

## Outsourcing of Accounting Functions In The Context of Smes In Emerging Economies: Transaction Cost Economics Perspective

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**Abstract:** This study aims to identify the factors that affect Iranian manufacturing SMEs' decision to outsource accounting functions (activities) using a transaction cost economics (TCE) perspective. Based on a questionnaire survey data of 658 Iranian manufacturing SMEs, this study found support for three TCE predictions, that is, asset specificity, frequency and trust in accountant, which are significantly associated with the accounting function outsourcing intensity. The other two predictors that were examined, that is, behavioral uncertainty and environmental uncertainty, were not significantly associated with accounting function outsourcing intensity. Therefore, we provide a specific, theoretically and empirically grounded prediction of how TCE attributes influences outsourcing of accounting functions with implications for theory and practice.

**Keywords:** Outsourcing, accounting functions, transaction cost economics theory (TCE), SMEs and Iran.

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### INTRODUCTION

Small and Medium Sized Enterprises (SMEs) contribute significantly to employment and the gross domestic product (GDP) in emerging countries (Ale Ebrahim *et al.*, 2010). For example, in emerging countries, "SMEs are the unsung heroes that bring stability to the national economy and help buffer the shocks that come with the boom and bust of economic cycles" (Ale Ebrahim *et al.*, 2010). However, SMEs face complexities, and tend to fail and, therefore, accounting information is particularly important to SMEs for allocation decisions and better resource management (Nandan, 2010). Despite accounting information's importance for the SME sector, accounting outsourcing research still remains a neglected and an unfashionable area (Kamyabi and Devi, 2011).

Using the Transaction cost economics (TCE) perspective, this paper examines what influences SMEs to outsource their accounting functions to professional accountants. In this context, specific independent variables, asset specificity, behavioral uncertainty, environmental uncertainty, frequency and trust in accountant, and their relationship with accounting function outsourcing intensity are examined. Everaert *et al.*, (2010) examined such variables (i.e., asset specificity and environmental uncertainty, behavioral uncertainty and frequency) on outsourcing of financial accounting functions such as bookkeeping works, financial statements and period end accounting based on TCE model. They did not examine the role of trust on accounting outsourcing in TCE model. To ignore the role of trust in outsourcing in TCE model signifies only a partial investigation of the TCE model, and indicates that the results are inconclusive and limited (Verwaal *et al.*, 2008; Hansen and Morrow, 2003). More importantly, financial accounting are mandatory and regulated and do not affect the outsourcing decision in most firms (Nicholson *et al.*, 2006). Moreover, those functions are for which the output is rather standardized, which need less judgment on the part of the accountant (Nicholson *et al.*, 2006). Conversely, functions such as financial management, strategic planning, and management accounting functions need more judgment from the accountant, as the decisions are less standardized and require substantial discretion and subjectivity in decision-making and involves professional judgment, and affect outsourcing decision (Nicholson *et al.*, 2006). Clearly a focus on financial accounting, management accounting and finance outsourcing decision is important (Nicholson *et al.*, 2006). Furthermore, most outsourcing studies have been conducted in the context of developed countries and it is debatable whether such evidence is applicable to emerging economies such as Iran due to differing institutional contexts and levels of state intervention in economic activities (Kamyabi and Devi, 2011). This paper contributes to extant SME outsourcing literature in two ways. Firstly, it evidences the role of trust on outsourcing decision using the TCE framework in an emerging economy. Secondly, the study focuses on the financial, management accounting and finance function outsourcing that is distinct from the outsourcing of financial accounting (more external reporting) functions.

### Literature Review:

#### Outsourcing intensity:

Accounting outsourcing refers to transferring all or part of accounting functions to an (external) professional accountant in order to cut cost, obtain competitiveness or gain access to expertise and skills

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(Maelah *et al.*, 2010). In Iran, the term “professional accountant” refers to members of Iranian Association of Certified Public Accountants (IACPA) and the partners of accounting firms with valid practising certificates who can hold themselves out as CPAs, and set up firms providing accounting, audit and other services (Kamyabi and Devi, 2011).

