

Majdy I. Zuriekat

Al-Balqa Applied
University, Jordan

THE BALANCED SCORECARD APPROACH IN JORDANIAN MANUFACTURING COMPANIES: A CONTINGENCY APPROACH

Key Words

*Balanced Scorecard;
Contingency Theory;
Business Strategy;
Organizational
Structure; Perceived
Environmental
Uncertainty.*

Abstract

In an attempt to understand the balanced scorecard (BSC) approach, this study investigates how Jordanian manufacturing companies apply the BSC approach. This study also examines the relationship between several contextual factors and the extent of BSC usage. The contextual factors consist of business strategy, organizational structure, perceived environmental uncertainty, intensity of competition, and organization size. Despite the popularity of the BSC approach, 53% of the companies reported using it in their performance measurement systems. The findings also emphasize the inconsistency between companies following the BSC, particularly the number and types of perspectives used. The results using multiple regression indicate that formalization and organization size significantly influence the extent of BSC usage. By contrast, business strategy, centralization, perceived environmental uncertainty, and intensity of competition have no influence on the extent of BSC usage.

Introduction

In the 1990s, management accounting researchers developed different performance measurement frameworks. However, the literature review on these frameworks has revealed that the balanced scorecard (BSC) is the most dominant frame-

work in management accounting. The widespread interest in the BSC approach has been evident from an inspection of both professional and academic publications, and this has resulted in an increasing rate of adoption among companies worldwide.

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This framework was originally devised by Kaplan and Norton (1992) to overcome the limitations of managing only with financial performance measures, and was later refined in their publications that look at business strategy. This approach is an effective combination of financial and non-financial performance perspectives (i.e. customer, internal business processes, innovation, and financial). Even though there has been a considerable number of studies' relating to the BSC, there were several factors that provoked further research in this area. The level of implementation between companies appears to be different and needs more investigation (Olve *et al.*, 1999; Malmi, 2001). Several types of BSC approach exist (Kaplan and Norton, 1996). In both theory and practice, several terms exist to describe the characteristics of this approach. Hence, there is no reliable statement that can show the degree to which the BSC has been implemented (Speckbacher *et al.*, 2003). Many of the BSC concepts and relationships are open to different interpretations, and this has resulted in confusion in interpreting the findings of recent research. Studies on the BSC tend to be concerned with forwarding theoretical arguments or case studies, and these studies have been conducted outside Jordan. Only few empirical studies have investigated the

BSC using a contingency theory framework, even though management accounting researchers (e.g. Atkinson *et al.*, 1997; Malmi, 2001; Davis and Albright, 2004) have recommended conducting further BSC research drawing on the contingency framework. Therefore, at this stage, it is appropriate to investigate the application of this approach within a Jordanian environment.

Several empirical studies (e.g. Speckbacher *et al.*, 2003) have defined the level of BSC usage by using a self-rating question (i.e. categorical dichotomy). Other studies (e.g. Hoque and James, 2000) have defined the level of BSC usage by using only the four financial and non-financial perspectives of the original BSC. However, these definitions do not provide a comprehensive description of the extent of BSC usage. For example, using the categorical dichotomy as a measure of BSC usage (i.e. BSC users and non-users) treats the BSC companies as homogeneous, although in practice the level of usage of BSC is different between companies. Moreover, using only financial and non-financial performance as a measure of BSC usage does not necessarily imply that the companies are BSC users. Thus, this study utilizes several steps to ensure that the responding companies are BSC users.

A contingency approach to performance measurement has been widely used in management accounting research. Contextual factors have been mainly used in previous research to explain observed different characteristics of management control systems. The literature review of the BSC and the contingency theory has revealed that there are very few empirical studies that have investigated the relationship between contextual factors and the BSC (Chenhall, 2003). Therefore, this study investigates the implementation of the BSC in Jordanian manufacturing companies by examining the impact of business strategy, organizational structure, perceived environmental uncertainty, intensity of competition, and organization size on the extent of BSC usage.

The remainder of this paper is organized into five sections. First, section 2 provides an overview of the existing literature on the balanced scorecard approach and the contingency theory. Section 3 introduces the theoretical framework that provides the basis for the empirical research described in this study. Next, Section 4 describes the research method. The results of the study are then presented in Section 5. Finally, Section 6 presents the limitations of this study and directions for future research.

Literature Review

In response to the need to incorporate key non-financial performance measures and the integration of financial and non-financial measures, Kaplan and Norton (1992) devised the balanced scorecard approach (BSC) as a set of performance measures to provide managers with a comprehensive view of a company, and provide reliable feedback for management control purposes, and performance evaluation. This approach consists of two types of performance measures; the first are financial measures to describe the past actions, and the second are non-financial measures on customer satisfaction, internal business processes and innovation, acting as drivers of future financial performance. The measures of this approach represent a balance between external measures for shareholders and customers, and internal measures for critical business processes and innovation. These measures are balanced between the outcome measures (i.e. the results from past efforts) and the measures that drive future performance. In their writings, Kaplan and Norton (1992; 1993; 1996; 1997; 2000) stressed that the BSC aims to provide answers to the following questions:

- 1 - How do customers see us? (Customer perspective).

- 2 - What must we excel in? (Internal business process perspective).
- 3 - Can we continue to improve and create value? (Innovation perspective).
- 4 - How do we look at shareholders? (Financial perspective).

The BSC has several advantages over traditional performance measures. Some of these advantages include flexibility, evaluation of innovation, and the ability to communicate key factors that drive performance (Kaplan and Norton, 1993). In addition, many of the dysfunctional consequences encouraged by financial performance measures are avoided due to the broad range of performance indicators generated by using the BSC and its assumptions. By implementing the BSC, organizations will move beyond the scorecard vision, to discover its value as a cornerstone of a new strategic management system. Kaplan and Norton (1996) argued that the BSC approach is primarily not an evaluation method, but a strategic planning and communication device to provide guidance to managers, and to describe links among lagging and leading measures of financial and non-financial performance. In their book *The Strategy Focused Organization* Kaplan and Norton stressed that the BSC differs from other performance measurement systems in the way it describes strategy. Thus, a properly

