The Effects of Intra- and Extra-Organizational Factors on Management Accounting Practices in the Privatization Processes: Evidence from Iran

Fatemeh Safari Sarchah
Ph.D Student, Accounting Department, Zahedan Unit, Islamic Azad University, Zahedan, Iran
fateme.safari8280@yahoo.com

Hassan Yazdifar
Professor of Accounting and Head of Accounting, Finance and Economics Department at Bournemouth University, UK
(Corresponding author)
hyazdifar@bournemouth.ac.uk

Ahmad Pifeh
Assistant Professor in Accounting, University of Sistan and Baluchestan, Zahedan, Iran
pifeh@acc.usb.ac.ir

ABSTRACT

The specific aim of this academic study is to investigate the possible impacts of external and internal factors in the unique process of privatization on the changes of management accounting practices in listed companies of Tehran Stock Exchange which more than 51% of this companies' shares have been transferred to the private sector. For this purpose, a theoretical framework scientifically based on the key concepts of institutional theory (new institutional sociology and old institutional economy), structural theory and dialectical perspective has been applied that provide an exhaustive explanation of organizational changes by acknowledging the conflicts of internal and external determinants and the critical role of the human factor. Totally, 60 companies which their ownership transferred to the private sector during the period from 2002 to 2017 were investigated in the current paper. To collect empirical data, a questionnaire survey was adopted; moreover the structural equation modeling approach is applied to examine the hypothesis employing Smart PLS software and Friedman rank test using SPSS software. The key findings sufficiently reveal that external factors (mainly through progressively increasing of shareholders supervision), the internal factors (mainly through increasing of management influence) and through mediating variable of organizational contradictions exert a significant effect on the management accounting practices. As a result, in the process of privatization, two factors of increasing the shareholders' supervision and increasing of management influence, receive the most primary impact on the management accounting practices change. Furthermore, apparent inconsistency typically resulting from the incompatibility of external and internal factors causes differences among the members and affords the conditions of changes in the organization's systems. The results of the current research can be valuable for the effectiveness of management accounting changes in the process of mergers and acquisitions in developing countries.

Keywords: Privatization, External organizational factors, Internal-organizational factors, Management accounting practices, Information and management systems.

1. Introduction

In recent years, rapid changes in the environment and increasing competitive pressure have changed the external environment of organizations that continuously affect their internal processes, such as the management accounting system (Chung et al., 2012). When organizations face significant environmental changes, the role of traditional management accounting, including formal controls and reporting methods, is not sufficiently suited to respond new demands, so management accounting systems should be updated on the basis of new and different information needs (Ahmad and Zabri, 2015). In order to maintain competitive advantage, organizations must adapt to changes that come from external sources such as competitors, customers, state, and changes in laws or from internal sources such as cost reduction and quality state. The management accounting can direct and help managers to make the right decisions for dynamics of the commercial environment (Rezaie and Mehrazin, 2014). Many countries have rejected public sector laws and changed their organizational environment. The main justification for such revisions is that private organizations are efficient and effective in their activities and services in a competitive and economical environment (Wanderley, 2010). The increase in volumes of activity and inefficient consumption of state companies in developing countries, including Iran, has made the state aware that in order to improve the efficiency and increase the productivity of the country's material and human resources and to make the state more effective in policy making and reaching economic development, the stock of state companies should be transferred to the private sector (Law of the Third Plan, 18).

By the competitiveness of companies' activities, especially after privatization and attempts to reduce the prime cost of goods and services, the optimal administration of companies require management accounting tools and techniques (Phadoongsitti, 2003). In other words, new conditions require new techniques to adapt to changes and developments. Therefore, management accounting in the future is expected to be more used in adapting and using innovative techniques and can compete with the competitive environment (Ahmad, 2012).

Given the increasing trend of privatization of state companies in recent years in accordance with Principle 44 of the Constitution of the country, it is necessary to determine the effects of privatization policy on the performance and structure of companies, which is an increase in the efficiency of their activities (Dehgan et al., 2015).

Since the management accounting change is not a uniform phenomenon and occurs in a dynamic world, as a result, many factors, including internal and external factors, are expected to change organizations (Grandy, 1993). According to Innes and Mitchell (1990), the change in management accounting systems is related to different roles of key factors in the process of change. Among the key factors influencing the process of management accounting change in a private company are external factors including new regulations at the economic and political level, new organizational practces and criteria, and internal factors including organizational culture and power relations within the company.

Many researchers are interested in understanding management accounting change (Innes and Mitchell, 1990; Chen Hall and Langfield Smith, 1998; Baines and Langfield Smith, 2003). For example, Chen Hall and Langfield Smith (1998) have examined the benefits of management accounting change, but less about the factors that make this change (Allahyari, 2011). Although literature on management accounting changes has been identified, but benefits of privatization in the management accounting change process are unclear (Wanderley, 2010). There are few studies on the effects of privatization in accounting in developing countries and less developed countries (Hopper et al., 2009). There are very few studies to understand the relationship between privatization and management accounting change (Wanderley, 2014). The research background shows that our awareness of the factors affecting management accounting changes in the privatization process in developing countries is limited and considering that comprehensive research on this issue has not been carried out in companies admitted to the Tehran Stock Exchange. Therefore, the present study adds to this section of the research background to determine which intra-organizational and extra-organizational factors of privatization affect the change in management accounting systems and information and management systems of companies?

