



## The impact of environmental changes on the rate of current use of corporate operational management accounting techniques and the evolution of the use of these techniques

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### ABSTRACT

Nowadays, the movement toward privatization, changes in patterns of competition, production, corporate structure, the pace of technology development and the introduction of world trade, the importance of MA in business is well evident. In these cases, doing scientific research in this area is necessary. The purpose of this study was to investigate the effects of business environment and its changes on the level of Current use of companies of management accounting techniques and the development of use of these techniques. The aim of the present studies is applied and in terms of research methods it is descriptive survey and required data have been collected by using of questionnaire .The statistical population of this study has been formed of active manufacturing companies in Yazd which use of actual cost accounting and operational techniques of accounting management. 100 questionnaires distributed among the available samples and 55 acceptable questionnaires have been collected. Data analysis is done by use of SPSS and pls2 Smart software and general survey of the results of hypothesis testing showed that the impact of the current state of the business environment and its changes on the use and development of management accounting techniques is positive (direct) and meaningful.

### Keyword:

operational techniques of management accounting, the development of operational techniques of management accounting, the environment and its changes

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## Introduction

In the world today, the issue of cost management and the use of methods for improvement of the efficiency and effectiveness of financial resources and funding due to lack of resources, competition in prices, supply of qualitative goods and services and entrance to global markets, especially with regard to the developments and the recent economic and financial crisis, are the most important and challenging issues for governments and businesses. Thus, addressing the tools and effective and prospective approaches for efficient management organizations, reduction the cost of providing services and products and the allocation of financial resources in order to access the objectives and expected performance, looks highly critical. As its name implies, management accounting, is a tool for policymakers, Planners and manager within an organization in making decisions for use the accounting information. For the information provided by the system be a useful and relevant information, It should reflect the different cultural, political, economic and social condition of their environment (Mogaddaspour and Ibrahimi Kordlor, 2014). Due to the increasing development in all sciences, significant progress has been made in the management accounting that has led The emergence of advanced tools of management accounting. Even though a good system of management accounting by itself, is not a guarantee for success of companies, However, a weak system of management accounting can Dramatically reduce the Superiorities and competing interests of companies. In addition, the use of management accounting tools Provide the accurate and relevant information Leading to more effective and accurate decisions by managers that each can affect the performance of the organization ( Dianati et al., 2016). This study seeks to consider the impact of environment and its changes on the level of current use of operational techniques of the companies. The results of this study can help to further improve of the quality of decision-making

### Statement of the problem

Management accounting is defined as a process of identifying, measuring, collecting, analyzing, preparing, participating and communicating whit financial information used by management in planning, assessment and control of operations within an organization that today has a significant role in guiding firms and realization of their goals. Therefore, evaluation of management accounting is a process and it not limited to learning a set of procedures. The need for information usually considered the driving force of management. The information of management accounting often provides the purpose of facilitating decision-making and influence decision. And by providing useful information help the decision-makers in choosing the best solution among the solutions. in addition to this view, recent studies indicate that in addition to external data, human psychological factors is an important factor in decision-making (Rahnamay Roodposhti et al., 2013 The majority of management accounting tasks such as budgeting, , product pricing, Performance measurement and reward systems design require the multiple and specific decision makings by Management a accountants (Birnbrg et al., 2007). Globalization and the increasing complexity of

business with significant progress in technology have been led to the development of management accounting techniques. However, today, according to the growth and importance of these techniques evaluation of their performance has been considered lot s. (Moeinadin et al., 2012). As mentioned above, as well as the need for businesses to management accounting techniques to improve their performance, research question arises as follow .Do the environment and its changes affect on the current use of operational techniques of management accounting of companies and the development of use of this techniques?

### The importance of research

The recent empirical research in Western countries show that management accounting to keep their connection with increasing globalization today , must be coordinated with Changes in the needs of managers. To survive many companies have to try for the Continuous quality improvement and control and reduction cost of their products by using the new methods. Management Accounting Tools have contributed of these changes and have had a growing trend. As well as various organization benefit of the management accounting tools to achieve the goals of the strategy and long-term plans, decisions for resource allocation, attend the organization's social responsibility to maximize the company's value and shareholder wealth , . The presence of such new tools and effective management accounting help the managers to achieve the better and more efficient company's goals. (Khoddami pour and colleagues, 2010). Based on what was said addressing the issue of management accounting is essential. In the current survey, the factors affecting the management accounting styles has been a challenging issue among different researchers and has been the subject of studies. The environment and changes of company appear to be effective on the use of management accounting operational techniques. So doing the research in this area may be necessary.

