Examining the Moderating Effect of Industry Competition on Relationship between Privatization, Financial Performance and Using of Management Accounting Tools in TSE

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ABSTRACT

In many countries, particularly developing countries, economic reforms, especially privatization, are considered as a strategic approach. The growth of the government decreases the competition in the market, and so, some fields should be privatized in order to create the competition. By moving towards privatization and the changes in competition methods and the presentation of the World Trade, the importance of management accounting tools (MATs) is more pronounced. This research is based on the Contingency Theory that was confirmed in Tehran's Stock Exchange (TSE). This paper investigates the moderating effect of industry competition (IC) on relationship between privatization, financial performance and using of MATs in TSE. MATs data were collected through questionnaires, the competition data were obtained from financial statements information of 48 firms listed in TSE and privatization data were obtained from privatization organization website (IPO). The results indicate a positive relation between privatization and MATs in firms listed in TSE which industry competition, as a moderator variable, enhances this relation. Considering the general policies of principle 44 to increase the competition, it is used as a moderator variable in this study of this study show that privatized companies, in today's too competitive situations. The result showed which privatization and Industry Competition lead to the companies use the MATs more than before. Hence these companies be used to more MATs because of industry competition that was established by privatization in TSE. Finally, the variables of the model can explain 93.2% of MATs.

Keywords:
Industry Competition (IC), Management Accounting Tools, Stages of Development of Management Accounting (SDMA), Privatization, Tehran's Stock Exchange (TSE)

1. Introduction

In the recent years, the rapid environmental changes and increasing pressure of competition have changed external environment of organizations like the general policies of principle 44 of constitution, which consecutively influence their internal processes like management accounting system. (Chung et al. 2012)

Todey, the Globalization and increasing complexity of business with the progress in technology led to the development of MATs. Recently in order to so market competition because of Word Trade, researchers have offered which today's companies need modern management accounting (MMA) to adapt to the rapidly changing organizational and social environment such as privitization (Anderson & Lenan,1999). There is the view that MMA (such as ABC, ABM, target costing, product life cycle costing, and BSC) produce relevant information that provides senior executives and other personnel with continuous signals as to what is most important in their daily organizational decision-making and operational activities (Anderson, 1995; Anderson & Young, 1999).

As the governments grow, the competition and the efficiency decreases and so, the efficiency is decreased. Therefore, it seems necessary to transfer some areas to the private sector for promoting the competition (Ghiasvand, 2011). As a result, the privatization leads to more efficient economy and accelerate the economic growth (Sheshinski & Calva, 2002).

The economies from every region in the world have recently started implementing economic reform programs, the reduction in size of the public sector through privatization has become an important part of such programs. Nowadays, "supervisor government" is emphasized and the role of administrative government" is decreasing, which is executed using privatization (Safarzade Parizi, 2003). The word "privatization" was firstly addressed by Webster Dictionary in 1983 as "to transfer from public or government control or ownership to private sector" (Fafaliou & Donaldson, 2007)

The policies and laws, which lead to privatization, are established because public sector is not efficient enough in national economy (Naghibi, 2010). Privatization strengthens competition, which enforces the efficiency of the firm (Gudarzvand Chegini & Mirzad Zare, 2009). The privatization is not enough to increase the efficiency. Delegating decision making and supervising area to the private sector leads to success this process.

The history of the privatization in Iran goes back to the era before revolution of Iran in 1975. It was also addressed on the second and third development plan. However, these plans did not make any significant differences in Non-competitive economic of Iran. These failures lead to establish the policies of principle 44 of constitution. Iranian supreme leader expressed his dissatisfaction about the course of enforcing the policies on February 2007. He assumed the failures as a result of negligence to the role of the policies mentioned in principle 44. This principle was recognized as expedient by expediency council in 14th June 2008 (IPO Website). Privatization, which its aim is to increase the efficiency and economic growth, was one of the leading general policies of the principle 44. Fundamental target of the principle 44, after increase efficiency and economic growth, must increase competition between competition of inside indusry companies that it can improve economic condition.

Abdulla A. R said (2014) that the poor performance of public companies are due to market structure and lack of clear objectives rather than structure of ownership that means in public markets or governmental economics have got poor competition between companies inside each industries.

