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The Impact Examination of the Techniques of Management Accounting on the Performance of Tile Companies of Yazd

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Abstract *The objective of the present research is the impact examination of management accounting measures on the performance of tile companies in Yazd. The research model is formed using the variable of management accounting techniques as the independent variable and performance as the dependent variable. The methodology of the research is applied from the viewpoint of objective and is correlative from the standpoint of methodology that the needed data is collected by employing questionnaire tool and descriptive method. The statistical population has been tile factories of Yazd. Simple random sampling was used for choosing the sample, and 52 acceptable samples were collected. Furthermore, structural equations modeling with the help of partial least square and Smart PLS software were used to test hypotheses and the validity of the model. The results of the research show that pricing techniques, decision-making for investment and budgeting have significant and direct relationship with performance.*

Key words Intellectual Capital, Management Accounting Techniques, Performance

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1. Introduction

Today, organizations need development and continual improvement in their performance for maintaining their activity and survival in the dynamic competitive environments. The abilities and capacities of an organization through efficient and effective use of the organization's resources are introduced as the important tools for improvement of organizational performance that benefiting from it requires aware management. Therefore, collecting and providing relevant information to the performance is indispensible for organizations that the need can be satisfied with employing management accounting. Furthermore, management for achieving the organization's objectives requires firm plans that management accounting can employ different solutions in the plans through appropriate operating methods as well as help managers in achieving the objectives. The recent progress of researchers in the field of competitive markets indicates that organizations needs management accounting in order to improve their performance according to the changing competitive conditions. The conducted research indicate that management accounting can be used in order to provide the managers' needed information and consequently it can be used to improve the organization's performance (Nayebzadeh & Ganjavi, 2012, 3).

Development in accounting makes the information management that is provided by the financial accounting and final price accounting in the normal procedure (it has particular use in the internal and external reporting) ready with the application of methods and particular techniques for the decision-making of management. Additionally, it makes the appropriate and logical decision-making based the provided information possible through presenting and explaining quantity models. Managers use these techniques in the commercial making-decisions in order to maximize the organization's financial

performance. According to the above importance, the techniques can no longer be ignored and it is necessary to examine their function and application in the planning and control of the organization.

2. Theoretical principles and hypotheses

2.1. Performance

Performance is the process of quantifying the efficiency and efficacy of operations (Naghvi *et al*, 2012, 55). All the state and private organizations somehow need the performance evaluation that in its frame they could measure efficiency and efficacy of organizational programs of the process and human resources in order to increase their development and to stabilize their own in the competitive arena. Efficient organizations do not only collect and analyze the data, but they use the data to improve the organization and achieving missions and strategies. In other words, they manage performance instead of evaluation of performance. The organizational performance indicates the organization's access level to the market and financial objectives (Nayebzadeh & Ganjavi, 2012). In this research, the performance variable is measured by six questions containing concepts such as the final price of the product, the quality of the product, balance flow, varieties of products, product cycle.

2.2. Management accounting

Management accounting is the process of identification, measurement, gathering, analysis, providing, interpretation and presentation of the management's useful financial information in order to plan, evaluate and control of an organization's operations (Shim, 2000, 15). In the present research, the variables of management accounting techniques are measured using 12 questions including costing indices, pricing techniques, profitability analysis techniques, techniques for investment decisions and budgeting.

In management accounting, with emphasizing inter-organizational users, information will be measured and reported, which helps managers of different levels of an organization in implementing the determined objectives for the intended organization.

2.3. Management accounting tools

According to the variety of management accounting techniques, only some of the tools of operating group are employed in this research in order to examine their impact n the companies' performance. The tools, which are the foundation of the main questions and hypotheses of the research, are as follows:

2.4. Costing techniques

Costing is the appropriate classification and division of costs in order to determine the final price of the products and services of the commercial unit and adjustment and providence of relevant information appropriately in a way that it would be usable for the guidance of managers, the owners of commercial units to control its operation (Asgari, 2002, 139).