### The main hypothesis 1:

Business environment affect the company's current usage level of operational techniques of management accounting  
The minor hypotheses 1:  
-1: business environment affects the company's current usage level of costing techniques .  
-2: business environment affects the company's current usage level of pricing techniques  
-3: business environment affects the company's current usage level of profitability analysis techniques.  
-4: business environment affects the company's current usage level of budgeting techniques.  
-5: business environment affects the company's current usage level of decision making techniques for investment.  
-6: business environment affects the company's current usage level of other operational technique s

### The main hypothesis 2

business environment affects the evolutionary Process of the companies, usage of operational techniques of management accounting  
2- The minor hypotheses2  
2-1: business environment affects the evolutionary process of the companies, usage of costing techniques

2: business environment affects the evolutionary Process of the companies, usage of pricing techniques

3: business environment affects the evolutionary Process of the companies, usage of profitability analysis techniques

4: business environment affects the evolutionary Process of the companies, usage of budgeting techniques.

5: business environment affects the evolutionary Process of the companies, usage of decision making techniques for investment

6: business environment affects the evolutionary Process of the companies, usage of other operational techniques.

**The main hypothesis 3:**

Changes in the business environment affect the company's current level of usage of operational techniques of management accounting .

The minor hypotheses 3:

1: Changes in the business environment affect the company's current level of usage of costing techniques

2: Changes in the business environment affect the company's current level of usage of pricing techniques

3: Changes in the business environment affect the company's current level of usage of profitability analysis techniques

4: Changes in the business environment affect the company's current level of usage of budgeting techniques.

5: Changes in the business environment affect the company's current level of usage of decision making techniques for investment.

6: Changes in the business environment affect the company's current level of usage of other operational techniques.

**The main hypothesis4:**

1: Changes in the business environment affect the evolutionary Process of the companies, usage of operational techniques of management accounting.

The minor hypotheses 4:

1: Changes in the business environment affect the evolutionary Process of the companies, usage of costing techniques

2: Changes in the business environment affect the evolutionary Process of the companies, usage of pricing techniques

3: Changes in the business environment affect the evolutionary Process of the companies, usage of profitability analysis techniques

4: Changes in the business environment affect the evolutionary Process of the companies, usage of budgeting techniques.

5: Changes in the business environment affect the evolutionary Process of the companies, usage of decision making techniques for investment.

6: Changes in the business environment affect the evolutionary Process of the companies, usage of other operational techniques.

**Research Method**

Research methodology is practical in term of purposes because the results can be applied in practice

The procedure of this study is descriptive- survey .

Because as well as Investigating the current status of the target population without manipulation uses the questionnaire for data collection

In term of relationships of variables this study is a correlation research because use the correlation method in hypothesis test.

**Background**

Internal investigations

Namazi and Ramezani (2003) in a study entitled the Balanced Scorecard in Management Accounting Techniques investigate the techniques ((scorecards)) which is one of the most modern techniques of management accounting and at the beginning of this study is explained the main aspects and then process of balanced Scorecard and steps necessary to implement .

**Steps include:**

First; to adjust the strategies; second, to determine the levels of strategy .third, the establishment of strategic chains; fourth, to introduce the benchmarks, fifth, to determine the goals and the sixth step, to determine the programs. It is concluded that scorecards techniques is one of the most important and the most modern techniques that evaluate the performance of the organization and can be used as framework for strategic management and a system In line organizational changes and be a complement of existing techniques of management accounting in this field. However, its application must be based on Principle the costs and benefits and a cording to above steps.