#### ***Accounting Functions and The Role of Professional Accountants In SMEs:***

Accounting is an extensive concept including areas of financial accounting, management accounting and finance. Financial accounting information is for needed of external reporting, but management accounting is for needed for internal managerial decision-making purposes. In SME environment, the current demand for the financial accounting information is driven by regulatory requirements, therefore, there is little ‘added-value’ to SMEs from the production of statutory accounts (Marriott and Marriott, 2000). In the Iranian SME context, there is no governmental restriction on the joint provision of compliance and non- compliance services (Kamyabi and Devi, 2011). This is because in the Iranian SME environment, SMEs experience greater alignment between owners and managers and therefore, less agency conflict than in larger entities (Kamyabi and Devi, 2011). Therefore, provision of accounting information such as financial management and strategic planning, financial and management accounting is seen as an important tool for SMEs’ survival (Hasle *et al.*, 2010). However, most SMEs lack in-house accountants to provide such information (Kamyabi and Devi, 2011). Therefore, they resort to (external) professional accountant to better manage their resources (Nandan, 2010; Maelah *et al.*, 2010).

#### ***Theoretical Framework and Hypotheses Development:***

The transaction cost economics (TCE) theory introduced by Coase (1937) and conjectures that there are costs for a firm to provide a function internally, which is termed the production cost while the cost of purchasing a function is termed a transaction cost (Thouin *et al.*, 2009). Hence, transaction costs include the direct and indirect costs of negotiating, monitoring, and enforcing explicit and implicit contracts between firms and service providers (Marshall *et al.*, 2007). TCE theory indicates that a firm seeks to balance transaction and production costs in their decision to insource or outsource a function (Marshall *et al.*, 2007; Jiang *et al.*, 2007). Firms provide a service function internally when it is economically more cost effective than purchasing the same service function on the open market (Thouin *et al.*, 2009). Therefore, the higher the transaction cost, the more likely that the function is insourced rather than outsourced (Jiang *et al.*, 2007). The transaction costs associated with any function depend on key factors associated with the function such as asset specificity, environmental and behavioral uncertainty and frequency and trust (McIvor, 2009; Dibbern and Heinzl, 2009; Verwaal *et al.*, 2008; Lamminmaki, 2007; Hansen and Morrow, 2003).

#### ***Asset Specificity:***

There are two general types of specific assets, namely tangible (physical) assets (i.e. specific equipment and machinery) and intangible (human) assets (e.g., human capital) (McIvor 2009). In the accounting context, physical assets refer to the accounting software and human asset refer to human capital (e.g., information, knowledge), which may be obtained from the market (Kamyabi and Devi, 2011). In fact, human assets are specific when accountants need specialized knowledge of the specific characteristics of the firm in order to perform a specific accounting function (Everaert *et al.*, 2010). TCE indicates that when the accounting functions involve high levels of asset specificity, the search for a professional accountant will be longer and the contractual negotiations more contentious (Espino-Rodríguez *et al.*, 2008; Nicholson *et al.*, 2006). Everaert *et al.*, (2010) and Nicholson *et al.*, (2006), however, posit that, as accounting functions become more customized to a firm and more specialized, asset specificity rises and accordingly, shifting accounting functions to a professional accountant can be difficult and costly. Hence, the first hypothesis based on the above discussion is as follows:

*H1: The higher the level of the asset specificity of accounting functions, the lower the accounting function outsourcing intensity*

