

Understanding firms' selection of their ISO 9000 third-party certifiers

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Abstract

Non-financial auditing and third-party certification of management systems (such as the ISO 9000 quality management system) is becoming a pervasive activity amongst an increasing number of firms and their supply chains. Though the literature has paid substantial attention to adopting firms, there has been little focus on the interrelationship between third-party certifiers and adopting firms. Building on voluntary standards literature and the attitude theory, we investigate how do firms choose from a competing set of certification bodies and how does such a decision impact their satisfaction with certification. We use a sample of 539 firms in Australia and New Zealand certified against ISO 9000 standard. We demonstrate that the selection of third-party certifiers is influenced by firms' auditing orientation and that firms oriented to continuous improvement auditing (as opposed to mere compliance with the standard) focus on choosing reputable auditing firms. We have also determined that reputable certifiers deliver more insightful audits, which contribute to overall satisfaction with the certification. The findings have implications for managers and for certification bodies. Managers should understand that cost savings from certification services have negative impact on the satisfaction from certification. For certification bodies, the paper provides an insight how firms select their certifiers.

Keywords: ISO 9000, certification, satisfaction, audit, continuous improvement, cost, compliance

1. Introduction

Managers are increasingly forced to monitor, audit and be accountable for management practices that are adopted in their firms. More auditing and monitoring is required mainly due to new regulation, new customer demands, and new NGO & community pressures on firms (Klassen and Vereecke, 2012) and covers various management practices inclusive of quality practices (Martinez-Costa et al., 2008), environmental practices (Lee et al., 2014; Lo et al., 2012), social responsibility issues (Castka and Balzarova, 2008c; Cruz and Wakolbinger, 2008; Klassen and Vereecke, 2012) and safety (Fan et al., 2014; Trienekens and Zuurbier, 2008). Firms are also forced to expand the scope of their auditing and monitoring activities. Typically, the focus has been on their

upstream and core partners (suppliers) yet nowadays the emphasis is also on their downstream partners inclusive of distributors, wholesalers, retailers and customers (Klassen and Vereecke, 2012).

Due to the diversity of management practices (quality, environment, social responsibility) and due to the scope of monitoring and auditing, firms often turn to third-party certification bodies to outsource the monitoring and auditing functions. Certification bodies provide a wide range of certification services for managers; e.g. ISO 9000 for quality, ISO 14000 for environment and SA 8000 for social issues in supply chains. These certifications use "filters" (or "pass/fail") type of assessment (Busch, 2011) with firms either passing through the filter and meeting the standard's requirements or failing to do so. This 'filtering' is performed by external auditors and certification bodies who assess a firm's compliance with the requirements of any given certification. In recent years, there has been a rapid growth of certification bodies – coupled with increased commercialization of third-party certification. It has also been reported that managers find it increasingly difficult to navigate through the myriad of certification bodies and their offerings (Lal, 2004).

Academic literature has paid considerable attention to the various facets of ISO 9000 and other certifiable standards (Castka and Balzarova, 2008b; King et al., 2005; Singh, 2008). The literature largely takes a firm-level viewpoint (motives for certification, implementation of the standard, and benefits of certification), yet comparatively less attention has been paid to the third-party certification bodies – despite the calls from practitioners (Lal, 2004). This issue has been in particular highlighted by a comprehensive literature review on ISO 9000 and ISO 14000 standards by Heras-Saizarbitoria and Boiral (2012). They assert that *"research should focus on studying audits by third parties – one of the processes that characterize the phenomenon of meta-standards and one which has not received much attention from researchers in recent years. It would be interesting to analyse the consistency of external auditing services rigorously, limited as they are by the fact that they are contracted and paid for by the company that wishes to become certified."*

The call by Heras-Saizarbitoria and Boiral (2012) mirrors the anecdotal evidence from the industry (Lal, 2004) and suggests that firms are themselves in the driving seat to make choices about which certification body to choose. At the same time, the above quote also implies that the commercial nature of certification might have a negative effect on the consistency of auditing and certification. Past empirical research has only partially addressed this call, i.e. determining the selection criteria used by firms in choosing certification bodies (Poksinska et al., 2006a) and has also reported that the certification services are not always consistent (Dogui et al., 2013). However, past research has so far failed to explain the more nuanced nature of firms' selection of certification bodies. In this paper, we investigate how firms select their certification bodies and also determine how such selection impacts the quality of auditing and the overall satisfaction with the certification. We study this problem in the context of ISO 9000 certification and discuss how our findings are applicable to other contexts, recognising the similar nature of other certifications.

We anchor our study to the most consistent finding in the ISO 9000 literature: namely that how firms approach certification impacts various facets of certification (Aravind and Christmann, 2011; Naveh and Marcus, 2005). The literature has demonstrated that firms can implement a management system in 'substance' or in a 'ceremonial' fashion (Boiral, 2003; Yeung et al., 2011). More importantly, the literature suggests that firms which implement ISO 9000 in substance outperform the ones that do so in a ceremonial way (Naveh and Marcus, 2005). How firms approach certification is therefore a manifestation of choice: just as firms have a choice to select the way they approach certification, they also have a choice from a myriad of certification bodies offering their services. Using this theoretical underpinning, we assume that firms that choose to implement a standard in substance use a similar approach whilst choosing their certification body. In other words, these firms are more likely to choose a reputable certification body. Conversely, we assume that ceremonial firms tend to use less reputable certification bodies. Apart from studying the selection itself, we also study how such choice impacts on quality of auditing and firm's satisfaction with the certification. We use the attitude theory (Bagozzi, 1992), which suggests the link between desire, intention, behaviour, and outcomes. Specifically, the theory suggests

