

THE MEDIATING EFFECT OF MANAGEMENT ACCOUNTING SYSTEM ON  
THE RELATIONSHIP BETWEEN CONTINGENT VARIABLES AND  
MANAGERIAL PERFORMANCE IN IRAN

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*To my parents, brothers, sister and other family members*

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## ABSTRACT

Prior researches confirm that there is no unique and universal management accounting system (MAS) for all organizations, since this depends on internal firm characteristics and environmental features. Previous studies have also shown that, there has been a lack of empirical evidence on MAS researches in the service organizations, especially the financial organization. This study is an empirical investigation of the contingency theory, examining the relationship between contingency variables (market competition, technology and organization structure) and MAS characteristics on managerial performance. The focus of this study is mainly on four information characteristics of MAS – scope, integration, aggregation and timeliness. The scope of the study is the Iranian financial organizations which consist of banks, insurance companies and investment organizations. Managers of these organizations which include financial managers, chief accountants, chief financial controllers and chief financial officers were selected as respondents for the questionnaire survey. This study used the SmartPLS software version 2.0 to analyze the data, and the model of study was estimated with structural equation modeling (SEM). It followed the two-stage analytical procedures of SEM: assessing confirmatory measurement models (factor analysis) to make sure that the measurements used in this study are valid, and confirmatory structural models (path analysis) to determine relationships among the constructs. The study found the existence of direct relationships between these contingent variables and MAS, and between MAS and managerial performance. The study also confirmed that MAS acted as a mediator in the relationship between these contingent variables and managerial performance. The findings provide valuable insight to guide managers in financial organizations to improve their performance through suitable MAS by considering internal and environmental factors. Recommendations on how to improve MAS and managerial performance are provided accordingly.

## ABSTRAK

Kajian terdahulu mengesahkan bahawa tidak terdapat suatu sistem pengurusan perakaunan (MAS) yang unik dan universal untuk semua organisasi, memandangkan ia bergantung kepada ciri-ciri dalaman syarikat dan ciri-ciri persekitaran. Kajian lepas juga menunjukkan bahawa terdapat kekurangan bukti empirikal ke atas kajian-kajian MAS dalam organisasi perkhidmatan, terutama organisasi kewangan. Kajian ini merupakan penyelidikan empirikal menggunakan teori kontingensi dalam menyelidiki hubungan antara pembolehubah kontingensi (persaingan pasaran, teknologi dan struktur organisasi) dan ciri MAS ke atas prestasi pengurusan. Fokus kajian ini adalah terutamanya ke atas empat ciri maklumat MAS – skop, integrasi, agregasi dan tepat masa. Skop kajian adalah organisasi kewangan Iran termasuk bank, syarikat insuran dan organisasi pelaburan. Para pengurus organisasi-organisasi ini yang termasuk pengurus kewangan, ketua akauntan, ketua pengawal kewangan dan ketua pegawai kewangan telah dipilih sebagai responden untuk tinjauan soalselidik. Kajian ini menggunakan perisian *SmartPLS* versi 2.0 untuk menganalisa data dan model kajian telah diuji dengan permodelan persamaan berstruktur (SEM). Ia mematuhi prosedur analisis dua-tahap SEM: menilai model pengukuran pengesanan (analisis faktor) untuk memastikan pengukuran dalam kajian ini adalah betul, dan model pengesanan berstruktur (analisis laluan) untuk menentukan hubungan antara konstruk. Kajian mendapati wujudnya hubungan langsung antara pembolehubah kontingen ini dengan MAS, dan hubungan antara MAS dengan prestasi pengurusan. Kajian juga mengesahkan yang MAS bertindak sebagai pengantara dalam hubungan antara pembolehubah-pembolehubah kontingen ini dengan prestasi pengurusan. Penemuan-penemuan ini memberi pandangan bernilai untuk membimbing pengurus-pengurus dalam organisasi kewangan untuk memperbaiki prestasi mereka melalui kesesuaian MAS dengan mempertimbangkan faktor dalaman dan juga faktor persekitaran. Cadangan-cadangan bagaimana untuk mempertingkatkan MAS dan prestasi pengurusan juga diberikan.

