed otherwise) and based on Wald Chi-squares. Estimates for industry dummies are significant but not reported for brevity.

Table 7: Ordinary Least Squares Regression Analysis of Realization Rates

Panel A: Dependent Variable is Audit Realization (*AUDITRATE*, N = 67)

	Control Variable Only Model				Satisfaction Model				Full Model			
Model 2												
Variable	**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**		**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**		**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**	
INTERCEPT		0.392 (3.58)	0.001	***		0.312 (3.03)	0.004	***		0.285 (2.35)	0.012	**
COMM									+	0.053 (1.78)	0.041	**
TECH									+	-0.054 (-1.84)	0.964	
CUSTOM									+	0.047 (1.55)	0.065	*
RESPONSE									+	0.026 (0.92)	0.182	
PRIORITY									+	-0.002 (-0.04)	0.517	
TOPPARTNER									+	0.028 (0.73)	0.236	
TOPMANAGER									+	0.083 (1.42)	0.081	*
TOPSAT					+	0.139 (3.38)	0.001	***	+	0.077 (1.25)	0.108	
DACC	?	-0.027 (-0.79)	0.431		?	-0.049 (-1.53)	0.133		?	-0.040 (-1.27)	0.210	
INCDACC	?	0.010 (0.23)	0.821		?	0.006 (0.15)	0.882		?	<0.001 (0.02)	0.982	
NASPERCENT	-	-0.136 (-0.91)	0.184		-	-0.083 (-0.60)	0.275		-	-0.154 (-1.02)	0.158	
LOSS	?	0.028 (0.52)	0.603		?	-0.001 (-0.02)	0.982		?	-0.006 (-0.13)	0.900	
BUSY	+	0.112 (2.37)	0.011	**	+	0.115 (2.65)	0.006	***	+	0.083 (1.91)	0.031	**
NEW	-	-0.035 (-0.48)	0.316		-	-0.028 (-0.41)	0.341		-	0.014 (0.21)	0.581	
LNASSET	?	0.017 (1.29)	0.204		?	0.017 (1.41)	0.604		?	0.017 (1.28)	0.206	
F-Value			1.01	0.456		1.94	0.043			2.03	0.023	
Adj-R^2				0.002			0.166				0.247	

Panel B: Dependent Variable is Overall Realization (*ALLRATE*, N = 67)

Model 3	Control Variable Only Model				Satisfaction Model				Full Model			
Variable	**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**		**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**		**Predicted Sign**	**Coefficient (t-statistic)**	**p-value**	
INTERCEPT		0.380 (3.76)	0.000	***		0.309 (3.23)	0.002	***		0.247 (2.16)	0.018	**
COMM									+	0.057 (2.06)	0.023	**
TECH									+	-0.056 (-2.01)	0.975	
CUSTOM									+	0.022 (0.79)	0.218	
RESPONSE									+	0.022 (0.82)	0.208	
PRIORITY									+	-0.034 (-0.70)	0.757	
TOPPARTNER									+	0.036 (0.98)	0.165	
TOPMANAGER									+	0.082 (1.51)	0.069	*
TOPSAT					+	0.122 (3.19)	0.001	***	+	0.097 (1.67)	0.051	*
DACC	?	-0.019 (-0.61)	0.543		?	-0.038 (-1.29)	0.203		?	-0.037 (-1.24)	0.220	
INCDACC	?	-0.002 (-0.05)	0.963		?	-0.005 (-0.14)	0.887		?	-0.009 (-0.24)	0.812	
NASPERCENT	-	-0.052 (-0.38)	0.354		-	-0.006 (-0.04)	0.483		-	-0.046 (-0.32)	0.375	
LOSS	?	0.043 (0.049)	0.384		?	0.017 (0.38)	0.704		?	0.009 (0.19)	0.851	
BUSY	+	0.101 (2.31)	0.012	**	+	0.103 (2.56)	0.007	***	+	0.078 (1.92)	0.030	**
NEW	-	-0.038 (-0.56)	0.288		-	-0.031 (-0.50)	0.309		-	0.004 (0.06)	0.477	
LNASSET	?	0.016 (1.32)	0.194		?	-0.016 (1.43)	0.159		?	0.020 (1.54)	0.131	
F-Value		1.14	0.352			1.97	0.040			1.99	0.027	
Adj-R^2			0.026				0.170				0.239	

***Significant at p = 0.01. **Significant at p = 0.05. *Significant at p = 0.10. Coefficient p-values are one-tailed if predicted sign provided (two-tailed otherwise) and based on t-statistics. Estimates for industry dummies are significant but not reported for brevity.