that the decisions made by individuals to engage in certain activities are driven by their desire to achieve certain outcomes. Furthermore, the theory also suggests the “desire-outcome fit” where the individuals who make decisions out of their desire will exercise an appraisal if the activities they engage fulfil their desired outcomes. The fit between desire and outcome will produce satisfaction while the mismatch will lead to dissatisfaction. In the context of this study, we will examine firms’ desire to attain certification which is reflected in their auditing orientation whether it is more toward improvement or just compliance. This auditing orientation will lead firms to choose different (even perhaps contrasting) kinds of auditors or certification bodies which could serve their desire. Therefore, we postulate two different paths where firms want to engage in the auditing process according to their desire (i.e. auditing orientation). We will then examine if the two paths which are reflected in different kinds of selection criteria for CBs will serve their purpose of being certified to ISO 9000, hence, leads to satisfaction with ISO 9000 certification.

This research is important for several reasons. Firstly, there is a clear need to pay attention to the role of certification bodies and the role of auditors in quality management system certification (Heras-Saizarbitoria and Boiral, 2012). The role of certification bodies remains somewhat overlooked in the literature despite their evident impact on certification (Lal, 2004) - compared to other factors, such as the implementation process itself. Secondly, the few studies that have investigated the role of certification bodies and auditors within ISO 9000 certification (Gyani, 2008; Power and Terziovski, 2007) tend to treat the certified firms as a homogeneous cohort. This simplification, though useful whilst assessing the certification itself, has been challenged recently. For instance, (Ivanova et al., 2014; Sandholtz, 2012) suggested that researchers need to embrace the heterogeneity amongst adopters to better explain the impact of certification on adopting firms (Aravind and Christmann, 2011; Darnall et al., 2009). Third, the existent studies which covered the link between ISO 9000 and satisfaction with the certification have ignored so far the role of certification bodies. Moreover, such studies do not use any theoretical underpinning and therefore the literature has not evolved in a cohesive manner. We build our study on the attitude

theory and aim to introduce a relevant theoretical underpinning for this study and other future studies in this area.

The remainder of this paper is organised as follows. First, we introduce the context of our study and describe how third-party certification is operationalized to deliver monitoring and auditing functions. Next, we formulate a set of hypotheses and introduce our research model. We then present our data set and discuss the measures that we have used in the study. This is followed by the results section. Finally, we discuss our findings and present the contributions of our study to theory and practice.

2. Literature review

The literature on ISO 9000 does not directly address the topic of our research to a great depth. Nevertheless, a significant part of this literature provides an important theoretical underpinning for our study. In this section of the paper, we briefly review the context of our research and the relevant literature in order to establish a basis for the development of our hypotheses.

2.1. The Context – ISO 9000 certification

ISO 9000 certification is a multi-tier governance system involving multiple players. There are typically four groups of players: participating firms, certification bodies and their auditors, accreditation bodies and standard setters. The main role of the *participating firms* is to comply with the requirements of a standard. This often means that firms perform a gap analysis between their current practices and the requirements of the standards. This is followed by the adoption of the necessary standard and addressing the non-complying requirements. Once the implementation of the standard is complete, firms choose a *certification body* that is accredited to perform such non-financial audits. The certification body, through its non-financial auditor, verifies the firms' compliance against the standard (Pivka, 2004). If the firm passes the audit, the certification body issues a certificate of compliance. The main role of *accreditation bodies* is to 'control' the certification bodies and to determine whether they are capable of performing the audits. Finally, *standard setters* are responsible for establishing the standard and its requirements and are also responsible for revisions of standards. Standard Setters operate independently from certification and accreditation bodies. In

the case of ISO 9000, the International Organisation for Standardization (ISO) is the standard setter and also responsible for any amendments to be adopted. In our study, we limit our scope to adopting firms and their certification bodies. However, our study has implications for accreditation bodies as well as for ISO itself. The above discussion of the governance system is meant to provide a complete picture of the governance system.

2.2. ISO 9000 literature and its linkages to this study

The ISO 9000 literature focuses on various aspects of the certification. The *impact of the certification* is one of the most developed streams of the literature; i.e. impact on financial performance (Corbett et al., 2005), innovation performance (Terziovski and Guerrero, 2014) or health & safety (Levine and Toffel, 2010). In some cases, the impact of the certification is reported as positive (i.e. financial performance) but this is not consistent across all performance dimensions. The impact studies often report their results on average hence disregarding the inherent variations amongst adopting firms (Sandholtz, 2012).

One of the commonly reported sources of heterogeneity is the motivation of participating firms for the certification: some firms seek certification to gain market share (Buttle, 1997); others to be able to bid for projects that require ISO 9000 as an order qualifier (Nair and Prajogo, 2009; Lo et al., 2013) and yet others to improve communication in supply chain management (Corbett, 2006). Apart from having different motivations, firms also make choices about the depth of implementation of certifiable standards. For instance, various authors (e.g., Aravind and Christmann, 2011; Naveh and Marcus, 2005) argue that some firms embed the requirements of certification in their daily practice whilst others aim to purely comply with the minimum requirements. Firms often join the certification scheme at different stages of the maturity of their management system (Pivka, 2004; Sower et al., 2007). For example, some firms may have just implemented a quality system and invested considerable amount of money and energy to be compliant. Other firms might have been in a situation where a quality system has been in place for some time and

compliance with the ISO 9000 standard was practically a matter of making relatively simple adjustments.