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**LIST OF ABBREVIATIONS**

ABC	-	Activity-Based Costing
AIS	-	Accounting Information System
BMAS	-	Broad-scope Management Accounting Systems
BP	-	Budgetary Participation
BSC	-	Balanced Score Card
CFO	-	Chief Financial Officer
DV	-	Dependent Variable
EDI	-	Electronic Data Interchange
EFT	-	Electronic Fund Transfer
ERP	-	Enterprise Resource Planning Systems
FSI	-	Financial Services Industry
FIFO	-	First In First Out
IFAC	-	International Federation of Accountants
IC	-	Intellectual Capital
IV	-	Independent Variable
JIT	-	Just-In-Time inventory
KLSE	-	Kuala Lumpur Stock Exchange
LMFG	-	Lean Manufacturing (LMFG)
LOC	-	Locus of Control
MA	-	Management Accounting
MP	-	Management Performance
MAP	-	Management Accounting Practice
MAS	-	Management Accounting System
LIFO	-	Last In First Out
PEU	-	Perceived Environmental Uncertainty
PCA	-	Principal Component Analysis
SBU	-	Strategic Business Unit
TQM	-	Total Quality Management

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Overview

In the past decade, the rapid technological changes and increasing pressure of competition have changed external environment of organizations, which consecutively influence their internal processes like management accounting system (MAS) (Mat *et al.*, 2010). These changes may influence the MAS characteristics in an organization and may lead to the need for the organization to re-evaluate its current design and strategies to cope with the changes in the environment. In this situation, the role of MAS is to supply useful information to assist management in decision-making, and to persuade users to initiate organizational changes (Chung *et al.*, 2012).

This relationship between the changes in environment and MAS is identified through contingency theory, which assumes that organizations are able to operate efficiently if they apply and employ MAS that fits their environmental factors. In other words, MAS is accepted to assist organizations to endure in highly technological environment and compete with other firms by supplying helpful information for managers to plan, control and monitor organizational process (Ismail and Isa, 2011).

In this study, likewise previous studies, contingency theory is used on MAS to investigate the relationship between the contingent variables and MAS characteristics (broad scope, integrated, aggregated and timely) and to explore whether the MAS causes enhancement in managerial performance in organizations.

The following parts of the current study argue about the theoretical relationship among the selected contextual variables, MAS characteristics and managerial performance. Some hypotheses are suggested on the role of MAS characteristics as a mediator, which mediates the relationship between contingent variables and managerial performance. The current study acknowledges that various factors affect MAS and MAS affects many other factors. However, for narrowing down the scope of the current research, it focuses on the relationships between contingent variables - competition, structure and technology - and MAS on managerial performance. These contingent variables were selected because of their wide coverage in the MAS literature related to researches in the manufacturing sector; so far, they have received low attention in researches in the service sector (Hammad, *et al.*, 2010).

## **1.2 Background of the Study**

The world economy is experiencing unexpected changes from the dynamics of competition, the globalization of markets, the evolution of stocks, to the technological advances in the field of information and communications (Urquidi and Ripoll, 2013). Due to these changes, corporate managers are working in a more and more complicated environment (Chung *et al.*, 2012). In this condition, firms find themselves obligated to redefine the fundamentals of their businesses, and consequently to search for solutions that allow them to endure and grow (Urquidi and Ripoll, 2013). To manage successfully in this situation, managers need to implement a sophisticated information system that supplies them with adequate and essential business information (Bouwens and Abernethy, 2000; Chung *et al.*, 2012). MAS is a kind of system that can support managers to access and use necessary information to achieve firm's objectives and consequently improve their managerial performance (Chung *et al.*, 2012).

Generally, Accounting Information Systems (AISs) can be divided into two main subsystems: financial AIS and management AIS. However, these subsystems are not independent of one another; in fact, in an ideal situation, integration and connection of databases would exist between the two subsystems. In this regard, the main purpose of MAS is to supply useful information to management for decision-making and

implementing effective decisions to reach organizational objectives (Frezatti *et al.*, 2011; Horngren *et al.*, 2006; Rausch, 2011). Thus, the quantity and characteristics of information offered by MAS is a good indicator of the level of organizational strength (Chong and Eggleton, 2003; Hammad *et al.*, 2010; Simons, 2000).

Today, the scope of MAS has considerably become wider, which now consists of financial and non-financial information and a wide range of measures. Some researchers believe that MAS is a value-adding continuous enhancement process of planning, designing and measuring, by supplying comprehensive information to management for decision making and by motivating behaviors, supporting, creating the cultural values to reach a company's strategic, tactical, and operational goals (Kadak and Roostalu, 2013). Hence, in the sense of modern MAS, managers need to obtain sophisticated information for decision-making, improving, and controlling organization. Therefore, MAS as a part of management process should be able to supply this sophisticated information covering a broad scope of information in a timely, integrated and aggregated manner for achieving organizational targets.

