

# **An investigation of the impacts of external and internal organizational factors in the process of privatization on management accounting practices and financial performance of companies – a study in Iran**

**Fatemeh Safari Sarchah<sup>1</sup>**  
fateme.safari8280@yahoo.com

**Hassan Yazdifar<sup>2\*</sup>**  
hyazdifar@ Bournemouth.ac.uk

**Ahmad Pifeh<sup>3</sup>**  
pifeh@acc.usb.ac.ir

## **Abstract:**

The purpose of this study is to investigate the impacts of external and internal organizational factors of the privatization process on the management accounting practices and the impact of these changes on the financial performance of listed companies on Tehran Stock Exchange that more than 51% of the companies' shares have been transferred to the private sector. This research, based on institutional and structural theories, provides an exhaustive explanation of management accounting practices changes by considering the conflict of the internal and external factors and the role of the human factor in the privatization process. In this study, according to the general policies of Article 44, to increase competitive advantage, management accounting has been used as a mediating variable in the relationship between privatization and financial performance. To this research, 60 companies which their ownership transferred to the private sector during period from 2002 to 2018 were investigated. To collect data, questionnaire survey and companies financial statements were adopted and to test the hypothesis Structural equation modeling using Smart PLS software.

The findings of the study show that external and internal organizational factors in the privatization process, have a significant impact on the management accounting practices that these changes effects on the financial performance of companies. The result is that in the privatization process, the external and internal organizational factors and contradiction of the incompatibility of these factors with the human factor provides the conditions for management accounting practices changes that affect on the financial performance of companies. The results of the current study could be useful for the effectiveness of management accounting changes and its impact on the financial performance of companies in the integration and acquisition process in developing countries.

## **Keywords:**

Privatization, External Organizational Factors, Internal Organizational Factors, Management Accounting Practices, Financial Performance.

## **1.Introduction:**

Increasing the volume of activities and inefficient and inefficient consumption of resources of state-owned companies in developing countries, including Iran, informed the government that in order to improve efficiency and increase the productivity of the country's material and human resources and make the government more efficient in policy-making and economic development transfer shares of

---

<sup>1</sup>. Ph.D. Student, Accounting Department, Zahedan Branch, Islamic Azad University, Zahedan, Iran. [fateme.safari8280@yahoo.com](mailto:fateme.safari8280@yahoo.com)

<sup>2</sup>. Professor of Accounting and Head of Accounting, Finance and Economics Department, Bournemouth University, England (**Corresponding author**). [hyazdifar@ Bournemouth.ac.uk](mailto:hyazdifar@Bournemouth.ac.uk)

<sup>3</sup>. Assistant Professor of Accounting, Sistan and Baluchestan University, Zahedan, Iran. [pifeh@acc.usb.ac.ir](mailto:pifeh@acc.usb.ac.ir)

state-owned companies to the private sector (Third Plan Law). Considering the increasing trend of transferring state-owned companies to the private sector in recent years in accordance with the policies of Article 44 of the Constitution, there is a need to determine the effects of privatization policy on the performance and structure of companies, which is to increase the efficiency of their activities (Dehghan et al., 2015).

In the last decade, major changes have taken place in the business world; Among these developments can mention to the growth of the private sector, globalization, increased competition, and the transformation of large national organizations into multinational corporations (Spathis and Constantinides, 2004). In recent years, privatization has led to rapid changes in the environment and increased competitive pressure, which in addition to changing the external environment of organizations, affects the internal systems and their performance. As companies become more competitive, especially after privatization and efforts to reduce the cost of goods and services, desirable governance of the companies requires new techniques to adapt to change. Thus, management accounting is expected to be used more in the future to adapt and use innovative techniques in order to provide a superior advantage in competitive environments more than before (Ahmad, 2012). In this regard, there are many factors that have changed the accounting management methods of the organization and these changes can affect the financial performance of companies.

Given that Iran is a developing country, it is natural that domestic companies are constantly changing; In this regard, previous researches acknowledges that one of the most important and influential factors on companies change is the development of management accounting in the economies of developing countries; Also, considering that the move towards companies privatization is considered a very important change in developing countries such as Iran, it can be said that further researches in this area is an undeniable necessity (Safari-Sarchah et al., 2019). Previous researches has presented evidence of the impact of intra-organizational factors and other possible factors on companies privatization (Parker, 1995; Wonderley, 2014; Al-Khasawneh et al., 2020; Safari Sarchah et al., 2019; Dianti Deilami et al., 2016; Dehghan et al., 2015; Johnson et al., 2000); But as far as we know and it is obvious, so far few studies have examined the external and internal factors of the privatization process on management accounting methods in Iran; Therefore, in order to fill this information gap, the present study intends to test these relationships experimentally. In this study, the role and effect of this relationship on the financial performance of companies is also examined.

According to the above contents in this study, we seek to investigate this issue:

1. Do external and internal organizational factors of the privatization process affect management accounting methods in Iran?
2. Can the relationship raised in the first question affect the financial performance of companies?

These findings help to better understand the companies privatization process , its importance, the important role of new management accounting methods in the development of emerging economies and the improvement of corporate financial performance through privatization.

The present study discusses the following information gaps and enriches the existing background in the following ways:

First, Iran is a developing country, and given the obvious importance of examining the factors affecting on the development of start-up companies, it is important to examine how these companies change and evolve and their privatization process.

Second, previous studies have focused on the effect of internal organizational factors for the development of management accounting, while in this study, the effect of external organizational factors on the change of management accounting methods has been considered.

Third, the research background shows that few studies have been conducted on the impact of factors affecting the privatization process on the financial performance of companies in emerging

economies, especially Iran, therefore the present study is one of the pioneering studies that tests this important.

Fourth, the present study enriches the theoretical foundations and background of past studies through the application of institutional and structural theories used in management accounting studies.

Fifth, unlike most previous researches, in this study, conditions that have changed the management accounting methods from inside and outside the company and have led to the improvement of companies financial performance have been considered; Among these conditions, we can mention the variables of organizational contradictions and human factor, which have been less studied in similar internal studies.

Given the above, the main question of the present study is:

Do the external and internal organizational factors of the privatization process change the management accounting methods and do these changes affect the financial performance of companies?

In this study, after stating the introduction, first the theoretical foundations and background of the research are presented and the research hypotheses are explained based on it, then the research methodology is drawn, then the research findings are presented using data analysis, and finally we discuss the findings, and then the final part, the conclusion, is presented.

## 2. Literature Review

As governments grow, competition and productivity decrease, and thus efficiency decreases, so to promote development and increase efficiency and productivity, it is better for state-owned enterprises to be gradually transferred to the private sector, thus allowing them to take advantage of competitive advantage. (Vanhonnaeker , 2020; Ghiasvand, 2011; Leykun, 2020; Termes et al., 2020). In this regard, in order to develop privatization and take advantage of competitive advantage, the government decides to limit the scope of its activities and transfer the ownership or management of some of its owned economic units to the private sector (Cosset et al., 2020; Peers et al. , 2012). In this regard, privatization seems to be a fundamental solution to solve political, bureaucratic, social, economic and managerial problems (Asghar et al., 2016; Ramamonjiarivelo et al., 2020; Dublish, and Kansal, 2020).