Recent research, using institutional and structural theories, examines whether the process of privatization of the companies using internal and external factors affect the management accounting practices? This paper presents a theoretical framework model based on the theories of new institutional sociology, old institutional economy, and the dialectical perspective which is a subset of institutional and structural theories to examine the effect of privatization factors on management accounting change to Tehran Stock Exchange companies. The paper's theoretical framework model is a combination of the three frameworks of Dillard et al. (2004), the Burns and Scapens (2000), and the Seo and Creed (2002) framework, which are used based on the Wanderley (2010) to explain, interpret, and understand the effects happened in the companies. In the following, theoretical principles of management accounting and intra-organizational and extra-organizational factors and research background are described. Then, the hypotheses and method of research are explained and the research findings are presented using data analysis. Finally, the discussion and conclusion have been presented.

2. Literature Review

Management Accounting, Change and Privatization

Yazdifar et al. (2012) confirmed the issue of organizational change has assumed central importance in business and management and Management accounting is no exception. Change in management accounting systems and techniques, the roles of accountants in business and, more generally, change in the shape of the finance function have particularly been the subjects of much debate in recent decades. They review two prominent approaches to change namely planned and processual approaches and concludes that a processual approach provides a richer and more enhanced understandings of management accounting change. In a paper titled "Management Control and Privatization in the United Kingdom", Cragg and Dyck (1999) examined the links between ownership and internal control for a sample of 112 state-owned, privatized, and publicly traded firms in the United Kingdom from 1970 to 1994. Privatized firms with at least four years in the private sector, like established publicly traded firms, exhibit a significant negative relationship between improved performance and the probability of resignation. Simulations using model estimates show a one-standard-deviation decrease in performance raises the probability of resignation by 90% in publicly traded firms and by 180% in established privatized firms. State-owned firms and privatized firms in their first four years show no relationship between the probability of resignation and changes in financial performance.

Tsamenyi et al. (2010) consider Post-privatization performance and organizational changes through a Case study from Ghana and conclude that overall the performance of both organizations improved after privatization under all the performance dimensions examined. These improvements were also accompanied by certain organizational changes, including changes in the accounting and control systems. However they are not claiming that all privatization programs in Ghana have been successful. In fact there are stories in the Ghanaian media of several other privatization failures in the country. Instead what they have demonstrated is the need to explain the performance of privatized firms beyond the myopic macro-level and financial analysis which has been widely adopted by the international financial community and policy makers and they encourage other researchers to adopt such multidimensional approaches.

Macías (2002) ppublish a paper titled 'Privatization and Management Accounting Systems Change: The Case of the 19th Century Spanish Tobacco Monopoly' and examined changes to the accounting system of the Spanish tobacco monopoly in 1887, following the decision by the state to lease the publicly owned and state-run monopoly to a private-sector company. The switch to private-sector management generated a fundamental change in the demands made of the accounting system. As a result, double-entry bookkeeping and a new method of calculating costs were implemented. The paper discusses the motives behind the design of the new accounting system and its consequences using the framework provided by agency theory. It highlights the need to consider the role of the capital structure of the firm and the state as explanatory factors for both the parameters and uses of cost accounting information.

Zahirul, and Manzurul (2004) report on a field study of how privatization programs affected management accounting and control systems in two privatized jute goods manufacturing firms in Bangladesh. The change to the organizations' structures and operations arising from privatization is explained using the notions of leadership styles, external legitimacy, and cultural values and social norms. They revealed that government's privatization programs resulted in wide-ranging changes to financial and administrative junctions of the organizations. These changes included participative management styles, decentralized organizational structures, multidimensional performance measurement systems, worker participation, and a new incentive policy for workers. Leadership styles appeared to have a significant impact on the design and operation of innovative management control systems. This new organizing paradigm is well suited to changing social, economic and cultural conditions in the organizations studied.

Management Accounting Theories

Systems or procedures can be improved with using theories to help management, staff, interest groups or the entire community. In the literature of privatization, Johnson et al. (2000) considered the concept of privatization to be a move from an organizational model to another, and argued that privatization creates institutional changes (Johnson et al., 2000). Institutional theories have recently appeared in the literature on management accounting change including institutional theories, modern institutional sociology theory and the old institutional economics.

Researchers of modern institutional sociology theory believe that the environment affects management accounting systems and, as a result of pressure from external environment, formulate accounting management systems (Wanderley, 2010). The old institutional economy focuses on the intra-organization rather than on the macro level. Consequently, the old institutional economy is incapable of explaining the effect of environmental pressures on the management accounting change process. In contrast, modern institutional sociology focuses on the extra-organization. So, a modern institutional sociology is weak in internal dynamics analysis of the organizational change. Therefore, two theories can cover these defects and complement each other. As a result, it seems that the combination of these two theories is necessary for a better understanding of the process of management accounting change, since intra-organizational and extra-organizational factors that form the organization's accounting management practices are considered (Wanderley et al., 2011). Therefore, in this study, based on these two theories, it is tried to measure the effect of intra-organizational and extra-organizational factors on management accounting practices.

