

Analyzing the Management Accounting Accuracy Model

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Abstract—With the advances made in management accounting techniques such as strategic management accounting, optimizing management accounting will play an important role in strategic decision makers. To achieve competitive advantage and ensure high performance, a clear strategy is needed, and the condition alone is not enough. Based on the contingency approach introduced into the management accounting field, the optimal use of these techniques requires the adaptation of management accounting with contingency variables. The contingency variables in this research are environment, strategy, and organizational culture. This research tries to provide an adaptive model of management accounting by examining the effect of contingency variables on how management accounting techniques are applied. In this research, the environment is based on typology; the strategy is based on Porter typology; culture based on Cameron and Queen Typologies and management accounting techniques based on the model of the International Federation of Accountants. The present research is a survey based on the purpose, applicability, and according to how data is collected. The statistical population of the survey is the auditing companies in the geographical area of Erbil and sampling is available as a sampling type. To investigate the relationship, Kruskal-Wallis test and to prioritize management accounting techniques, Friedman's test was used in terms of the amount of use, and in terms of significance, as well as a significant gap between significance and Wilcoxon's test was used. The research results are as follows: The first hypothesis, which claims that companies operating in an uncertain environment are not more sophisticated management accounting techniques than companies operating in a more secure environment, were not approved. The second hypothesis claims. Companies with a differentiation strategy apply to companies with cost leadership strategies that are more sophisticated management accounting techniques. The third hypothesis, which claims that companies with a market-oriented culture and business use more sophisticated management accounting techniques than hierarchical and tribal societies. In addition, management accounting techniques are based on the amount of use and importance Prioritized.

Keywords_ Management accounting; contingency perspective; environment; strategy; organizational culture.

INTRODUCTION

The global work is changing day by day with the increase in the use of advanced technology and in result companies and businesses are becoming increasingly competitive. In fact, global competition, rapid innovation, entrepreneur rivals and

ever-increasing customer demand have changed the nature of competition. New competitive environment, coupled with the increasing trend of privatization in Iran, requires the ability of organizations to create value for customers and distinguish themselves from competitors by setting up a clear strategy. Other researchers believe that a clear strategy is needed to gain competitive advantage and ensure high performance, but not enough. Business strategy should be supported by appropriate organizational factors such as organizational structure and accounting information systems [1]. In the last three decades, some of the innovative accounting management techniques have been developed in some industries. The most notable developments include activity-based techniques, strategic management accounting, and balanced assessment. Experts believe that the new techniques of the entire accounting process have affected planning, control, decision-making and communication management, and have focused the focus from simple and limited roles such as cost identification and financial control advanced in the creation of value through better use of resources [2]. It has been claimed that new management accounting techniques are designed to support advanced technologies and new management processes, including comprehensive quality management and timely production systems, as well as seeking competitive advantage in dealing with global competition. When these technologies and managerial improvements are accepted by organizations, the management accounting system must be designed in accordance with these requirements [3]. The contingency approach in management accounting is based on the assumption that no accounting system Proper management is not universally applicable, which can be applied to all organizations and all conditions [1-3]. The question now is whether all organizations will be able to apply and implement new accounting management practices? What are the prerequisites for the implementation of new techniques and is there any organization? What areas should be considered before applying these techniques to organizations? Answers to these questions should refer to the management literature and organizational theory. After the introduction of classical theories and human relationships, the turning point came to an adaptive approach to management that believes that there is no universality for