Furthermore, costing can be defined as in which the costs of each part of production or services can be measured. All the productive companies sell their products in order to earn income and the income of each sold product is the difference of sale price and the total costs of producing the product. Therefore, cost plays a crucial role in the design and the profitability of the product. The product not only should be produced in accordance with the defied operations, but also the making of the product should be possible in the frame of predicted costs at the beginning of the project in order to achieve success (Fazel, 2011).

Generally, at present, information regarding costing is incomplete and fault, because due to the rapid development in the field of information technology, there is still a primitive atmosphere is dominant in each field of digital security and consequently, there is no accurate and appropriate costing model. Therefore, a well-ordered costing information collection seems necessary.

The first hypothesis: the use of costing techniques affects the performance of tile companies.

2.5. Pricing techniques

All organizations and companies determine price for their goods and services. The price may be presented in the frame of different concepts.

Among the components of marketing mix, price is the only factor that creates income. Furthermore, price is considered the most flexible factor of marketing mix, because it can be changed rapidly. With the balance of the quality of goods of different companies and the intensity of competition, the element of price has become one of the most important effective factors in maintaining and attracting customers and their faithfulness and satisfaction. Pricing is an activity that should be replicated and it is a constant and continuous process. This continuity is the result of environmental changes and inconsistency of market conditions that requires the modification of price (Golchinfar & Bakhtayi, 2006, 86). Companies are different in pricing. In small companies, the price is in the hands of high-level management instead of in the hands of sale assistants or marketing section. In large companies, pricing is the responsibility of goods line managers. The second hypothesis: the use of pricing techniques affects the performance of tile companies.

2.6. Profitability Analysis Techniques

Profitability is the most important objective of a commercial unit that some clear-sighted persons believe that it can be the objective of that unit. Profitability can be defined the company's ability in achieving profit and income. Net income is the only criterion for measurement of profitability. Investors and credit-givers are very interested in the evaluation of current and future profitability of a company. Companies for absorbing their needed capital are forced to achieve sufficient income for the return security for investors and credit-givers.

The third hypothesis: the use of profitability analysis techniques affects the performance of tile companies.

2.7. Techniques for investment decisions

With the major developments of technology in the field of improving goods production methods and services, companies invest exorbitant sums in the machinery, installations and the other new producing assets. Investment decisions of a company are recognized as the capital budgeting decisions.

Budget is a program that shows the amount and Rial details of the company's activities for a certain period in the future. Capital is a term, which is applied to the fixed assets, which is used in the physical process of producing goods and services in several different periods by the company. Capital budgeting specifies costs, which would be spent for fixed assets according to the program (Emaeilpoor, 2003, 2).

Capital budgeting is the process of identification, evaluation, planning and financial security of the main investment projects in the commercial units and guiding and monitoring such investments (Eskandari, 2007, 95). Decisions relevant to the production facilities, the providence of new machinery, substituting new assets, renovation plans, purchasing computer or the decoration change of office building are samples of capital budgeting decisions.

The fourth hypothesis: the use of techniques for investment decisions affects the performance of tile companies.

2.8. Budgeting techniques

Budget is the action plan or the organization's measure in a particular period of time that is presented according to the financial or non-financial quantities. In budget, necessary resources and commitments are specified in order to achieve the organization's objectives in a particular period. Budget includes financial and non-financial aspects of the planned operations. Budget is budgeted for a period as the instruction for operations and on the other hand, for predicting the operational results relevant to the period. Budgeting is the process of compiling the budget. Budget and the process of budgeting are mixed with other management aspects. Budget is not only an operational plan; it also plays a crucial role in the following fields:

the allocation of resources, making operations consistent, identification of dilemmas and limitations, making others inform from the expected results and measures, permissible activities, creating motivation and guidance in implementation, guidance for controlling operations, management of cash flows and usefulness as the index or criterion for evaluation of performances (Blocher *et al*, 2010, 208 & 218).

The fifth hypothesis: the use of budgeting affects the performance of tile companies.