Table 8: Additional Analysis: Ordinary Least-Squares Regression Analysis of Fees

Panel A: Dependent Variable is Audit Fees (*AUDITFEE*, N= 67)

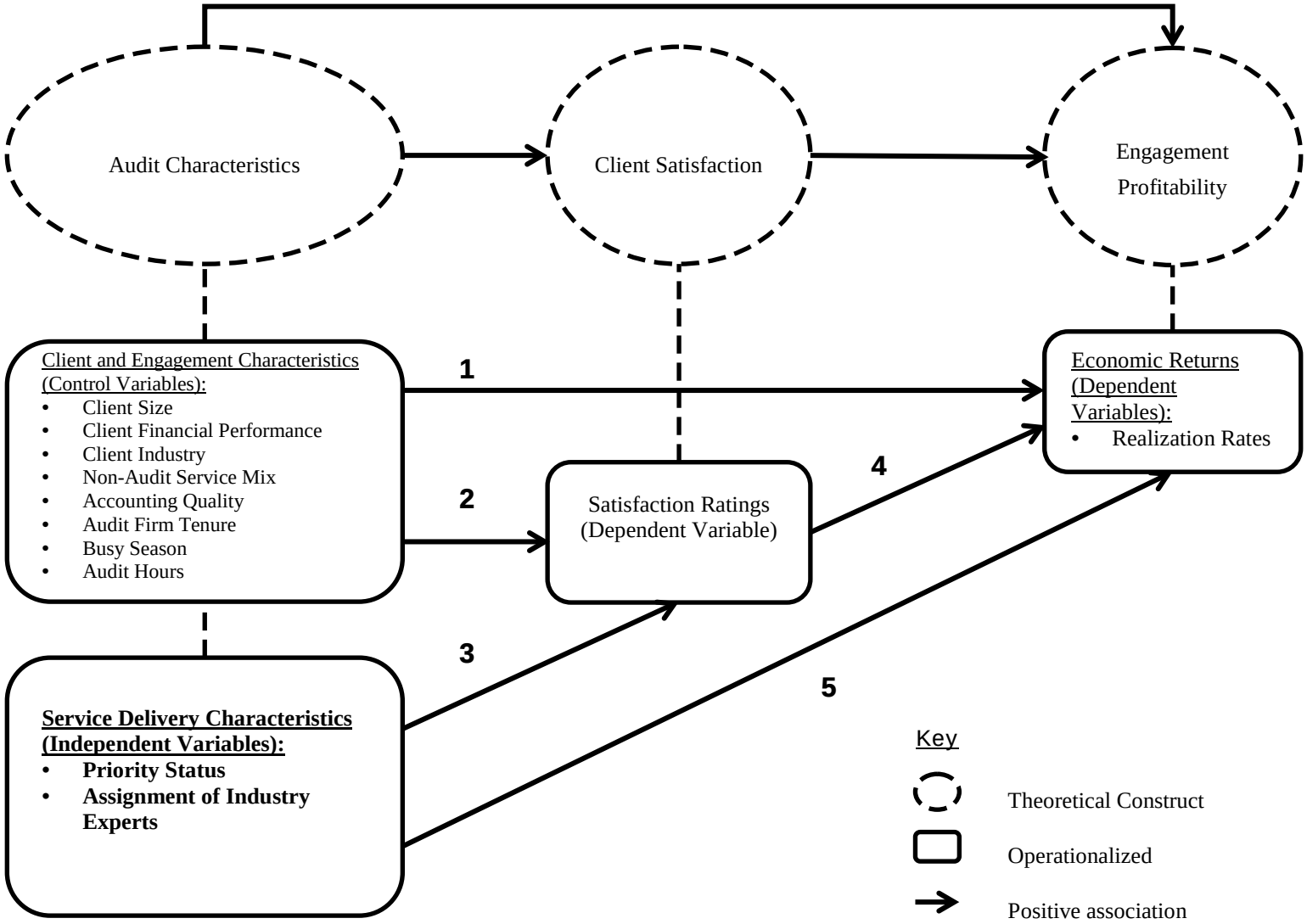
Model 4	Control Variable Only Model			Satisfaction Model			Full Model		
Variable	**Coefficient (t-statistic)**	**p-value**		**Coefficient (t-statistic)**	**p-value**		**Coefficient (t-statistic)**	**p-value**	
INTERCEPT	9.941 (16.32)	<0.001	***	9.925 (15.7)	<0.001	***	9.509 (13.75)	<0.001	***
COMM							0.033 (0.20)	0.844	
TECH							0.011 (0.06)	0.949	
CUSTOM							-0.241 (-1.42)	0.164	
RESPONSE							-0.229 (-1.41)	0.166	
PRIORITY							0.813 (2.75)	0.009	***
TOPPARTNER							0.009 (0.04)	0.968	
TOPMANAGER							0.551 (1.66)	0.104	
TOPSAT				0.027 (0.11)	0.914		0.490 (1.39)	0.170	
DACC	-0.068 (-0.36)	0.724		-0.072 (-0.37)	0.716		-0.033 (-0.18)	0.857	
INCDACC	0.240 (1.00)	0.323		0.239 (0.98)	0.329		0.282 (1.24)	0.221	
NASPERCENT	-2.571 (-3.07)	0.003	***	-2.560 (-3.01)	0.004	***	-1.059 (-1.23)	0.226	
LOSS	-0.257 (-0.87)	0.386		-0.263 (-0.87)	0.387		-0.146 (-0.50)	0.619	
BUSY	0.146 (0.56)	0.581		0.146 (0.55)	0.584		0.113 (0.46)	0.649	
NEW	0.513 (1.25)	0.215		0.515 (1.25)	0.219		0.322 (0.83)	0.410	
LNASSET	0.468 (6.41)	<0.001	***	0.468 (6.35)	<0.001	***	0.306 (3.95)	<0.001	***
F-Value	6.32	<0.001		5.76	<0.001		6.02	<0.001	
Adj-R^2		0.512			0.503			0.615	