success, and that organizations are influenced by their own circumstances to organize their activities in the form of organization and organizational structure. Therefore, the first contingency studies attempted to identify the variables that are effective in how to use the organization's theories, in which the most illustrative example, Stefan Robbins, described factors such as strategy, technology, size, environment, and distribution of power as contingency variables. On the other hand, all the experts believe that control systems are part of the organization's structure, that is, the structure of the organization and the relationships defined therein incorporate control mechanisms, and management accounting is one of the most relevant tools for the realization of organizational control and the main source of information is in organizational control [4, 5]. Therefore, on the one hand, by placing control mechanisms as part of the organizational structure (according to the management literature) and on the other hand, the contingency perspective on organizational structure can be derived from the contingency approach of the organizational structure of the loan and extended to management accounting. This research will use three major contingency variables to achieve an administrative accounting model: an environment, strategy, and organizational culture. According to studies conducted by researchers, only in the external study, a subject closely related to the subject of this research, are presented below. Another study [6] conducted a study entitled "A survey test of an integrated contingency model of strategic management accounting". The findings of this study supported the lack of universality of the strategic management accounting system and the concept of contingency theory. On this basis, factors such as the size and strategy of the company have a significant impact on the successful use of strategic management accounting [7] conducted a study entitled "The alignment of business strategy, organizational design, and management accounting systems with the effectiveness of business units." The data from this study were collected through in-person interviews with 102 public and private business managers. The study showed that the level of alignment between business strategy, design The organization and management accounting system have a positive impact on the effectiveness of the company, and subsequent analyzes have shown that strategic priorities affect the type of control and management accounting system used. The main purpose of this research is to assess the relationship between organization's characteristics and how to use management accounting techniques. The research seeks to assess whether the companies studied, depending on which environment they are operating in, the competitive strategy they use, and the organizational culture they use, use different accounting management techniques or not? If the research model is confirmed, one can get an initial pattern that can be administered by the appropriate management accounting techniques for each organization. The data are analyzed in two descriptive and inferential levels. In order to describe the data, using SPSS software, average and standard deviations are used. In order to investigate the relationship between Kruskal-Wallis test and in order to prioritize management accounting techniques, Friedman test The significance and importance of using the Wilcoxon test have

been used in terms of significance and significance. Three hypotheses have been tested in this research.

Hypothesis 1: Companies operating in an uncertain environment use more sophisticated management accounting techniques than those operating in a secure environment. The above hypothesis can be stated as follows: The application of accounting techniques differs from the point of view of the amount of use for companies in different environments.

Hypothesis 2: Companies with a strategy of differentiation apply to more complex management accounting techniques than companies with cost leadership strategies. The above hypothesis can be expressed as follows: The application of accounting techniques varies by companies with different strategies.

Hypothesis 3: With the organization moving from hierarchical-tribal culture to market-ideology, more sophisticated management accounting techniques are used. The above hypothesis can be stated as follows: The use of accounting techniques differs from the point of view of the extent of use for companies with different cultures.

In order to measure the organizational culture variable, a special questionnaire on the competitive values model has been used that is widely used globally. The environmental variable was also measured on the basis of the research quadratic model presented in the second chapter with one question. Finally, the strategy variable is questioned by a single question. In the third part of the questionnaire, the amount of use and significance of management accounting techniques were questioned according to the framework presented in the second chapter. All questions of the questionnaire were evaluated based on the 2-degree Likert spectrum. The number of questionnaire questions for the research variables is given in Table 1. In this research, the reliability of the Cronbach's alpha method was used to determine the validity of the opinions of experts and supervisors and consultants [8].

Table 1: Number of questionnaires for each of the research variables

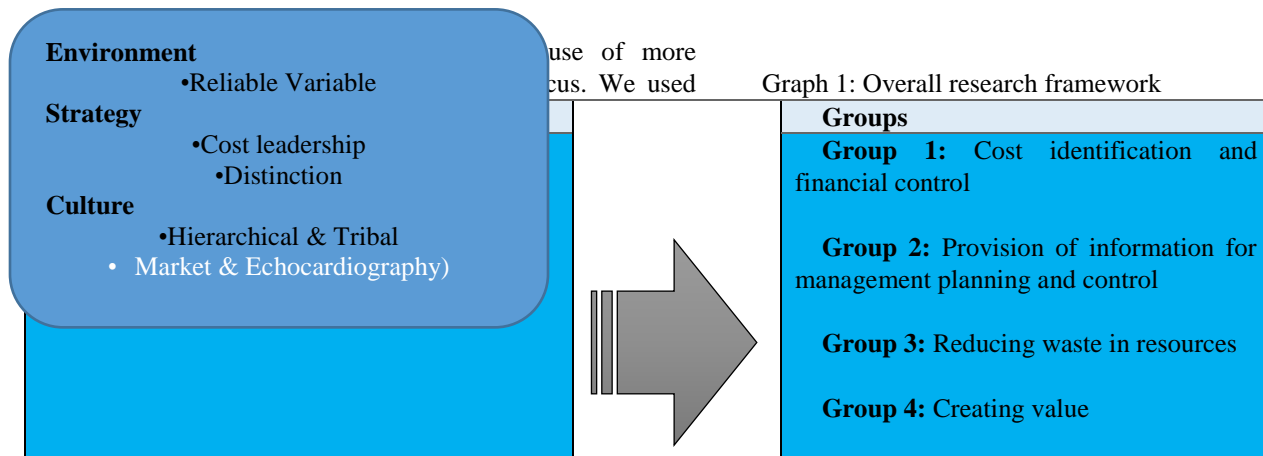
Variables	Number of Questions
Organizational culture	12
Organizational environment	6
Organizational strategy	1
Management accounting techniques	26