An institutional theory is incapable of explaining the role of human in the process of organizational change. Structural theory is used to cope with the role of human in the process of management accounting change and overcoming the dilemma of institutional theory. Structural theory creates a dynamic relationship between structure and human, which results in changes in the social structure and system and then in human actions. Giddens (1984) shows a social structure is independent of the human factor, and not a human factor independent of the structure. In other words, human factors rely on the community. Seo and Creed (2002) found that human factor is a mediating variable between organizational conflicts and institutional change. The human factor can change the structure. Giddens (1984) argued that organizations can be modified through human factor actions. Therefore, in this research, based on this theory, the human factor is presented as a mediating variable to examine the effect of the organizational conflict that results from the incompatibility of intra-organizational and extra-organizational factors through the human factor actions on management accounting practices and other organizational systems.

Management Accounting Change

Because of the major changes of organizations several decades ago, the discussion about the nature and role of management accounting systems within organizations has increased (Marginson and Ogden, 2005). After 1980, the discussion about the stages of management accounting change in organizations was widespread, and a major discussion among the management accounting researchers after the publication of the Missing Relationship Book, the up and down of management accounting were occurred by Johnson and Kaplan in 1987. They believed that there was not enough change in management accounting practices to follow organizational changes and to increase demand for information. Because of this, they demanded the development and implementation of new accounting management practices. Since then, new management accounting practices have been developed (Wanderley, 2010).

The management accounting change can be defined as the ability of the management accounting systems compatible with changes in the organization's internal and external environment (Macy and Arunachalam, 1995). Wijewardena and De Zoysa (1999) stated that the management accounting should respond to any change in the environment and accountants should make timely changes to their systems.

Although some researchers claimed that the main nature of management accounting practices has not changed (Drury et al., 1993). There is evidence that the use of accounting systems or intra-organizational practices has changed (Bromwich and Bhimani, 1994). Therefore, many organizations are experiencing significant changes in organizational design, the competitive environment, and information technology, which highlighted the need for management accounting changes (Burns and Vaivio, 2001). In the privatization process, change is due to various reasons including deregulation, increasing competition, external pressure from financial institutions, public demands, and social, political and cultural pressures (Hoque and Alam, 2004). This necessitates the need for a change in management accounting systems. Companies after being privatized are affected by the laws and regulations issued. External factors (eg, state policies, regulations, supplier relationships) affect organizations in adopting specific internal structures and processes (Moll et al, 2006). Laitinen (2006) used four categories of factors to explain the change in management accounting including organizational factors; financial factors; motivational factors and management tools, while various factors are associated with the change in management accounting (Allahyari, 2011), which are referred to below.

Intra-organizational and Extra-organizational Factors of Privatization

The literature review of recent studies shows various factors that change the management accounting systems and different techniques of the organization with external and internal nature. Burns et al. (1999) argued that to understand the change in management accounting, both internal and external environments need to be investigated (Wijewardena et al., 2004). Although external factors may play a dominant and frequent role as stimulate of change (Scapens et al., 2003). Many researchers used both categories in their research on management accounting systems (Amat et al., 1994; Haldma and Laats, 2002; Abdel-Kader and Luther, 2008). Based on this, the formation of a proper management accounting system is influenced by a variety of environmental and organizational factors that researchers have examined the effect of these factors on accounting and management accounting.

Table 1. The research findings on intra-organizational and extra-organizational factors

Factors		Researchers and year	Results
Competition		Haldma and Laats, 2002; Wijewardena et al., 2004;Sulaiman and Ramli; 2008; TuanMat et al., 2010; Dianti Deilamai et al., 2016; Pirayesh and Seyedi, 2015	Competition affects the management accounting systems.
Technological changes		Haldma and Laats, 2002; Wijewardena et al., 2004; Burns and Baldvinsdottir, 2007; Albu and Albu, 2012; Arabi and Kavianifard, 2013; Dianti Deilami et al., 2016; Pirayesh and Seyedi, 2015	Changes in technology affect accounting management systems.
Environmental factors	Economic factors	Hopwood, 1972; Amat et al., 1994	Environmental factors affect management accounting systems.
	Changing the commercial environment, deregulation of the financial sector, new employment practices	Albu and Albu, 2012	
	The role of market forces	Alhashmi, 2014	
	Competitors pressure, customer demand, high expectations of shareholders	Khani and Ahmadi, 2012	
	Change in the social, political and cultural environment	Pirayesh and Seyedi, 2015	

Factors	Researchers and year	Results
Customer	Alhashmi, 2014; Pirayesh and Seyedi, 2015	Customer affects management accounting systems.
Ownership change	Jones, 1985	Ownership change improves management accounting
Organization strategies	Haldma and Laats, 2002; TuanMat et al., 2010; Verbeeten, 2010; Albu and Albu, 2012	The organization's strategies affect the change in management accounting practices.
Culture	Macarthur, 2006; Albu and Albu, 2012; Alhashmi, 2014	Culture affects management accounting practices.
Management style	Hopwood, 1972; Sulaiman and Ramli, 2008; Pirayesh and Seyedi, 2015	Management style affects management accounting changes.
Organizational Structure	Innes and Mitchell, 1990; Haldma and Laats, 2002; Wijewardena et al., 2004; Abdel-Kader and Luther ; 2008; TuanMat et al., 2010; Verbeeten, 2010; Albu and Albu, 2012.	The organizational structure affects the change in management accounting practices.
Company size	Haldma and Laats, 2002; Wijewardena et al., 2004; Abdel-Kader and Luther, 2008; Albu and Albu, 2012	The size of the company affects management accounting practices.
Staff	Innes and Mitchell, 1990; Laitinen, 2001; Granlund, 2001; Al-Nimer, 2010	Staff affect management accounting practices.
Intra-organizational power	Amat et al., 1994; Collier, 2001	Intra-organizational power affects the change in management accounting practices.