3. The conceptual model

The research model is formed using management accounting measures as the independent variable and performance as the dependent variable. The conceptual model of the research is as figure 1.

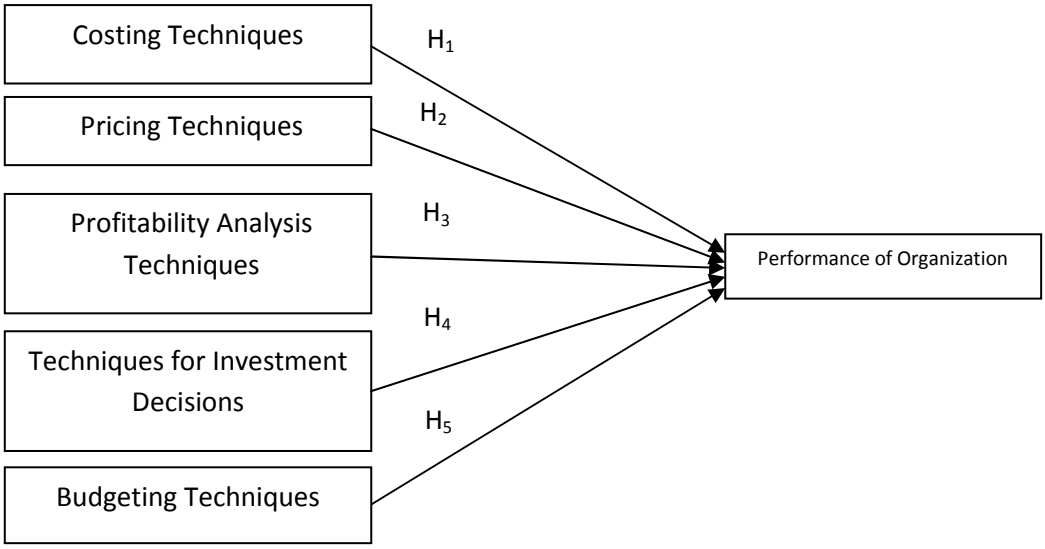

Figure 1. The research's conceptual model

4. Methodology of research

The aim of selecting the methodology is that researcher should determine the method in order to help him himself or herself to achieve answer or answers for the question or questions faster, easier, more accurate and cheaper (Naderi & Neraghi, 2006). The methodology selection has been based according to the objective, nature, subject and facilities. The method of the research is applied according to the objective of the research and it is descriptive for its implementation as well as it is correlative from the standpoint of analysis of variables.

The statistical population of the research is the tile factories Yazd. In the research, the description of demographic data with the use of descriptive statistics has been analyzed using SPSS 18 and the examination of confirmation of relationships among the variables and factors has been conducted through confirmatory factor analysis and PLS technique using PLS Smart.

In order to ensure the face validity of the questionnaire, the experts in the field such as academic professors and clear-sighted persons have been considered that their view also ensured the validity f the questionnaire. In this research, Cronbach's Alpha has tested the validity of the research tool. If the alpha coefficient is higher than 0.7, the questionnaire has acceptable reliability (Moemeni, 2010).

Table 1. The calculation of reliability of questions relevant to the questionnaire

Variable	Cronbach's Alpha	The number of questions
Management accounting measures	0.780	12
Performance	0.811	6
The whole of the questionnaire	0.817	18

Table 1 presents Cronbach's Alpha and the number of questions relevant to the variables of the questionnaire. Since the value of Cronbach's Alpha is greater than 0.7, therefore, the research tool has acceptable reliability.

5. The analysis of findings and the results

In this section of statistical analysis, the way of distribution of statistical samples has been examined from the standpoint of variables such as gender, marriage status, educational field, educational degree and the record of management.