Dastgir and Arabyarmohammadi (2005) Investigate the barriers of management accounting concepts (target costing) of the companies listed in the Tehran Stock Exchange . In their study of they pay to the application of this system in Iran In their study. Barriers described in this study, were Factor; target pricing, customer focus, the spirit of teamwork, activity-based costing, value engineering. The results revealed that the absence of each above factor is an obstacle for applying this concept in Iran. Namazi (2008) Investigate to management accounting prepared In future in his study

One of the important results of this study was that management accountants prepare themselves, in terms of technical ability and professional competence and ethics in the provision of financial and non-financial information for the future. Otherwise the managers will necessarily visit the other people who have the ability to supply relevant information and updates .The future of management accounting, in terms of power and organizational improvement would be severity in danger, and they will lose their present positions . Hassan yegane and coworkers (2011) examined the status of management accounting firms were listed on the Tehran Stock Exchange. In this study the sample of 105 companies were selected from the Tehran Stock Exchange, which 72 manager were eventually Responsive. The results suggests that, 73.6% of companies were in first stage of development, 51.4, in the second stage, 45.8 in the third stage and 15.3 in the fourth stage .

First stage, to determine the Price e and financial control, The second stage; to control and management planning, The third stage ,to reduce the waste of resources in producing ,The fourth stage , to create value added using by the effective resources. Preparing the information for annual financial reporting, allocation and control of costs were subjects that were considered more. Also, risk management, strategic programming decisions were considered less. – Dianati Deilami et al (2015) in their study entitled "The impact of the development of management tools on the

operating profit of listed companies in Tehran Stock Exchange" investigate the impact of tools and techniques in terms of the evolution of management accounting on operating profit. The Statistical population includes the financial managers of listed companies on the Stock Exchange by the end of 2013. Data collection instrument In this study is questionnaire. The results show that the more companies use the tools of management, the higher management accounting operating profit will be. Of course, there is an exception that the companies that use the tools of the second stage of management accounting have higher operating profit than companies that use the tools in third and fourth stages of cost management.

### External investigations

Jacobs Liza(2004) in his study, the effect of education in the career of management accounting people, needs who pay the University of South Africa. The study revealed that there are different expectations between academics and people employed in management accounting education in the career. He also concluded that the needs of People employed a bout career affect the management accounting education both in terms of scientific and skills and individual capabilities in South Africa In addition, he provides a series of professional skills and capabilities required for graduates of management accounting as well as a series of educational topics that can add to previous program. Chongruksu) did a research Study with Title "the organizational culture and the initiatives of management accounting "in Thailand .This study is done in relation to the organizational culture and innovation management accounting. The study that is about the effects of the organizational culture within the area of management accounting is used Maozhen model. Moorth et al (2012) have studied a study entitled "Use of information technology in management accounting decisions" this study pay the information technology tools to analyze management accounting decisions. And so tried to apply and connect the management accounting information technology tools in order to control the costs and improve the efficiency of management accounting. So the results of this study showed that the use of information technology in management accounting and financial reporting will lead to

the better decisions in the end. (Pavel Lebedev 2014) in a study entitled "The Evolution of management accounting in Russia In Search of Identity investigate special accident Factors that forms management accounting in Russia. Nik Herda Nik Abdullaha, Jamaliah Said in a study titled "promotion to guide the management of related companies through strategic management accounting policies and value creation" to examine the mediating role of strategic management accounting (SMA) in relationships subscription management capacity and value creation in the company's Malaysian GLC This paper can enable the providers of policy and management accountants to do SAM administrative processes to obtain the norm of company by giving experimental approaches. Its findings show that government-linked companies (GLC) can have continued growth. They can also have their competitiveness in the global market

### Statistical population

The population consists of a set of people or objects or elements that have at least one common trait. Sample is a small portion of the population considered as a model community in term of studied scientific attribute and should be indicative of the situation of community in term of Studied attributes.(ranjbaran1387) In this study that population include the manufacturing companies operating in the city of Yazd that use the Operational management accounting techniques.

### Inferential statistics

Comparison of the of the variables of the study with intermediate measurement scale

A sample t test to compare the observed mean with the theoretical mean scale variables show that due to the significant level of less than 05/0, the mean of all variables except current used of budgeting techniques, to make decisions for investment and other operational techniques is significantly different from the theoretical mean. Other variables were smaller than 2.5. So they significantly were less than the mean. The decision for investment and other operational techniques in the mean level and commercial environment variables and changes is significantly higher than the mean.