Due to change in the structure of privatized firms and the competition patterns in each markets, the importance of management accounting in economic agencies is increased. A good management accounting system does not solely guarantee the success of the firms, but a weak management accounting system can decrease competitive benefits of the firms (Phadoong sitti, 2003). In order to defeat intense competition and rapid movement of products and services technology, organizations should employ more complicated methods of management accounting.

Intensity of competition is the degree of external influence that threatens the success of organizational goals (Mia and Clarket, 1999). Planning and control can become more problematic when firms are facing uncertain events, such as competition from the market and competitors. The utilization of management accounting techniques may be influenced by the perception of different aspects of competition, such as: quality, innovation, customer service, price, delivery and flexibility (Velayutham et al, 2007).

Therefore, it is expected that the privatization influence in using modern MATs and the performance of the firms which Dianati Deilami et al. search confirmed these relationship in TSE. This paper just examine the relationship between privatization and MATs with considering the moderating role of industry competition.(Figure No 1)

2. Conceptual Framework and Literature Review

This research is theoretically based on the contingency theory of Anderson and Lenan (1999) that was confirmed by Dianati Deilami et al (2016) in TSE. Based on the contingent theory, internal and external factors influence in the competitive strategy of the firm. These factors can also influence in the firm structure. It believe that a change in the firm structure leads to a change in using of MATs. Jones (1985) argued that management accounting system should be also updated if the situation of a firm is changed (such as privatization). In addition, based on the theory of Galyan Grygorenko and Stefan Lutz (2007), the privatization can have optimum effect on the financial performance of a firm. Contingency theory claims that internal and external factors of a firm have effect on its competitive strategy and this effect has influence on the firm's structure and the financial performance.

The current research utilizes the moderator variable of contingency theory such as Anderson & Lenan (1999), Mia(1993) Mia and Clarke(1999) , Jermias and Gani, (2004) Jusoh (2008) ,Cheng (2012) and Dianati Deilami et al (2016) researches to examine whether changes in competition intervene association between privatization and the using MATs.(Figure 1)

According to Baines and Langfield-Smith (2003) when environmental conditions are changing such as privatization , competition will increase in markets, mostly relating to the products' quality and price. Firms may react to these challenges by rearranging their work processes by formulating new strategies that are strongly customer-oriented and in order to must use to MATs.

Market-oriented economies have proceeded to privatize lots of public companies and limit the authority domain of government since 1970s. The aim of privatization is increasing the efficiency and improving the performance of these companies. Privatization might cause firms to operate more productively because managers are subjected to the pressures of the financial markets and to the monitoring and discipline of profit-oriented investors. In addition, the change in ownership structure of privatized firms shifts the firm's objectives and managers' incentives away from those that are imposed on them by politicians, toward those that aim to maximize efficiency, profitability, and shareholders' wealth (Seyed Nurani & Gholamzade Ladary, 2011).

Hoque (2011), Libby and Waterhouse (1996) claimed a significant association between competition and changes in MATs.

According to researches, this paper use competition as a moderator variable between privatization and using MATs in TSE to answer this question that can competition improve relationship between privatization and MATs ?

Previous studies exhibit following :

Klammer's (1973) study is one of the first researches of contingency theory on the relationship between MATs and financial performance. It proved that there is not any significant relationship between financial budgeting and the performance.

Also, Bubakri & Kuzet (1998) were the first people who studied on the relationship between the privatization and financial performance. They proved that the profitability, the performance efficiency, capital costs and other financial and operational indices, have been improved in the firms after the privatization. All studies only compare financial ratios before and after the privatization. They mention that privatization enhance competitive of the market.

Porter (1980 & 1985) contends which company can attain above-average performance if it possesses one of the two basic competitive strategies of management accounting (cost leadership or differentiation). Companies following differentiation strategy emphasize on growth, innovation and learning. They will focus on value and create a product or service recognized in industry wide as unique that can improve its performance.

Phadoong sitti (2003) investigated the role of MATs in the economy of emerging countries – that market forwards to privatization. His sample included 70 firms listed in Thailand Stock Exchange. He documented so salient changes due to using MATs and the gained benefits from management accounting methods during 1996-2001. He also confirmed a positive relationship between the benefits of using MATs and financial performance of the firms.

Naceur et al. (2007) investigated the performance of privatized firms in Egypt, Marrakesh, Tunes and Turkey (that market forwards to privatization). These firms experienced a salient rise in profitability and performance efficiency too.