Table 2. The demographic characteristics of the sample

Variable	Gender		Educational Field			
Classification	Male	Female	Accounting and financial affairs	Management and economics	Technical	other
Number	11	41	42	6	3	1
Percentage	21.2	78.8	80.8	11.5	5.8	1.9
Variable	Educational Degree		Record of Management			
Classification	B.A.	M.A.	Five years	Five to ten years	Eleven to twenty years	More than twenty years
Number	47	5	12	20	17	3
Percentage	90.4	9.6	23.1	38.5	32.7	5.8

5.1. Testing Hypotheses

Structural equations modeling with the help of partial least square and PLS smart were used to test the hypotheses and the validity of the model. In PLS models, two models are tested. The external model is equal to the measurement model and the internal model is similar to the structural model in the structural equations models. The external model indicates factorial loads of the observed variables.

5.2. The external model (measurement model)

In the methodology of structural equations model, first confirmatory factor analysis (CFA) is determined. The selected items for the measurement of the intended variables have the necessary accuracy in a way that factorial load of each item should have the value of t higher than 1.96. In this case, this item has the necessary accuracy for the measurement of that structure or latent variable.

If the items of study variables have the statistic value of t lower than 1.96, they have not the necessary importance for measurement and therefore, they are excluded from the analysis process. Thus, construct validity, which is selected for the examination of the accuracy of the items, was conducted and it indicates that all the items provide suitable factorial structures in order to measure the study dimensions in the model of the research.

Table 3. The analysis of AVE and the reliability level of variables

Variable	Item	Factorial load	Standard deviation	t-statistic	Weight	AVE (>0.5)	Composite reliability	Cronbach's Alpha	Coefficient of determination
CT	T1	1	-	-	1	1	1	1	-
PT	T2	0.86	0.02	34.54	0.63	0.70	0.83	0.68	-
	T3	0.82	0.04	20.67	0.56				
PAT	T4	0.75	0.07	10.09	0.42	0.64	0.84	0.71	-
	T5	0.88	0.02	34.79	0.46				
	T6	0.75	0.07	10.62	0.36				
TFID	T7	0.84	0.02	37.45	0.33	0.57	0.87	0.82	-
	T8	0.85	0.02	40.93	0.33				
	T9	0.73	0.04	19.93	0.26				
	T10	0.68	0.07	9.45	0.15				
	T11	0.66	0.05	12.25	0.21				
BT	T12	1	-	-	1	1	1	1	-
P	Q13	0.46	0.07	6.35	0.15	0.54	0.87	0.82	0.54
	Q14	0.69	0.06	12.13	0.17				
	Q15	0.80	0.03	23.93	0.21				
	Q16	0.89	0.01	62.78	0.34				
	Q17	0.82	0.02	41.98	0.29				
	Q18	0.65	0.07	9.84	0.16				

In the model of structural equations, in addition to the construct validity, which is used to examine the importance of the selected items for the measurement of variables, the distinction validity is also considered in the sense that the items of each variable provides appropriate separation from the viewpoint of measurement in relation to the other variables of the model. To put it simple, each item should measure only its variable and their combination should be in a way that all the variables should be separated from each other well. This process is specified with the help of extracted AVE. the coefficients of AVE show that what percentage of the structure variance or the variable of the model is explained by a separate item. Structures or variables of the model have AVE higher than the standard 0.5, introduced by Bagozzi and Yi (1998). Therefore, the conclusion can be drawn that items can explain variance of the variables of the model sufficiently (Gefen & Straub, 2005, 91-109) and (Nunnally, 1997).

In the measurement model, the internal harmony of the model or its reliability is measured by the calculation of composite reliability. The coefficient of reliability is shown in Table 3. In the model, all its structures have high composite reliability and are higher than the standard 0.6 introduced by Bagozzi and Yi (1998). Composite reliability indicates high internal reliability of the data.

Based on the structure of the model, PLS determines weights for the poll scale that make its ability in the explanation of the last external or dependent variable greater. The estimated weights (external weights) are used to calculate the values of index of constructs in the model (Fornell *et al.,* 1996, 7-8). These values are shown in Table 3. At this stage and according to the completion of the filtration of the variable and ensuring the accuracy of indices in the measurement of concepts and the relevant variables, the test of hypotheses can be conducted.