Table 1: t-test for variables

Comparing the observed mean with a constant value of 2.5					Variable
difference in means	Significance	Degrees of freedom	t statistics	estimated mean	
-.55253	.001	54	-3.689	1.9475	(COST)Current use of costing techniques
-.40909	.005	54	-2.895	2.0909	(Pri) Current use of pricing techniques
.73636	.000	54	4.740	3.2364	(Pro)Current use of profitability analysis techniques.
-.26061	.113	54	-1.613	2.2394	(BUD) Current use of budgeting techniques
-.27576	.187	54	-1.335	2.2242	(ID)Current use of investment decision techniques
-.25455	.141	54	-1.495	2.2455	(OT)Current use of other operational techniques
-.64747	.000	54	-4.750	1.8525	(ECOST) Evolution Costing techniques
-.58182	.000	54	-4.360	1.9182	(EPri) Evolution of pricing techniques
.65909	.000	54	4.157	3.1591	(EPro) Evolution of profitability analysis techniques
-.36970	.019	54	-2.415	2.1303	(EBUD) Evolution of budgeting techniques
-.39697	.045	54	-2.051	2.1030	Evolution of investment decision techniques )EID(
-.48788	.002	54	-3.202	2.0121	(EOT)Evolution of of other operational techniques s

Table 4-2: t test of a sample for variable of business environment and its changes

Comparing the observed mean with the constant: 3					variable
difference in means	Significance level	Degrees of freedom	statistics t	estimated mean	
.29091	.000	54	5.070	3.2909	business environment )BE(
.23062	.000	54	3.981	3.2306	business environment changes)CBE(

❖ **GOF** Goodness of fit

Using the geometric mean R2 and medium share index for the total amount of GOF 317/0 amount was calculated

model, which shows the overall fit of the model is too strong. Using the geometric mean R2 and medium share index for the total amount of GOF was calculated :317/0, which shows the overall fit of the model is too strong.

Table 2: Summary path correlation coefficients the coefficient of determination, statistics t and the result of hypothesis Model No. 2

result	The coefficient of determination	statistics t	Path coefficient	The main model assumptions
Confirmed	0.14	8.315461	0.370582	Current use of costing← business environment changes techniques
Confirmed	0.17	9.115369	0.413171	Current use of pricing techniques← business environment changes
Confirmed	0.12	3.803768	0.349222	Current use of profitability analysis techniques.← Business environment changes
Confirmed	0.18	9.876029	0.426875	s Current use of budgeting techniques← Business environment changes
Confirmed	0.05	2.021693	0.229857	Current use of investment decision techniques ← Business environment changes
Confirmed	0.22	10.721271	0.465367	Evolution of of other operational technique s Business environment changes
Confirmed	0.14	8.978840	0.373482	Business environment changes← Evolution Costing techniques
Confirmed	0.18	4.223526	0.422156	Business environment changes← Evolution of pricing techniques
Confirmed	0.16	7.348177	0.404091	Business environment changes← Evolution of profitability analysis techniques
Confirmed	0.16	9.359308	0.397306	Business environment changes← Evolution of budgeting techniques
Confirmed	0.07	2.222799	0.267891	Business environment changes ← Evolution of investment decision techniques
Confirmed	0.17	8.586419	0.407152	Business environment changes ← Evolution of of other operational technique s

The results of the study

Table 3: Summary of assumptions and results

result	hypothesis	The minor hypothesis	The main hypothesis
Direct and positive impact	business environment on the company's current level of usage of costing techniques	<b>1-1</b>	<b>1</b>
Direct and positive impact	business environment on the company's current level of usage of pricing techniques	<b>2-1</b>	
Direct and positive impact	business environment on the company's current level of usage of profitability analysis techniques	<b>3-1</b>	
Direct and positive impact	Business environment on the company's current level of usage of budgeting techniques.	<b>4-1</b>	
Direct and positive impact	Business environment on the company's current level of usage of decision investment techniques.	<b>5-1</b>	
Direct and positive impact	Business environment on the company's current level of usage of other operational techniques.	<b>6-1</b>	