Burns et al. (1999) argue that in order to understand the change in management accounting, it is necessary to examine both the internal and external environments of organization (Waweru et al., 2004). Although external factors may play a dominant and certainly recurring role as drivers of change (Scapens et al.,2003). Many researchers have used both categories in their researches on management accounting systems (Haldma and Laats, 2002; Abdel-Kader and Luther,2008). Accordingly, the formation of a proper management accounting system is influenced by different types of environmental and organizational factors. In this regard, Table (1) provides a summary of external and internal organizational factors, related studies and researches results in the field of management accounting.

Table 1- The results of researchers' researches in the study of external and internal organizational factors

Factors		Researchers and year of research	Research results
Competition		Haldma and Laats, 2002; Waweru et al., 2004; Sulaiman and Ramli, 2008; TuanMat et al., 2010; Dianati Deilami et al., 2016; Pirayesh and Seydi, 2015	Competition affects management accounting systems
Technology changes		Haldma and Laats, 2002; Waweru et al., 2004; Burns and Baldvinsdottir, 2007; Albu and Albu, 2012; Arabi and Kavianifard, 2013; Dianati Deilami et al., 2016; Pirayesh and Seydi, 2015	Technology changes are affected management accounting systems
Environmental factors	Economic factors	Hopwood, 1972; Amat et al., 1994	Environmental factors affect management accounting systems.
	Changing the business environment, deregulating the financial sector, new employment practices	Albu and Albu, 2012	

	The role of market forces	Alhashmi, 2014	
	Competitors pressure, customers demand, high expectations of shareholders	Khani and Ahmadi, 2012	
	Change in the social, political and cultural environment	Pirayesh and Seydi, 2015	
Customer		Alhashmi,2014; Pirayesh and Seydi, 2015	Customer affects management accounting systems.
Ownership change		Jones,1985	Ownership change improves management accounting practices
Organization strategies		Haldma and Laats, 2002; TuanMat et al., 2010; Verbeeten, 2010; Albu and Albu, 2012	Organization strategies influence changes in management accounting practices
Culture		Macarthur, 2006; Albu and Albu, 2012; Alhashmi, 2014	Culture influences management accounting practices.
Management style		Hopwood, 1972; Sulaiman and Ramli, 2008; Pirayesh and Seydi, 2015	Management style affects the change of management accounting methods.
Organizational structure		Innes and Mitchell, 1990; Haldma and Laats, 2002; Waweru et al., 2004; Abdel-Kader and Luther, 2008; TuanMat et al., 2010; Verbeeten, 2010; Albu and Albu, 2012	Organizational structure influences changes in management accounting practices.
Company size		Haldma & Laats, 2002; Waweru et al., 2004; Abdel-Kader and Luther, 2008; Albu and Albu, 2012	Company size affects management accounting practices.
Staff		Innes and Mitchell, 1990; Laitinen, 2001; Granlund, 2001; Al-Nimer, 2010	Employees influence management accounting methods.
Intra-organizational power		Amat et al., 1994; Collier, 2001	Intra-organizational power affects the change of management accounting methods.

The main idea of privatization thinking is that the competitive environment and the market governing system force private enterprises and units to perform more efficiently than the public sector (Seo, 2020; Goodarzvand Chegini and Mirzad Zare, 2010). According to Galyan and Lutz (2007), Weijermars and Moeller, (2020), Villegas et al. (2020) and Ramamonjjarivelo et al. (2020), privatization can have an optimal impact on corporate financial performance. Today, the management of business units is faced with different and more complex decisions and conditions than in the past. Business unit managers want to evaluate the companies performance; Therefore, several criterias have been proposed to evaluate the performance of business units, but none of these criterias alone can explain the financial performance of business units (Mahoney, 2011). Accounting criterias are always considered by analysts due to their simplicity in calculation, high comprehensibility and also due to the fact that they are calculated based on audited figures (Aliabadi et al., 2013). But criticisms of traditional performance metrics have led to the emergence of economic performance metrics. However, the criterias of economic performance are not without problems and are associated with shortcomings. Based on this, it is inferred that choosing only one criterion and relying on it alone is not appropriate to evaluate financial performance, and using a combination of criterias to make more informed economic decisions is recommended (Azarbayjani et al., 2011). Simultaneous use of value-based metrics and appropriate accounting metrics can be a better reflection of financial performance appraisal. In choosing the best method from among the various methods of evaluating the performance of companies, sufficient care must be taken (Nikoomaram and Alaviyan, 2009). In this regard, in the present study, to evaluate the financial performance of companies, the criterias of return on assets ratio, Tobin's Q ratio, economic value added, growth opportunities and efficiency of the company have been used. The rate of return on assets is one of the financial criterias based on financial accounting (Zarei et al., 2020). Using this ratio is a simple way to compare the financial performance of a company and its competitors. This ratio shows how efficient management has been

in converting assets into profits (Yalcin et al., 2012). One of the most reliable indicators of corporate performance is Tobin's Q, introduced by the famous economist Tobin. The higher the ratio, the higher the market value of the company in the stock market (Kashanipour and Rasaeian, 2001; Jafari et al., 2019). Also, economic value added, along with traditional criterias, increases the explanatory power of market value added. In other words, economic value added has an increasing information content (Asadi et al., 2013). In this regard, Ardakani et al.(2018) study examined the effect of capital structure on the rate of return on assets and economic value added due to the intense of competition in the product market in industry.

Growth opportunities are assessed by the firm's sales growth. Obviously, companies with higher sales growth will perform better in the end. This growth can increase the company's profits and ultimately increase the wealth of shareholders (Gord et al., 2014). For the measured performance according to the data envelopment analysis model for each company, a number between zero and one will be considered, which the higher this number indicates the company's ability to use cheap resources and sell its goods and services correctly. Therefore, companies that have an efficiency score of less than one should reduce costs or increase their sales revenue to achieve the necessary efficiency (Demerjian et al., 2012). In this regard, in table (2), the relevant researches from the thematic dimension are briefly mentioned:

Table 2- Summary of research background

Name and year	Title of research	Variables	Summary of research results
Oanh Le et al. (2020)	Investigating the factors affecting Application of management accounting In Vietnamese companies,	business environment, competitive environment, company size, organizational culture, organizational structure, technology, human resources and management accounting application	competitive environment, organizational structure, technology factors and company size, human resource management factor and organizational culture,have positive impact and opinion of managers and environment Businesses have a negative impact on the application of management accounting.
Nguyen et al. (2019)	Investigating the effective factors in use management accounting of Small and Medium Enterprises in Hanoi Vietnam	production and business characteristics, competitiveness, business strategy , CEO awareness, human resources quality and management accounting	CEO's knowledge of management accounting, company size, manager youth, business characteristics, market competition and human resources quality have a positive effect on the application of corporate management accounting and the level of competition has the least effect.
Pradhan et al. (2018)	Investigating the effect of management accounting methods on supply chain and performance of Companies in India	management accounting methods and supply chain performance and overall company performance	Adopting different management accounting methods for supply chain activities is the most appropriate strategy to strengthen the performance of any firm.
Bachiller (2017)	Impact of assessment of privatization on the performance of the company by meta-analysis	ownership change or privatization and the companies performance	privatized companies by public offering is better performance than that of privatized companies using other methods, including private sales, and does not support of common hypothesis that privatization in developing countries does not improve financial performance.
Maziriri and Mapuranga (2017)	Investigating the impact of management accounting practices on the business performance of South African SMEs	management accounting practices and business performance	Management accounting practices have a positive effect on the business performance of small and medium enterprises.
Abubakar Nuhu et al. (2016)	Investigating the relationship between the use of management accounting methods with organizational change and organizational performance	management accounting methods and organizational change and organizational performance	Companies that use traditional management accounting methods, The traditional methods are still prevalent and such methods do not change with organizational change or performance; Rather, companies that use new methods of management accounting, experience much greater change and stronger performance.
Dianati Deilami et al. (2016)	Investigating the relationship between privatization, management accounting methods and financial performance in Tehran	privatization, management accounting methods and financial performance	Positive relationship between privatization and management accounting tools and tools management accounting and financial performance and privatization and financial performance exist in Tehran Stock Exchange companies, which is management accounting