Hence, the characterization of MAS in terms of its features is an important aspect of the present study—which takes the research of Chenhall and Morris (1986) as a theoretical basis. Many studies until now have utilized theory and instrument of MAS characteristics that was expanded by several authors (Abernethy and Guthrie, 1994; Agbejule, 2005; Hammad, *et al.*, 2010; Lal and Hassel, 1998; Soobaroyen and Poorundersing, 2008; Tillema, 2005). According to Chenhall and Morris (1986), the information provided by MAS can be regarded based on its four information characteristics, which are scope, integration, timeliness and aggregation.

In addition, during the past years, the focus of MAS is changed from its traditional role of financial control and cost determination towards the focus of activity-based resource planning, time-driven activity-based costing, resource consumption accounting, driver-based budgeting, because of the effect of increasing market competition, globalization, limited resources, technology and changing environment (Sleihat *et al.*, 2012). Therefore, according to the International Federation of Accountants (IFAC), the development of the role of MAS is changed throughout

the sequential periods (IFAC, 1998; Sleihat *et al.*, 2012). This framework describes the evolution in management accounting in six phases including; Stage 1: Bookkeeping processes and lean accounting (1812-1920) focused on cost determination and financial control. Stage 2: Cost accounting (1920-1950), Stage 3: Management planning and control (1950-1965), Stage 4: Lean product manufacturing (1965-1980's), Stage 5: Value-based management (1990's), Stage 6: Demand-driven planning (2000's). As explained by IFAC (1998), Mat (2010), Sleihat *et al.* (2012) Abdel-Kadera and Luther (2008) and Hajjawi (2012), the management accounting development can be divided into several subsequent periods, however, it is necessary to notice that the methods used in previous periods continued to be used in following periods. This approves the idea that advanced and traditional MAS have a tendency to complement each other.

Furthermore, the environmental factors for business in a developing country are different from those in an advanced country, relating to market competition, access to manufactured inputs, human resources, infrastructure, governmental rules and laws (Mat, 2010). Especially, Iran, which is categorized as a developing country, provides an interesting cultural contrast to western countries because of the new emphasis on Islamic laws and values after its political revolution in 1979 (Etemadi *et al.*, 2009). Iran is a country with a mixed - economy (in which both the private sector and the state direct the economy) and transitional economy (which is changing from a centrally planned economy to a free market) with a large public sector. Around fifty percent of the economy is centrally planned and dominated by oil and gas production, although over 40 industries are directly involved in the Tehran Stock Exchange. In addition, Iran is the world's seventeenth largest country by purchasing power parity (PPP) and twenty-first by nominal gross domestic product (IMF, 2013).

Therefore, some scholars state that employing new management accounting approaches in developing country like Iran that emerge in a foreign context, is not completely acceptable because of the different environmental and economic conditions (Wallace, 1990; Peasnell, 1993; Chow *et al.*, 1999; Waweru *et al.*, 2004). They suggested that the political and economic conditions and social and cultural characteristics of environment surrounding the firm must be considered.

Moreover, the service organizations have been known as the main contributor in the new economy. The consequences of post-industrial, globalization and deregulation of the service section in the market have caused this development. The competition in the service market has been intensified because of the increase in service business opportunities and threats and liberalization of the economy (Amir *et al.*, 2010). Specially, financial organizations play a key role in the economy. These organizations operate as intermediaries among the surplus companies and deficit parts and this role is essential to allocate resources in the present economy effectively (Rasid *et al.*, 2011b; Sinkey, 2002).

Some scholars discussed why MAS may be unlike when comparing one organization to the other. This can be related to organizations operating in different industries or sectors and can be explained by the contingency theory. According to Feldbauer-Durstmüller *et al.* (2012), contingency theory is a very prominent approach to investigate MAS and this theory is the most common theoretical basis for empirical studies on information for planning and control. Contingency theory of MAS proposes that organizations can operate more efficiently if they employ and utilize MAS which cope with their organization and environmental conditions (Hoque, 2011). Therefore, a MAS that is designed well is able to provide useful information for managers to set suitable performance objectives, performance measurement standards and feedbacks on performance to enhance managerial performance.

Theoretically, this study relies on the MAS literature, contingency theory of management accounting and managerial performance, and contingent variables such as competition, technology and organizational structure. The literature provides the theoretical support utilized in this study to develop and analyze a model that extends the understanding of how MAS mediates the relationships between contingent variables and managerial performance in financial organizations.