Direct and positive impact	Business environment on the level of the company's evolution of the costing techniques.	1-2	2
Direct and positive impact	Business environment on the level of the company's evolution of the pricing techniques	2-2	
Direct and positive impact	Business environment on the level of the company's evolution of the profitability analysis techniques	3-2	
Direct and positive impact	Business environment on the level of the company's evolution of the budgeting techniques	4-2	
Direct and positive impact	Business environment on the level of the company's evolution of the investment decision techniques	5-2	
Direct and positive impact	Business environment on the level of the company's evolution of other operational technique	6-2	
Direct and positive impact	business environment changes on the company's current level of usage of costing techniques	1-3	3
Direct and positive impact	business environment changes on the company's current level of usage of pricing techniques	2-3	
Direct and positive impact	business environment changes on the company's current level of usage of profitability analysis techniques	3-3	
Direct and positive impact	business environment changes on the company's current level of usage of budgeting technique	4-3	
Direct and positive impact	business environment changes on the company's current level of usage of decision investment techniques	5-3	
Direct and positive impact	Business environment changes on the company's current level of usage of other operational techniques.	6-3	
Direct and positive impact	business environment changes on the evolutionary Process of the companies, usage of costing techniques	1-4	4
Direct and positive impact	business environment changes on the evolutionary Process of the companies, usage of pricing techniques	2-4	
Direct and positive impact	business environment changes on the evolutionary Process of the companies, usage of profitability analysis techniques	3-4	
Direct and positive impact	business environment changes on the evolutionary Process of the companies, usage of budgeting s techniques	4-4	
Direct and positive impact	business environment changes on the evolutionary Process of the companies, usage of investment decision techniques	5-4	
Direct and positive impact	Business environment changes on the evolutionary Process of the companies, usage of other operational techniques.	6-4	

## Discussion and conclusion

### The first primary hypothesis

the main hypothesis regarding the impact of the current state of the business environment on the Company's current operational management accounting techniques discussed and reviewed. Since the operational management accounting techniques was in the form of six groups

This hypothesis was tested with six hypothetical assumptions. The results of minor hypotheses showed The current state of the company's business environment on the Current use firms of Operational management accounting techniques Including costing, pricing, profitability analysis, budgeting, decision-making for investment and other operational techniques have Positive and significant impact. The results of this hypothesis are Theoretical and practically expected. Because companies with accurate and Correct application. Because companies using accurate, correct and timely costing techniques are able to understand the price of their products and obviously with a better understanding of cost and correct applications of pricing techniques in

negotiation of sale and the final decisions are much more successful. On the other hand understanding of cost operating timely use of other techniques including profitability analysis, budgeting and decision-making for investment provides the optimal decisions and ultimate success of the company. So achieving this result is justified due to the subjects mentioned. Since these assumptions are not tested in previous research. The results of this hypothesis of the study, is not adaptive with the same study.

### 2. The second main hypothesis

The second hypothesis regarding the impact of the current state of the business environment on the evolutionary process of the companies on the Company's current operational management accounting techniques discussed and reviewed. . Since the operational management accounting techniques was in the form of six groups this hypothesis was tested with six hypothetical assumptions. The results of minor hypotheses showed The current state of the company's business environment on evolutionary process of the Company's on the Current use firms of operational management accounting techniques Including

costing, pricing, profitability analysis, budgeting, decision-making for investment and other operational techniques have Positive and significant impact. 2. What was the result of the theoretical impact of the first hypothesis to justify the cause of the theoretical results of this hypothesis are also discussed. Cope with the increasing complexity of the environment require the right and practical instrument. And what instrument is better than the operational management accounting techniques to solve the problem .Because this technology along with the intensification of complexity of the business environment conditions have Considerable growth in terms of quantity and especially the quality. So the result of the assumption that represents the positive impact of the business environment on the development of operational techniques of management accounting is expected and justified. According to this hypothesis has not been tested in previous research so, there is no possibility of adapting the experimental hypothesis.