	Stock Exchange using management accounting tool as a mediating variable		tool as an intermediary variable. Therefore, in today's competitive environment, companies must use the most advanced management accounting methods to improve their performance.
Ghasemi et al. (2015)	Investigating the relationship between competition, strategy, management accounting system and performance	competition, strategy, management accounting system and company performance	Changes in competition increase performance directly and indirectly through changes in the management accounting system and strategy, and strategy changes leads to improved organizational performance through changes in the management accounting system. changes in competition also improve performance by <u>changing management accounting practices.</u>
Abolhassani(2010)	The effect of privatization of state-owned companies on their economic value added	privatization of state-owned companies and economic value added	Privatization has no effect on economic value added of companies and in fact has no significant performance and return and the average economic value added before and after privatization has not changed much .

Institutional theory emphasizes the role of social institutions in influencing organizational behavior (Higgins and Larrinaga, 2014). According to this theory, organizations control and limit their organizational behavior by setting cultural, legal, and ethical boundaries that ensure their future success (Hoffman, 1999; Scott, 2013). In this regard, various institutional mechanisms are envisaged to increase credibility to ensure continuous access to financial resources, employees and customers (DiMaggio and Powell, 1983); By adopting such approaches, organizations are pressured to maintain their organizational survival (Scott, 1987). Institutional theory provides a framework for evaluating changes in management accounting technologies and the evolution of corporate activities and provides an understanding of the motivations of key actors (Abeydeera et al., 2016); Therefore, institutional theory can be used to evaluate changes and the main reasons for these changes. Contrary to the theory of legitimacy that corporate participation is necessary for management, institutional theory shows that in the absence of a clear reason for the activities of a firm, new methods should be developed, especially in the field of management accounting (Higgins and Larrinaga, 2014). In this regard, it is important to know that the institutional environment which companies operate is not static; Rather, they operate in a dynamic environment. Bartley (2003) showed that in response to the development of globalization, some organizations are trying to establish flexible regulations in their field of activity. Concerns in this area indicate the pressure that, due to social changes, unions, and especially society, as the main stakeholder of public sector, enter into organizations so that companies strive to be the best in their field. As a result, we have witnessed the emergence of the issue of institutionalism among non-governmental organizations, unions, institutional investors and other stakeholders to deal with the irresponsible behaviors of organizations (Firoozkoohi and Zarei, 2019). Stubbs and Higgins (2014), citing institutional theory (new institutional sociology and old institutional economics), expand the levels of analysis at both the external (macro) and internal (micro) levels of the organization and develop the concept of changing organizational management accounting methods. (Quoted from Dianati-Deilami et al., 2016). This research has also tried to provide a better understanding of the effectiveness of management accounting methods by examining the impact of external and internal organizational factors on management accounting methods by applying institutional theory. Researchers of the old institutional economics theory focus on the internal level of the organization instead of the macro level. As a result, the old institutional economy is unable to explain the impact of environmental pressures on the process of changing management accounting. In contrast, the new institutional sociology focuses on the extra-organizational level. Therefore, the new institutional sociology is weak in analyzing the internal dynamics of organizational change; Therefore, two theories can cover these shortcomings and complement each other. Consequently, it seems that the combination of these two theories is necessary to better understand the process of change in management accounting, because it considers the internal and external organizational factors that shape the management accounting practices of the organization (Wanderley, 2014);

Therefore, in this study, based on these two theories, the effect of external and internal organizational factors of privatization and also the contradiction due to incompatibility of these factors on the change of management accounting methods and its effect on financial performance of companies have been measured.

On the other hand, according to previous researchers, the institutional theory about the time of change by human forces is not complete; In this regard, in order to complete the institutional theory and study the role of human forces in the process of changing management accounting, structural theory is used in this research. The structural theory proposed by Giddens (1984) is considered one of the most influential theories of the present day in the field of humanities; This theory has also been considered by accounting researchers (for example, see Chan studies, 2015 and 2017). In this regard, accounting researchers acknowledge that this theory can be useful in the development of management accounting studies. Previous studies acknowledge that human force is the most important factor in creating modern changes and transformations in the organization (Dahmardeh Ghalehno et al., 2020); Structural theory also discusses the factors of change in an organization and introduces the actions of human forces as one of the main factors influencing change in the organization; Therefore, based on this theory, this study emphasizes the existence of a dynamic relationship between change and transformation in the organization by human forces, and consequently, organizations can move forward through improved human forces actions (Giddens, 1984; Mounq Yin Chan et al., 2020). Therefore, in this study, based on this theory, human force is also brought as a variable and its effect on management accounting methods and ultimately the financial performance of companies is investigated.

### **Research Hypotheses:**

According to the stated contents in the Theoretical Foundations section, the hypotheses of the present research are presented as follows:

**Hypothesis 1:** External organizational factors of privatization through management accounting methods (as a mediating variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

**Hypothesis 2:** Internal organizational factors of privatization through management accounting methods (as an intermediary variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

**Hypothesis 3:** Organizational contradictions in the privatization process through management accounting methods (as an intermediary variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

**Hypothesis 4:** The human factor in the privatization process through management accounting methods (as an intermediary variable) has a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

**Hypothesis 5:** Management accounting methods in the privatization process have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

### **3. Research methodology:**

This descriptive-causal study was conducted with a cross-sectional approach on companies that have been transferred to implement the privatization policies from the beginning of 2002 to the end of 2018 and until the end of this year are members of the Tehran Stock Exchange and more than 51% of their shares have been transferred to the private sector. Their number was estimated at 60 companies. Due to the small statistical population, all members of the community (60 companies) were surveyed. The data collection tool in this study was the information of companies' financial statements and a

researcher-made questionnaire, which the validity was confirmed after several periods of application by professors and experts.

The final version of the questionnaire, which was approved, consisted of 58 questions, followed by a 5-choice Likert scale. The reliability of the questionnaire was examined through Cronbach's alpha, which was confirmed with a value of 0.958 (greater than 0.7).

#### 4. Research Findings:

##### Descriptive analysis of research variables:

Table (3) shows that the variables of the planning and budgeting system and the reporting system jointly have the highest average (4.67) and the human factor variable has the lowest average (4.40). On the other hand, skewness and elongation for all variables are between 2- to +2, which can be said that the data are almost normal.

Table 3- Descriptive indicators of research variables

Variable	Average	Standard deviation	Skewness	Elongation
Extra-organizational factors	4.56	0.77	- 1.12	1.65
Intra-organizational factors	4.57	0.80	- 1.12	1.79
Organizational contradictions	4.55	0.58	- 0.74	0.59
The 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

##### Inferential statistics:

Before entering into the discussion of analysis and statistical testing of hypotheses, Table (4) shows whether the components of the questionnaire well assess the main variable of the research using the two indicators  $R^2$  and  $Q^2$ .