### 1.3 Problem Statement

Because of advancements in technologies and increased global competition, firms' managers are acting in a more and more complex and uncertain conditions. Managers need to use and implement a sophisticated information system that provide them with sufficient and vital business information to manage their operations effectively and improve their managerial performance (Bouwens and Abernethy, 2000). MAS is a type of system that can assist managers to achieve and utilize the necessary information to acquire work targets and consequently improve their managerial performance (Chung *et al.*, 2012).

MAS plays a key service role in most organizations by supplying useful information. Companies should include MAS information quality as a key performance measure of the accounting function (Walker *et al.*, 2012). Successful service provision likely elevates the status of the accounting discipline in organizations, and lead to increased resource allocations (Fleischman *et al.*, 2010). Therefore, management accounting departments should examine how they can increase their quality of information to improve user decision making and productivity of organizations. As management accountants seek to add value by serving strategic information and improving business performance, an analysis of MAS information quality could provide useful metrics that management accountants can track to monitor user satisfaction (Walker *et al.*, 2012).

The service sector has been known as the main contributor to the economy. The consequences of post-industrial, globalization and deregulation of the service section on the market have caused this development. The competition among service organizations has been intensified because of increases of opportunities and threats in service industry and liberalization in the economy (Amir *et al.*, 2010). Specifically, financial organizations play a key role in the economy (Rasid *et al.*, 2011b; Sinkey, 2002). They are crucial to the allocation of resources in a modern economy. Because of the high level of competition, service organization must be proactive to offer the high quality services at low price and on time (Amir *et al.*, 2010). Hence, service organizations need to utilize a set of effective information to make sure that managers implement successful strategies in the changing business environment with the highest

level of competition (Amir *et al.*, 2010). MAS is a kind of information system that can support management in decision-making, planning and controlling and can influence managerial performance (Rasid *et al.*, 2011b).

In addition, a strong financial industry is important in every country and can have a significant effect in supporting economic development through efficient financial services. Financial organizations, trade a complex and extensive range of financial assets. They are also faced a diverse customer base and are exposed to a wide variety of risks. Financial organizations are also facing a dynamic environment due to deregulation and globalization (Salehi and Alipour, 2010). To thrive in this dynamic, uncertain and complex environment, financial organizations must enhance their competitive edge. The ability of management to make informed decisions is linked to the quality of management information available to them and accurate information arises from a reliable MAS (Rezaee, 2005). However, MAS for the financial service sector has received limited attention like most previous literature on other service sectors. The lack of MAS studied on the financial service sector has also been acknowledged (Hussain, 2005; Rasid *et al.*, 2011b; Rasid *et al.*, 2014). In fact, many studies have been presented in service sectors, but financial service providing firms have been neglected (Arroteia *et al.*, 2012; Hill, 2000; Mia and Patiar, 2001; Mongiello and Harris, 2006; Pavlatos and Paggios, 2009; Waweru *et al.*, 2004). However, most previous literature on accounting for financial organizations has focused mostly on the existence or absence of MAS in the financial service sector (Hussain, 2005; Rasid *et al.*, 2011b; Alnawayseh, 2013). The current study provides empirical evidence on how MAS is actually perceived by managers in those organizations and how these influence managerial performance. In addition, this study considers the impact of contextual factors on MAS using rigorous statistical analysis in the financial service sector, as called by Hussain *et al.* (2005).

Whilst there are now some emerging findings on the existence or absence of MAS in the financial service sector (Hussain, 2005; Guerreiro *et al.*, 2006; Rasid *et al.*, 2011; Alnawayseh, 2013; Rasid *et al.*, 2014), there is relatively little evidence on how MAS is actually perceived by managers in those organizations and how these influence managerial performance. In addition, there is a need to consider the impact

of contextual factors on MAS using more rigorous statistical analysis in financial service sector (Hussain *et al.*, 2005).

An extensive review of theoretical and empirical literature by previous researchers indicates that there is no unique and universal MAS for organizations, since this depends on internal firm characteristics and environmental features (Chenhall, 2003; Carenzo and Turolla, 2010). Contingency theory of MAS proposes that organizations can operate more efficiently if they employ and utilize MAS which cope with their organizational and environmental conditions (Hoque, 2011; Otley, 1980). This basic assumption states that companies adapt their structures and processes to given characteristics of their environments (Brandau *et al.*, 2013; Mayr, 2012). The basic rule of contingency theory is that “fit” has a positive influence on performance because this theory assumes that organizations operate efficiently if they apply and employ structures and processes that fit with environmental factors (Otley, 1980).