Organizational Conflicts

The organizational conflict accumulation, as a result of the external environment as well as the basic intra-organizational practices and assumptions, is created as a result of different interests among members of the organization, which initiates the actual process of change in the organization (Wanderley, 2010). Seo and Creed (2002) identified four sources of organizational conflicts including technical inefficiency, incompatibility, organizational incompatibilities, and inconsistent benefits. The first three sources of conflict are inherently related to the external environment, while the last source is related to intra-organizational factors, such as the power relations within the organization (Wanderley, 2010). Burns and Nilsson (2006) argued that conflicts indicate extera-organizational and intra-organizational incompatibilities that create social measures and can create tensions and conflicts.

The Human Factor

The human is part of the duality of the structure. One can do different measures in different situations and has three personality dimensions:

1.Practical knowledge is a reflection of action, and people have knowledge of what they do, but they do not express it. 2. Discourse knowledge (action rationality): People are able to orientate about what they are doing. Unconscious (action motive): Individuals are looking for action, and they take the idea of doing things that lead to management tensions (Wanderley, 2010). The accumulation of conflicts creates a disagreement among members of the organization and creates conditions for organizational change. In fact, human factor is a mediating variable between organizational conflicts and organization change (Wanderley, 2010). In the previous research, the closest researches on the subject matter are the following.

Kashanipour et al. (2018) investigated the effect of economic and human factors on the use of management accounting tools in Listed companies of Tehran Stock Exchange. The results of the research showed that there is no relationship between economic and human factors in using management accounting tools.

Pakmaram and Rezaei (2017) examined the effect of the competitive environment and organizational characteristics on management accounting and organizational performance practices. The results of the research showed that change in the competitive environment has a positive and significant relationship with the change in organizational structure and strategy, and the change in the organization's strategy in turn leads to a change in the management accounting system.

Dianti Deilami et al. (2016) investigated the relationship between privatization, the use of management accounting tools and financial performance of Listed companies on Tehran Stock Exchange. The results of the research showed that the use of management accounting tools has a positive relationship with financial performance of companies and their privatization.

Abugalia and Mehafdi (2018) examined the effect of the commercial environment and commercial strategy on the effectiveness of management accounting practices using the probability theory of Libyan manufacturing and non-manufacturing companies. The results show that commercial strategy and commercial environment affect management accounting practices.

Kordlouie and Hosseinpour (2018) studied the effect of commercial potential and operational technology in management accounting practices in small and medium companies. The results showed that commercial potential that includes customer power, technological advancement and market competition, and operational technology that includes the complexity of processing systems, advanced production technology and comprehensive quality management, has a positive and significant effect on management accounting practices.

Amara and Benelifa (2017) examined the effects of internal and external factors on management accounting practices in Tunisian companies. The results show that the intensity of competition, size and activity of the sector and type of company do not have a significant effect on the complexity of management accounting practices, but environmental uncertainty and strategy and structure have a positive effect on the complexity of management accounting practices.

Ahmad and Zabri (2015) examined the factors affecting the use of management accounting practices in Malaysian medium-sized companies. The results show that the size of the company, the intensity of market competition, the commitment of the owner/manager of the company and advanced production technology has a significant effect on the use of management accounting practices.

Mohamad et al. (2015) examined the relationship between competition, strategy, management and performance accounting system. The findings of this study have two results including changes in strategy leading to higher organizational performance through changes in the management accounting system. The changes in competition also improve performance by changing management accounting practices.

Norouzi et al. (2015) examined the relationship between competition and changes in management and performance accounting practices. The result showed that there is a significant relationship between competition and change in management accounting. Also, there is a linear relationship between company activity with competition and management accounting change.

Hoque (2011) examined the relationship between competition, and the board of directors, the change in advanced management accounting, and performance. The results indicate that increasing competition leads to improved organizational performance indirectly through changes in advanced management accounting. He claimed that today's companies in this competition need advanced management accounting to adapt to the changing organizational environment.

Research Hypotheses

Hypothesis 1: Extra-organizational factors of privatization have a significant effect on the management accounting practices in Listed companies of Tehran Stock Exchange.

Hypothesis 2: Extra-organizational factors of privatization through intra-organizational factors (as a mediating variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

Hypothesis 3: Extra-organizational factors of privatization through organizational conflicts (as a mediator variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

Hypothesis 4: Intra-organizational factors of privatization through organizational conflicts (as a mediating variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

Hypothesis 5: Organizational conflicts through the human factor (as a mediator variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

Hypothesis 6: Extra-organizational factors of privatization through intra-organizational factors (as a mediator variable) have a significant effect on organizational conflicts in Listed companies of Tehran Stock Exchange.