Many scholars built on the institutional theory (DiMaggio and Powell, 1983) and attributed variation in certification to 'decoupling'. Decoupling – or ceremonial behaviour (Boiral, 2003; Sandholtz, 2012) refers to a delineation of what firms claim to do and what in fact they do in reality. It has been shown that decoupling contributes to heterogeneity and increased variation of firms' practices. Although the presence of decoupling and variation amongst certified firms has been confirmed (Naveh and Marcus, 2005; Lo et al., 2011), relatively few studies have paid attention to their origins. Studies so far have concentrated on internal origins, for instance by scrutinizing the role of motivation for certification (Prajogo, 2011) or internalization (Castka and Prajogo, 2013). More recently, (Ivanova et al., 2014) take a holistic perspective and provide insights on how various internal contributors *combined* affect decoupling (for instance, the role of motivation, consultants, IT and employees motivation).

The variations between firms motivation to obtain certification puts extra pressure on certification bodies (CBs) and their auditors. Even though CBs can technically treat all firms as compliant or non-compliant, the reality is more complex. At one level, certification requires auditors to impartially check the compliance against the standard. If we apply the financial auditing analogy here, it would be 'checking the books' to verify the financial statements. However, non-financial audits go beyond the principle "we say what we do, we do what we say" (Hoyle, 2002). ISO 9000 contains a principle of "continuous improvement" and in comparison to financial audits, external auditors are also expected to make judgments on what is effective, rather than merely adhering to what is formally prescribed (Chan et al., 1993). Many organisations in fact expect that non-financial auditors are able to swap their auditing hats for consulting hats. Research shows that in many cases auditors underestimate the balance necessary in emphasising on continuous improvement and on compliance to the standard during the auditing process that may be expected by the firms (Power and Terziovski, 2007).

Non-financial auditors must also have a broad set of knowledge skills (knowledge base) and substantial industry and audit experience (Power and Terziovski, 2007). The audit process itself is often laborious, time consuming, and expensive

(Darnall and Edwards, 2006), which absorbs considerable investment of time and money and often leads to upheavals in the organization (Boiral, 2003). Furthermore, a number of studies (Lipovatz et al., 1999; Willborn and Cheng, 1994) argue that participating firms often perceive non-financial audits to be a tool for checking compliance and to report negative observations. Even though these studies are quite dated (and perhaps a reflection of what ISO 9000 used to be prior to the release of the 2000 revision), such studies demonstrate that non-financial auditors must have a broad skill base to perform the audit. Hence, the quality of the audit process is critical (Sakofsky, 1993) and the pressure on CBs and non-financial auditors is high.

The collective take-away from this stream of literature is that a firm's choices have a significant impact on the certification. In particular, firms' decision to implement the standard symbolically (or substantially) impacts the certification significantly, in terms of firms' performance (Naveh and Marcus, 2005) and satisfaction with certification (Nair and Prajogo, 2009). Building on these findings (and considering the focus and scope of our study), we use the term *auditing orientation*. Auditing orientation is defined as an approach by which a firm decides to approach the certification and, consequently, the selection of a certification body. We explain the operationalization of this variable in the research method section of our paper.

3. Hypotheses Development

Based on the discussion above, we develop a set of hypotheses and begin with the hypotheses related to the choice of certification bodies and external auditors. Our subsequent hypotheses predict that quality of audit is determined by the choice of certification body and that quality of auditing affects satisfaction with certification. The hypotheses tested in this study are captured in Figure 1.

[Insert Figure 1 about here]

3.1. Auditing Orientation

Third-party certification is a major investment for many firms (Darnall et al., 2009). Many firms experience difficulties as they embark upon the certification journey. For instance, firms have to absorb the cost of certification, find additional resources and capabilities to incorporate new practices and in many cases change both production and

business processes (Balzarova and Castka, 2008). Firms also have to decide which third-party certification bodies to choose by considering several attributes, including competence, price, and service quality (Jamal and Sunder, 2011). Such choice is likely to be influenced by multiple factors. More progressive firms investigate their industry sector to identify which third-party certification bodies are used by their competitors so that they clearly understand the competitive gaps that need to be closed (Poksinska et al., 2006a). Firms are also likely to seek references or advice from other firms that have obtained certification. At the same time, they will ask for quotes from various certification bodies to get cost estimates. Some firms will have strong support for their certification effort from their CEO and investors whilst in other firms, managers may be influenced and in fact constrained by the lack of firm-wide support for certification - even though their firms have decided to embark upon the certification journey.

All these factors will contribute to firms' auditing orientation and how firms choose to approach the certification. We predict that firms which are more orientated toward mere compliance; will make their choice based on price. Such firms typically aim to put a limited effort into certification and would focus on meeting the base-line requirements of the standard (Askey and Dale, 1994). They intend to meet the criteria yet not necessarily learn from the process and improve their operations/practices. Such a minimalist approach would lead these firms to minimise the cost of auditing; hence, increasing their tendency to choose certification bodies which offer low cost solutions. On the contrary, we predict that firms with continuous improvement orientation are likely to put more effort into choosing their third-party provider and use multiple criteria decision-making process. They will be less price-sensitive in seeking a reputable auditor and a reputable certification body. Accordingly, we hypothesis that:

H1: Firms which are more oriented towards continuous improvement than compliance in the certification process will put more emphasis on the reputation of the auditors when selecting their certification body.