Table 4-  $R^2$  and  $Q^2$  Indicators

Variable	$R^2$	$Q^2$
Extra-organizational factors	-	-
Intra-organizational factors	0.49	0.19
Organizational contradictions	0.25	0.16
The human factor	0.45	0.28
Management accounting practices	0.45	0.24

According to the above table, the criterion of  $R^2$  for all studied variables is average and below average (approximately 0.33). Also, the  $Q^2$  criterion for the desired variables is more than average and less than strong (between 0.15 and 0.35) and this confirms that the structural part of the model has a moderate fit.

Finally, the GOF statistic is used for the overall fit of the model.

GOF is equal to:  $GOF = \sqrt{0.63 \times 0.57} = 0.599$

Given that the GOF value is greater than 0.36, it indicates that the overall model has a strong fit.

In order to examine the factors affecting the financial performance of companies, we enter this variable into the model and measure the impact of other research variables directly and indirectly on financial performance. The indicators of goodness of fit as shown in Table (5). also show that the  $R^2$  index is weak but two indicators  $Q^2$  and GOF are at the desired level.

Table 5- R<sup>2</sup>, Q<sup>2</sup> and GOF indicators

Variable	R <sup>2</sup>	Q <sup>2</sup>	GOF
Financial performance	0.111	0.291	0.463

**How to calculate financial performance based on five measures**

**1- Return on assets (ROA)**

The return on assets is equal to the net profit ratio to the total assets of the company.

**2- Tobin's Q Index**

The Tobin's Q is equal to the market value ratio to the book value of the corporation.

**3- Economic Value Added (EVA)**

The economic value added is obtained from the following equation:

$$EVA = (r - c) \times \text{capital}$$

EVA: economic value added, r: the rate of return on capital and equal to the net profit ratio after tax to the company's capital, c: is the cost rate of capital and capital: the company's capital.

**4- Company efficiency**

To measure the company's efficiency, Demerjian et al. (2012) used a data envelopment analysis (DEA) model. This model is a statistical model used to measure system performance using input and output data.

$$\max_v \theta = \frac{\text{Sales}}{v_1 \text{CoGS} + v_2 \text{PPE} + v_3 \text{SG\&A} + v_4 \text{Other Assets}}$$

Sales: Sales of the company

CoGS: The cost of goods sold

PPE: Pure property equable

SG&A: General and administrative costs

Other Assets are other assets of the company.

In this model, a special coefficient v is considered for each of the input variables, because the effect of all input variables on the output (sales) is not the same. The calculated value for the company's efficiency is in the range of zero to one, which is the maximum efficiency equal to 1, and the lower the value of obtained, the lower the company efficiency.

**5. Growth opportunities**

Growth opportunities are a qualitative variable for which there is no consensus to its calculate. After examining various methods, Kalapour and Trombley (1999), Karimi et al. (2010) and Moradi and Ahmadi (2011) concluded that the ratio of the value of the payroll market of shareholders and book value of total debt to book value of total assets has a better correlation coefficient with business unit growth. In this paper, the company growth opportunity is calculated as follows:

$$\text{growth opportunity} = \frac{\text{book value of the total debt} + \text{value of the payroll market of share holders}}{\text{book value of total assets}}$$

Now, according to the confirmation of the questions and the structure of the research model, the desired model can be adapted that results are as follows. Figure (1) shows the t-statistics for each of the path coefficients between the variables.

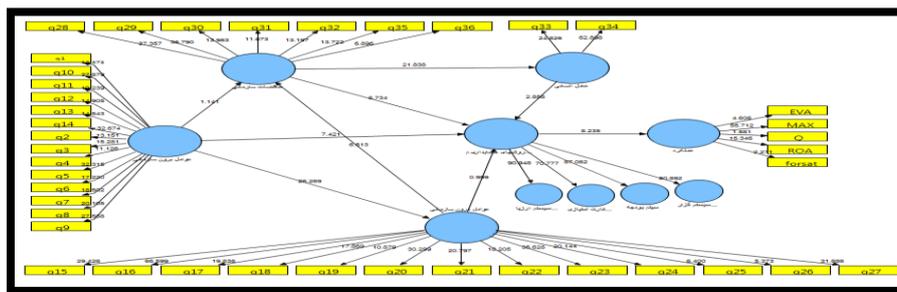


Figure (1) – t-statistics for model path coefficients

Figure (2) shows the path coefficients related to the relationships between the research variables.

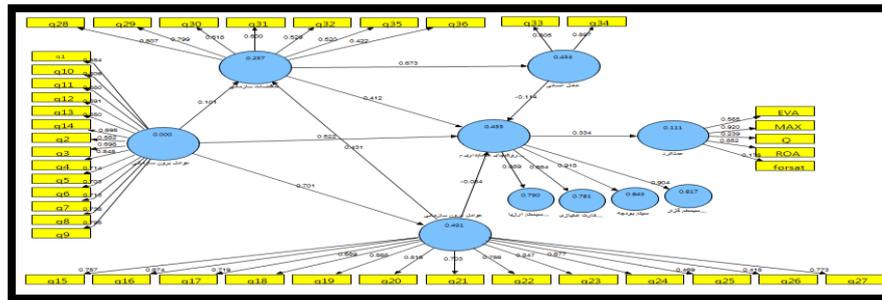


Figure (2) - Model path coefficients

Now it is possible to analyze each of the research hypotheses:

Hypothesis 1: External factors of privatization through management accounting methods (as an intermediary variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

In Figure (3), the path coefficient related to the effect of external organizational factors on management accounting methods (0.631) is reported and according to Figure (4), since the t-statistic for the mentioned path is (9.068) which is from 1.96 Increased, indicates the significance of the relevant path coefficient, but considering that the t-statistic for the path of the effect of management accounting methods on the company's financial performance (1/201) is less than 1.96, so management accounting methods have no significant effect on the company's financial performance.

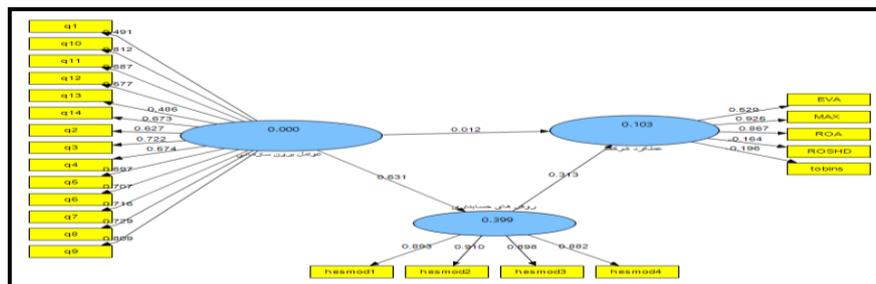


Figure (3): The model path coefficient

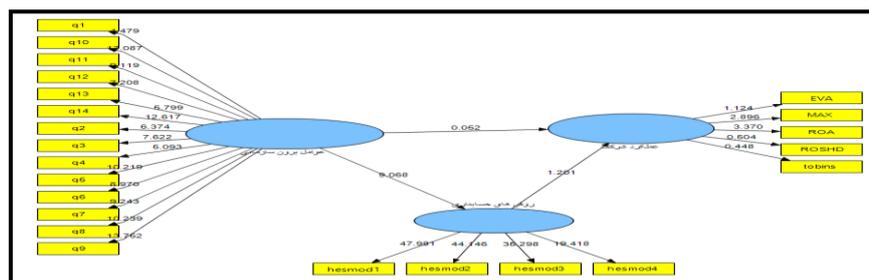


Figure (4): t-statistic for studying significance of path coefficient

Hypothesis 2: Internal factors of privatization through management accounting methods (as an intermediary variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

In Figure (5), the path coefficient related to the effect of internal organizational factors of privatization on management accounting methods and also the effect of management accounting methods on financial performance are reported (0.480) and (0.405), respectively, and according to

Figure (6) Since the t-statistic for the mentioned routes is (5.311) and (2.162), respectively, which is more than 1.96, it indicates the significance of the coefficient of the relevant routes.