constructed BSC should describe the business unit's strategy, and this strategy is a set of hypotheses about cause-and-effect chains. Kaplan and Norton (1996; 1997) assumed that the scorecard is based on cause-and-effect relationships in which the measures of organizational innovation are the drivers of the internal business processes. The measures of these processes are in turn the drivers of measures of customer perspective, while these measures are the driver of the financial perspective. Moreover, Kaplan and Norton (1996) argued that there is no specific theory that the number of perspectives is necessary and sufficient, and that the number of perspectives in a performance measurement system should depend on strategies, competitive threats, and economic conditions. Olve *et al.* (1999) also proposed that the number of perspectives in the BSC is situational. Researchers (e.g. Edvinsson and Malone, 1997; Schiemann and Lingle, 1999) have extended the four perspectives of the BSC, by adding additional perspectives focusing on employees, suppliers, and the environment. Finally, some researchers (e.g. Malmi, 2001; Speckbacher *et al.*, 2003) have found in their empirical studies that organizations are implementing the BSC in different ways. The empirical studies have to consider that the BSC spread, content, implementation, and application are likely

to vary depending on the type of BSC used (Speckbacher *et al.*, 2003). Thus, it can be concluded that there is a need to conduct more empirical studies to investigate how, and to what extent organizations are implementing the BSC. Even though the aforementioned literature seems to support that the BSC is widely used in companies, only limited systematic research has been conducted on the BSC applications (Ittner and Larcker, 2001). One reason is that most previous studies suffer from methodological shortcomings like low response rates, or unreliable estimates (Speckbacher *et al.*, 2003), and in both theory and practice, quite different opinions exist on the characteristics of the BSC.

Many researchers such as Chenhall and Langfield-Smith (1998); Norreklit (2000) and Ahn, (2001) agree that the BSC is a new development in management accounting which has attracted considerable interest among companies and researchers through the increasing rate of adoption, and the large number of publications. In an attempt to address the increasing attention that has been given to the BSC approach, several studies have investigated the implementation of this approach. For example, a survey conducted in USA estimates that 60% of the Fortune 1000 firms have experimented with the BSC (Silk, 1998). It has been predicted that by the year

2000, at least 40% of the Fortune 1000 companies will have implemented the BSC (Balanced Scorecard Collaborative, 2000). This is consistent with evidence from the Institute of Management Accountants' Cost Management Group, which found that 40% of the surveyed firms reported that they plan to implement the BSC within the coming two years (Frigo and Krumwiede, 2000). In addition, several empirical studies have examined the benefits from using the BSC. For example Rigby (2001) shows that the BSC has a 44% utilization rate. Moreover, Towers Perrin, a consulting firm, carried out a survey on the implementation of the BSC approach in 60 firms, and the results showed that 64% reported that the satisfaction from this approach was higher than the satisfaction gained from other performance measurement systems (Ittner and Larcker, 1998). More recently, Lawson *et al.* (2003) surveyed over 150 organizations, and the results showed that almost two-thirds of the respondents agreed that significant benefits have been realized from using the BSC approach. Conversely, academics claim that 70% of BSC implementations fail (McCunn, 1998). Similarly, Anonymous (2001) reported that over half of the companies who claimed not to have adopted BSC have never considered it, and a further 40% that have examined the BSC

have decided against implementation. The implementation of this approach has attracted frequent problems, most of which are related to its assumptions. For instance, Kaplan and Norton's BSC concentrates on four perspectives; however, the environment and competitors may affect several companies. Thus, using more perspectives such as supplier and environmental perspectives would be appropriate (Otley, 1999). Kaplan and Norton's analysis revealed that companies implement this approach in order to handle the intense global competition. In contrast, the level of competition may differ between companies, thus the adoption of the BSC is likely to vary. This approach also neglects setting performance targets for the perspectives. In addition, the cause-and-effect assumption has been introduced in a simplistic way and the drivers that may cause the effects on performance are varied.

The BSC approach has attracted much attention by management accounting researchers. This is evident by the large number of publications in management journals, seminars, and workshops that have been devoted to it. Many researchers to date have focused on different aspects of the BSC, which has provoked a considerable amount of argument and debate. Drawing on the contingency literature, Hoque and James (2000) con-

ducted one notable piece of work focusing on the relationship between BSC usage and organization size, product life cycle, and strength of market share. The study also explored the contingent relationship between organizational performance and the match between BSC usage and the three contextual factors. A questionnaire survey of 66 Australian manufacturing companies was employed. The study concluded that there was a significant association between organization size and BSC. Another association was found between product life cycle and the usage of BSC, but there was no support for the association between strong market position and BSC. In the same vein, Hoque *et al.* (2001) studied the relationship between several contextual factors (intensity of competition and computer-aided manufacturing, and the use of multiple performance measures in terms of the BSC perspectives). A survey was distributed to collect data from 71 manufacturing companies in New Zealand. The results of the study revealed that there was a positive and significant relationship between the intensity of market competition and the use of BSC perspectives. The results also revealed that there was a positive and significant relationship between organizations that had implemented the computer-aided manufacturing process and the use of BSC

perspectives. More recently, Dunk (2003) conducted a cross-sectional study to investigate the extent to which the quality of the information systems, corporate environmental integration, product innovation, and product quality influence the financial and non-financial performance measures in terms of BSC perspectives. A random sample of 119 functional managers from Australian manufacturing companies was extracted and a total of 77 responded. The results of the study suggested that the quality of the information systems, corporate environmental integration, product innovation, and product quality influence the use of the perspectives of the BSC approach.

To explore the determinants of BSC adoption, Braam and Nijssen (2004) conducted a mail survey of 38 industrial companies to study the contextual factors (i.e. size, top management involvement, centralization, formalization, power of financial department, inter-departmental communications, innovation strategy, and prior adoption of similar innovation) that might influence a company's decision to adopt BSC. The results showed that top management involvement, the power of the financial department, level of accounting tools, and company size were positively related to the level of adoption of BSC. Furthermore, the results showed that

the level of centralization positively moderated the relationship between top management involvement and level of adoption, and the relationship between the power of financial department and the level of adoption was negatively moderated by formalization. In another context, Lipe and Salterio (2000) suggested that common performance measures might have more influence on managers' decisions about division's performance than the unique performance measures, and companies would not expect benefits from adopting the BSC. Lipe and Salterio (2002) also investigated whether evaluations using the BSC will differ from those evaluations based upon the same measures but not using the BSC. The results revealed that when multiple performance measures within a BSC approach show performance above the target, managers' evaluation judgments are reliably different from evaluations made using the same performance measures without the BSC approach. These judgement differences disappeared when the measures indicating strong performance, were distributed throughout the four perspectives of BSC.