RESEARCH METHODOLOGY

This research tries to provide a model of management accounting accreditation. In this section, a general research model is displayed based on the description presented. The framework for reviewing the dependent variable of this study is in accordance with the comprehensive framework provided by the International Federation of Accountancy and presented in the "Developmental" section. In this framework, four classes of management accounting techniques are used to classify management techniques, the more so since the first-class techniques are advanced to fourth-class techniques. A general overview of the fourfold categories of this framework shows

that as far as fourth-class techniques are concerned, the technique approach “becomes outsourced” and focuses on “cost” rather than the “value” concept. The independent variables of this research, as described above, are: the organization’s environment, organizational strategy, and organizational culture, these variables. The contingency factors that are used to formulate the model. In the context of the situation analysis, we use the framework provided by Richard Dowl, which relies on the two dimensions of complexity and dynamism, to assess the degree of uncertainty in the organization’s environment. As far as the organization’s environment goes to uncertainty, it is expected that the need for monitoring and understanding of the environment will also

Porter typology in organizational strategy analysis. Several studies of the relationship between strategy. Porter and management accounting techniques [9, 10], and they all concluded that organizations with a differentiation strategy, Use modern and advanced management accounting techniques. To evaluate the culture of the organizations studied, we use the model of competitive values. One of the dimensions of this model focuses on the attention of organizations towards the internal or external environment. Organizations that are market-oriented and well-organized are expected to have broader analyzes of the environment, competitors and stakeholders, and therefore use sophisticated techniques more than other organizations [11]. The overall research framework, based on the description of the argument, is shown in Graph 1.



FINDING

For reliability of the questionnaire, the Cronbach’s alpha coefficient was used and the results are presented in the Table 2.

Table 2: Cronbach’s alpha coefficient

Variable		alpha coefficient					
Organizational Culture				0.847			
Kind of culture	alpha coefficient	Kind of culture	alpha coefficient	Kind of culture	alpha coefficient	Kind of culture	alpha coefficient
adhocratic	0.67	Market	0.598	Tribal	0.735	Hierarchical	0.69
Organization environment				0.714			
Management accounting techniques							
Level 1				0.81			
Level 2				0.885			
Level 3				0.851			
Level 4				0.938			

Descriptive Statistics: In this section, the variables’ grades, including environment variables, strategy and culture, are descriptively analyzed (Table 3).

Table 3: Center-to-center trend indices for the research

variables.

Indicator Variable	Number	Minimum	Maximum	Average	Standard Deviation
Environment	33	1.00	4.00	3.03	0.76
Strategy	33	1.83	4.67	3.31	0.62
Culture	33	2.20	4.73	3.51	0.68

To test the first hypothesis, the Kruskal-Wallis test is used to determine which companies that have a higher score in the environment are in a more secure environment, which level of accounting techniques have been used. The results are presented in Tables 4 and 5. According to the table below, the companies operating in the most reliable environments have used three levels of accounting techniques, then they have used levels four, one and two respectively, as follows: the meaningful level is 0.236 and 0.05. Therefore, with a confidence of 95%, there is no significant difference between companies with different levels of technique in terms of the environment and the hypothesis. It does not exclude the use of accounting techniques for companies in different environments, so with 29% confidence, companies operating in an uncertain environment can be said to be companies in a safe environment, in terms of the use of techniques accounting uses the same management.

Table 4: Ranking of companies in using techniques based on environment uncertainty

Technique Level	Number	Average Rating
Level 1	15	17.13
Level 2	9	14.72
Level 3	3	27.33
Level 4	6	14.92

Table 5. Kruskal-Wallis test to examine the difference between companies in using different levels of technique based on the environment.