H2: Firms which are more oriented towards compliance than continuous improvement in the certification process will put more emphasis on low cost when selecting their certification body.

3.2. Quality of Auditing

External auditing is a complex job that requires multiple skills. Auditors need to be consistent, impartial and objective, yet responsive to the needs of their clients (Power and Terziovski, 2007). Auditors need to possess experience not only in auditing but also have an industry experience and knowledge of the clients' business. We expect that reputable certification bodies and their auditors will provide better audits for several reasons. First, reputable certification bodies tend to be more resourceful, enabling them to employ more experienced auditors. Second, more reputable certification bodies tend to be more focused, meaning that their allocation of an auditor to a particular firm is carefully planned. Furthermore, highly reputable certification bodies tend to work with enlightened/progressive firms, who tend to treat certification as a continuous improvement opportunity rather than a compliance exercise. These arguments would suggest that audit quality will be better. In contrast, the less reputable certification bodies are more likely to focus on offering low cost packages to their clients, which may negatively affect the quality of auditors as well as their audits. Accordingly, we hypothesize that:

H3: Firms which put more emphasis on the reputation of the auditors when selecting the certification body will experience a higher quality of auditing

H4: Firms which put more emphasis on low cost when selecting their certification body will experience a lower quality of auditing.

3.3. Satisfaction with certification

Certification is generally time consuming and costly; therefore this effort needs to be outweighed by the benefits from certification to be seen as satisfactorily. Firms may positively view certification for many reasons. For instance, they have to experience benefits from certification such as quality improvements, better relationships with suppliers or increased market share (Poksinska, 2003). Such improvements are likely to create a positive attitude toward certification. Yet firms also need to be able to establish a good relationship with their certification body for the purpose of the external audit and re-certification. Here, quality of auditing is one of the factors that are likely to influence satisfaction with third-party certification. We predict that a high quality audit

by a knowledgeable and experienced auditor will contribute to increasing overall satisfaction with certification. We therefore hypothesize that:

H5: Firms which experience higher quality of auditing will express a higher level of overall satisfaction with ISO 9000 certification.

The selection of a certification body is critical. More reputable certification bodies are likely to be more organised and armed with a body of knowledgeable and experienced auditors that deliver value to their customers (Smith and Fischlein, 2010). Hence for a firm that is committed to the certification and that addresses the requirements of ISO 9000 substantially (rather than symbolically; Boiral, 2003), a choice of a reputable auditors is likely to lead to overall satisfaction with the certification. On the other hand, for a firm that aims to symbolically address the requirements of ISO 9000, this might not be a good choice. Reputable auditors and their certification bodies are likely to be more demanding and firms could be in fact forced into undesirable actions – leading to their dissatisfaction with the certification. Such firms in fact might be better off with less reputable auditors and certification bodies. These certifiers typically compete on low price (Lal, 2004). Accordingly, the attitude theory proposed by Bagozzi (1992) postulates that whether a firm is satisfied with external services or not, will depend on their behavior intentions of engaging in the services and whether they achieve their intended outcomes. So, individual firms that choose either low-cost or high-reputation auditors should both be satisfied with the certification. This is because the purpose (or behavior intentions) of firms to choose low-cost certification is to pay less and get certified, and they achieve their intended outcome. Accordingly, we hypothesize:

H6: Firms which put more emphasis on the reputation of the auditors when selecting the certification body will express a higher level of overall satisfaction with ISO 9000 certification.

H7: Firms which put more emphasis on low cost when selecting their certification body will express a higher level of overall satisfaction with ISO 9000 certification.

Similarly, we expect that firms with continuous improvement orientation to certification are likely to be more satisfied with the certification process. These firms tend to be in ‘the driving seat’ as they seem to put more effort to make the most of the certification (Balzarova and Castka, 2008). As mentioned earlier, the certification

orientation could reflect the firms' motives in adopting ISO 9000. In this regard, firms driven by internal motives would exhibit a stronger orientation towards continuous improvement than on compliance in the auditing process as they consider the importance of auditing as one of the key parts of ISO 9000 implementation process (Boiral, 2003). Previous literature on ISO 9000 has also suggested that firms that pursue ISO 9000 certification due to internal reasons obtain higher benefits than those pursuing it due to external reasons (Jones et al., 1997; Singels et al., 2001). For these firms, certification is a by-product of a proper implementation process, and the real benefits will come mainly from the in-depth implementation of the ISO 9000 standard (Naveh and Marcus, 2005). Accordingly, we hypothesize:

H8: Firms which are more oriented towards continuous improvement than compliance in the certification will express a higher level of overall satisfaction with ISO 9000 certification.

4. Method

4.1. Sample and procedures

Companies were selected for participation in this study from a database maintained by Joint Accreditation System of Australia and New Zealand (JAS-ANZ). This database lists all Australian and New Zealand companies that are certified to ISO 9000. From a total of over 10,000 companies listed in this database, 1,500 Australian and 1,050 New Zealand companies were randomly selected on the condition that their listing in the database included complete information relating to company's name, postal address as well as the contact person complete with name, phone number and email address. Upon selection, each company was mailed a questionnaire, via the named contact person, together with a covering letter explaining the purpose of the study and a reply-paid return envelope. If the individual in the organisation receiving the questionnaire was not the person in charge of the certification, he/she was requested to forward the questionnaire to the appropriate person.