In the face of increasing interest in the BSC, this study aims to investigate the extent of BSC usage and how a sample of Jordanian manufacturing companies view the concept in terms

of contents by adopting a contingency framework which is related to the use of performance measurement techniques such as the BSC (Ittner, Larcker and Randall, 2003). The management accounting literature also suggests that many contextual factors may influence different aspects of the BSC (Chenhall, 2003). Thus, this study adopts a contingency theory theoretical framework to investigate the relationship between five contextual factors (business strategy, organizational structure, perceived environmental uncertainty, intensity of competition, and organization size) and the extent of BSC usage. This relationship will be discussed in the next section.

Theoretical Framework and Hypotheses

Based upon the aforementioned literature overview, it is clear that the extent of BSC usage under the contingency framework is not fully understood. Therefore, this study contributes to our understanding of what factors have significant influence on the extent of BSC usage. This section presents the theoretical framework that informed this study. This framework is comprised of two parts; the first part is concerned with the BSC, and the second pertains to the contextual factors adopted in this study.

Balanced Scorecard (BSC)

A great deal of literature on the balanced scorecard (BSC) shows that this approach was developed since its introduction from a combination of financial and non-financial performance measures, to a multidimensional framework for strategic performance measurement, that describes strategy by using cause-and-effect relationships (Kaplan and Norton, 1996). Researchers such as Norreklit (2000) and Malmi (2001) argue that there is no common way to judge whether these competitive strategies are reflected in the BSC measures. In practice, organizations seem to divide strategy into manageable pieces. This should not depend on how an organization defines its strategy, or how it derives measures from it (Malmi, 2001). In addition, there are various interpretations on how to derive measures from strategy, even in the writings of Kaplan and Norton. Based on their findings, Braam and Nijssen (2004) suggest that the translation of strategy into operational measures is a complicated and dynamic process. Also, it should be noted that performance measurement systems without cause-and-effect relationships might also qualify as BSC (Speckbacher *et al.*, 2003). Kaplan and Norton (1996) stress that companies can employ more than the original four perspectives, which were supported by several

researchers (e.g. Olve *et al.*, 1999). Furthermore, no reliable statement can be made about the degree to which BSC has been implemented (Speckbacher *et al.*, 2003). Also, it should be noted that many of the BSC concepts and relationships are fairly open to different interpretations (Norreklit, 2003). Thus, developing a valid measure of what represents BSC usage would be useful, and researchers can explore its context. Such a valid measure would also enhance consistency between studies.

Following Ittner, Larcker and Randall (2003), a seven-point scale is used to measure the implementation of the BSC, where 1 = not considered, 2 = implemented and abandoned, 3 = considering, 4 = approved for implementation, 5 = implementing now, 6 = used, and 7 = used extensively. A study conducted by Hoque and James (2000) defined the use of BSC as multi-perspective sets of both financial and non-financial measures that aim to capture the extent to which strategic objectives are being achieved. Thus, this study operates the extent of BSC usage by using several performance categories: financial, customer, internal business process, and innovation perspectives. Supplier, employee, and environment perspectives were added to this study based on the argument raised by Kaplan and Norton and other researchers. These categories are drawn from the

literature review of performance measurement systems and the BSC (e.g. Hoque and James, 2000). Several management accounting researchers (e.g. Ittner, Larcker and Randall, 2003) advocate linking the reward system and managerial performance evaluation to the BSC performance measures and using action plans for business strategy implementation. Moreover, researchers (e.g. Frigo and Krumwiede, 2000) argue that BSC companies appear to have a high quality information system. Therefore, this study extends on prior research by examining the following uses of performance categories: (1) the extent to which these indicators are used to evaluate managerial performance, (2) the extent to which these indicators are linked to the financial reward system, (3) the extent to which these indicators are used to identify problems and improvement opportunities and develop action plans, and finally (4) the extent to which these indicators explain the information reflected. Thus, the extent of BSC usage is the average standardized rating for each of the performance categories (financial and non-financial) utilized across all purposes in BSC companies.

Contingency Theory Framework

Management accounting using a contingency framework has attempted to relate a range of contextual factors such as perceived environmental uncertainty (e.g. Govindarajan,

1984), technology (e.g. Chenhall and Morris, 1986), strategy (e.g. Govindarajan and Gupta, 1985) to the design of management accounting systems. The appropriate design of management accounting systems will be influenced by a set of contextual factors. Contingency theory of management accounting suggests that there is no universally applicable system of management control, and the choice of appropriate control techniques will depend upon the circumstances surrounding organizations (Otley, 1999). Thus, it is expected that different organizations will have several organizational designs and processes, and therefore, several factors will have different effects on the extent of BSC usage. The literature reviews of the BSC and the contingency theory have revealed that there are very few empirical studies that have investigated the relationship between contextual factors and BSC (Malmi, 2001). The BSC is proving to be a very popular tool, but how are organizations actually using it in practice, and what are the contextual factors that affect an organization's potential interest in such matters?

As the measurement of contextual factors remains controversial (Chenhall, 2003), the instruments used in this study were based on the contingency theory framework and management control literature. Thus, the

conceptual definitions of these contextual factors are briefly discussed in the following sub-sections, with a summary of relevant prior literature, which includes studies on business strategy, organizational structure, perceived environmental uncertainty, intensity of competition and organization size, followed by the identification of the hypotheses to be tested.

Business Strategy

The term strategy is widely employed in a variety of disciplinary literature (Dent, 1990). Several definitions of strategy have been used in the literature ranging from general to specific, but this study is concerned with business competitive strategy. Porter (1985) defines the competitive strategy as a search for a favourable competitive position in an industry. It aims to establish a profitable and sustainable position against the forces that determine industry competition through implementing low cost or differentiation strategy. These dimensions of business strategy were operationalized in this study as:

Low cost strategy: by emphasizing the need to incur the lowest costs in an industry. This strategy requires construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts and cost minimization in different areas such as R & D (Porter, 1985).

Differentiation strategy: by seeking uniqueness in the industry along dimensions that are widely valued by buyers (Porter, 1985).

Few empirical studies have supported the relationship between business strategy and the use of management accounting practices such as the BSC. The extent to which companies claiming to use the BSC actually link their performance measures more closely to strategic priorities, is unknown (Ittner, Larcker and Randall, 2003). Therefore, there is a need for further investigations on how a set of performance measures, rather than a single measure, could be useful to organizations operating in varied industries with various competitive strategies. However, empirical studies (e.g. Olson and Slater, 2002; Sohn *et al.*, 2003) have investigated the relationship between business strategy and the usage of BSC perspectives. These studies have shown that companies following a differentiation strategy place greater emphasis on the usage of non-financial perspectives of the BSC, while companies following a low cost strategy place a greater emphasis on the usage of financial perspectives of the BSC. Accordingly, it can be expected that companies pursuing a differentiation strategy are more likely to use the BSC approach, than companies pur-

suing a low cost strategy. Thus, it can be hypothesized that:

H1a: Low cost strategy has a negative impact on the extent of BSC usage.