Chi-Squared Test	4.25
Degrees of Freedom	3.00
Meaningful Level	0.236

The second hypothesis: To test the second hypothesis, Kruskal-Wallis test is used to determine which companies that have a higher score in strategy (more differentiated strategy) on which level of accounting techniques have been used, the results are presented in Tables 6 and 7. According to the tables below, companies that have a differentiation strategy have used four levels of accounting techniques, then used levels three, two, and one respectively. According to the table below, the level of significance is 0.039 and less than 0.05, so with 95 percent confidence, there is a significant difference between companies with different strategies in using different levels of management accounting techniques and the zero hypothesis is rejected; that is applying accounting techniques to companies varies with different strategies. Therefore, with 95 percent confidence, companies with a strategy of differentiation apply more sophisticated management accounting techniques than companies with cost leadership strategies.

Table 6. Ranking of companies in using techniques based on the type of strategy

Level of technique	Number	Average Rating
Level 1	15	12.8
Level 2	9	17.78
Level 3	3	20.33
Level 4	6	24.67

Table 7. Kruskal-Wallis test to examine the difference between companies in using different levels of technique based on the strategy.

Chi-Squared Test	8.376
Degree of Freedom	3.00
Meaningful Level	0.039

The third hypothesis: The following hypothesis is used to test the Kruskal Wallis test to identify companies with a tribal-hierarchical culture compared to companies with market culture. Which level of accounting techniques do they use at the time? The results are presented in Tables 8 and 9. The following is a list of companies with market culture. Kreatyk, have used three levels of accounting techniques. Then they used levels four, one and two, respectively. According to the tables,

because the level of significance is lower than 0.04 and 0.05, so with 95% confidence, there is a significant difference between companies with different cultures in using the levels of management accounting techniques and the zero hypothesis is rejected, that is, the application of accounting techniques varies for companies with different cultures. Therefore, with 95 percent confidence, we can say that by moving organizations from a hierarchical culture-tribal to adhocracy -market, more sophisticated management accounting techniques are used.

Table 8. Ranking of companies in using techniques Based on the type of organizational culture

Level of technique	Number	Average Rating
Level 1	15	17.3
Level 2	9	10.5
Level 3	3	27.0
Level 4	6	21.0

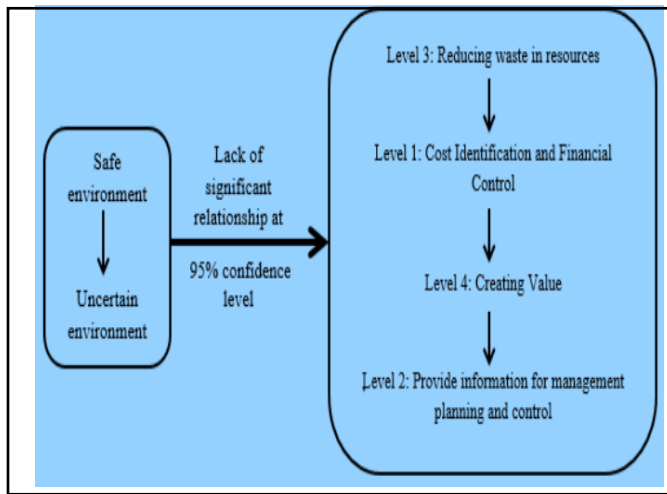
Table 9. Kruskal-Wallis test to examine the difference between companies in using different levels of technique based on the culture.

Chi-Squared Test	8.322
Degree of Freedom	3.00
Meaningful Level	0.04

CONCLUSION

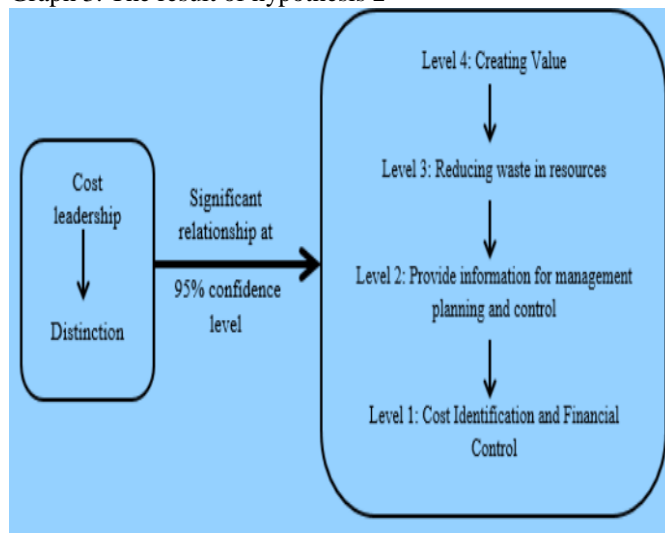
The first hypothesis examined the relationship between the corporate environment and how to use management accounting techniques. In the environment analysis, the confidence range - uncertainty was used. The more companies operate in a more uncertain environment, the number of factors affecting the environment and the rate of change in these factors increases. Therefore, more advanced management accounting techniques are expected to be used. The research results showed that the hypothesis does not apply to the companies studied. Of course, it is noteworthy that companies with a safe environment make the most use of Level 3 techniques, and then Level 1 techniques have been used, but statistically, the relationship of environmental uncertainty with the use of more advanced techniques, was not approved. Based on the results of the above, companies that perceive an uncertain environment around their organization have not extensively applied advanced techniques. Therefore, the relationship between the contingency variable of environmental uncertainty and the use of management accounting techniques at 95% confidence level was not confirmed. The result of the first hypothesis is presented in Graph. 2.