Panel B: Dependent Variable is Total Fees (*ALLFEE*, n = 67)

Model 5	Control Variable Only Model			Satisfaction Model			Full Model		
Variable	**Coefficient (t-statistic)**	**p-value**		**Coefficient (t-statistic)**	**p-value**		**Coefficient (t-statistic)**	**p-value**	
INTERCEPT	9.707 (16.47)	<0.001	***	9.697 (15.86)	<0.001	***	9.260 (13.75)	<0.001	***
COMM							0.025 (0.15)	0.879	
TECH							0.019 (0.11)	0.909	
CUSTOM							-0.261 (-1.57)	0.123	
RESPONSE							-0.238 (1.50)	0.141	
PRIORITY							0.741 (2.57)	0.014	**
TOPPARTNER							-0.011 (-0.05)	0.960	
TOPMANAGER							0.515 (1.60)	0.112	
TOPSAT				0.170 (0.07)	0.945		0.514 (1.50)	0.140	
DACC	-0.069 (-0.37)	0.711		-0.071 (-0.37)	0.709		-0.042 (-0.24)	0.810	
INCDACC	0.218 (0.94)	0.353		0.217 (0.93)	0.359		0.265 (1.20)	0.237	
NASPERCENT	-0.808 (-1.00)	0.323		-0.802 (-0.97)	0.334		0.679 (0.81)	0.424	
LOSS	-0.227 (-0.80)	0.428		-0.231 (-0.79)	0.432		-0.125 (-0.44)	0.660	
BUSY	0.171 (0.67)	0.507		0.171 (0.66)	0.510		0.115 (0.65)	0.521	
NEW	0.512 (1.29)	0.201		0.513 (1.28)	0.205		0.324 (0.86)	0.394	
LNASSET	0.478 (6.78)	<0.001	***	0.479 (6.72)	<0.001	***	0.328 (4.35)	<0.001	***
F-Value	6.85	<0.001		6.24	<0.001		6.33	<0.001	
Adj-R^2		0.535			0.526			0.629	

***Significant at p = 0.01. **Significant at p = 0.05. *Significant at p = 0.10. Coefficient p-values are two-tailed and based on t-statistics. Estimates for industry dummies are significant but not reported for brevity.