H1b: Differentiation strategy has a positive impact on the extent of BSC usage.

Organizational Structure

There are several dimensions to measure organizational structure. Centralization and formalization are two organizational dimensions that are often used to operationalize the organic-mechanistic structure. Centralization represents the concentration of a decision-making authority at a specific level in the hierarchy. Formalization represents the extent to which rules governing behaviour are precisely and explicitly formulated, and to which procedures and roles are detailed. These two dimensions were selected because they represent major aspects of organizational structure. Furthermore, these dimensions have previously been employed in research design investigating organizational innovation. Several researchers argue that organizational structures may influence the adoption and implementation of innovation (Gosselin, 1997). In terms of BSC, Braam and Nijssen (2004) and Sohn *et al.* (2003) have argued that the chance of using

the BSC is more likely in centralized organizations with formalized job procedures. Thus, it can be hypothesized that:

H2a: Centralization has a positive impact on the extent of BSC usage.

H2b: Formalization has a positive impact on the extent of BSC usage.

Perceived Environmental Uncertainty

The environment comprises all the factors external to the organization. It is defined as all the elements that exist outside the boundaries of the organization, and have the potential to affect all or part of the organization (Daft, 1992). Uncertainty means that decision makers do not have sufficient information about environmental factors. External factors consist of the economic, political, social and technological environments in which the organization operates. Perceived environmental uncertainty was operationalized in this study by the level of unexpected change in the environment, such as unpredictable shifts in the economy, changes in customer demand, changing technology, and so on (Daft, 1992). This variable has been identified as an important variable in management accounting system studies because it makes managerial

planning and control more difficult according to the unpredictability of future events. The evidence from management accounting research shows that the greater the uncertainty in the external environment, the greater the need for non-financial and future oriented information. In addition, the applications of the BSC have been mostly confined to organizations facing a more turbulent environment, and one way to understand the use of the BSC is to consider whether companies are facing an unstable environment (Malmi, 2001). More recently, Sohn *et al.* (2003) found that an uncertain environment has significant impact on the usage of BSC perspectives. Thus, it can be hypothesized that:

H3: Perceived environmental uncertainty has a positive impact on the extent of BSC usage.

Intensity of Competition

The degree of competition has been identified in contingency-based studies, as a major factor influencing an organization's environment, structure, and the characteristics of management accounting systems (Simons, 1990). The greater the competition, the greater the need to control costs and evaluate if departments are operating according to expectations. In this study, the dimensions of intensity of

competition were operationalized as price, new product development, marketing or distribution channels, market share, competitors' actions, and number of competitors. The integration or balance in the performance measurement system is necessary for the organization's long-term success in today's competitive environment. The literature on the BSC has revealed that the level of competition is the most important factor that may influence the usage of BSC (Hoque and James, 2000; Malmi, 2001). Empirically, several studies (e.g. Hoque *et al.*, 2001) found that companies implementing the BSC were facing high levels of market competition. Thus, it can be hypothesized that:

H4: Intensity of competition has a positive impact on the extent of BSC usage.

Organization Size

Research on the size-innovation issue has shown mixed results. For example, Gosselin (1997) found no statistically significant relationship between organization size and the decision to adopt innovation (e.g. activity-based costing system). By contrast, Bjornenak (1997) argued that management accounting innovation adoption rates were much higher in large organizations. Empirically, Lawson *et al.* (2003) found that management accounting innovation adoption rates

were higher in large organizations. In the same vein, researchers (e.g. Hoque and James, 2000; Speckbacher *et al.*, 2003) have found that BSC usage is positively associated with organization size. The reason for the relationship between organization size and management accounting innovation is that large organizations have appropriate resources to experiment with the introduction of more sophisticated systems (Drury, 2002). This variable was measured in the literature by using the following dimensions: number of employees, sales turnover and total assets. This study measures organization size by the annual sales turnover. Based on the reasoning outlined above, this study considers organization size as a contextual factor that affects the extent of usage of the BSC. Thus, it can be hypothesized that:

H5: Organization size has a positive impact on the extent of BSC usage.

Research Method

The hypotheses of this study were tested in Jordanian manufacturing companies listed in Amman Stock Exchange. Letters requesting participation in this study along with a copy of the questionnaire were delivered to the financial accountants of 87 companies. In total, 59 out of 87 questionnaires were completed and returned, with a

response rate of 67%. The time period of the survey was six months (September 2005 to March 2006). All the independent variables were measured using multiple items (seven-point scale) except organization size. For the dependent variable, it has been pointed out earlier that the conceptualization of the extent of BSC usage is problematic and that the literature lacks an optimal way to determine the degree to which companies have implemented the BSC. However, researchers such as Ittner, Larcker and Randall (2003) have measured the level of usage of BSC in their survey by asking the respondents to self-specify whether their companies operated a BSC in their performance measurement system. Other researchers such as Hoque and James (2000) have measured the level of usage of BSC in their survey by asking the respondents to indicate the extent to which several financial and non-financial performance measures were used based on Kaplan and Norton's original four perspectives. Given the importance of BSC studies, this study adapts, integrates, and updates aspects of the above two streams of studies in order to provide a more coherent measure for the BSC extent of usage. The reason for developing a measure for the extent of BSC usage is to overcome the disadvantages of the most widely used approach in measur-

ing the BSC, which treats the adoption of the BSC as a categorical dichotomy, thus viewing interventions in different companies as homogeneous, even though such interventions may differ substantially with respect to degree and breadth of implementation. Given that this measure has been used in previous studies, the logistic regression model was performed to examine the statistical differences in the BSC users and non-users' responses. The output of the logistic regression model indicates that the chi-square statistic is not significant ($P > 0.05$) and the Hosmer and Lemeshow value is significant ($P < 0.05$). This result, according to Hair *et al.* (1998) and Field (2000), indicates that the model does not differ significantly from the observed data, thus the logistic regression model is unsuitable. Therefore, it was inappropriate to measure the extent of BSC usage as a categorical dichotomy. An alternative method to measure the extent of BSC usage is as a continuous variable. However, measuring the BSC as a continuous variable is only relevant if companies are actually using the BSC. Thus, in order to determine if the responding companies are BSC users, the following initial steps were taken:

- Question B1 was formulated to capture the stages relating to the BSC current situation in the companies.