Graph 2: The result of Hypothesis 1



The second hypothesis examined the relationship between the type of organization’s strategy and how to apply management accounting techniques. To determine the type of strategy used by companies, porter typology was used and based on this model, companies in their dominant strategy use cost leadership strategy and differentiation strategy. The results of the research showed that companies that have a more differentiation strategy They tend to use more sophisticated techniques. Thus, it became clear that the more companies tend to differentiate the strategy, the first, fourth-level techniques and later use the techniques of level three, level two, and level one. Therefore, the contingency variable of the strategy was confirmed by using the management accounting techniques at 95% confidence level. The result of the second hypothesis is presented in Graph 3.

Graph 3. The result of hypothesis 2

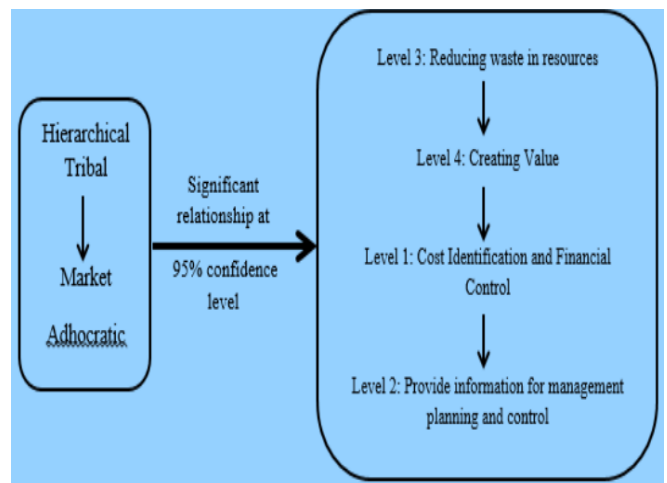


The third hypothesis examined the relationship between the type of organization’s culture and how to apply management accounting techniques. In order to measure the status of the corporate culture of the companies studied, the famous Quinn

and Roerbach models were used. According to this model, organizations have four types of organizational culture:

1. Hierarchical
- 2- Tribal
- 3- Market
- 4- Adhocracy

Organizations that focus on the inner environment have a hierarchical or tribal culture, while organizations with values centered on the external environment of the organization use market-oriented culture. The research outcomes of their external values (the value that companies bring from in-field cultures to outsiders’ cultures more complex techniques. Based on these results, companies whose dominant culture, market culture, or eco-democratic culture Have used the techniques from Level 3, and then Level 4, Level 1, and Level 2. So the relationship between the company’s use and how to use management accounting techniques at 95% confidence level is confirmed. The most important type of organizational culture is presented. The result of the third hypothesis is presented in the Graph 4.



Graph 4. The result of hypothesis 3

In addition to triple research hypotheses, further studies were carried out on the collected data, which are then reviewed. The four levels of management accounting techniques were prioritized in terms of utilization, with techniques for cost identification and financial control (Level 1) ranked 1, techniques for providing information for planning and management of level two) In rank 2, “Value creation (Level 4)” techniques ranked 3rd, and techniques for reducing waste in resources (Level 3) “ranked last. This prioritization shows that the companies studied are still widespread use of traditional management accounting techniques. Currently studied companies do not care about them to the extent that they emphasize advanced techniques in this field, to the extent that, despite Limited use of advanced techniques makes it less relevant than less. It seems that the lack of familiarity with the managers of these companies with the potential applications and potential of advanced techniques has led to the formation

of these results.

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