In total, 300 questionnaires were returned from Australian firms (20% responses rate) and 239 questionnaires were returned from New Zealand firms (23% response rate). Targeted respondents to the questionnaire were managers within each

organisation who had knowledge and responsibility for the implementation and maintenance of the company's quality management system. The majority of respondents (two-third in New Zealand and three-quarters in Australia) were quality managers or general managers/managing directors, thus creating an appropriate sample for the objectives/requirements of this study.

4.2. Measures

The *auditing orientation* was calculated based on two items which reflect the emphasis or primary concern of companies when approaching certification at two ends of a continuum. In this regard, we designed a bipolar measure of auditing orientation as we believe that firms will lean more toward one end of continuum or other. As such, we select two items from the scales by Power and Terziovski (2007) with one item explicitly reflecting improvement orientation and the other explicitly reflecting compliance orientation. These two items read as "The ability to facilitate continuous improvement is critical for the external auditor" and "The external auditor should solely assess compliance against the applicable standards". The bipolar auditing orientation measure was calculated by subtracting compliance orientation from continuous improvement orientation. Since both items was measured using Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), the score ranges from -4 to +4, reflecting the bipolar continuum of orientation from 'mostly compliance' (-4) to the 'mostly continuous improvement' (+4). The questions are asking about firm's preference for an audit not about the actual auditing process - one item reflects a company's emphasis on continuous improvement (i.e. "The ability to facilitate continuous improvement is critical for the external auditor") whilst the other reflects its emphasis on compliance (i.e. "The external auditor should solely assess compliance against the applicable standards").

We chose to measure auditing orientation using the distance between two polarised items instead of using a multiple-item construct for several reasons. First, the continuum between continuous improvement and compliance is a well-established way to determine firms' auditing orientation. It has been recognized by the academic literature (Karapetrovic and Willborn, 2001; Power and Terziovski, 2007; Power and Terziovski, 2008) and it is well understood by the practitioners (Castka, 2013). Second,

we were guided by the findings and arguments by Drolet and Morrison (2001) who suggest that multi-item measures are not necessarily better than single-item measures. In fact, they show that for a well-established phenomenon (just as we have here in terms of the auditing orientation), a single item can prove to be more accurate and reduce the halo effect in the measurement. Specifically, we intend to measure firms' auditing orientation along the continuum ranging from the "most compliance" to the "most improvement" ends. Thirdly, we discussed the use of multi-item construct with several experts and practitioners and, for instance, presented to them a construct by Power and Terziovski (2007). The overall conclusion from these discussions, however, was that the individual items do overlap significantly and in most cases, practitioners were not able to distinguish in-between individual items. Together with the arguments from Drolet and Morrison (2001) and the fact that the continuum between compliance and continuous improvement is well established, we opt to adopt a bipolar measure.

The selection criteria for the certification body were measured by using two items namely: "Reputation of the auditors (RA)" and "Our certification body offered the most competitive price (CP)". It has been shown in previous research that these two items are the most important choices for firms (Poksinska et al., 2006a). For the same reason as above, we have opted for using a single item measure rather than having a multi-item construct. In particular, the use of "reputation of the auditors" to represent high quality CBs is appropriate since it is the auditors (rather than other personnel of CBs) whom the firms need to deal with mostly during the auditing process. This item is also consistent with our scale measuring the auditing orientation which is also focused on the auditors. We also believe that these two items are already clear for the respondents, thus, providing reliable measure to what is intended to be measured and we have discussed this approach with several practitioners prior to the study.

The measure for the *quality of auditing* comprises of four items, namely: "The external auditor(s) have the necessary industry experience to effectively audit our organisation", "The external auditor(s) are responsive to the needs of our organisation", "The external auditor(s) have a strong commitment to quality", and "The external auditor(s) are consistent". This construct has been adopted from a study by Power and Terziovski (2007).

The firm's level of *satisfaction with certification* is focused on firm's perceptions on the benefits of ISO 9000 certification against the cost and time spent during the implementation process. The scale measuring the satisfaction with ISO 9000 certification comprises three items, namely: "We have seen significant benefits from implementing ISO 9000", "The benefits of implementing ISO 9000 are worth the cost and time", and "Overall, we are satisfied with ISO 9000 certification".

5. Results

5.1. Construct validity and reliability

We performed construct validity and reliability tests for both the quality of auditing and satisfaction with certification scales. The construct validity was performed using congeneric principal component analysis, and the results are presented in Table 1. The results support the unidimensionality and convergent validity of both scales as reflected by the strong loading of their respective items (>0.5). The extracted variance of both scales is also very high ($>50\%$). The result also supports the reliability of both constructs as the Cronbach's alpha values exceed the 0.7 cut off point. Following Fornell and Larker (1981), we calculated the average variance extracted (AVE) each construct, and found that the values are above the minimum recommended cut-off of 0.5 to support their convergent validity. In addition, we tested discriminant validity between the two constructs by comparing their shared variance or squared correlation ($0.24^2 = 0.05$) against the AVE score of each construct (0.66 and 0.85 respectively). The results clearly confirm the discriminant validity between quality of auditing and satisfaction with certification.

[Insert Table 1 about here]

5.2. Composite scores and bivariate correlations

Having validated the constructs, the composite scores for the variables were computed using the mean scores. The bivariate correlations among all variables involved in this study are presented in Table 2.