- Question B2 contained seven potential perspectives that may be used within the BSC.

For the purpose of measuring the extent of BSC usage for each company, the following procedures were taken. First, the types of financial and non-financial perspectives were determined throughout the responses obtained from Question B2. Second, to check if the types of perspectives obtained from Question B2 were in fact used by the responding companies, the weighted average usage of these perspectives was calculated from the responses obtained in Section A. Therefore, the extent of BSC usage is calculated by computing the weighted average of the responses of the performance perspectives across all uses: managerial performance evaluation, financial reward system, measurement quality, and problem identification. With this procedure, it is possible to determine the extent of BSC usage for

each company based on their usage of the perspectives identified in Question B2. Finally, it should be noted that the measure of the extent of BSC usage is appropriate for using multiple regression because of its metric nature.

Results and Discussion

This section has two parts; the first reports the descriptive analysis, and the second presents the results related to the hypotheses testing using multiple regression.

Descriptive Analysis

To identify BSC implementation stage, the respondents were asked in Question B1 to indicate which of the various stages best describe their company's current situation. Table 1 shows their responses on the extent to which BSC is used in their performance measurement systems.

Table 1
State of BSC Implementation Stages

State of BSC implementation	Number of companies	Percentage
1. Not considered	19	33%
2. Implemented & abandoned	1	2%
3. Considering	5	9%
4. Approved for implementation	2	3%
5. Implementing now	25	43%
6. Used	4	7%
7. Used extensively	2	3%
Total	58	100

Table 2
Type of Perspectives Used in BSC (n = 31)

Type of perspectives	Frequency	Percent
Financial	31	100%
Customer	29	93%
Internal business process	27	87%
Innovation	19	61%
Supplier	13	42%
Employee	12	38%
Environment	5	16%

It can be noted from Table 1 that approximately 33% of the responding companies had not considered the BSC approach in their performance measurement systems. Table 1 also shows that 2% of the responding companies reported that they had implemented and abandoned the BSC concept from their performance measurement system. The analysis of BSC implementation stages reported that 9% of the responding companies had considered implementing this approach. In addition, the above analysis reported that approximately 3% of the companies had approved the implementation of this concept. The BSC implementation rate is 53% (n = 31). It consists of the sum of rows 5, 6 and 7 of Table 1. It can be concluded from the above analysis that the BSC is popular among the responding companies. Kaplan and Norton (1996) indicated that there are several types of BSC frequently used by companies. In practice, Malmi (2001) and Spechbacher *et al.* (2003) have re-

ported that companies are implementing the BSC in different ways. However, to provide further insights into how companies are using the BSC, the respondents were asked in Question B2 to indicate which perspectives were used in their BSCs. Table 2 shows the type of perspectives used by BSC companies.

It can be noted from Table 2 that most of the BSC companies use the first three perspectives (i.e. financial, customer, internal business process) of the original BSC. Interestingly, only 61% of the BSC companies use the innovation perspective. Table 2 also shows that the BSC companies use additional perspectives, which are supplier, employee and environment (42%, 38% and 16%, respectively). This finding is not in line with those of Kaplan and Norton (1996), who indicated that employee perspective is incorporated within the innovation perspective, and the supplier perspective is incorporated within the internal business process perspective. Notably, the name and number of perspectives are

Table 3
Descriptive Statistics (n = 31)

Construct	Cronbach alpha	Mean	Standard deviation	Skewness	Kurtosis
Low cost strategy	0.61	3.551	0.947	-0.191	1.005
Differentiation strategy	0.69	5.299	0.820	-0.140	-0.030
Centralization	0.80	5.444	0.890	-0.865	0.556
Formalization	0.76	4.748	1.313	-0.640	0.693
Perceived environmental uncertainty	0.74	3.489	1.243	0.151	-0.456
Intensity of competition	0.82	4.889	1.019	-0.550	0.559
Organization size	N/A ⁽¹⁾	2.056	0.348	0.997	0.162
Balanced scorecard (BSC)	N/A	5.249	0.657	0.041	-0.848

situational and several performance perspectives may be incorporated within other perspectives. Thus, it can be concluded that companies may also use perspectives with different definitions such as including employee as a separate item, rather than naming it as a perspective within the innovation perspective. Similarly, supplier may be captured as an item within the internal business process perspective. Consequently, the results show that the BSC companies report using several types of perspectives. This suggests that companies who claim to be using the BSC identify different perspectives to cope with their objectives. Therefore, it can be concluded that the type and number of perspectives used in the BSC are different.

Table 3 reports the Cronbach alphas, means, standard deviations and skewness and kurtosis⁽²⁾ to check for normality. It can be noted from Table 3 that the variables were appropriate to conduct the multiple regression analysis.

Hypotheses Tests

Table 4 shows that formalization and organization size are significantly correlated ($P < 0.01$) with the extent of BSC usage, and low cost strategy and intensity of competition are also significantly correlated ($P < 0.05$) with the extent of BSC usage. Table 4 also indicates that differentiation strategy, centralization, and perceived environmental uncertainty are not significantly correlated with the extent of BSC usage.

- (1) Cronbach alpha was impossible to obtain for organization size and balanced scorecard due to the nature of these variables.
- (2) According to Hair et al. (2003, p. 244), skewness values within the range of -1 to +1 and kurtosis values within -3 to +3 indicate an acceptable range for normality, whereas values falling outside the range of skewness and kurtosis indicate a substantial departure from a normal distribution.