#### ***Environmental Uncertainty:***

In the accounting context, environmental uncertainty involves the predictability and stability of the workload related to accounting functions as a result of the volatility (instability) of business activities (Everaert *et al.*, 2010). In accounting functions, if business activities are volatile (e.g., unstable accounting functions due to changes in corporate structure, acquisitions or plant closures; unstable number of purchase and sales invoices as a consequence of seasonal trends, etc), the workload related to sequential accounting functions also becomes unpredictable and unstable (Ellram *et al.*, 2008). Consequently, TCE asserts that if firms can predict and organize the workload related to their accounting functions correctly, the transaction costs should be low and firms will outsource such functions (Ellram *et al.*, 2008; Widener and Selto, 1999). Conversely, low predictability and stability of the workload related to accounting functions produces high transaction costs,

because contractual agreements with a professional accountant may need to be renegotiated and changed (Lamminmaki, 2007). Consequently, TCE perspective posits that in highly environmental uncertainty, firms prefer to perform their accounting functions internally, believing that they can favorably respond to the market more quickly than external (professional) accountants can do (Ellram *et al.*, 2008; Lamminmaki, 2007; Nicholson *et al.*, 2006). Hence, it is hypothesized that:

*H2: The higher the environmental uncertainty in accounting functions, the lower the accounting function outsourcing intensity*

#### **Behavioral Uncertainty:**

In the accounting context, “behavioral uncertainty can be interpreted as the difficulty of evaluating whether the accountant did the job accurately and to the best of his or her ability” (Everaert *et al.* 2010, p.97). Everaert *et al.* (2010) concluded that “high behavioral uncertainty causes high transaction costs, due to writing, negotiating, monitoring, and enforcing contracts, all done to prevent opportunistic behavior” (P.97). Accordingly, when a firm cannot assess the quality of performance related to the processing of an accounting function accurately, adequate contracts with professional accountant will be costly to draft (Nicholson *et al.*, 2006; Lamminmaki, 2007). In this context, it is more economical to insource the accounting functions because the firm can monitor and control the actions of its in-house accountant better than external professional accountant (Alvarez-Suescun, 2010; Lamminmaki, 2007, 2009; Nicholson *et al.*, 2006). Accordingly, if it is difficult to appraise the professional accountant’s performance, then TCE argues that the accounting functions will not be outsourced, as the owner/manager of the SME chooses to monitor and control the performance of internal accountant directly (Alvarez-Suescun, 2010; Everaert *et al.*, 2010). Accordingly, based on the discussion above, the hypothesis is proposed as follows:

*H3: The higher the level of the behavioral uncertainty in accounting functions, the lower the accounting function outsourcing intensity*

#### **Frequency:**

TCE frequency attribute relates to the repetitiveness and volume (e.g., occasional and recurrent transactions) of similar transactions (Lamminmaki, 2007; Greenberg *et al.*, 2008; Ellram *et al.*, 2008). However, frequency of accounting functions is realised in two ways (Lamminmaki, 2007, 2009; Widener and Selto, 1999). First, frequency is recognised as the periodicity of the accounting activities (Everaert *et al.*, 2010; Widener and Selto, 1999). Specifically, each of the accounting functions can be processed every day, week, month, quarter, semester, or year” (Everaert *et al.*, 2010). Second, frequency also is realised in terms of the size of the activity (Everaert *et al.*, 2010; Widener and Selto, 1999). Hence, “for the entry of invoices, the size of the activity is important, representing the number of resources invested” (i.e., staff are needed to enter the invoices) (Everaert *et al.*, 2010, p. 98). For example, a firm that performs processing of one-hundred invoices every week has a lower frequency of ‘invoice entry’ than a firm that conducts processing of two-thousand invoices every week. The former firm will more likely to outsource their accounting functions to a professional accountant than the latter (Lamminmaki, 2007, 2009). TCE promises that “the greater the extent of a transaction (i.e., for large and recurring transactions), the more likely the transaction will be internally managed due to the production economies that can be obtained” (Lamminmaki, 2007). This leads to the following hypothesis:

*H4: The higher the frequency of accounting functions, the lower the accounting function outsourcing intensity*