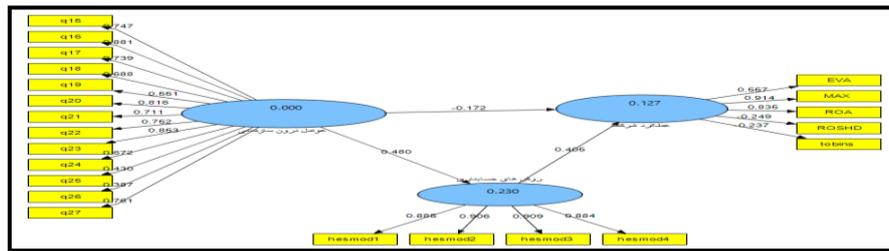


Figure (5): The model path coefficient

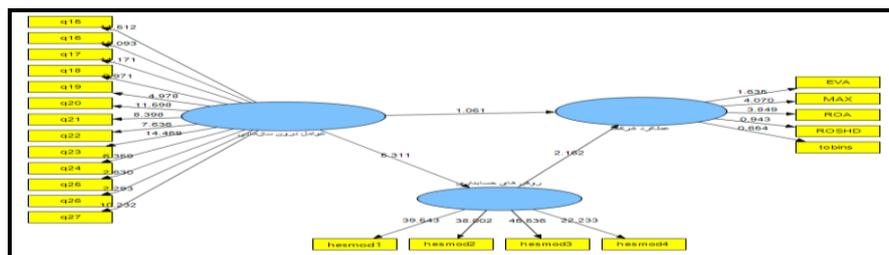


Figure (6): t-statistic for studying significance of path coefficient

Hypothesis 3: Organizational inconsistencies in the privatization process through management accounting methods (as an intermediary variable) have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

In Figure (7), the path coefficient related to the effect of organizational inconsistencies on management accounting methods and also the effect of management accounting methods on financial performance are reported (0.593) and (0.497), respectively, and according to Figure (8), Since the t-statistic for the mentioned routes is (9.220) and (2.143), respectively, which is more than 1.96, it indicates the significance of the coefficient of the relevant routes.

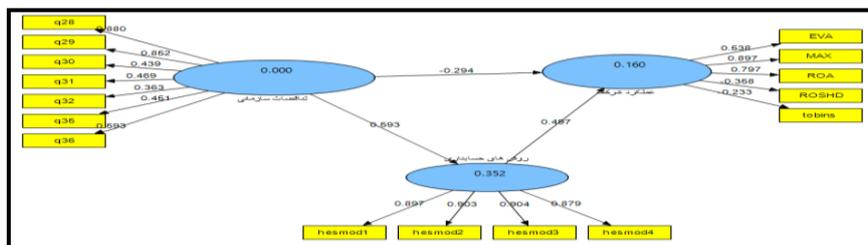


Figure (7): The model path coefficient

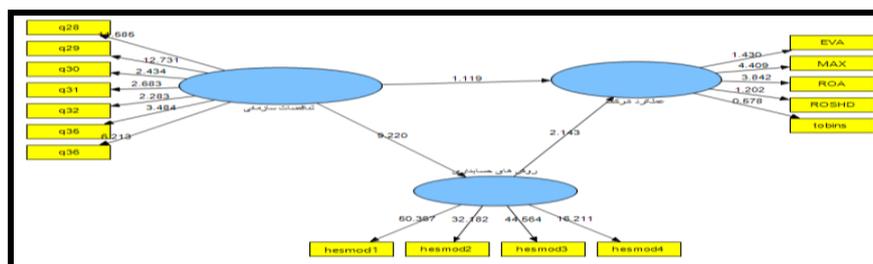


Figure (8): t-statistic for studying significance of path coefficient

Hypothesis 4: The human factor in the privatization process through management accounting methods (as an intermediary variable) has a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

In Figure (9), the path coefficient related to the effect of human factor on management accounting methods (0.265) is reported and according to Figure (10), since the t-statistic for the path is (1.93), which is from 1.96 is less, indicates the lack of significance of the relevant path coefficient, but given that the t-statistic for the path of the effect of management accounting methods on the company's financial performance (4.755) is more than 1.96, so in this hypothesis only management accounting methods on performance The company's finances have a significant effect.

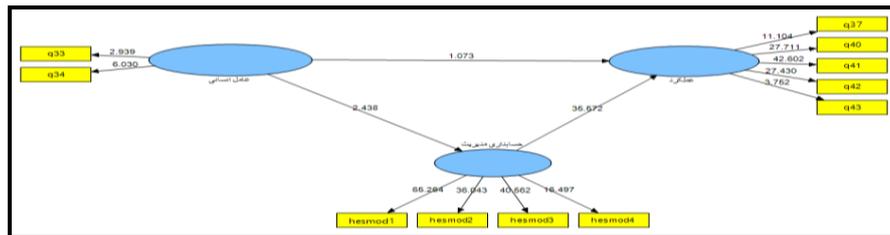


Figure (9): The model path coefficient

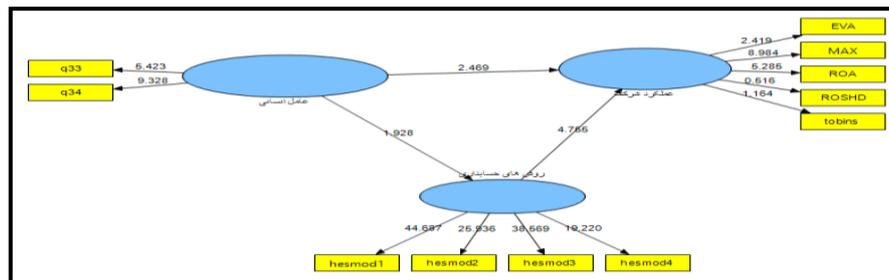


Figure (10): t-statistic for studying significance of path coefficient

Hypothesis 5: Management accounting methods in the privatization process have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange.

In Figure (11), the path coefficient related to the effect of management accounting methods on financial performance (0.328) is reported, and according to Figure (12), since the t-statistic for the path (3.099) is from 1.96 has increased, indicates the significance of the relevant path coefficient.