Table 4
Correlation Coefficients of Extent of BSC Usage
and Factors Influencing Extent of BSC Usage (Pearson)

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
(a) BSC usage	1							
(b) Low cost strategy	.30*	1						
(c) Differentiation strategy	.08	-.39**	1					
(d) Centralization	-.09	-.20	.23	1				
(e) Formalization	.46**	.20	.34**	-.07	1			
(f) Perceived environmental uncertainty	.17	.15	.00	.04	-.00	1		
(g) Intensity of competition	.32*	-.12	.35**	.23*	.11	.25*	1	
(h) Organization size	.40**	.16	.04	-.15	.19	-.05	-.02	1

* Correlation significant at $P < 0.05$ (2-tailed)

** Correlation significant at $P < 0.01$ (2-tailed)

Multiple regression analysis is used to explore the relationship between the extent of BSC usage (dependent variable) and the contextual factors (independent variables). The 7 independent variables were entered into a regression model with the extent of BSC usage as the dependent variable. Table 5 reports the output from the regression model, which represents the independent variables influencing the extent of BSC usage. The overall F statistic shown in Table 5 is statistically significant at the .001 level which indicates that the improvement due to fitting the regression model is much greater than the inaccuracy within the model (Field, 2000). The adjusted R^2 indicates that the regression model explains 41.3% of the variance in BSC usage. R^2 is influenced by the number of independent variables relative to sample size (Hair

et al., 1998). Therefore, the decision was made to consider the adjusted R^2 . Multicollinearity causes a problem for multiple regression, since it can affect the parameters of a regression model (Field, 2000). The results presented in Tables 4 and 5 show no high correlation values, and the variance inflation factor (VIF) and the tolerance values show no values that exceed the generally accepted maximum levels. Thus, no support was found for the existence of the multicollinearity problem.

Business Strategy and BSC Usage (H1a and H1b)

The statistics relating to Hypothesis H1a reveal that the low cost strategy has no significant effect on the extent of BSC usage, with a beta of -0.131 (t-value = -0.819). Similarly, the statistics relating to Hypothesis

Table 5
Regression Analysis for Contextual Factors Influencing Extent of BSC Usage

Independent variables	Unstandardized coefficients		Standardized coefficients	t-value	p-value	Tolerance	VIF
	B	Std. Error	Beta				
Constant	2.849	1.207	-	2.361	.024	-	-
Low cost strategy	-.090	.111	-.131	-.819	.418	.477	2.097
Differentiation strategy	.016	.118	.020	.135	.893	.561	1.783
Centralization	-.088	.098	-.120	-.902	.373	.687	1.455
Formalization	.140	.066	.280	2.126	.040	.702	1.424
Perceived environmental uncertainty	.051	.078	.097	.661	.513	.566	1.767
Intensity of competition	.016	.099	.025	.163	.871	.523	1.914
Organization size	.350	.149	.147	2.357	.020	.896	1.116
Adjusted R ²	.413						
F	3.816						
Significant	.001						

H1b indicate that the differentiation strategy has no significant effect on the extent of BSC usage, with a beta of 0.020 (t-value = 0.135). Thus, the findings of the regression model indicate that Hypotheses H1a and H1b, which predict a direct relationship between both low cost and differentiation strategies and the extent of BSC usage were not supported at 0.05 significance level. Therefore, both hypotheses are fully rejected.

Organizational Structure and BSC Usage (H2a and H2b)

As shown in Table 5, the statistics relating to Hypothesis H2a reveal that centralization has a negative but non-significant impact on the extent of

BSC usage, with a beta of -0.120 (t-value = -0.902). Thus, the findings of the regression model indicate that Hypothesis H2a, which predicts a direct relationship between the centralization dimension of structure and the extent of BSC usage is not supported at the 0.05 significance level. The statistics relating to Hypothesis H2b reveal that formalization has a positive impact on the extent of BSC usage, with a beta of 0.280 (t-value = 2.126). Thus, the findings of the regression model indicate that Hypothesis H2b, which predicts a direct relationship between the formalization dimension of structure and the extent of BSC usage, is supported at the 0.05 significance level.

Perceived Environmental Uncertainty and BSC Usage (H3)

The statistics relating to Hypothesis H3 reveal that perceived environmental uncertainty has a positive and non-significant effect on the extent of BSC usage, with a beta of 0.097 (t-value = 0.661). Thus, the findings of the regression model indicate that Hypothesis H3, which predicts a direct relationship between perceived environmental uncertainty and the extent of BSC usage, is not supported at the 0.05 significance level.

Intensity of Competition and BSC Usage (H4)

As shown in Table 5, the statistics relating to Hypothesis H4 reveal that the intensity of competition has no significant effect on the extent of BSC usage, with beta of 0.025 (t-value = 0.163). Thus, the findings of the regression model indicate that Hypothesis H4, which predicts a direct relationship between the intensity of competition and the extent of BSC usage, is not supported at the 0.05 significance level.

Organization Size and BSC Usage (H5)

The statistics relating to H5 revealed that organization size has a positive impact on the extent of BSC usage, with a beta of 0.147 (t-value = 2.357). Thus, the findings of the regres-

sion model reveal that H5, which predicts a direct relationship between organization size and the extent of BSC usage, is supported at the 0.05 significance level.

Discussion

Based on a sample of Jordanian manufacturing companies, the findings indicate that there is no significant relationship between the differentiation strategy and the extent of BSC usage. It is argued in the literature that the increasing use of non-financial performance measures is relatively high in differentiator companies. In other words, it is expected that companies will use the BSC if they are differentiators. Therefore, it can be concluded that adopting this type of strategy is not related to the extent of BSC usage within the sample of Jordanian manufacturing companies. The findings of the regression model also indicate that there is no significant relationship between the low cost strategy and the extent of BSC usage within a sample of Jordanian manufacturing companies. It is argued in the literature that the use of non-financial performance measures is negatively associated with companies adopting the low cost strategy. In other words, it is expected that companies will not use the BSC if they are adopting the low cost strategy. These results contradict the arguments presented in the management accounting

literature that the choice of performance measures is dependent on business strategy, and the nature of performance measures is different according to business strategy. An interpretation of these findings could be that different companies experience different sets of manager decisions to adopt and use the BSC. However, companies prefer using management accounting techniques under differentiation or low cost strategies; therefore, different managerial decisions underlying both strategies may influence preferences for using particular management accounting techniques. Thus, it can be concluded that different managerial decisions underlying low cost and differentiation strategies may not influence the extent of BSC usage. Based on a sample of Jordanian manufacturing companies, it can be noted that there is no significant relationship between centralization and the extent of BSC usage. Centralization refers to the hierarchical level that has the authority to make decisions. The negative and non-significant effect of centralization on the extent of BSC usage contradicts the argument presented by Braam and Nijseem (2004) in which they argue that the chance of BSC adoption is more likely in highly centralized companies. Moreover, the results of this study indicate that there is a significant relationship between formalization and the extent of BSC usage. The