Chen et al. (2008) examined the relationship among control cession, privatization and company performance. The result showed that the firms' performance is improved after transferring their ownership to the private sector. However, their performance changes little after transferring their ownership to another public sector (Seyed Noorani & Gholamzade Ladari, 2011).

Rifat & Balan (2009) introduced Target costing as a tool for strategic cost management which increases the firm's profitability. They stated that the firm's strategy for increasing profitability should be decreasing the cost because prices are determined in competitive market. They considered cost decreasing (before its realization) as the aim of target costing. The result showed that profitability can be increased using target costing in long-term.

Amir et al. (2010) obtained support which differentiation strategy (DS) positively influences the use of contemporary performance measurement systems. Companies emphasizing product differentiation also found balanced performance measures which are linked to measures of customer satisfaction and benchmarking more suitable. In formulating and implementing a product differentiation strategy to overcome competitive threats, company requires an accurate approximation of product attribute costs, and monitoring these costs overtime.

Daneshfard et al. (2010) investigated the role of BSC in improving the performance of telecommunication firms (the privatized companies). The findings showed that applying BSC in the firms leads to improve the firms' performance.

Zahirul, H (2011) by an empirical research, investigated relationship among competition, delegation, advanced management accounting (MMA) change and performance. It follows the contingency type path modeling to propose that intensity of competition causes firms to change their MMA and that this change enhances their performance. The results indicate that increased competition results in improved organizational performance indirectly through a greater number of changes in MMA. These results contribute to the management accounting change literature by providing empirical evidence that the relationship between competition and organizational performance is mediated by a decentralized organizational form and changes in MMA of the company.

Salar & Gholami Avati (2011) examined the relationship between market orientation and the performance of food firms listed in TSE. The result showed that all of the research variables had positive effect on the performance, but the effect of market orientation is stronger than the others.

Azar & Islamju (2012) compared the performance of ceded companies to the private sector and to non-governmental public sector after notifying the general policies of principle 44. The results showed that the performance indices in the firms improved, but these indices decreased in non-governmental public sector firms. Also, private sector firms acted better than non-governmental public sector. It indicate that private companies must use MATs in the competition.

Faisal Talib, et al. (2013) examined the relationship between TQM and the performance quality in India. They proved a positive relationship between TQM and the performance of Indian servicing firms.

Nurouzi et al. (2015) evaluated the relationship between competition and MATs change and performance of companies World trading and increase in complexity of commerce along with substantial advance in technology caused development of methods and techniques of management accounting on one hand with trend of growth and increasing importance of those techniques, their performance evaluation have been considers this research has been carried out and measurement samples with 120 questionnaires from accounting managers and experts in production companies accepted in TSE. The result showed that between competition and management accounting change in most effective factors. There are significant relationships. Also, between company operation with competition and management accounting change, a linear relationship exists.

Dehghan et al (2015) said that one of the ways for achieving sustainable economic development is privatization. They evaluated effects of privatization on the performance and MATs in Copper Industries firms of Iran.. The results indicated a significant relationship between cash flow operation (CFO) and

sales growth percentageand a relationship was observed between application of MATs and privatization.

Ghasemi et al. (2015) examined the relationships among competition, strategy, management accounting system, and performance. It follows a structural equation modeling (SEM) to propose that competition forces companies to modify their strategy and management accounting system and that these changes enhance performance. Change in strategy concerned in the model as change in competition causes change in strategy, and this in turn results in the change in management accounting system, along with improving performance directly. Data were collected by the means of questionnaires that were personally addressed to the managers or heads of accounting departments. The Data obtained from 120 firms, were analyzed using a structural equation modeling estimated by PLS. The findings of the study had two results: 1- changes in competition cause enhancement in performance directly and indirectly through by changes in management accounting system and strategy, and 2- change in strategy leads to higher organizational performance through by the change in management accounting system.

Dianati Deilami et al (2016) investigated the relation between applying MATs and EVA. In order to gain competitive advantage in current trade environment, modern management accounting approaches must be used. Correct use of proper management accounting procedure is expected to maintain companies in an acceptable level even in happening of depressions. Existence of modern MATs helps managers to achieve company goals better and in these goals increasing shareholders' wealth and value of company is above all. Achieving the aforementioned goals can be put to test via capital markets and this matter is done by analyzing financial statements and via financial indices. Hence aim of this research was investigating the relation between modern MATs and EVA. The results showed that applying modern MATs has positive effect which is equal to 0.263, on index of EVA. Thus, it can be said that applying MATs which are value-based, has led to improvement in performance of company in terms of index of EVA.