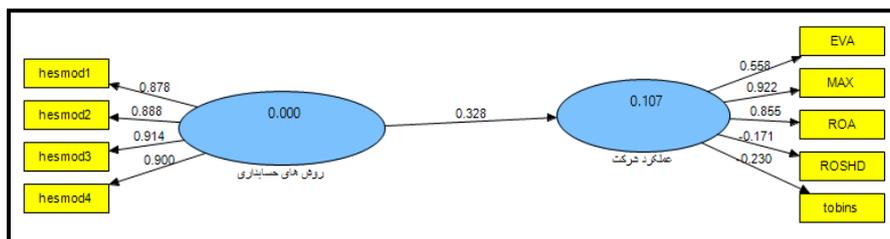


Figure (11): The model path coefficient

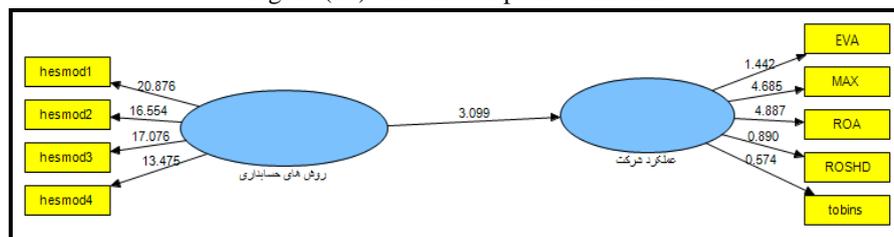


Figure (12): t-statistic for studying significance of path coefficient

## 5. Discussion and Conclusion:

Due to the importance of privatization, increasing competition between companies and its impact on management accounting methods and financial performance, recognizing the external and internal organizational factors resulting from privatization is becoming more important day by day. In this study, the effect of external and internal organizational factors of privatization through changing management accounting methods on the financial performance of companies listed on the Tehran Stock Exchange was investigated. The results of the first hypothesis show that external organizational factors through management accounting methods do not have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange. The results of this research are consistent with the results of Abolhassani (2010); But the results of research by Oanh Le et al. (2020), Bachiller (2017), Dianati Deilami et al. (2016) and Ghasemi et al. (2015) do not agree with the conclusion of this hypothesis.

According to the results of the second hypothesis, it can be said that the internal organizational factors of privatization through the mediating variable of management accounting methods have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange. The results of this study are in line with the results of Oanh Le et al. (2020), Bachiller (2017), Dianati Deilami et al. (2016) and Ghasemi et al. (2015) and no study was found to contradict the results of this hypothesis.

According to the results of the third hypothesis, it can be acknowledged that organizational contradictions in the privatization process through the mediating variable of management accounting methods have a significant effect on the financial performance of companies listed on the Tehran Stock Exchange. The results of this hypothesis indicate that the conflict of internal and external organizational factors such as market inefficiency with organizational strategy, conflict of market and institutional forces and power relations within the organization, accumulation of organizational contradictions, change of structure and system (change of rules and resources) through the application of management accounting methods can have a positive and direct effect on improving the financial performance of companies listed on the Tehran Stock Exchange. Given that the present study is one of the pioneering studies that has tested this hypothesis, it is not possible to compare the third hypothesis with other previous studies.

According to the results of the fourth hypothesis, management accounting methods have a significant effect on the financial performance of the company and it can be concluded that the human factor through management accounting methods has no significant effect on the financial performance of companies listed on the Tehran Stock Exchange. The results of this hypothesis indicated that contrary to the theoretical foundations of the research, employees can not have a significant impact on the financial performance of companies listed on the Tehran Stock Exchange by applying management accounting methods. The results of this hypothesis are consistent with the research of Moug Yin Chan et al. (2020); But in a study by Nguyen et al. (2019), contrary to the results of the statistical test of the fourth hypothesis, they found that the quality of human resources has a positive effect on the application of corporate management accounting.

According to the results of the fifth hypothesis, it can be said that management accounting methods in the privatization process have a positive and significant effect on the financial performance of companies listed on the Tehran Stock Exchange. The results of this study are in line with the results of Pradhan et al. (2018), Maziriri and Mapuranga (2017), Abubakar Nuhu et al. (2016), Dianati Deilami et al. (2016), Ghasemi et al. (2015) and a study inconsistent with the results of this hypothesis was not found.

As explained earlier, the economic zone of the world today does not reflect the fat government, so it seems that areas should be assigned to the private sector in order to create competition (Dianati Deilami et al., 2016). With the move towards privatization and changes in the pattern of competition

and the introduction of global trade, the importance of management accounting can be clearly seen, so that a weak management accounting system can significantly reduce the competitive advantages of companies. The theories supporting this research are institutional and structural theory which according to these theories, various internal and external organizational factors can affect the change of structure and create new developments in the company. Consequently, it is expected that the company's financial performance will improve after new developments such as privatization in the company and the application of new management accounting methods; Because these factors can affect the financial structure of the company.

Today, privatization-type economic reforms are considered a strategic approach in many countries, especially developing countries. The larger the governments, the less competition there is in the market and the less opportunity companies have to take advantages of the competitive; Therefore, it seems that areas should be assigned to the private sector in order to create competition. As we move toward privatization and changes in the pattern of competition and the introduction of global trade, the importance of management accounting and its methods becomes even more apparent. Given the importance of management accounting methods and privatization, the research framework takes into account the internal and external organizational factors, organizational contradictions and the role of the human factor seeks a comprehensive explanation of organizational change and the move towards privatization; Therefore, understanding the reaction between internal and external factors is important in explaining the change in management accounting methods. According to the results of the research, the managers of companies listed on the Tehran Stock Exchange are advised to pay attention to external and internal organizational factors of privatization and organizational contradictions created in the company to change management accounting methods; Managers also need to pay attention to internal organizational factors and contradictions created in the company; Because these factors can change the management accounting methods and improve the financial performance of the company. According to the results of the present study, the variables of external organizational factors and human factor change management accounting methods, but do not improve financial performance. The results of the present study also show that in today's competitive environment, to improve the financial performance of the company, companies must use management accounting tools to be able to survive in the competitive arena.

In this study, companies whose their shares were transferred to the private sector through the stock exchange and OTC were examined. It is suggested that in future researches, all companies, regardless of their divestiture percentage and considering other divestiture methods (negotiation and auction), be tested and based on the percentage and method of privatization, the impact of internal and external organizational factors through management accounting methods. Test the financial performance of companies and compare it with the results of previous studies. Also in this research, four management accounting methods based on Wonderley (2010) study have been considered; In future studies, it is suggested that the effect of privatization factors through all management accounting methods on companies' financial performance be investigated to determine which of the privatization factors through management accounting methods has improved the financial performance of companies.

Scientific and research researches often faces with limitations that impair the stability and validity of research findings. For example, lack of proper and timely access to financial information of some companies, as a limitation to access information of research variables, which led to the removal of some companies from the sample. Also, in similar researches in other countries, firstly, a much larger number of companies have been selected from our research sample, secondly, their researches covers a longer number of years, and thirdly, their data is a database, which leads to less time to collect and more time to analyze data.

## References:

Abdel-Kader, M., & Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK-based empirical analysis, *British Accounting Review*, doi: 10.1016/j.bar.2007.11.003.

Abeydeera, S., Tregidga, H., & Kearins, K. (2016). Sustainability reporting—more global than local?. *Meditari Accountancy Research*.

Abolhassani, A.(2010). Investigating of the effect of privatization of state-owned companies on their economic value added. *Master Thesis in Accounting, Islamic Azad University, Arak Branch*.(In Persian).

Abubakar Nuhu, N., Baird, K ., & Appuhami, R. (2016). The association between the use of management accounting practices with organizational change and organizational performance. *Advances in Management Accounting*, Vol.26,ISSN:1474-7871.