Hypothesis 7: Extra-organizational factors of privatization have a significant effect on the organization's information and management systems in Listed companies of Tehran Stock Exchange.

Hypothesis 8: Intra-organizational factors of privatization have a significant effect on the organization's information and management systems in Listed companies of Tehran Stock Exchange.

3. Methodology

This descriptive-causal study was conducted with a cross-sectional approach to companies that implemented privatization policies since 2002 to 2017 and by the end of this year been a member of the Tehran Stock Exchange and more than 51% of their stocks were transferred to the private sector which is estimated at 60 companies. Due to the small number of statistical population, all members of population (60 companies) were examined. The tools for collecting data in this research were a researcher-made questionnaire, which its validity was approved after several supervisions by professors and experts. The final version approved by the questionnaire consisted of 58 questions, which were followed by the 5-points Likert scales. The reliability of the questionnaire was checked through Cronbach's alpha, which reliability of the questionnaire was approved by a value of 0.958 (more than 0.7).

4. Results

Descriptive Analysis of Research Variables

Table 2 shows that the variables of the planning and budgeting system and the reporting system have commonly the highest mean (4.67) and the human factor variable with the has lowest mean (4.40). On the other hand, the skewness and Kurtosis for all variables are between -2 and +2, which indicates the relative symmetry of the data, and it can be said that the data is almost normal.

Table 2. Descriptive statistics of research variables

Variables	Mean	Standard deviation	Skewness	Kurtosis
Extra-organizational factors	4.56	0.77	-1.21	1.56
Intra-organizational factors	4.57	0.80	-1.22	1.79
organizational conflicts	4.55	0.58	-0.74	0.59
Human Factor	4.40	0.84	0.061	-0.57
Performance Evaluation System	4.42	0.86	-1.41	1.45
Balanced Scorecard	4.52	1.18	-1.61	1.66
Planning and Budgeting System	4.67	0.82	-1.34	1.71
Reporting system	4.67	0.84	-1.40	1.76
Organizational Management and Information System	4.42	0.91	-1.23	0.73

Inferential Statistic

Before entering the discussion of analyzing statistical hypotheses, first from the perspective of the reliability of the two questionnaires, the Cronbach's alpha and the composite reliability were used, and from the perspective of the convergent validity and divergent validity, AVE index and Fornell and Larker matrices were used. Table 3 shows that all components of the questionnaire have reliability (more than 0.7) and convergent validity (more than 0.5) that confirms the reliability and convergent validity of the questionnaire.

In Table 4, it is seen that the correlation of each structure with its component is more than the structural correlation with other components (All the numbers in the main diameter of the Larcker and Fornel matrices are larger than the numbers below). In this way, the divergent validity of the questionnaire is also approved.

Table 3. Cronbach's alpha, Combined reliability and Convergent validity (AVE)

Variables	Cronbach's alpha	Combined reliability	convergent validity (ave)
Extra-organizational factors	0.90	0.92	0.55
Intra-organizational factors	0.91	0.93	0.51
organizational conflicts	0.73	0.83	0.59
Human Factor	0.73	0.84	0.73
Management Accounting practices	0.94	0.95	0.53
Organizational Management and Information System	0.75	0.85	0.66

In Table 4, it is seen that the correlation of each structure with its component is more than the structural correlation with other components (All the numbers in the main diameter of the Larcker and Fornel matrices are larger than the numbers below). In this way, the divergent validity of the questionnaire is also approved.

In the following, two indices of R2 and Q2 are presented to determine whether the components of the questionnaire properly evaluate the main variables of the research.

According to the above table, the R2criterion is moderate and sub-moderate for all variables (close to 0.33). Also, the Q2 criterion for the variables considered is more than the average and less than the strong (between 0.15 and 0.35), which confirms that the structural part of the model has a moderate fit.

Table 4. Divergent validity matrix by Fornell Larcker

Variables	Organizational conflicts	Management Accounting practices	Organizational Management and Information System	Human Factor	Extra-organizational factors	Intra-organizational factors
organizational conflicts	0.77					
Management Accounting practices	0.52	0.73				
Organizational Management and Information System	0.19	0.67	0.81			
Human Factor	0.67	0.27	0.00	0.85		
Extra-organizational factors	0.40	0.62	0.51	0.22	0.74	
Intra-organizational factors	0.50	0.47	0.46	0.28	0.70	0.71

Table 3. R2 and Q2 indicators

Variables	R^2	Q^2
Extra-organizational factors	-	-
Intra-organizational factors	0.48	0.19
organizational conflicts	0.25	0.16
Human Factor	0.45	0.28
Management Accounting practices	0.45	0.24
Organizational Management and Information System	0.27	0.21

Finally, the GOF statistic was used for the general fitting of the model.

GOF for this model is equal to:

$$GOF = \sqrt{0.60 \times 0.39} = 0.484$$

Given that the GOF value is more than 0.36, it shows that the overall model has a strong fit.Now, given the confirmation of the questions and the structure of the research model, the model can be fitted, the results of which can be seen in the following figures. In Fig. 1, t statistics for each of the path coefficients between variables are given. In Fig. 2, path coefficients for relations between the research variables are reported.