The contingent factors used in prior studies on MAS were mainly: (1) perceived environmental uncertainty (PEU) (Gul, 1991; Mia, 1993; Gul and Chia, 1994; Agbejule, 2005; Abdel-kader and Luther, 2008; Mat, 2010; Erserim, 2012), (2) task uncertainty (Chong, 1996; Chong and Egelton, 2003), (3) Budgetary participation (Tsui, 2001; Cheng, 2012) and (4) Strategy (Abernethy and Guthrie, 1994; Bouwens and Abernethy, 2000; Jermias and Gani, 2004). It can be observed that previous studies concentrated more on the contingent variables like perceived environmental uncertainty (PEU), budgetary participation and strategy. There is a little systematic empirical studies conducted to examine the relationships among managerial performance, MAS characteristics, and contingent variable such as competition, technology and organizational structure (Hammad *et al.*, 2010). Gerdin (2005) and Tillema (2005) call for more research to understand the organizational and environmental factors that influence MAS. In addition the importance of technology, which is particularly obvious in the financial sector, cannot be underestimated in ensuring that MAS is relevant to the technical core of the organization (Chenhall, 2003). Furthermore, more research in this area is needed as Bouwens and Abernethy (2000) and Hammad *et al.* (2010) assert that the understanding of the antecedent



conditions that influence MAS characteristics and managerial performance is still very limited.

Managerial performance has been found to differ across different countries, both in terms of perceptions of what determines management performance and in terms of managerial practices. Neither the prevalence nor the substance of organizations' managerial performance is uniform across countries (Smith *et al.*, 1997; Mueller 2004). Innovativeness, managing subordinates, authority imposed within the firm, decision-making processes, conflict resolution, among others, have been found to differ across countries (Mueller, 2004). In addition, modern MAS may not be similarly effective in different countries (Etemadi *et al.*, 2009). Importing modern management accounting methods and techniques, and using them in a developing country may not be as effective as in advanced countries because of different national and organizational conditions (Etemadi *et al.*, 2009). The environmental factors for business in a developing country are different from those in an advanced country. According to Eendenich *et al.* (2016), management accounting is shaped by its respective context and differs traditionally between countries. However, most of the studies on MAS and managerial performance (Abdel-Kader and Luther, 2008; Abernethy and Guthrie, 1994; Agbejule, 2005; Bouwens and Abernethy, 2000; Emsley, 2005; Erserim, 2012; Mia, 1993; Stergiou *et al.*, 2013; Susanto, 2010; Tsui, 2001) have concentrated on firms in the US, Singapore, Australia, Finland and Turkey with lack of evidence on how MAS changes in Iranian firms' perspective (Etemadi, *et al.*, 2009).

Therefore, empirical evidence from Iran provides significant insights into the role of contingent variables in the implementation of MAS and managerial performance across national boundaries. Iran has moved towards global competitiveness (Etemadi *et al.*, 2009). As a significant contribution to the Iranian economy, this change makes sure that financial organizations in Iran should operate their business according to the current situations. To do this, they need to reconsider their existing MAS more than ever. Therefore, this study is carried out to determine how MAS characteristics and managerial performance in Iranian financial organizations change in response to a changing business environment.

A number of previous studies have examined the relationships among MAS, contingent variables, and managerial performance. Specifically, researchers have examined the performance implication of the fit between MAS and contingent variables (Abdel-Kadera and Luther, 2008; Chong 2003; Etemadi *et al.*, 2009; Hammad *et al.*, 2010; Tsui, 2009). They found that managers whose MAS was consistent with the internal and external factors performed better than those whose MAS was not. These studies, however, limited their examination to certain characteristics of MAS. To date, there are few empirical studies focusing on the four characteristics of MAS (e.g. Agbejule, 2005; Bouwens and Abernethy, 2000; Hammad *et al.*, 2010; Rasid *et al.*, 2011b; Rasid *et al.*, 2014; Tillema, 2005). Most of them concentrated on one or two characteristics of MAS, mostly on the broad scope dimension (e.g. Tsui, 2009; Chong and Chong, 1997; Chong, 1998; Ismail and Isa, 2011; Chong and Eggleton, 2003; Mia and Winata, 2008; Chung *et al.*, 2012; Gerdin, 2005; Etemadi *et al.*, 2009; Naranjo-Gil and Hartmann, 2007). Even though, the broad scope is the most important one among the MAS characteristics, it is better to consider other characteristics. It must be determined that the information provided by MAS is broad in scope, timely, integrated or aggregated to be used by decision makers and managers in an organization (Bouwens and Abernethy, 2000; Agbejule, 2005).