Ahmad, K. (2012). The use of management accounting practices in Malaysian SMEs, *Submitted by to the University of Exeter as a thesis for the degree of Doctor of Philosophy in Accountancy*, available at: <https://ore.exeter.ac.uk/repository/handle/10036/3758>.

Albu, N., & Albu, C. (2012). Factors associated with the adoption and use of management accounting techniques in developing countries: The case of Romania. *Journal of International Financial Management & Accounting*, 23(3), pp.245-276.

Alhashmi, A.(2014).An Empirical Investigation of Management Accounting and Control Systems Change in Two Libyan State-owned Manufacturing Companies, An Institutional Perspective, *A Thesis in Fulfilment of the Requirements of the Degree of Doctor of Philosophy in Accounting ,School of Business University of Dundee, Scotland*.

Aliabadi, S., Dorestani, A., & Balsara, N. (2013). The Most Value Relevant Accounting Performance Measure by Industry, *Journal of Accounting and Finance*, Vol.13, No.1, pp.22-34.

Al-Khasawneh, S. M., Endut, W. A., & Rashid, N. M. N. M. (2020). Factors Affecting Usage of Modern Management Accounting Techniques in Industrial Companies Listed in Amman Stock Exchange. *International Journal of Research In Commerce and Management Studies (ISSN: 2582-2292)*, 2(3), 14-36.

Al-Nimer, M.B. (2010). An exploratory study on factors influencing the adoption of management accounting practices in developing countries: evidence from Jordan, *Management Accounting Section* , available at: <http://ssrn.com/abstract=1661975>.

Amat,J,Carmona,S.and Roberts, H. (1994).Context and change in management accounting systems:a Spanish case study, *Management Accounting Reserch*, 5, 107–126.

Arabi, M., & Kavianifard, H.(2013). Examining the relation between stage of management accounting practice and technological innovation and management accounting innovation in the companies listed in Tehran Stock Exchange, *Advances in Environmental Biology*, 7(10),pp.3145-3159.

Ardakani, S; Izadi, M, & Izadi, F.(2018). Investigating the effect of capital structure on the rate of return on assets and economic value added due to the intensity of competition in the product market in industry (Case study of companies listed on the Tehran Stock Exchange). *Asset Management and Financing*, Year 6, No. 20.(In Persian).

Asadi, A; Zandedel, A, & Kiani Nejad,A. (2013). Relationship between economic value added information content and traditional criteria with corporate market value added. *Accounting and Auditing Reviews*, 20th Year, No. 2, pp. 18-1.(In Persian).

Asghar, B.,Wasim, A., Jahanzaib, M., & Hussain, S., (2016). Impact of Privatization on Employee Relations at PakistanTelecommunication Company Limited.*The Nucleus* 53, No. 4 (2016) 243-253www.thenucleuspak.org.pk.

Azarbayjani, K., Soroush Yar, A., & Yarian Kupani, S.(2011). Searching for the best measure of financial performance, *Auditor's Magazine*, No. 52.(In Persian).

Bachiller, P., (2017).A meta-analysis of the impact of privatization on firm performance.*Management Decision*,Vol.55 No. 1, 2017,pp. 178-202.DOI 10.1108/MD-12-2015-0557.

Bartley, T. (2003). Certifying forests and factories: States, social movements, and the rise of private regulation in the apparel and forest products fields. *Politics & Society*, 31(3), 433-464.

Burns,J. and Baldvinsdottir, G. (2007). The Changing Role of Management Accountants. in Hopper, T, Northcott, D and R. Scapens **Ed.^Eds.** *Issues in Management Accounting*. Harlow, *Financial Times Prentice Hall*.pp.117-132.

Chan, A. M. Y. (2015). Accounting regulation research and structuration theory. *Journal of Modern Accounting & Auditing*, 11(3), 131-137.

Chan, A. M. Y. (2017). Accounting systems in cultural context: A research framework for China studies in global economy. *Journal of Modern Accounting & Auditing*, 13(2), 45-50.

Collier, P.M. (2001).The power of accounting: a field study of local financial management in a police force. *Management Accounting Research* 12(4),pp.448–465.

Cosset, J. C., Durnev, A., & dos Santos, I. O. (2020). Privatization and state ownership of natural advantage industries. *The Quarterly Review of Economics and Finance*, 76, 68-83.

Dahmardeh Ghalehno, M; Bahman Doust, B; Zarei, H, & Soleimani,M. (2020). Human resource accounting: background, concepts, criteria and measurement models. *Accounting and auditing research*. (In Persian).

Dehgan, R., Khodamipour, A., & Sadeghi, Z. (2015). Studying Effect of Privatization on Application of Management Accounting Tools and Performance of National Iranian Copper Industries Company ,*International Journal of Economy, Management and Social Sciences*, 4, 1,pp.58-66.

Demerjian, P., Lev, B., & MacVay, S. (2012). Quantifying managerial ability: Anew measure and validity test. *Management Science* .58(7), pp.1229-1248.

DianatiDeilami, Z., Alambeigi, A., & Barzegar, M. (2016). Investigating the relationship among privatization, management accounting tools and financial performance of the firms listed in Tehran stock Exchange, *Journal of empirical studies of financial accounting*. Year 13, No. 51, pp. 47-78.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 147-160.

Dublish, N., & Kansal, M. S. (2020). Privatization of Public Sector Undertakings in India. *Studies in Indian Place Names*, 40(56), 527-534.

Firoozkoohi, A; & Zarei, H. (2019). A Review of the Reasons and Theoretical Foundations of Corporate Social Responsibility, Environmental Sustainability Reporting, *17th National Accounting Conference of Iran*, Qom, Farabi Campus, University of Tehran. (In Persian).

Galyan, G., & Lutz, S. (2007). Firm Performance and Privatization in Ukraine. *Journal of Economic Change*, Vol. 40, pp. 253-266.

Ghasemi, R., Noor Azmi, M., Karami, M., Norkhairul, H.B., & Asgharizade, E. (2015). The Relationship among Strategy, Competition and Management Accounting Systems on Organizational Performance, *European Online Journal of Natural and Social Sciences*,pp.565-581.

Giddens ,A. (1984). The Constitution of Society: Outline of the Theory of Structuration. *Cambridge, Polity*.

Granlund,M. (2001).Towards explaining stability in and around management accounting systems. *Manage. Acc. Res.* 12 (2),141–166.

Gord, A., Waqfi, S. H., & Fakuri, M.(2014). Investigating the Relationship between Financial Leverage Measures (Capital Structure) and Performance Evaluation Measures. *Accounting Research Quarterly*, Fourth Year, No. 15. pp.110-121. (In Persian).

Gudarzvand Chegini, M., & Mirzad Zare, M. (2010). The effects of ceding (privatization) on efficiency (Telecommunication Company of Gilan). *Business Survey*, No 40, pp.121-135.

Haldma, T. and Laats, K. (2002). Contingencies influencing the management accounting practices of Estonian manufacturing companies, *Management Accounting Research*, Vol. 13 No. 4, pp. 379-400.

Higgins, C., & Larrinaga, C. (2014). 16 Sustainability reporting. *Sustainability accounting and accountability*, 273.

Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the US chemical industry. *Academy of Management Journal*, 42(4), 351-371.

Hopwood, A.G. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, Vol. 10, pp.156-182.

Innes, J., & Mitchell, F. (1990). The Process of Change in Management Accounting: Some Field Study evidence. *Management Accounting Research*, 1 (1), pp.3-19.