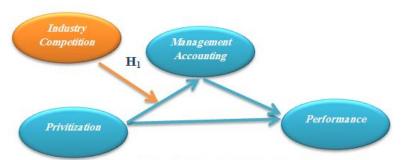Dianati Deilami et al (2016) investigated the relationship among privatization, MATs and financial performance in TSE with considering on using management accounting tools as an intermediary variable. MATs data was collected through questionnaires, the financial performance data was obtained from financial statements information of 48 firms in TSE and privatization data was obtained from IPO website. The results indicate a positive relation between 1-privatization and management accounting tools, 2- management accounting tools and financial performance, and 3-privatization and financial performance in firms listed in TSE which management accounting tools, as an intermediary variable, enhances this relation. The results show that in today's competitive situations, companies should use advanced MATs to improve their performance. It also allows them to stay in the competition area. This study confirm the contingency theory of Anderson & Lenan (1999) in TSE.

As a result of conceptual framework and literature review, it can be concluded that as a change in the structure of a firm (like Privatization in TSE), and its effect on market competition, using MATs seems necessary. Now, after Dianati Deilami et al. research (2016) that investigated the relationship among financial performance, management accounting tools ,and privatization, base on it, this paper want to enter Industry Competition as a moderator variable (**Figure 1**).Also accourding to Ghasemi et al., research (2015) changes in competition enhance in performance through changes in MATs and also, in order to Norouzi et al. (2015) finding there are significant relationships between company competition and management accounting change. Also Zahirul Hoque (2011) claimed which today's companies in so competition need MATs to adapt to the so rapidly changing organizational and social environment.

None of the previous studies addressed this question : "can the Industry Competition enhance the relationship between the MATs and the privatization of the privatized companies?"

The hypothesis is as the following :

Hypothesis (H₁) : Industry competition (IC) influences on the relationship between privatization and management accounting tools as a moderator variable in TSE.

Contingency Theory : *Dianati Deilami & Alambeigi & Barzegar (2016)*

Figure 1 - Conceptual Model

3. Methodology

Post-event method is used in this study. The reasoning method is inductive-deductive which is based on the contingency theory of Anderson and Lenan (1999) (inductive) which was confirmed in TSE by Dianati Deilami and Barzegar (2016) , then it presents a pattern for the whole society by observing some of its components (sample) (deductive). In order to present this pattern, multiple regression is used. It is a field-questionnaire research. The accounting theory of this study is categorized as demonstrative study, and seeks to predict future behavior by the existing situation. This study is a correlation study. Correlation study is defined as a study in which the relationship between two or more variables is determined using

regression pattern. In order to examine the hypothesis, structural equation by partial least squares is used, which is known as PLS algorithm.

Sample

The population of this study is comprised of all firms listed in TSE, which are privatized following the enforcement of general policies of principle 44. The research period is from 2007 to 2013. The sample selection is as the following conditions.

In this study, the questionnaire has been distributed to all of the target companies in the society (70 companies) and finally, 48 questionnaires have been completed and returned.

No	Condition	Quantity
1	Companies which were accepted in TSE before 2007.	469
2	In order to be able to compare the results, financial period ends in March and their fiscal year should not have been changed. Company's data should be accessible during 2007-2013.	177
3	Companies which have been privatized by the government (Iran Privatization Organization (IPO)) in this period.	70
4	Companies that completed and returned the corresponding questionnaire of this research.	48

Variables

In order to collect the data, document mining method (referring to financial statements of the accepted companies in TSE) and questionnaires is used. The questionnaire related to collect the data of using MATs, is distributed among financial managers of firms listed in TSE. The list of management

accounting tools of this questionnaire have been extracted from some critical researches, such as Barzegar, M (2015), Hassass Yeganeh et al. (2011), Phadoong sitti (2003), Asif Ahmed (2010), Chen Hal et al. (1998) and Jooshi (2001). Meanwhile, questionnaire is distributed among experts and professors of management accounting and they are

asked to evaluate the measuring tool and suggest any necessary changes. Finally, the questionnaire is confirmed by them.