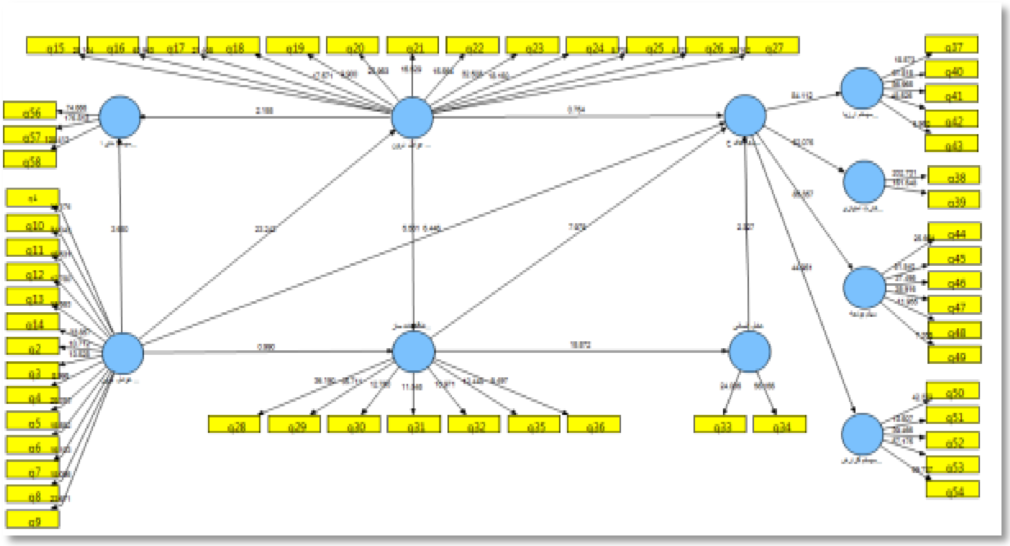

Fig. 1. T-statistic for the model path coefficients

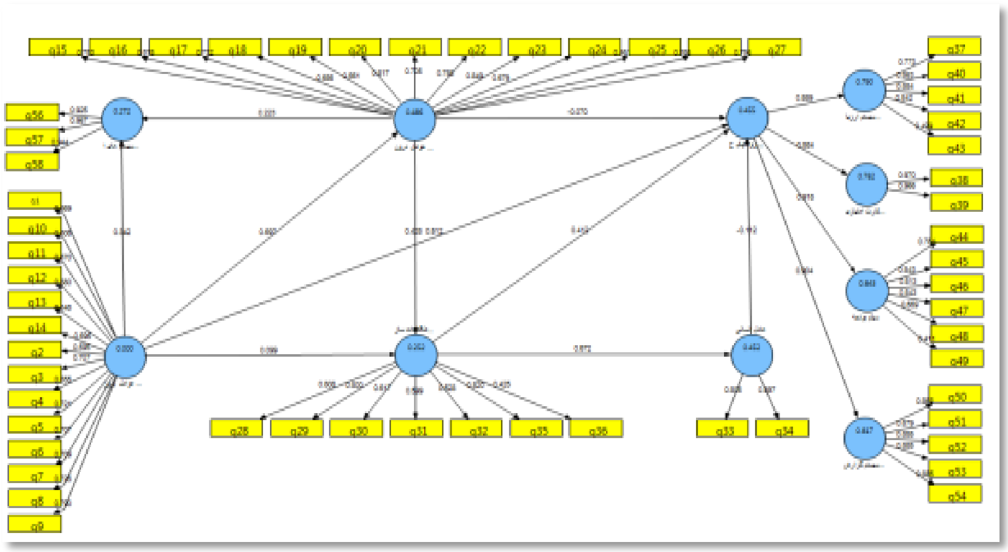

Fig. 2. Model path coefficients

The research hypotheses are then analyzed as follows:

Hypothesis 1: Extra-organizational factors of privatization have a significant effect on the management accounting practices in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic related to the path of extra-organizational factors to the management accounting practices has been reported 6.446 (more than 1.96). On the other hand, the path coefficient of extra-organizational factors to management accounting practices in Fig. 2 has been reported equal to 0.512. Therefore, it can be concluded that the extra-organizational factors of privatization have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange and the examination confirms that this relation is direct and moderate in terms of direction and severity.

Hypothesis 2: Extra-organizational factors of privatization through intra-organizational factors (as a mediating variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

According to figure (1), the t-statistic for the extra-organizational factors to intra-organizational factors has been reported equal to 23.242 (more than 1.96). However, t-statistic on the path of intra-organizational factors to management accounting practices has been reported equal to 0.764 (less than 1.96). In fact, the variable of intra-organizational factors can not play the role of a mediating variable in the relationship between extra-organizational factors variables and management accounting practices. But as a sub-result, it was determined that extra-organizational factors had a significant effect on intra-organizational factors, which according to Fig. 2, the path coefficient was reported equal to 0.697, which indicates a strong and direct effect.