[Insert Table 2 about here]

5.2. Path analysis and findings

Path analysis was used for testing the eight hypotheses simultaneously based on the research framework presented in Figure 1. Two control variables were applied to satisfaction with certification, namely organisational size and the year of certification. The result is presented in Figure 2. The model produces a good fit as NFI, CFI, GFI and SRMR indicate acceptable fit, while the normed Chi-square (χ^2/df) sits below the recommended cut-off point of 3, and RMSEA also is well below 0.08.

[Insert Figure 2 about here]

The results show that the auditing orientation of firms explains many facets of ISO 9000 certification. The more the firms are focused on continuous improvement, the more likely they select reputable auditors and certification bodies (H1 is supported). Our results, however, did not confirm that more compliance oriented firms necessarily opt for low cost solutions (H2 is not supported). Furthermore, the results show that emphasis on reputable CBs have a positive effect on quality of auditing; therefore, H3 is supported. On the other hand, the result shows that emphasis on low price CBs have a negative effect on the quality of auditors; therefore, H4 is also supported. With regard to the overall satisfaction with ISO 9000 certification, the results demonstrate that satisfaction with certification is positively impacted by quality of auditing (H5 is supported). At the same time the selection criteria for CBs also have a direct effect on firms' satisfaction with ISO 9000 certification, but in an opposite direction. The emphasis on reputable CBs has a positive effect on satisfaction with certification (H6 is supported); however, CBs that provide low cost solutions have a direct negative effect on clients' satisfaction with ISO 9000 certification (H7 is not supported). Finally, our study also shows that auditing orientation also has a direct effect on firms' satisfaction with certification, meaning that firms with more improvement-oriented auditing orientation expresses higher degree of satisfaction with ISO 9000 certification (H8 is supported).

6. Discussion of the findings

This research provides new insights on the role of certification bodies (and their auditors) in the ISO 9000 certification. Previous studies have mostly recognised the problem (Aravind and Christmann, 2011; Heras-Saizarbitoria and Boiral, 2012) yet did

not study empirically the role of third-party certification bodies (CBs). We offer evidence on how firms' select their certifiers and what impact this selection has on quality of auditing and firms' satisfaction with the ISO 9000 certification. This study contributes to the literature on ISO 9000 and other voluntary standards on many fronts.

First, our study is the first which examines the role of auditors and CBs in determining the effectiveness of ISO 9000 certification (measured by firms' satisfaction with the certification). Most studies have been focused on internal factors, such as implementation process, motives, management supports and resources, so this study complements other studies by examining the role of external parties.

Second, the results of our study enhance the literature on firms' orientation towards ISO 9000 certification and its impact. We have broadened the theory by demonstrating that the orientation (in our case auditing orientation) matters also in relation to the choice of third-party certifiers and quality of their services. Our study also recognises a "selection effect" amongst participating firms: better firms (in our study, firms that focus on continuous improvement) tend to use more reputable third-party certifiers. Selection effect has been often reported at the macro level (i.e. on average better firms tend to opt for ISO 9000 certification) but we have demonstrated here that a similar effect is present "within" the certification itself. Overall, our results concur with the study by (Power and Terziovski, 2007). They argue that the firms with a strong quality culture (hence, seeking certification with the primary purpose of being able to improve business performance rather than just conforming to an international standard) believe that the quality audit process contributes to business performance – the results echoed by our study.

Third, we contribute to the institutional theory literature on the "decoupling" effect in ISO certification (Ivanova et al., 2014; Sandholtz, 2012). The literature so far has investigated decoupling within firms' boundaries – overlooking the impact of CBs on decoupling. Our results suggest that decoupling occurs amongst CBs; i.e. certification bodies that offer low cost solutions provide low quality audits. The implication of this finding is (a) that CBs themselves might embrace certification symbolically (rather than in a substantial manner) and (b) that CBs might in fact contribute to symbolical behaviour of their clients' firms.

Fourth, in the light of the attitude theory (Bagozzi, 1992), our study shows that this theory only applies to firms that opt for continuous improvement in their auditing orientation. However, and contrary to attitude theory, low-cost seeking firms are not satisfied with the certification. According to this theory, whether a firm is satisfied or not will depend on their behaviour intentions and whether they achieve their intended outcomes. Therefore, according to our hypotheses (H6 and H7), whether firms choose either low-cost or high-reputation auditors, they should express satisfaction with the certification as they have achieved their desired outcome (i.e. certification), including those who choose low-cost certification bodies so that they can pay less yet still be certified. However, our results appear to be counter-intuitive as the more the firms focused on low-cost certification bodies, the less they are satisfied with ISO 9000 certification (H7 is not supported). This shows that firms seeking for low-cost certification body also wish to look for other possible fulfillments, such as value-added activities, and they are not satisfied even after getting the certification with low cost. This finding has important implication for the certification behaviors of firms – low-cost certification alone does not satisfy customers, even if it is customers' initial purpose. This also shows that the attitude theory does not apply here in the context of process certifications such as ISO 9000. All firms look for value added services through the certification process.

Finally, we also see our contribution to a broader literature on voluntary standards. Voluntary standards literature has originated by studying ISO 9000 (as we do in this study) and started to include other standards, for instance occupational health and safety standards (Fan et al., 2014); standards for social responsibility (Balzarova and Castka, 2012; Castka and Balzarova, 2008a); integration of certifiable standards (Karapetrovic and Jonker, 2003), or eco-labels (Castka and Corbett, 2014; Delmas et al., 2013). The investigation of various standards shows a convergence of the findings and that the learnings from ISO 9000 literature are transferable to other certifications (Castka and Corbett, 2013). Hence, our findings serve as a platform for further investigations in other certifications. We believe that the findings would show similarities in certification systems with similar governance structure to ISO 9000.