Privatization is evaluated based on the following model. According to Dianati Dielami et al. finding (2016), size and kind of the firm (productive or Non-productive) are important factors in privatization and using management accounting tools. In addition, based on Silvari (2000) research, ownership is considered as another important factor in privatization.

The amount of Privatizationt = f (STOCK t% , SIZE , D1)

In which:

STOCK $_t$%: is the amount of ceded shares of the company in t year. This information is collected from privatization website[i] ,(IPO).

D_1 and SIZE are controlling variables, they are defined as:

SIZE shows the firm's size. It calculated by dividing the company's ceded nominal capital in each year to the common logarithm (Ln) of company's assets.

D_1 denotes the kind of the firm (manufacturing or Non-manufacturing), taking the value of zero if the firm is manufacturing and one if the firm is not manufacturing (Dianati Deilami et al , 2016).

Management Accounting Tools (MATs) : The amount of using management accounting tools, and it is measured by likert spectrum (score 1 to 5). Based on the critical research of Hassass Yeganeh et al. (2011), the tools used in the questionnaires are divided into 4 phases of management accounting evolution. These phases are as follows: 1-costing and financial control, 2-management controlling and planning, 3-reducing resource waste, 4-value creation by efficient using resources (Barzegar, 2015). These tools include :

No	Technique	Phase	No	Technique	Phase
1	Analysis of profit and loss statement and balance sheet	1	32	Economic order quantity (EOQ)	3
2	Analysis of cash flow statement	1	33	Multiple regression	3
3	Analysis of financial ration	1	34	Balanced score card (BSC)	4
4	Analysis of deviations	1	35	Budgeting for mangers' rewards	4
5	Cash budgeting	1	36	Quantification technique	4
6	Job Order system / products costing	1	37	Target costing (TC)	4
7	Analysis of Strengths, Weak and Opportunity, Threat (SWOT)	1	38	Operational process Benchmarking	4
8	Output of cash flow to investing	1	39	Management process Benchmarking	4
9	Operation leverage (OL)	1	40	Strategic priorities Benchmarking	4
10	Analysis of costs and benefits	2	41	Product feature Benchmarking	4
11	Standard costing	2	42	Total quality management (TQM)	4
12	Yearly budgeting	2	43	Six sigma	4
13	Flexible budgeting	2	44	Kaizen	4
14	Transfer pricing	2	45	Quality costing	4
15	Analysis of cost-volume- profit (CVP)	2	46	Analysis of product life cycle	4
16	Direct costing	2	47	Analysis of value chain	4
17	Absorption costing	2	48	Analysis of costumers' profitability	4
18	Analysis of fixed and variable costs	2	49	Analysis of shareholders' value	4
19	Capital budgeting	2	50	Evaluating costumers' satisfaction	4
20	Costing of processes	2	51	Evaluating employees'' attitude	4
21	Uniform costing	2	52	Activity-based costing (ABC)	4

No	Technique	Phase	No	Technique	Phase
22	Comprehensive strategic planning	2	53	Just in time system (JIT)	4
23	process costing	2	54	Value engineering	4
24	Costing of operations	2	55	Reverse engineering	4
25	Analysis of product profitability	2	56	Value-based management (VBM)	4
26	Evaluating various profitable operations of the company	2	57	Human resources accounting (HR)	4
27	Zero-based budgeting (ZBB)	3	58	Environment costing	4
28	Operational research techniques(OR)	3	59	Resource usage accounting	4
29	Statistical analysis	3	60	Risk modeling (RM)	4
30	Enterprise resource planning(ERP)	3	61	Constraint of theory (TOC)	4
31	Material requirements planning (MRP)	3			

Source : Barzegar , Morteza ,(2015)

Moderator Variable

Industry Competition (IC): It measure industry centralization which low centralization mean high competition. Industry centralization calculate to divide sales of each company to all sales of each industry.(Tariverdi et al., 2012)

$$\sum_{i=1}^{n} \frac{S_{it}}{Total\ S_{st}}$$

In which :

S_{it} : Company sale of end of the t year.

S_{st} : Industry sales of end of the t year.