#### **Trust in Accountant:**

“trust in the external accountant as the expectation of the executive that the accountant (1) can be relied upon to fulfil legal obligations, (2) will behave in a predictable manner, and (3) will act and negotiate fairly when the possibility for opportunism is present” (Everaert *et al.*, 2010, p.101). Hence, Tian *et al.*, (2008) argue trust in external service provider is developed via relationship between parties to minimize potential opportunism. For instance, TCE argues when trust is enhanced and both parties feel confident in their relationship, the opportunism and transaction costs will be diminished (Verwaal *et al.*, 2008; Hansen and Morrow, 2003). Accordingly, TCE supports the view that when there is trust, the formal control mechanisms may be reduced, and firm tends to outsource their service functions (Verwaal *et al.*, 2008). Overall, the higher the perceived trust in professional accountants, the higher is the likelihood that the owner-managers of SMEs will choose to outsource their accounting functions (Everaert *et al.*, 2010; Verwaal *et al.*, 2008; Hansen and Morrow, 2003). As a result, the following hypothesis is proposed:

*H5: The higher the level of trust of the SME owner/manager in the professional accountant, the higher the accounting function outsourcing intensity*

### **Research Methodology:**

#### **Data Collection:**

Following the definition of SMEs in Iran (Ale Ebrahim *et al.*, 2010), we limited our sample to firms employing fewer than 250 employees, while excluding micro-firms with fewer than 10 employees because these enterprises hardly have any option between insourcing and outsourcing of accounting functions. We utilized the Iran Small Industries and Industrial Parks Organization (ISIPO) database (<http://www.iraniec.ir>), excluding services and public companies, and included only manufacturing sector. This resulted in a population of 17,100 enterprises. Then, we selected a sample of 1750 manufacturing SMEs randomly, using a systematic probability method. A questionnaire was designed and developed based on prior studies, and then the questionnaires were sent to each selected SME owner/manager by post mail on 5 March 2010. However, we finally had only 658 usable responses, representing an effective response rate of 38 percent.

#### **Variable Measurement:**

##### **Dependent variable Outsourcing intensity:**

In order to achieve the objective of this research, this study identified nine types of accounting functions (see Table 1) applicable in the Iranian SME sector (Kamyabi and Devi, 2011). We used the measurement developed by Espino-Rodríguez and Padrón-Robaina (2004) and Espino-Rodríguez *et al.*, (2008) and respondents were asked to indicate the level of accounting functions outsourcing on a 7-point Likert type scale, with 1= not outsourced, and 7= totally outsourced. The variable details are seen in Table 1.

##### **Independent Variables:**

##### **Asset specificity:**

Human assets are specific when accountants need specialized knowledge of the specific characteristics of the firm so as to carry out certain accounting practices (see items 1, 2, 3 and 4 in Table 1) (Everaert *et al.*, 2010). In addition, item 5 (the accounting software) was included to capture the extent to which physical assets were specific to the firm (Everaert *et al.*, 2010). Hence, based on measurement proxies from prior studies (Everaert *et al.*, 2010; Espino-Rodríguez *et al.* 2008), we asked respondents whether the accountant needs to obtain firm-specific information to adequately perform the accounting functions on a 7-point Likert scale with the range from 1- totally disagree to 7-totally agree (see, Table 1).

##### **Environmental Uncertainty:**

Consistent with Everaert *et al.*, (2010), Lamminmaki (2007) and Widener and Selto (1999), we first requested respondents to indicate to what extent the accounting functions workload may vary in their firm on a 7-point Likert scale with the range from 1- totally disagree to 7-totally agree. Next, the respondents were asked whether the firm's business organization had changed from the previous year on a 7-point Likert scale with the range from 1- totally disagree to 7-totally agree (Everaert *et al.*, 2010). The measurement of these items is shown in Table 1.

##### **Behavioral Uncertainty:**

The respondents were asked to determine whether the accountant has correctly (accurately) performed the nine types of accounting functions over the previous year on a 7-point Likert scale with the range from 1- totally disagree to 7-totally agree (Everaert *et al.*, 2010; Lamminmaki, 2007). Table 1 shows the measurement details.