### 3. The main hypothesis

The third hypothesis regarding the impact of the changes in the business environment on the company's current operational management accounting techniques discussed and reviewed. Since the operational management accounting techniques was in the form of six groups this hypothesis was tested with six hypothetical assumptions. The results of minor hypotheses showed The current state of the company's business environment on the changes in the external environment on the current use of firms of operational management accounting techniques Including costing, pricing, profitability analysis, budgeting, decision-making for investment and other operational techniques have Positive and significant impact. The results of this hypothesis are theoretically and practically expected. Because changes in the business environment on the decision of the organization's daily activities and the goals of the organization has a significant impact on their surrounding spaces and on the other hand, due to the changes that are happening in organizations If they fail to adapt these changes and choose the best way to coordinate them, they will threaten their position in present and future. Management accounting with a series of accounting management techniques can help a lot. So at the result of this hypothesis the impact of the current changes in the business environment the use of operational techniques and management accounting is expected to express and justify. According to this hypothesis has not been tested in previous studies, so there is no possibility of Experimental adapt of this hypothesis.

### 4. The fourth hypothesis

The fourth hypothesis regarding the impact of the changes in the business environment on evolutionary Process of Companies usage of management accounting techniques were discussed and reviewed. Since the operational management accounting techniques were in the form of six groups, this hypothesis was tested with six hypothetical assumptions. The results of minor hypotheses showed changes in the business environment on the current use of firms of operational management accounting techniques Including costing, pricing, profitability analysis, budgeting, decision-making for investment and other operational techniques have Positive and significant impact. According

to additional details provided in the confirmation Hypothesis 3 we can explain the cause of this result .Change the business environment on the decisions and goals of the company has a direct and positive impact. These changes are not always the same and they are always changing and evolving. It is necessary for companies to update their operational techniques constantly to have a significant reaction with these changes and don't fail the company in crisis. In this context it is necessary with the increasing complexity of environmental companies ahead , Increase of competition, Changes in customer needs, The technological changes by selecting the proper techniques of management accounting trying to overcome these changes and improve their competitive position ,So at the result of this hypothesis ,the impact of the evolution of the business environment changes on the application of management accounting operational techniques is expected to express and justify. As regards this hypothesis has not been tested in previous study so, there is no possibility of experimental adapt of this hypothesis.

### 5 Suggestions base on research outcomes

Results of the main hypothesis showed that the current state of the business environment on the current level of the Companies usage of operational techniques of management accounting has a positive impact. That means the complexity of the business environment requires to use the management accounting techniques So the managers of manufacturing companies is recommended that To cope with the complexities of the business environment, use of proper techniques of the management accounting to overcome the complexities of the business environment, in their activities. Results showed that the second main hypothesis on the current state of the business environment on the evolutionary process of companies, use of management accounting techniques has a positive impact. Based on the results of this hypothesis, the managers of manufacturing companies are recommended to prepare their firm to synchronize with the new techniques of management accounting .One of the things that can be done for this important can be mentioned to have a team of experienced management accounting customer-service training provided to staff Preparations permanent organization coping with changes . The third main hypothesis results showed that the business environment changes on the current level of corporate use of management accounting techniques has a positive impact that mean the business environment changes is more use of management accounting techniques in the companies of research .so due to the achievement of this outcome and aware of this fact that changes in the business environment is inevitable and these changes are greatly expanded in recent decades the managers of manufacturing companies recommended to prepare their organization monitored to have the ability to understand the changes in the fastest time possible and selection of appropriate techniques of management accounting to cope with these changes .in this regard, previous recommendations Including a team of experienced management accounting ,permanent and update training of personnel can be useful. The fourth main hypothesis results showed that the Changes in business environment on the evolutionary process of companies, use of management accounting techniques have

positive impact that means the complexity of the business environment changes cause the evolution of management accounting techniques. So the managers of manufacturing companies are recommended to form a team of highly qualified staff to understand the rapid changes in the environment. They have simultaneously the ability to understand the identification of the environmental changes and selection and development of appropriate techniques with these changes.

### 5 Suggestions for future research

1. According to the results of this study and a positive relation with the current state of the business environment and changes in the business environment on operational management accounting techniques, doing the research on the other management accounting techniques including strategic and management techniques is suggested. 2. Due to the problems that there were in completing the questionnaire, the sample increases to achieve the more homogeneous results. This research can be done on the companies except the manufacturing companies of Yazd and functional results be exploited. Because this research is the first way and subject, its repetition and even separately on each of the management accounting techniques cannot be useful and have practical results. The effect of the environment and its changes on operational management accounting techniques is investigated. Therefore, repetition of this study about the unexamined techniques is recommended.

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