In addition, most of the previous studies considered MAS as an independent variable (Gul, 1991; Chong, 1996; Tsui, 2001; Mia and Patiar, 2001; Chong and Eggleton, 2003; Agbejule, 2005; Susanto, 2010) or dependent variable (Emsley, 2005; Abdel-Kader and Luther, 2008; Mat, 2010; Erserim, 2012; Stergiou *et al.*, 2013). Only a few of them (Mia, 1993; Mia and Clarke, 1999; Jermias and Gani, 2004; Jusoh, 2008; Cheng, 2012) studied the mediating role of MAS. Hence, it is necessary to search more about the mediating role of MAS. This study uses the mediating or the intervening notion of contingency theory (Baines and Langfield-Smith, 2003; Hoque, 2011; Mayr, 2012) to examine whether MAS characteristics mediate, or intervene the relationship between competition, technology, structure and managerial performance.

Finally, managerial performance may have to be distinguished from the economic performance of the unit for which the manager is responsible. The nature of managerial activities (e.g. planning, investigating, coordinating, evaluating,

supervising, staffing, negotiating, and representing) strongly affects the significance of information as each managerial activity has particular information requirements and there is no ordered or systematic way to perform these activities (Laitinen, 2009). Empirical evidence for the direct effect of MAS on managerial performance is rather lacking, as the exact nature of accounting information and performance relationships is ambiguous (Baines and Langfield-Smith, 2003; Chung *et al.*, 2012).

#### **1.4 Research Questions**

The research questions addressed by the study are as follows:

- 1) Is market competition positively related to MAS characteristics?
- 2) Is technology positively related to MAS characteristics?
- 3) Is organizational structure positively related to MAS characteristics?
- 4) Is MAS characteristics positively related to managerial performance?
- 5) Are three contingent variables (competition, technology and structure) indirectly related to managerial performance acting through MAS characteristics?

#### **1.5 Research Aims**

This study investigates the relationship between the contingent variables and MAS characteristics (scope, integration, aggregation and timeliness) and examines if MAS causes improvement in managerial performance in financial organizations in Iran. The main focus of this study is the four characteristics of MAS – scope, integration, aggregation and timeliness. In fact, this study examines the relationship between contingent variables – competition, organizational structure, technology - and MAS characteristics on managerial performance.

## 1.6 Research Objectives

The study aims to achieve the following objectives:

- 1) To examine the relationship between the market competition and MAS characteristics.
- 2) To examine the relationship between technology and MAS characteristics.
- 3) To examine the relationship between organizational structure and MAS characteristics.
- 4) To examine the relationship between MAS characteristics and managerial performance.
- 5) To examine the indirect relationships between the contingent variables (competition, technology and structure) and managerial performance acting through MAS characteristics.

## 1.7 Scope of the Study

In view of the complexity of the Iranian financial organizations' environment arising from dramatic political, social, and economic changes, the traditional emphasis on management accounting is inadequate for providing a solid rational ground for efficient and effective planning and control (Etemadi *et al.*, 2009). MAS can significantly contribute to boosting management capacity to deal with a turbulent environment. This study examines the possible association between selected contingent variables and the characteristics of MAS in financial organizations. The selected contingent variables are market competition; technology; organizational structure. These variables are drawn from a review of the literature on management accounting and other closely related areas, namely, management science and management information systems. Consideration of all the potential contingent variables is beyond the scope of this research effort. Therefore, for narrowing the scope, this study focuses on these particular variables that were selected by considering current economic conditions and situations that surround financial organization in Iran and because of wide coverage of these factors in the MAS literature in the

manufacturing sector, so far they have received low attention in researches in the service section.

Iran is selected as the scope of this study because of following reasons: (a) Iran as an Asian country provides an interesting cultural contrast to western countries because of emphasis on Islamic laws and values (Etemadi *et al.*, 2009), (b) The economy of Iran is different from any other Asian country, it is a mixed (in which both the private sector and state direct the economy) and transition economy (which is changing from a centrally planned economy to a free market) with a large public sector. In addition, fifty percent of the economy is centrally planned and dominated by oil and gas production. (c) Iran is the world's seventeenth largest by purchasing power parity (PPP) and twenty-first by nominal gross domestic product (IMF, 2013).