In order to examine the hypothesis of this research, structural equation by partial least squares is used, which is known as PLS algorithm. PLS software, version 2014, is used for data processing. One of the most modern approaches, in structural equation model, is partial least squares. This method of variance-based structural equation is appropriate and is reliable in 2 situations: When combinational structures are against reverse structures, or when the total sample mass is few, comparing with the number of variables being estimated or being divided to smaller units because of grouping.

4. Results
A. Descriptive statistics

In this section, some data are presented which include general information about responders and their companies. All of the responders (financial managers or management accountant of the sample research) were males (48 people) and 50 percent of them (24 people) had more than 15 years of experience. Also 83/33 percent of them (40 people) had MSc or Ph.D degree. In this section, we also try to determine the state of MATs in the sample firms by examining their usage extent. Table 1 shows usage percentage of each MATs in the sample firms.

Table 1: the amount of usage from management accounting tools

Management accounting tools (MATs)	Usage percentage					M (S.D)
	1	2	3	4	5	
costing and financial controlling phase	5.9	2.9	14.7	32.4	44.1	4.06 (1.13)
Controlling and planning phase	61.8	88	23.5	2.9	2.9	1.76 (1.1)
Reducing production resources waste phase	70.6	11.8	14.7	0	2.9	1.53 (0.96)
Value creation phase	2.9	2.9	29.4	32.4	29.4	3.82 (1)
1. Very small 2. Small 3. Average 4. Large 5. Very large M= Mean, S.D= Standard Deviation						

As can be seen, costing and financial controlling phase (4.06 mean) is the most common phase in which management accounting tools are used in the sample firms. Other phases are value creation, controlling and planning and reducing production resources waste phase, respectively.

B. Analytical statistics

In this study in order to examine the hypothesis, structural equation by partial least squares (PLS) is used, which is known as PLS algorithm (2014-version).

Based on the table 2, the indicators of each structure (except two indicators in MATs) have enough importance for measuring structures (t value of more than 1/96) that eliminated these indicators of the model.

Structure validity, which evaluates the accuracy and importance of the chosen indicators for examining the structure, shows that indicators provide appropriate factor structure for evaluating studied aspects in research model.

In addition to, diagnostic validity, which means that the indicators of each structure eventually provided an appropriate segregation regarding measurement and comparing with other model's structures, is used. In the other words, each indicator, only measures its own structure and their combination be in such a way that segregates all of the structures properly. This process is studied in two senses. In the first method, the average variance extracted is determined by the indicator. The average variance extracted (AVE) of all of the indicators was more than 0/5.

Finally, combinational reliability indicator is utilized for examining the reliability. Combinational reliability coefficient is used in the methodology of structural equations. The resulting values more than 0/6 for each structure, represents appropriate reliability (Nunnally & Bernstein, 1994). The values of combinational reliability (CR) are also more than 0/6, which is really good.

In the methodology of structural equation model, at the first, the structure should be studied to make sure that the chosen indicators have the required accuracy for measuring the structures. It shows that whether the questions chosen well enough for measuring the variable? For this purpose, confirmatory factor analysis (CFA) is used. If t-statistic of the load factor of each indicator and its structure has more than 1.96, the indicator has the required accuracy for measuring that structure or the latent trait (Nunnally & Bernstein, 1994). Table 2 represents the load factor for the indicators of each structure.

Table 2: the amount of load factor for structure's indicators in measuring model framework

Structure	Variable	Load factor	P	Result
Privatization	D_1	0.775	0.001	Accepted
	SIZE	0.663	0.001	Accepted
	STOCK%	0.721	0.001	Accepted
Evolution Phases of MATs	costing and financial controlling phase (First Phase)	0.955	0.001	Accepted
	Controlling and planning phase (Second Phase)	0.106	0.104	Eliminated
	Reducing production resources waste phase(Third Phase)	0.148	0.138	Eliminated
	Value creation phase (Fourth Phase)	0.956	0.001	Accepted

Table 3: examining the square root values of average variance extracted with available correlations among latent variables

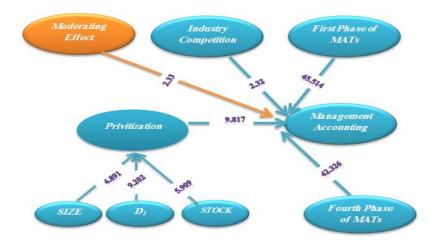| Latent traits	Alpha	CR	AVE
Industry Competition	1.000	1.000	1.000
Moderating Effect	1.000	1.000	1.000
Privatization	0.537	0.764	0.520
MATs	0.904	0.954	0.912