literature on BSC supports this result where the organization structure provides the infrastructure on which companies can adopt the BSC. Formalization refers to the job descriptions, amount of procedures, and regulations. In addition, management accounting systems and practices are organizational rules and routines, and these rules are the formally recognized way to do things; thus, implementing the BSC, for example, could be well established in a set of rules to avoid the knowledge being lost, to facilitate training staff, or to exercise control over any modifications. Therefore, it is expected that formalized and structured organizations, which rely heavily on the amount of written documentation in the organization, including regulations and procedures, might use the BSC. Based on the sample of Jordanian manufacturing companies, the findings surprisingly indicate that there is no significant relationship between perceived environmental uncertainty and the extent of BSC usage. This result is inconsistent with the empirical findings reported in the literature which indicate that increasing levels of perceived environmental uncertainty lead to a greater need for management accounting information in terms of non-financial performance measures. The result is also inconsistent with Chow *et al.* (1997) argument that the application of the BSC has

been mostly reported in organizations facing turbulent environments. An interpretation of this result could be that the level of environmental uncertainty makes no difference to the extent of BSC usage, which emphasizes using non-financial performance measures. However, recent empirical research has reported that BSC users face less uncertainty in their environment (e.g. Banker *et al.*, 2001).

The empirical results indicate that there is no significant relationship between the level of competition of the sample of Jordanian manufacturing companies and the extent of BSC usage. Kaplan and Norton (1992) argued that the BSC is a more appropriate approach when the level of competition is high. Interpretations of this contradictory result is not an easy task, taking into consideration that earlier studies have confirmed the relationship between intensity of competition and the use of multiple performance measures (e.g. Hoque *et al.*, 2001). However, one could argue that companies are using the non-financial performance measures as a call for using these measures which are the origin of management accounting systems, and not just a response to the increased level of competition. The literature on the BSC approach supports the result that the usage of this approach is significantly associated with large organizations. It has been argued that the possible reason for the positive relationship between organi-

zation size and the adoption of BSC is that large organizations have relatively more resources to use new management accounting systems. As this result is significant with a positive direction, it can be concluded that large organizations have more abilities and capabilities to deal with the BSC. In contrast, small organizations require less elaborate performance evaluation techniques because the strategy setters are more likely to be directly assessing the extent to which strategy is being achieved (Hoque and James, 2000). Thus, it can be argued that large organizations are likely to make more use of the BSC. This suggests that as an organization's size increases, managers find it more useful to place greater emphasis on the BSC to support their strategic decisions, as this approach incorporates both financial and non-financial performance measures.

Limitations and Future Research

This study is subject to a number of limitations and these may be explored in future studies. The study adopted the cross-sectional methodology, which is only concerned with employing quantitative methods of data collection. Thus, a questionnaire survey was adopted in this study and the researcher was not able to interview or ask the respondents to ascertain in more detail the exact nature of the responses. Therefore, extra care and caution are essential when interpret-

ing questionnaire findings. Due to the nature of this study (examining the BSC approach in Jordanian manufacturing companies), the results may not be generic to other companies operating in other sectors such as the service sector. However, future studies need to extend to other industry sectors in order to generalize the results. With respect to management accounting studies, most of the studies on the BSC approach have focused on explaining how and why this approach should be adopted as part of management accounting innovation studies. However, this study has not taken into consideration the motives for implementing the BSC. In contrast, this study is one of the first investigations on the extent of BSC implementation stages in Jordan. As a result, this study did not focus deeply on how companies are actually using the BSC approach. For example, the results that have emerged from this study have indicated inconsistency between BSC companies in the way this approach was used. In addition, little attention was given to examining how the BSC companies are dealing with the main assumptions of this approach. Thus, to obtain a more comprehensive picture, attention should be given on using more in-depth case studies to provide greater understanding of how and why these companies are dealing with the BSC approach and its assumptions. In terms of applying the

contingency theory framework, the extent of BSC usage has been measured in the existing literature by two discrete methods, either a self-rating question (i.e. dichotomous) to measure the implementation stages, or the extent of usage of financial and non-financial performance measures. Such measures do not adequately capture the extent of BSC usage in performance measurements and evaluation purposes. Similarly, the BSC approach can also vary in usage between companies. Thus, future studies adopting a contingency framework should consider validating the BSC extent of usage measure used in this study, or developing alternative measures of the extent of BSC usage. Finally, a potential limitation in this study relates to the level of variance R^2 explained by the contextual factors. The presence of the contextual factors incorporated in this study does not provide a complete explanation of the results. Thus, there is an opportunity for future studies to identify and examine the impact of other contextual factors (e.g. organizational complexity, culture, industry type) on the BSC approach. Despite the aforementioned limitations, this study has provided several important insights into issues relating to BSC which will hopefully encourage researchers to conduct further empirical studies about the implications of this approach.

APPENDIX

Balanced scorecard approach in Jordanian manufacturing companies (With special emphasis on factors influencing their usage)

Questionnaire

Dear participant:

I am currently undertaking a study relating to balanced scorecard in Jordanian manufacturing companies. The study aims to describe the nature, content and use of balanced scorecard. A major objective of the study is to examine the factors influencing the use of the balanced scorecard.

Your response is extremely important to the success of this study and will be treated as **strictly confidential**. It will not be disclosed to third parties under any circumstances. Also please note that the questions have been written to ensure that they are applicable to many types of businesses. Therefore, it is possible that they may not all exactly apply to your situation. Nevertheless, please attempt to answer all questions. However, if you are unsure about a response, or think it would be misleading, please leave the specific question unanswered.

Thank you very much for your help and co-operation

Dr Majdy Issa Khalil Zuriekat
Instructor at Al-Balqa Applied University
Faculty of Planning and Management
P.O Box 9413 Amman - Jordan
Post Code 11191 Amman

SECTION A: THE PERFORMANCE MEASUREMENT SYSTEM WITHIN YOUR ORGANIZATION

Part 1. For each of the categories listed below, please indicate (i) the extent to which relevant indicators within each category are used to evaluate managerial performance and (ii) the extent to which performance indicators falling within each category are linked to the managerial financial reward system. Using the scales below, please circle the most appropriate responses respectively for (i) extent used for managerial performance evaluation and (ii) financial reward system.