Hypothesis 3: Extra-organizational factors of privatization through organizational conflicts (as a mediator variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

According to Fig. (1), t-statistic on the path of extra-organizational factors to organizational conflicts have been reported equal to 0.990 (less than 1.96). However, t-statistic on the path of organizational conflicts to the management accounting practices has been reported equal to 7.978 (more than 1.96). Therefore, the variable of organizational conflicts can not play the role of a mediating variable in the relationship between the extra-organizational factors' variables and management accounting practices. But as a sub-result, it was found that organizational conflicts had a significant effect on management accounting practices, which according to Fig. 2, the path coefficient has been reported equal to 0.412, which indicates a moderate and direct effect.

Hypothesis 4: Intra-organizational factors of privatization through organizational conflicts (as a mediating variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic of the path of intra-organizational factors to the organizational conflicts has been reported equal to 5.581 (more than 1.96). Also, t-statistic on the path of organizational conflicts on the management accounting practices has been reported equal to 1.978 (more than 1.96). Therefore, it can be seen that the organizational conflict variable can play the role of a mediating variable in the relationship between the in-organizational factors variables and management accounting practices. According to Fig. (2), the path coefficient of intera-organizational factors to organizational conflicts has been reported equal to 0.428 and the path coefficient of organizational conflicts to management accounting practices has been reported equal to 0.412. Therefore, it can be said that the effect of intera-organizational factors on management accounting practices through the mediating variable of organizational conflicts has been reported equal to 0.176, which indicates a weak and direct effect in terms of severity and direction.

Hypothesis 5: Organizational conflicts through the human factor (as a mediator variable) have a significant effect on management accounting practices in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic of the path of organizational conflicts to the human factor has been reported equal to 18.872 (more than 1.96). Indeed, the t-statistic of the human factor path to the management accounting practices has been reported equal to 2.237 (more than 1.96). Therefore, the human factor variable can play the role of a mediating variable in the relationship between the variables of organizational conflicts and management accounting practices. According to Fig. 2, the path coefficient of organizational conflicts to human factor has been reported equal to 0.672 and the path coefficient of human factor to the management accounting practices has been reported equal to -0.112. It can be said that the effect of organizational conflicts on management accounting practices through the mediating variable of the human factor is -0.075, which indicates a very weak and inverse effect.

Hypothesis 6: Extra-organizational factors of privatization through intra-organizational factors (as a mediator variable) have a significant effect on organizational conflicts in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic of the path of the extra-organizational factors to intra-organizational factors has been reported equal to 23.242 (more than 1.96). Also, the t-statistic of the path to intra-organizational factors to the organizational conflicts has been reported equal to 5.581 (more than 1.96). Therefore, the intra-organizational factors variable can play the role of a mediating variable in the relationship between the variables of extra-organizational factors and organizational conflicts. According to Fig. 2, the path coefficient of extra-organizational factors to intra-organizational factors is 0.697 and the path coefficient of intra-organizational factors to organizational conflicts is 0.428. Therefore, it can be said that the effect of extera-organizational factors on organizational conflicts through the mediating variable of intera-organizational factors has been reported equal to 0.298 and shows a direct and relatively weak effect.

Hypothesis 7: Extra-organizational factors of privatization have a significant effect on the organization’s information and management systems in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic related to the path of extra-organizational factors to the organization's information and management systems has been reported 3.650 (more than 1.96) and shows the significance of the path coefficient. Also, in Fig. 2, the path coefficient of extra-organizational factors into the organization's information and management systems has been inserted 0.342, which is considered to be direct and weak in terms of direction and severity.

Hypothesis 8: Intra-organizational factors of privatization have a significant effect on the organization’s information and management systems in Listed companies of Tehran Stock Exchange.

According to Fig. (1), the t-statistic related to the path of intra-organizational factors to the organization's information and management systems has been reported 2.188 (more than 1.96) and shows the significance of the path coefficient. Also, in Fig. 2, the path coefficient of intra-organizational factors into the organization's information and management systems has been inserted 0.223, which is considered to be direct and weak in terms of direction and severity.

Subsequently, by using Friedman's rating test, prioritizing each of the intra-organizational and extra-organizational factors of privatization in terms of importance from the viewpoint of respondents has been addressed. In Table 6, the average rating of each intra-organizational and extra-organizational factors has been presented in descending trend and, it is observed that among the extra-organizational factors, the increasing supervision of the shareholders has the highest rating and the pressure of the laws governing for employment and activities expansion of the company has the lowest rating, and among the intra-organizational factors, increasing management influence has the highest rating and creating motivation in the staff has the lowest rating.

The results of Table 7 can be referred to find out if the average of reported ratings in the TAble 6 for intra-organizational and extra-organizational factors is statistically significant. Considering that the significance level of the test is 0.000 which is less than 0.05, then there is a significant difference between the average ratings of these factors.