Therefore, different environmental conditions in different countries have a major impact on the performance achieved from the imported management accounting techniques. Furthermore, modern management accounting and control systems developed in other countries may not be similarly effective in Iran (Etemadi *et al.*, 2009). With the purpose of limiting scope of the study, the current study focuses on financial organizations including banks, insurances and investment organizations listed on the central bank, central insurance and Securities and Exchange Organization (SEO) of Iran. The management of these organizations, including managers of the finance department, chief accountants, chief controllers, CFOs (Chief Financial Officers) and the other management in these organizations is identified as the respondents in the questionnaire survey.

## **1.8 Significance of the Study**

This study contributes to the body of knowledge by responding to the gaps in the literature through investigating the relationship between contingent variables and managerial performance by mediating role of MAS. This study investigates variables that influence the characteristics of MAS and the effect of MAS characteristics on managerial performance in the financial service sector. Few studies on MAS focused

on the service industry and most of them have focused on the manufacturing sector (Hussain, 2005; Rasid et al., 2011b). The service sector, especially, the financial service sector plays important role in the economy. In addition, the service industry has special characteristics (for instance, direct customer interaction, intangibility and perish ability of outputs) and is so important in the new economy (Amir et al., 2010; Sinkey, 2002).

In addition, this study examines the effects of three contingent variables on managerial performance by mediating role of MAS in financial organizations. These contingent factors were selected because of their wide coverage in the management accounting literature dealing with researches in the manufacturing sector (Gerdin, 2005; Chenhall, 2003); however, they have received little attention in researches in the service sector (Hammad et al., 2010).

This study provides additional insights into the understanding of the mediating effects of MAS characteristics on the relationship between competition, technology, structure and performance. This issue is not well developed in the current management accounting research literature (Jermias and Gani, 2004; Jusoh, 2008; Cheng, 2012). Moreover, in this study changes in the four characteristics of MAS and the effects of these changes on the performance are studied. There have been few empirical studies focused on the four characteristics of MAS. Most of them concentrated on one or two characteristics of MAS mostly on the broad scope dimension (Agbejule, 2005; Hammad et al., 2010; Rasid et al., 2011b; Tillema, 2005).

Furthermore, Asian country's culture emphasizes the values that are diametrically opposed to Western values. This means that MAS, although effective in western countries, may not be generalizable to the eastern environment (Tsui, 2001; Cheng, 2012). Therefore, empirical evidence from Iran provides significant insights into the role of contingent variables in the implementation of MAS across national boundaries. Most of previous studies on management accounting have concentrated on firms in the US, Singapore, Australia, Finland, and Turkey with little evidence on how management accounting changes in Iranian firms (Etemadi et al., 2009). Therefore, for local practitioners, the findings of this study may be used as an

additional guideline for the development of more effective MAS. An increase in the ability to develop a reliable, effective MAS may increase management's confidence about the usefulness of the system. This allows management to spend less time on scanning activities and more on strategic planning activities, which be followed by an improvement in competitiveness and performance.

## **1.9 Conceptual Definitions**

The following definitions are used to measure the major variables of this study.

### **1.9.1 Management Accounting System (MAS)**

MAS identifies, measures, accumulates, analysis, prepares, interprets, and communicates information (financial and operational) employed in the planning and control by an organization's administration (Gerdin, 2005; Päril, 2011). MAS is a part of an organization's wider management control system that supplies helpful information to managers for decision-making. Thus, the quantity and characteristics of information offered by MAS is a good marker of the level of organizational strength (Hammad *et al.*, 2010; Simons, 2000).

### **1.9.2 MAS Characteristics:**

According to Chenhall and Morris (1986), the information requirements of MAS can be regarded in terms of its information characteristics, which are; scope, timeliness, integration and aggregation.

- *Scope of Information:* This is one of the MAS characteristics which has three aspects: focus (information is collected from within or outside the company); quantification (kind of information is financial or non-

financial); time (information speaks about future or historic occasions) (Chenhall and Morris, 1986).

- *Timeliness of Information*: This is one of the MAS characteristics that can be considered in two aspects: regularly frequent in reporting (daily, weekly, monthly and so on) and the speed in reporting (the time gap between the happening of an issue and its reporting) (Chenhall and Morris, 1986).
- *Integration of Information*: Refers to how well the information flows within the segments or sub-units in organizations, allowing information sharing throughout the sub-units (Abdel-Maksoud *et al.*, 2010).
- *Aggregation of Information*: This is one of the MAS characteristics, that deals with brief information that is gathered from different periods of time or different functional area (Choe, 1998; Rasid *et al.*, 2011b).