Figure 1: The Role of Internally Observable Audit Characteristics in Engagement Profitability



APPENDIX A: Requested Data

1. List of 40 clients on the accounting firm's "most desirable client" list

2. 40 control clients not on the "most desirable client" list with characteristics matching those of clients on the list (e.g. same industry and size)

3. Numerical ratings from client satisfaction surveys administered by the firm for each client listed (all individual component ratings and overall satisfaction rating)

4. Accounting accruals for each client listed

5. Total hours charged to the engagement (by all staff)

6. Recovery of total fees charged (%)

7. Breakdown of fees by audit , tax and other fees (% of total)

8. For the lead engagement partner assigned to each client listed:
    a. # of years audit experience,
    b. # of years industry experience,
    c. charge out rate ($/hr)
    d. designated industry expertise (Is the individual identified as an industry expert by the firm? 1 = expert, 0= not expert)
    e. total hours on engagement

9. For the lead manager on the engagement,
    a. # years audit experience,
    b. # of years industry experience,
    c. charge out rate ($/hr)
    d. designated industry expertise (Is the individual identified as an industry expert by the firm? 1 = expert, 0= not expert)
    e. total hours on engagement

10. Performance indicator for each client listed (% change in Net Income for profit oriented companies, or % change in revenue for all other clients)

11. Data on performance evaluation of the lead manager
    a. Overall performance rating
    b. Rating on this engagement (may be same as part a)
    c. Rating on technical ability
    d. Rating on managing talent
    e. Rating on marketplace
    f. Rating on financial performance

12. Audit firm tenure (coding: 1 = 1-2 years, 2 = 3-5 years, 3=6-10 years, 4 = 11-20 years, 5 = > 20 years)

13. Earnings per share – indicator of precision (final digit)

APPENDIX B: Publicly Available Examples of Client Satisfaction Surveys

I. Generic Sample of CPA Firm Client Satisfaction Survey (AICPA)

1. Responsiveness
   a) Accessibility
   b) Promptness in getting back to you
   c) Timeliness of work submissions
   d) Overall needs

2. Rate our services
   a) Tax
   b) Accounting and auditing
   c) Management advisory
   d) Personal financial planning
   e) Other

3. Rate our work
   a) Financial advice
   b) Business advice
   c) Tax advice
   d) Financial statements
   e) Tax preparation
   f) Personal financial planning

4. Rate our billing policies
   a) How well we explained our policies
   b) How well we handled any billing problems
   c) The fairness of our pricing

5. Rate our people
   a) Your key client contact
   b) Other professional staff
   c) Your first point of contact over the telephone
   d) Your first point of contact when you visited the office

6. Working with you
   a) How well do we keep from disrupting your daily operations
   b) How well we do at providing your staff with adequate lead time to respond to requests

7. Rate how we handled your account
   a) The people involved
   b) The turnaround time
   c) Our ability to handle your everyday problems
   d) Our ability to handle emergencies
   e) How well we explained our services
   f) How we handled problems

II. Generic Professional Service Client Feedback Questionnaire (Maister 1997)

- You are thorough in your approach to your work
- You show creativity in your proposed solutions
- You are helpful in redefining our view of our situation
- You are helpful in diagnosing the causes of our problem areas
- You staff my work well: there is enough senior time
- You staff my work well: you don't have high-priced people doing junior tasks
- Your people are accessible
- You keep your promises on deadlines
- You document your work activities well
- Your communications are free of jargon
- You offer fast turnaround when requested
- You listen well to what we have to say
- You relate well to our people
- You keep me sufficiently informed on progress
- You let us know in advance what you're going to do
- You notify us promptly of changes in scope, and seek our approval
- You give good explanations of what you've done and why
- You don't wait for me to initiate everything: you anticipate
- You involve us at major points in the engagement
- You have a good understanding of our business
- You make it your business to understand our company
- You are up to date on what's going on in our world
- You make us feel as if we're important to you
- You deal with problems in our relationship openly and quickly
- You keep us informed on technical issues affecting our business
- You show an interest in us beyond the specifics of your tasks
- If a business acquaintance asked you about your experience with us, would you give us an unqualified endorsement?