##### **Frequency:**

In this study, frequency of accounting functions is measured in two ways (Lamminmaki, 2007). First, respondents were asked about the periodicity with which each of the nine types of accounting functions had been performed over the previous year (Lamminmaki, 2007; Everaert *et al.*, 2010). Their responses might be stated as "daily, weekly, monthly, quarterly, semi-annually, and yearly". Second, "respondents were asked to indicate total amount (volume) of invoices (sales and purchases) that the accountant has processed for their firm during the previous year in six categories" (Everaert *et al.*, 2010). For computing of the overall frequency measure, the periodicity measure was combined with the size measure (volume of invoices). The measurement of these items is shown in Table 1.

##### **Trust in accountant:**

Trust in accountant was measured by asking respondents to indicate the extent to which they trust the professional accountant with each of statement on a 7-point Likert scale with the range from 1- totally disagree to 7-totally agree (Hansen and Morrow, 2003; Everaert *et al.*, 2010). Table 1 shows the measurement details.

**Control Variables:****Firm size:**

We used firm size as control variable because the size of the firm (number of employees) is as an important factor affect outsourcing decision (Delmotte and Sels, 2008). Therefore, we measured firm size based on number of employees similar to Gooderham *et al.*, (2004), asking respondents how many people work in the business.

**Firm Age:**

The firm age is included as second control variable because it is a key driver on outsourcing decision (Delmotte and Sels, 2008). Respondent was asked to state the year when the business was registered to enable the computation of firm age (Delmotte and Sels, 2008).

**Table 1:** Multi-item variable measurement.

| Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Chronbach's alpha |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Outsourcing<br>1.Bookkeeping work<br>2.Preparation of financial statements<br>3.Payroll accounting<br>4.Budgeting / forecasting<br>5.Customer profitability analysis<br>6.Product costing<br>7.Financial planning<br>8.Financial management services<br>9.Design/review internal control systems                                                                                                                                                                                                                                                                                                                                     | 0.97              |
| Asset specificity<br>1.To perform (process) the routine accounting functions (e.g. bookkeeping work and preparation of financial statements ) the accountant needs to obtain firm specific information<br>2.To perform the non-routine accounting functions (i.e. product costing and financial planning) the accountant needs to obtain firm-specific information<br>3.The way we perform the accounting functions is unique to our firm<br>4.it would be costly in terms of time and resources to switch to a professional accountant at the end of the financial year<br>5.The accounting software is custom-tailored to our firm | 0.98              |
| Environmental uncertainty<br>1.During the previous year, there was a lot of variation in the workload related to routine accounting functions (e.g. bookkeeping work related unstable number of purchase and sales invoices because of seasonal trends)<br>2.During the previous year, there was a lot of variation in the workload related to non-routine accounting functions (i.e., financial planning and financial management services, etc)<br>3.During the previous year, there were relevant changes in the business organization of the company (e.g., acquisitions, changes in corporate structure)                        | 0.85              |
| Behavioral uncertainty<br>1.Bookkeeping work<br>2.Preparation of financial statements<br>3.Payroll accounting<br>4.Budgeting / forecasting<br>5.Customer profitability analysis<br>6.Product costing<br>7.Financial planning<br>8.Financial management services<br>9.Design/review internal control systems                                                                                                                                                                                                                                                                                                                          | 0.96              |
| Frequency<br>1.Bookkeeping work<br>2.Preparation of financial statements<br>3.Payroll accounting<br>4.Budgeting / forecasting<br>5.Customer profitability analysis<br>6.Product costing<br>7.Financial planning<br>8.Financial management services<br>9.Design/review internal control systems<br>10. Total amount of invoices (sales and purchases) that the accountant has processed during the previous year**                                                                                                                                                                                                                    | 0.98              |
| Trust in accountant<br>1. Owner/manager has confidence that the professional accountant will treat us fairly, this means to correctly charge for the performed duties<br>2. Owner/manager has confidence that the professional accountant will inform us correctly<br>3. Owner/manager has confidence that the professional accountant will accurately perform the duties<br>4.The relationship between the SME and the professional accountant is based on trust                                                                                                                                                                    | 0.93              |

\*\*1) Less than 1,000; 2) 1,000 – 5,000; 3) 5,001 – 10,000; 4) 10,001 – 20,000; 5) 20,001 – 30,000; 6) more than 30,000.