7. Implications for Practice

Our findings also provide a number of practical implications. First, for firms who consider seeking ISO 9000 certification, our findings suggest that certification bodies, (CBs) which offer low cost solutions would likely deliver poor quality of audit. Since non-financial auditing is a highly skilled and highly labour intensive activity, it is likely that CBs that perform high quality auditing with highly qualified auditors would demand higher costs. Still, when examining the quality of auditing aspect, our findings indeed suggest that “we will get what we pay for” as in the case of financial auditing (Brozovsky and Richardson, 1998). Also, it is important for firms to communicate clearly to CBs and their auditors what they expect from the auditing process. The study by Power and Terziovski (2007) found a significant discrepancy between the perception on auditing between clients and auditors in terms of compliance versus improvement and that firms would benefit from clearly communicating their orientation.

Second, for the certification industry, we show evidence that low cost solution certification bodies (CBs) deliver low quality audits. These CBs are also associated with low levels of satisfaction with the ISO 9000 certification. Even though the effect is only significant at $p < 0.05$, it still should be seen as a risk to the entire certification industry. This finding suggests that there are a group of CBs that seem to tap into the market of firms who seek a symbolic compliance. A similar observation was confirmed to us whilst discussing our findings with regulators and accreditation bodies. Many observed that “there exists an illegal bargain between low performing certification bodies and low performing companies”. Due to the “pass/fail” nature of this industry, low cost CBs are likely to erode further the reputation of the entire industry.

Third, certifications aim to reduce information asymmetry and are used as selection criteria across the globe. For instance, purchasing managers use certification to select their suppliers; governments mandate certification for tendering purposes. Our study has unfortunately dented the signalling value of the certification. We recommend that corporate purchases and governments keep on using certification but also that they require information on which CB has performed the audit. Hand-in-hand with such requirement, accreditation bodies should be asked to provide ranking of CBs so that the

signalling accuracy of the certification improves. Such a ranking would help companies (clients) with clearer information in selecting CBs for their quality system.

8. Limitations

We acknowledge a number of limitations in this study, and therefore propose several avenues for further research. First, our study is limited to Australia and New Zealand which have had experience with ISO 9000 certification for over two decades. We suggest that our study should be replicated in other certification settings and other countries. Such studies would confirm if our findings hold across the globe or whether, for instance country differences in the quality of their accreditation bodies has an effect on the selection process of firms and quality of the services of the CBs. Similarly, we need more understanding on this matter in other certification settings, i.e. in various eco-labels such as FSC in forestry or FairTrade certification. Second, due to its cross sectional nature, our study could not investigate the dynamic nature of the selection process of CBs, and we recommend that future research would aim for examining this process. This is because firms may change their auditing orientation, as well as many changing their certification bodies over time. There is limited understanding about the dynamics of the selection process, even though there are reports from practice highlighting such dynamic behaviour amongst certificated firms (Castka, 2013).

Acknowledgement: The study presented in this paper was supported and funded by Joint Accreditation Systems Australia and New Zealand (JAS-ANZ). Andy C. L. Yeung was supported in part by Research Grant Council of Hong Kong under grant number PolyU 5502/12H.