Figure 2: Statistics related to examining moderating effect of MATs (t-value)
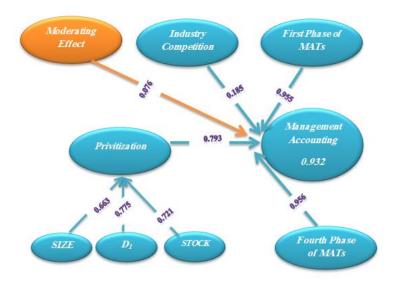

Figure 3: Path Coefficients (Beta) of the Model

Based on figure 3, total effects show in table 4.

Table 4: the amount of load factor for MATs (Total Effect)

Variables	MATs
Industry Competition	0.185
Moderating Effect	0.076
Privatization	0.793
MATs	1.000

The results of the table 4 show Industry competition (IC) influences on the relationship between privatization and MATs as a moderator variable in TSE ,and MATs has 0.076 path coefficient. Its t-value is calculated in figure 2 , t-value is more than 1/96 which represents the significance accuracy of the parameter. Hence, we can say that Industry Competition (IC) significantly influences in relationship between Privatization and MATs as moderator variable. We can see privatization and Industry Competition (IC) as a predictor variable of MATs.

Table 5: Latent Variables Correlations

Variables	Industry Competition	Moderating Effect	Privatization	MATs
Industry Competition	1.000			
Moderating Effect	0.697	1.000		
Privatization	0.673	0.339	1.000	
MATs	0.775	0.481	0.945	1.000

The other results of the tables 4 and 5 show that Industry Competition (IC) has 0.185 path coefficient on MATs. Its t-value is calculated in figure 2, t-value is more than 1/96 which represents the significance accuracy of the parameter. Hence, we can say that Industry Competition (IC) significantly influences on using MATs. The Industry Competition is positively correlated with MATs (0.775).

Eventually, not only the research model was confirmed, but also, the variables of the model can explain 93.2% of variations in MATs. It was also proved that privatization and Industry Competition lead to the firms use the first and fourth phase of management accounting tools more than others.

Table 6 : Quality Criteria (Total Prediction of the Model)

Management Accounting Tools	R Square	R Square Adjusted
	0.932	0.927

5. Conclusion and discussion

Particularly today, the privatization seems necessary to promote the competition in each markets and industries. Due to change in the structure of privatized firms and the competition patterns, the importance of management accounting in economic agencies is increased. A weak management accounting system can decrease competitive benefits of the firms. This study is based on contingency theory of Anderson & Lenan (1999),which is confirmed by Barzegar (2015) in TSE.

Considering the general policies of principle 44 to increase the competition, it is used as a moderator variable in this study. It is considered as a moderator in the relationship between MATs and privatization. The results show a positive relationship between MATs and the privatization. It should be noted that moderator variable (industry competition) intensifies the relationship between MATs and the privatization.

The results show that in today's competitive situations, companies should use modern and the fourth phase of management accounting tools to improve their performance. It also allows them to stay in the competition area. It is also noteworthy that these companies widely use the first phase of management accounting tools (traditional).

Based on Hassass Yeganeh et al. (2011) and Khodamipour (2010), it seems that the firms used the first phase of tools before the privatization. Considering Iranian supreme leader's notification about the general policies of principle 44, the firms were forced to use modern management accounting tools (phase 4). The main purpose of this principle was to increase the competition. As an example in today's competitive market, companies use advanced tools like value engineering , reverse engineering, Target costing, theory of constraint (TOC) , just in time, activity based costing (ABC), activity based management (ABM) and so on .

Also this paper results resemble Ghasemi et al research (2015) that indicated which changes in competition cause enhancement in performance directly and indirectly through by changes in management accounting system and so, resemble Dehghan et al research (2015) that indicated a significant relationship between management accounting tools and sales growth percentage

(performance proxy) and a relationship was observed between application management accounting tools and privatization.

This research documents evidence on appropriate function of privatization organization after notifying the general policies of principle 44 by supreme leader. The privatized companies were restructured and released themselves from the cramped situation of the government, entered to a dynamic competition and also used modern MATs (Fourth phase).

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Notes

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