**Results:****Respondent Characteristics:**

The respondents of the study consisted of 79% male and 21% female. From the 658 completed questionnaires, a high proportion (38%) of the respondents was in the age range of 30 to 39. Most of the respondents were well educated (over 70 percent), and the average years of managerial experience were high with nearly three-fourth of respondents having over five years of experience. In addition, means and standard deviation (S.D) and correlations among the independent variables are shown in Table 2.

**Table 2:** Descriptive statistics and correlation matrix.

| Variables     | Mean | S.D  | 1       | 2       | 3     | 4     | 5       | 6     | 7      | 8 |
|---------------|------|------|---------|---------|-------|-------|---------|-------|--------|---|
| 1.Outsourcing | 4.40 | 1.67 | 1       |         |       |       |         |       |        |   |
| 2.Asset-sp    | 3.33 | 1.61 | -.565** | 1       |       |       |         |       |        |   |
| 3.Envi-unc    | 3.69 | 1.79 | -.014   | .080*   | 1     |       |         |       |        |   |
| 4.Beh-unc     | 4.41 | 1.71 | -.023   | -.007   | .061  | 1     |         |       |        |   |
| 5.Frequency   | 2.82 | 1.72 | -.430** | .220**  | -.010 | .002  | 1       |       |        |   |
| 6.Trust       | 4.70 | 1.93 | .593**  | -.362** | -.018 | -.045 | -.266** | 1     |        |   |
| 7.Firm Size   | 2.81 | 1.42 | .015    | -.051   | -.041 | .001  | .017    | .029  | 1      |   |
| 8.Firm Age    | 3.81 | 1.57 | .039    | -.022   | -.025 | -.008 | -.013   | -.005 | .486** | 1 |

\*\*correlation is significant at the 0.01 level (2-tailed)

\*correlation is significant at the 0.05 level (2-tailed)

As shown in Table 2, the correlation between independent variables was such that multicollinearity is not a concern.

**Hypotheses Testing:**

We initially estimated two models. In the first model, we included independent variables and dependent variable in Multiple Linear Regression Equation. Accordingly, results (Model 2) show a significant negative coefficient for asset specificity, indicating that asset specificity is negatively associated with accounting function outsourcing intensity ( $p < 0.01$ ). Hence, Hypothesis1 was supported. Furthermore, the link between environmental uncertainty and accounting function outsourcing intensity as shown in Model 2 generated a coefficient value of 0.020 and this is not significant at 0.01. Therefore, Hypothesis2 was not supported. Additionally, as shown in Model 2, the link between behavioral uncertainty and outsourcing intensity is -0.008 and this was not significant at 0.01. This means that behavioral uncertainty was not associated with accounting function outsourcing intensity. Hence, Hypothesis 3 was not supported in this study. Besides, the coefficient value for the route from frequency to accounting function outsourcing intensity is -0.236 and this was significant at 0.01. Hence, support was found for Hypothesis 4, which stated that frequency is negatively associated with accounting function outsourcing intensity. However, with a coefficient value of 0.341, the association between trust and accounting function outsourcing intensity was deemed to be significant at 0.01. Therefore, we also found strong support for Hypothesis 5, that the trust of the SME owner/manager in the accountant was associated with outsourcing of accounting functions.

**Table 3:** Results of multiple regression analyses.

| Variables                 | Outsourcing       |                   |
|---------------------------|-------------------|-------------------|
|                           | Model 1           | Model 2           |
|                           | Coefficient (S.E) | Coefficient (S.E) |
| Firm size                 | -                 | -0.039 (0.035)    |
| Firm age                  | -                 | 0.049(0.032)      |
| Asset specificity         | -0.383(0.030)***  | -0.383(0.030)***  |
| Environmental uncertainty | 0.020 (0.025)     | 0.020(.025)       |
| Behavioral uncertainty    | -0.008(0.026)     | -0.008(0.026)     |
| Frequency                 | -0.236(0.027)***  | -0.234(0.027)***  |
| Trust in accountant       | 0.341(0.025)***   | 0.342(0.025)***   |
| Constant                  | 4.713 0.247)      | 4.624 (0.275)     |
| R <sup>2</sup>            | 0.548             | 0.550             |
| Adjusted R <sup>2</sup>   | 0.544             | 0.545             |
| F statistic               | 158.054           | 113.354           |

Note: n=658. Unstandardized coefficients reported. Numbers in parentheses are Standard Errors (S.E).