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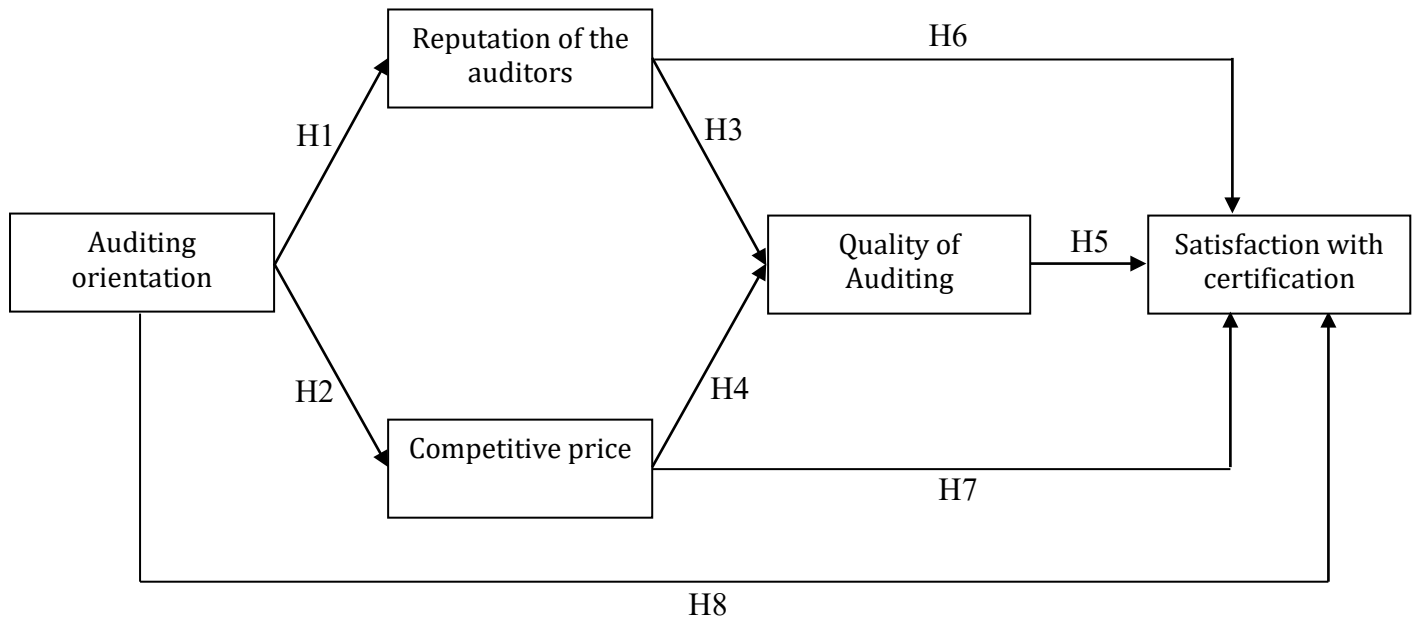
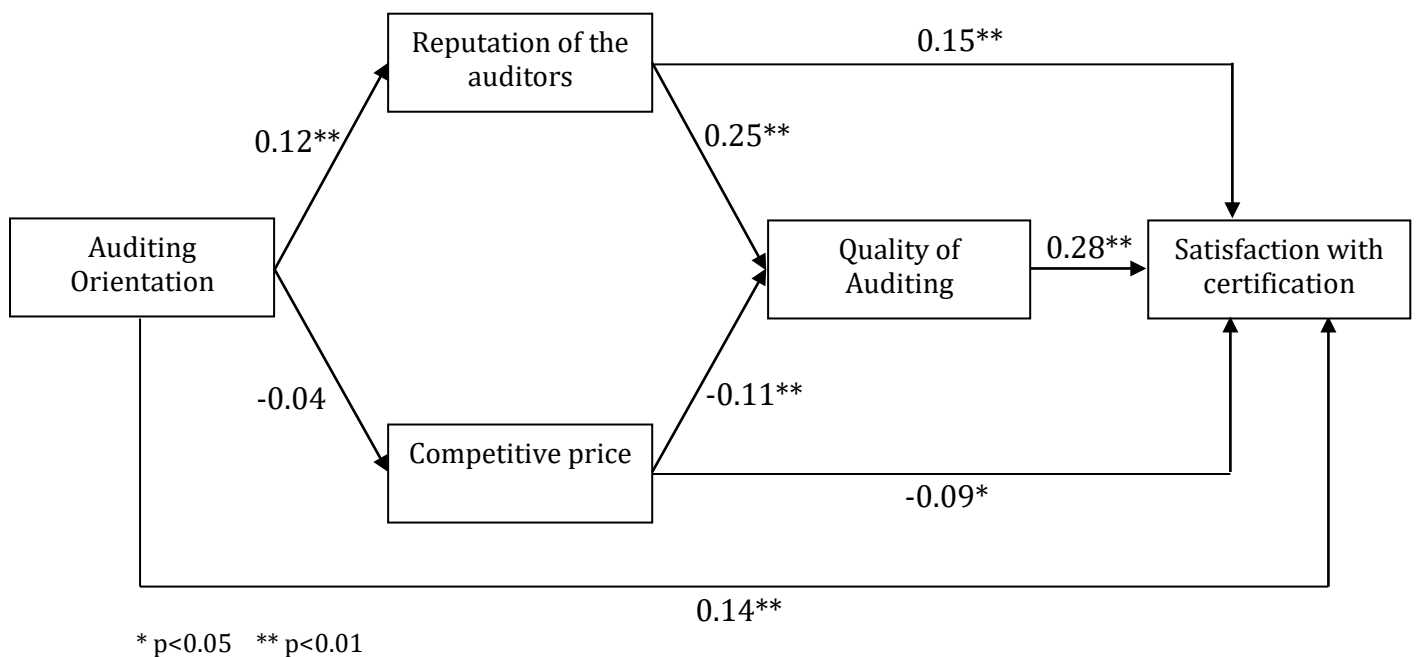


Figure 1 Research framework



$\chi^2 = 18.85$ df = 7 RMSEA = 0.06 NFI = 0.91 CFI = 0.93 GFI = 0.99 SRMR = 0.03

Figure 2 Path Analysis

Table 1 Construct validity and reliability

Scales	Items	Factor Loadings	Cronbach's alpha
Quality of auditing	The external auditor(s) are very knowledgeable about auditing	0.77	0.87
	The external auditor(s) are responsive to needs of your organisation	0.82	(0.66)
	The external auditor(s) have a strong commitment to quality management	0.86	
	The external auditor(s) conduct the audit field work in an appropriate manner	0.84	
	The external auditor(s) have high ethical standards	0.78	
Satisfaction with certification	We have seen significant benefits from implementing ISO 9000	0.92	0.91
	The benefits of implementing ISO 9000 are worth the cost and time	0.93	(0.85)
	Overall, we are satisfied with ISO 9000 certification	0.91	

Average variance extracted (AVE) is in bracket

Table 2 Mean, range, standard deviation, and bivariate correlations

		Mean	Min	Max	S.D.	V1	V2	V3	V4
Auditing orientation	V1	0.40	-4.00	4.00	1.49	1.00			
Reputation of auditors	V2	3.29	1.00	5.00	0.96	0.12**	1.00		
Competitive price	V3	3.14	1.00	5.00	1.02	-0.04	0.14**	1.00	
Quality of auditing	V4	4.16	1.50	5.00	0.68	0.17**	0.26**	-0.07	1.00
Satisfaction with certification	V5	3.92	1.00	5.00	0.87	0.23**	0.19**	-0.09	0.24**

* p<0.05 ** p<0.01