Jafari Jam, H; Ali Asgari, F; & Zarei, H. (2019). Financial performance and value of companies: The role of disclosure of sustainability information. *Financial Accounting Knowledge*, Year 6, No. 22, pp. 242-215. (In Persian).

Johnson, G., Smith, S., & Codling, B.(2000). Micro-Processes of Institutional Change in the Context of Privatization. *Academy of Management Review*. 25(3), pp. 572-580.

Jones, C. (1985). An empirical study of the evidence for contingency theories of management accounting systems in conditions of rapid change. *Accounting, Organizations and Society*.

Kashanipour, M., & Rasaeian, A. (2001). The relationship between Tobin's Q and companies performance measurement in Iran, *Financial accounting*, No.3, pp.131-146.

Khani, A., & Ahmadi, M. (2012). Performance evaluation based on balanced evaluation card measures and strategy. No. 10, pp. 1-26. (In Persian).

Laitinen, E.K. (2001). "Management Accounting Change in Small Technology Companies: Towards a Mathematical Model of the Technology Firm." *Management Accounting Research*. 12: 507-541.

Leykun, F. (2020). Privatization Modalities and Business Valuation: An Ethiopian Focus. *Journal of Investment and Management*, 9(1), 12.

Macarthur, J. (2006). "Cultural Influences on German versus U.S. Management Accounting Practices", *Management Accounting Quarterly*, winter. Vol.7, No.2.

Mahoney, R. L. (2011). EVA momentum as a performance measure in the United States lodging industry, *A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of Doctor of Philosophy*, Iowa State University.

Maziriri, E, T., & Mapuranga, M. (2017). The Impact of Management Accounting Practices (Maps) on the Business Performance of Small and Medium Enterprises within the Gauteng Province of South Africa. *Journal of Accounting and Management* , Vol.7, No.2 .

Moung Yin Chan, A., Lo, P., & Ng, K. (2020). An Analysis of Management Accounting System Development from the Structuration Theory Viewpoint. *Journal of Accounting, Business & Management*, 27.

Nguyen, N.T., Nguyen, T. T.H., Chu, T. T. T., Nguyen, D. D., & Nguyen, T. T. P.(2019). Factors affecting the application of management accounting in small and medium enterprises in Hanoi, Vietnam. *Management Science Letters*. No.9. pp. 2039–2050.

Nikoo Maram, H., & Alaviyan Qavanini, M. (2009). A study of the relationship between economic value added growth and operating leverage and company value, *Journal of Financial Studies*, No. 2. pp. 65-90. (In Persian).

Oanh Le, T.T., Bui, T.N., Tran, T.T.P., & Nguyen, Q.H. (2020). Factors affecting the application of management accounting in Vietnamese enterprises. *Uncertain Supply Chain Management*, No. 8 .pp. 403–422.

Parker, D. (1995). Privatization and agency status: identifying the critical factors for performance improvement. *British journal of management*, 6(1), 29-43.

Peers, H., Easley, D., Hvidkjaer, S., & Hara, M.O., (2012). Firm characteristics and informed trading: Implications for asset pricing. working paper, 2012.

Pirayesh, R., & Seydi, F. (2015). Investigating the relationship between management accounting techniques and improving managers' decision-making among private banks in Zanjan city. *5th National Conference and 3rd International Conference on Accounting and Management, Tehran*, Top Services Company. (In Persian).

Pradhan, D., Swain, P.K., & Dash, M. (2018). Effect Of Management Accounting Techinques On Supply Chain And Firm Performance An Empirical Study. *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 5, pp.1049–1057.

Ramamonjarivelo, Z., Weech-Maldonado, R., Hearld, L., Pradhan, R., & Davlyatov, G. K. (2020). The privatization of public hospitals: Its impact on financial performance. *Medical Care Research and Review*, 77(3), 249-260.

Safari Sarchah, F; Yazdifar, H; & Pifeh, A. (2019). The Effects of Intra- and Extra-Organizational Factors on Management Accounting Practices in the Privatization Processes: Evidence from Iran, *International Journal of Finance and Managerial Accounting*, Vol.4, No.15, Autumn, PP.97-113.

Scott, W. R. (1987), The adolescence of institutional theory. *Administrative Science Quarterly*, 32, pp. 493–511.

Scott, W. R. (2013). *Institutions and organizations: Ideas, interests, and identities*. Sage publications.

Seo, G. H. (2020). Competitive Advantages of International Airline Alliances: A Critical Review. *HOLISTICA–Journal of Business and Public Administration*, 11(1), 139-145.

Spathis, C., & Constantinides, S. (2004). Enterprise resource planning systems' impact on accounting processes. *Business Process Management Journal*, Vol. 10 No. 2, pp. 234-247.

Stubbs, W., & Higgins, C., (2014). Integrated Reporting and internal mechanisms of change. *Accounting, Auditing and Accountability Journal*, 27(7), 1068-1089.

Sulaiman, S., & Ramli, A. (2008). What factors drive change in management accounting in Malaysian Organisations Accounting. Research Institute & Faculty of Accountancy University Teknologi, *Malaysian Accounting Review*, vol. 7, No.1.

Termes, A., Edwards Jr, D. B., & Verger, A. (2020). The Development and Dynamics of Public–Private Partnerships in the Philippines' Education: A Counterintuitive Case of School Choice, Competition, and Privatization. *Educational Policy*, 34(1), 91-117.

TuanMat, T.Z., Smith, M., & Djajadikerta, H. (2010). Management Accounting and Organizational Change: An Exploratory Study in Malaysian Manufacturing Firms. *Journal of Applied Management Accounting Research*, 8(2):51-79.

Vanhonnaeker, L. (2020). The Impacts of Local Equity Requirements on Competition. In *International Investment Law and Competition Law* (pp. 51-72). Springer, Cham.

Verbeeten, F. (2010). The Impact of Business Unit Strategy, Structure and Technical Innovativeness on Change in Management Accounting and control Systems at the Business Unit Level: An Empirical Anahysis. *International Journal of Management*. Vol.27. No.1. pp.123-143.

Villegas, A., Molinos-Senante, M., Maziotis, A., & Sala-Garrido, R. (2020). Financial winners and losers since the privatization of the English and Welsh water and sewerage industry: a profit decomposition approach. *Urban Water Journal*, 1-11.

Wanderley,C.D.A.(2014).Privatisation and management accounting change: the drivers of changes in a Brazilian Electricity distribution company. *World Review of Entrepreneurship, Management and Sust*, Vol.10, No.1.

Waweru,N.M., Hoque, Z., & Uliana, E.(2004). Management accounting change in South Africa Case studies from retail services. *Accounting, Auditing & Accountability Journal*, Vol. 17, No. 5, pp. 675-704.

Weijermars, R., & Moeller, J. (2020). Saudi Aramco Privatization in Perspective: Financial Analysis and Future Implications. *Journal of Finance and Economics*, 8(4), 161-170.

Yalcin, N., Bayrakderaglu, A., & Kahraman, C. (2012). Application of fuzzy multi-measures decision-making methods for financial performance evaluation of Turkish manufacturing industries. *Expert Systems with Applications*,No. 39, pp.350-364.

Zarei, H., Yazdifar, H., & Ghaleno, M. D., Adzmaneh, R. (2020). Predicting auditors' opinions using financial ratios and non-financial metrics: evidence from Iran. *Journal of Accounting in Emerging Economies*.