\*\*\* Significant at 1% level

Finally, Table 3 (Model 2) presents additional analyses undertaken to examine the relationship between the independent variables and accounting function outsourcing intensity controlling by firm size and firm age. Accordingly, it is shown that the three independent variables (asset specificity, frequency and trust in the accountant) have significantly associated with outsourcing intensity of accounting functions while control variables were included in regression equation ( $p < 0.01$  respectively), whilst environmental uncertainty and

behavioral uncertainty were not associated. Surprisingly, accounting function outsourcing intensity is not associated with size and age of the firm in Model 2.

#### **Discussion and Conclusions:**

This paper examines the factors associated with a firm's decision to outsource accounting functions from a TCE view in an Iranian context. This study found support for three TCE predictions. The relationship between asset specificity and accounting function outsourcing intensity is negative and significant. This finding is in line with previous studies (Alvarez-Suescun, 2010; Everaert *et al.*, 2010; Widener and Selto 1999; Spekle' *et al.*, 2007) which found asset specificity was negatively associated with outsourcing intensity. Hence, this is consistent with TCE model, which indicates when the accounting functions have high levels of asset specificity, the contractual negotiations more contentious and the search for professional accountants will be longer.

Contrary to the TCE model, environmental uncertainty was not related to accounting function outsourcing intensity. This finding contradicts preceding studies (Lamminmaki, 2007) which found a negative relationship between environmental uncertainty and outsourcing of other service functions (e.g., food and beverage, general maintenance). However, those results may not be appropriate for outsourcing of accounting functions because if the accounting functions are not specific to the SMEs, they might be readily available from professional accountants, irrespective significant variation in the workload. If these accounting practices are specific to the SMEs, such functions should be carried out within the firms, irrespective of the fact that their scheduling is uncertain or not (Kamyabi and Devi, 2011).

In contradiction of the TCE model, behavioral uncertainty does not play a significant role in accounting function outsourcing intensity. Therefore, this finding is in line with previous research in other service functions such as internal audit, financial accounting, and IT (Widener and Selto, 1999; Everaert *et al.*, 2010; Alvarez-Suescun, 2010) indicated that behavioral uncertainty does not affect outsourcing intensity. Although Dibbern and Heinzl (2009) found that behavioral uncertainty is a significant factor in the outsourcing decision of some service functions (i.e., information systems), but it may not be applicable for accounting functions. Two plausible reasons can be identified: firstly, measurement problems can damage the performance of accounting sourcing modes, which makes the choice inappropriate (Alvarez-Suescun, 2010). Secondly, it is not difficult to evaluate whether accounting functions were processed accurately by accountant because there are several software tools to check the accurateness (correctness) of accounting practices (i.e. input of data).

The finding has provided support for TCE's frequency prediction, which indicates frequent (high frequency) accounting functions are more likely to be performed inside the firm. This implies that SMEs are able to produce economies of scale for the accounting practices that are recurrent and sizeable, in order that they are likely to provide such accounting functions inside the firm. This result is similar to finding of previous research (Everaert *et al.*, 2010; Widener and Selto 1999; Spekle' *et al.*, 2007) which found frequency is significantly negatively associated with outsourcing of accounting and internal audit functions.

Trust in accountant was significantly associated with the accounting function outsourcing intensity. This finding is in harmony with TCE presumption which argues trust is developed via relationship between parties to assist in minimizing potential opportunism and transaction costs. This result corroborates prior study (Verwaal *et al.*, 2008) which found a positive association between trust in external service provider and outsourcing of service functions. Besides, it is notable that control variables (firm size and firm age) were not associated with outsourcing.

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