Table 6. Average ratings

Variable	Component	Average Ratings
Extra-organizational factors	Increasing supervision of the shareholders	9.22
	Strengthening and expanding the capital market and separating the company from the state body	9.11
	Changing ownership from public sector to private	8.84
	Competitive environment (expansion of competition and breaking of monopolies)	8.78
	Customer orientation (Job satisfaction, customer satisfaction and after-sales services)	8.54
	Political issues (removal of state support policies from the company)	7.81
	Changing the rules as a result of the privatization of state companies	7.58
	The pressure of professional capital market organizations and consultants	7.21
	Increasing capital of a company (capital management and increasing capital productivity)	7.09
	The separation of the company from the same group companies	6.95
	Advanced technology (Technology transformation)	6.81
	Changing social responsibility and increasing company's commitments to stakeholders after privatization	6.77
	Changing pricing practices (reforming the price deviations)	6.76
	Increasing customer demands	5.48
	Pressure of the laws governing for employment and activities expansion of the company	5.13
Intra-organizational factors	Increasing managemen influence	8.75
	Changing the management style	8.67
	How to attract and financing the company	7.98
	Increasing capital of a company (capital management and increasing capital productivity)	7.09
	Changing the company strategy	6.94
	Increasing profits by reducing costs (reducing complex organizational bureaucracies)	6.80
	Reducing managerial levels and administrative hierarchy	6.75
	Increasing profits by increasing revenues (increasing product quality and customer satisfaction)	6.63
	Reforming the financial structure and increasing the shareholder's share in the financing of funds	6.62
	Changing the power way (Power relationships within the organization)	6.49
	Changing company structure	6.54
	Strengthening corporate culture	6.07
	Creating motivation in staff	5.69

Table 7. A significant test of Friedman rank

Variables	Intra-organizational factors	extra-organizational factors
Number	51	51
chi square test	48.71	81.43
Freedom degree	12	13
Level of significance	0.000	0.000

5. Discussion and Conclusions

Given the current state of the country's economy and the intensification of competition in national and international arenas, the importance of privatization and its effect on management accounting practices can be found. Due to the importance of privatization and increasing competition and its effect on organizational systems, the recognition of intra-organizational and extra-organizational factors resulting from privatization is increasingly critical. In this research, it is attempted to examine the effect of intra-organizational and extra-organizational factors of privatization on management accounting practices of companies admitted to the Tehran Stock Exchange. After distributing the questionnaire and its analysis, the results showed extra-organizational factors had a significant effect on management accounting practices ($P < 0.05$). It was equally discovered that intra-organizational factors and their conflicts can not be considered as mediating variables in the relationship between extra-organizational factors and management accounting practices ($P < 0.05$). However, the conflicts in the relationship between intra-organizational factors and management accounting practices played the role of the mediating variable (P <0.05). Another result obtains the significant effect of the conflicts on management accounting practices through the human factor (P <0.05). Other findings of the research can refer to the significant effect of extra-organizational factors on conflicts through the mediating variable of intra-organization factors (P <0.05). It was further found that both extra-organizational factors and intra-organization factors had a significant effect on organizational information and management systems (P <0.05). In conclusion, it was observed that from the point of view of the experts among extra-organizational factors, the increase of the supervision of the shareholders and among the factors of the intra-organizational, the increase of management influence was found as the most crucial factors that exert the broadest effect on the change of management accounting practices. In the previous research, Abugalia and Mehafdi (2018) concluded that the commercial environment and strategy affect management accounting practices. Kordlouie and Hosseinpour (2018) showed that the commercial potential, which includes customer power, technological advancement, and market competition, and operating technology that incorporates the complexity of processing systems, advanced production technology, and comprehensive quality management, maintains a significant and positive effect on management accounting practices. Amara and Benelifa (2017) showed that environmental and strategy and structure uncertainty causes a significant and positive effect on the complexity of management accounting practices. Ahmad and Zabri (2015) showed that the size of the company, the intensity of market competition, the commitment of the owner/manager of the company and advanced production technology receive a significant effect on the use of management accounting practices. Mohamad et al. (2015) concluded that a change in strategy would lead to higher organizational performance through changes in the management accounting system. The changes in the competition also improve performance by changing management accounting practices.

Norouzi et al. (2015) indicated a significant relationship between competition and management accounting change. Moreover, there is a linear relationship between company activity with competition and management accounting change.

Hoque (2011) concluded that today's companies in this competition need advanced management accounting to adapt to the developing organizational environment. Additionally, Pakmaram and Rezaei (2017) showed that change in the competitive environment maintains a positive and significant relationship with changes in organizational structure and strategy and the change in organizational strategy, in turn, leads to a change in the management accounting system. The results of Dianati Deilami et al. (2016) showed that the use of management accounting tools has a positive relationship with the financial performance of companies and their privatization. The results of this research show that intra-organizational and extra-organizational factors affect the management accounting practices that are consistent with the findings of this research. In addition, Amara and Benelifa (2017) in part of their research concluded the intensity of competition and size did not have a significant effect on the complexity of management accounting practices. Furthermore, Kashanipour et al. (2018) concluded that there is no relationship between economic and human factors in the application of management accounting tools that their findings are not consistent with the results of this research. In this research, companies that over 51% of their stocks were left to the private sector were reviewed. It is suggested that all companies left in the private sector be investigated in the future and, based on the percentage of privatization, the effect of factors on management accounting practices be measured and compared. Also, in this research, four management accounting practices were considered based on Wanderley (2010). For future researches, it is suggested that the effects of privatization factors on all management accounting practices be investigated to determine privatization factors have been influenced by which of management accounting practices and has changed them.

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