### 1.9.3 Market Competition

Market competition is the rivalry among sellers trying to achieve such goals as increasing profits, market share, and sales volume by varying the elements of the marketing mix: price, product, distribution, and promotion. Level of competition originates from five sources that can influence the internal organization of the company. These include competition for: (a) raw materials, parts and equipment, (b) technical personnel (c) promotion, advertising, selling and so on (d) quality and variety of products, and (e) price (Mia and Chenhall, 1994). Market competition is different from perceived environmental uncertainty (PEU). PEU refers to the unpredictability of the external environments, which generates the needs for scanning.

### 1.9.4 Technology

Technology readiness and adoption by organization is indicated by technologies in use, capable infrastructure on the front-end and integrated back-end (Zhu *et al.*, 2004).



- *Technologies in use:* Includes different technologies that are used in a financial organization, such as intranet, extranet, EDI, EFT etc. (Agboola, 2003; Zhu *et al.*, 2004).
- *Front-end Functionality:* Is an application that users interact with it directly for filing application or claims, payment, transfer and access to online tools such as research and planning (Zhu and Kreamer, 2002).
- *Back-end Integration:* This is related to the extent to which different information sources and databases in the back office are linked within and beyond a company's boundary (Zhu *et al.*, 2004).

### 1.9.5 Organizational Structure

Organizational structure determines the roles and responsibilities that guide actions for organizational members (Fisher, 1995). Three structural dimensions were recognized, which have the potential to have an effect on MAS, namely formalization, specialization and centralization (Merchant, 1984).

- *Centralization:* This is related to the extent to which the right for decision making and activities evaluating is concentrated (Wang, 2001).
- *Formalization:* This refers to the extent to which procedures, rules, instructions, and communications are written (Kim and Burton, 2002).
- *Specialization:* This is defined as the extent to which tasks and activities are divided in the company and the extent to which employees have control in how the tasks are performed (Daugherty *et al.*, 2011; Olson *et al.*, 2005).

### 1.9.6 Contingency Theory

Contingency theory of MAS proposes that organizations can operate more efficiently if they employ and utilize MAS, which cope with their organizational and

environmental conditions (Hoque, 2011; Otley, 1980). This theory suggests that the appropriateness of an organizational system depends on the specific organization and the circumstances under which the organization operates (Pornpandejwittaya, 2012).

### **1.9.7 Managerial Performance**

Managerial Performance indicates the extent to which managers have achieved to the targets related to different managerial activities including: planning, investigating, coordinating, evaluating, supervising, staffing, negotiating, and representing (Agbejule, 2005; Chong, 1996; Etemadi *et al.*, 2009).

### **1.10 Organization of the Study**

The first section of this chapter provides the background of the study. This portion discusses the significant role of MAS and contingent variables in Iranian financial organization in order to enhance managerial performance. Following this, problem statement, research questions are discussed. The final part of the chapter outlines the objectives, scope, and significance of the study and important definitions of terms to further understand this research. The subsequent chapters are organized as follows.

Chapter 2 discusses and outlines the literature review of the study. This chapter begins with the definition and characteristics of MAS followed by implementation of MAS in the financial organizations. The next section discusses about the empirical studies in MAS and knowledge gaps in these previous studies. Then, the contingency theory prospective of management accounting was used to provide a theoretical understanding of contingency factors affecting MAS. In addition, an overall framework that depicts the relationship between contingent factors and MAS and relationships between MAS and managerial performance is presented. Finally, hypotheses of the study are developed and measurement of main variables is presented.

Chapter 3 discusses and outlines the research methodology used in this study. This chapter is divided into several parts as follows: it begins by describing the research design and research paradigm. The next section explains the research strategy and data collection method and variable measurements where a survey questionnaire is proposed. This chapter then describes the reliability and validity of questionnaire survey, pre-test, administration of the questionnaire and lastly, techniques that are used in the data analysis.

Chapter 4 discusses the findings of the quantitative methods based on structural equation modelling (SEM), descriptive and inferential analysis. The findings of the data analysis for the purpose of answering the five research questions are presented in this chapter. Finally, Chapter 5 discusses the findings of the study followed by discussion about the theoretical and practical implications of the study. Next, the limitations of the study are considered and some pointers for future research are provided.

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