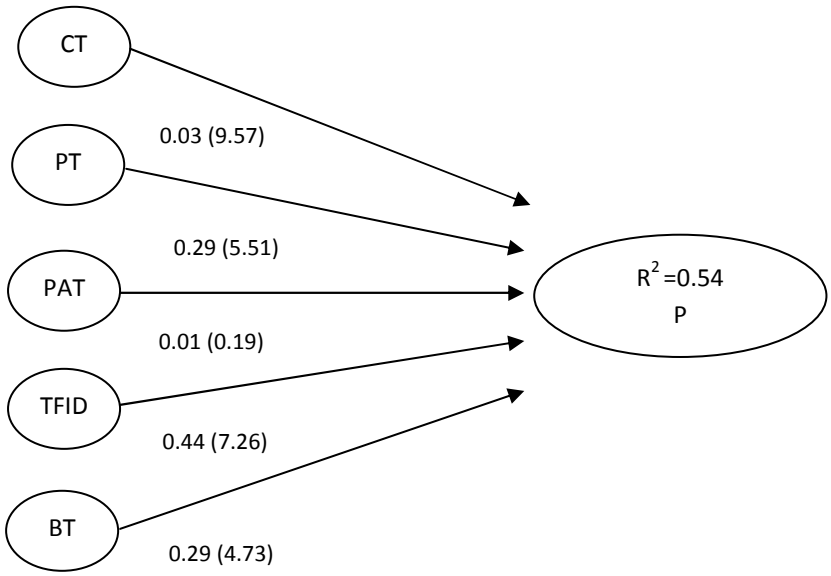

Figure 2. The model in the coefficients of path and factorial loads

The numbers on the arrows are the coefficients of path and numbers in the parentheses are t-statistic. According to the fact that the value of t-statistic at 95% confidence level is greater than 1.96, it shows that in all paths, the relationship is significant.

5.3 .The internal model (structural model)

In the frame of internal model, hypotheses were examined and the path of structural model was evaluated. Each path is with one of the hypotheses of the model. The test of each hypothesis is through the examination of sign, size and the statistical significance of coefficient of path (Beta) between the two latent variables with the dependent variable. As the coefficient of path is higher, the predictability impact of latent variable is greater than the dependent variable. With the consideration of the results of examination of relationships among independent and dependent variables, the significance of impact among the variables can be conducted using the relevant coefficient.

Table 4. The direct linear impact of the function of variables

Path	Beta	Mean	Standard deviation	t-statistic	Results of testing hypotheses
CT ←P	0.29	0.29	0.06	4.73	rejected
PT ←P	0.03	0.03	0.05	0.57	confirmed
PAT←P	-0.01	0	0.06	0.19	rejected
TFID ←P	0.29	0.29	0.05	5.51	confirmed
BT ←P	0.44	0.45	0.06	7.25	confirmed

According to the fact that the absolute value of t-statistic of three variable of pricing, capital budgeting and budgeting are greater than the value of the table 1.96, therefore, three hypotheses are confirmed. In other words, pricing techniques, capital budgeting and budgeting affect performance significantly and their impact value are 0.29, 0.44 and 0.29 and positive (direct) respectively.

Suggestions

With the existence of a positive and significant relationship between management accounting techniques and performance in the study case, managers of these companies are suggested to use the mentioned tools in line with planning and inter-organizational particular controls according to the available facilities. The statistical population of this research is the tile companies of Yazd. This research also can be conducted regarding different industries comparatively. It is clear that wider research provides suggestions that are more useful. In other research, management techniques can be used instead of operational management accounting techniques.

In future research, the grade and weight of each technique in the impact on the companies' performance can be examined. In future research, the impact of different management accounting techniques on a comprehensive collection of performance standards such as financial, economic and market performance can be investigated.

Limitations

The first limitation of this research is its statistical population since the research is conducted only concerning tile companies of Yazd and the possibility of its generalization is limited. The second limitation of the research is using questionnaire according to its natural limitations.

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