Performance categories	(i) Managerial performance evaluation							(ii) Financial reward system						
	Not at all important		Moderate importance		Extremely important		No goals established		Moderately established		Explicit goals established			
A1. Financial (e.g. annual earnings, return on assets, cost reduction, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A2. Customer (e.g. market share, customer satisfaction, customer retention, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A3. Internal business processes (e.g. cycle time, productivity, safety, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A4. Innovation (e.g. new product development success, development cycle time, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A5. Employee (e.g. on-time delivery, input into product design, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A6. Supplier (e.g. on-time delivery, input into product design, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A7. Environment (e.g. government citations, certification etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Part 2. For each of the categories listed below, please (i) rate how well your business unit measures performance within each category and (ii) the extent to which performance indicators within each category are used to identify problems and improvement opportunities and developing action plans. Using the scales below, please circle the most appropriate responses respectively for (i) measurement quality and (ii) problem identification.

Performance categories	(i) Measurement quality							(ii) Problem identification						
	Not used at all		Moderately used		Used extensively			Not at all linked		Moderately linked		Extensively linked		
A8. Financial (e.g. annual earnings, return on assets, cost reduction, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A9. Customer (e.g. market share, customer satisfaction, customer retention, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A10. Internal business processes (e.g. cycle time, productivity, safety, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A11. Innovation (e.g. new product development success, development cycle time, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A12. Employee (e.g. turnover, employee satisfaction, workforce capabilities, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A13. Supplier (e.g. on-time delivery, input into product design, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A14. Environment (e.g. government citations, certification, etc)	1	2	3	4	5	6	7	1	2	3	4	5	6	7

SECTION B: QUESTIONS RELATED TO BALANCED SCORECARD (BSC)

In this section, I would like to obtain a general understanding of how companies are dealing with the concept of Balanced Scorecard (BSC).

B1. Regarding Balanced Scorecard (BSC), please circle one of the following stages that best describes your business units current situation.

Not considered	Implemented & abandoned	Considering	Approved for implementation	Implementing now	Used	Used extensively
1	2	3	4	5	6	7

B2. Please tick which of the following are included as separate perspectives within your Balanced Scorecard (BSC).

- Financial
- Customer
- Internal business process
- Innovation
- Supplier
- Employee
- Environment

SECTION C: ABOUT YOUR BUSINESS UNIT

Part 1. The following questions help us to categorise your business unit by type and activities. For each question, please write your answer in the space provided.

- C1. Please specify the approximate number of employees (full-time equivalents) currently employed in your business unit employees
- C2. Please specify the approximate annual sales turnover for your business unit for the last financial year employees
- C3. In what type of business/industry is your business unit engaged?
(please be specific: e.g. steel manufacturing, textiles, food processing)

Part 2. The following statements help us to develop a greater understanding of your business unit type. Using the scale below, please indicate for each item your estimate of the position of your business unit relative to its leading competitors in the following areas (please circle one number for each statement).

Significantly lower	Lower	Slightly lower	About the same	Slightly higher	Higher	Significantly higher				
1	2	3	4	5	6	7				
C4. product selling prices				1	2	3	4	5	6	7
C5. Manufacturing costs				1	2	3	4	5	6	7
C6. Percent of sales spent on research and development				1	2	3	4	5	6	7
C7. Percent of sales spent on marketing expenses				1	2	3	4	5	6	7
C8. Product quality				1	2	3	4	5	6	7
C9. Brand image				1	2	3	4	5	6	7
C10. Product features				1	2	3	4	5	6	7

SECTION D: ABOUT YOUR INTERNAL OPERATING ENVIRONMENT

The following statements relate to the internal operating environment of your business unit. Using the scale below, please circle for each statement the appropriate response relating to the extent to which you agree or disagree with each of the following.

Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree				
1	2	3	4	5	6	7				
D1. New product introduction decisions are made only at the highest management level				1	2	3	4	5	6	7
D2. Apart from minor investments, capital budgeting decisions are usually made only at the top management level				1	2	3	4	5	6	7
D3. Decisions to attempt penetration into new markets generally are made only by top management				1	2	3	4	5	6	7
D4. Decisions on major changes to (including new introduction of) manufacturing processes are made only at the top management level				1	2	3	4	5	6	7
D5. Personnel policy decisions are usually made by top management				1	2	3	4	5	6	7
D6. Pricing policies are set only by top management				1	2	3	4	5	6	7
D7. Rules and procedures in your business unit are very clearly documented				1	2	3	4	5	6	7

- D8. There is always an extensive reliance on rules and procedures to meet operating emergencies 1 2 3 4 5 6 7
- D9. Violation of the documented procedures is not tolerated. 1 2 3 4 5 6 7

SECTION E: ABOUT YOUR INDUSTRY ENVIRONMENT

The following statements describe some of the factors that are constantly in the process of changing in the external environment. Using the scale below, please circle for each statement the number that corresponds to the predictability or unpredictability of the rate of change within your business unit.

Highly predictable rate of change	Fairly predictable	Slightly predictable	Neutral	Slightly unpredictable	Fairly unpredictable	Highly unpredictable rate of change				
1	2	3	4	5	6	7				
E1. Manufacturing technology				1	2	3	4	5	6	7
E2. Competitors actions				1	2	3	4	5	6	7
E3. Customers demand				1	2	3	4	5	6	7
E4. Product attributes/design				1	2	3	4	5	6	7
E5. Raw material availability				1	2	3	4	5	6	7
E6. Raw materials price				1	2	3	4	5	6	7
E7. Government regulation				1	2	3	4	5	6	7
E8. Labor unions actions				1	2	3	4	5	6	7

SECTION F: ABOUT YOUR MARKET COMPETITION

The following statements relate to the level of competition in the market place. Using the scale below, please circle for each statement the appropriate response to the intensity of your business units market competition.

	Of negligible intensity			Moderately intense			Extremely intensive				
	1	2	3	4	5	6	7	7			
F1. Price competition					1	2	3	4	5	6	7
F2. Competition for selling and distribution					1	2	3	4	5	6	7
F3. Competition for quality and variety of products					1	2	3	4	5	6	7
F4. Competition for market share					1	2	3	4	5	6	7
F5. Competition relating to customer service					1	2	3	4	5	6	7
F6. Number of competitors in your market segment					1	2	3	4	5	6	7
F7. Competitors actions					1	2	3	4	5	6	7

SECTION F: GENERAL QUESTIONS

The following questions are designed to enable me to classify your answers. I reiterate that all information you provide is strictly CONFIDENTIAL and any information identifying the respondent will not be disclosed under any circumstances.

- G1. Please insert your job title/position in the company
- G2. How many years have you been in this current position?years

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الملخص

بطاقة الأداء المتوازن Balanced Scorecard في الشركات الصناعية الأردنية

مجدي عيسى زريقات
جامعة البلقاء التطبيقية

تهدف هذه الدراسة إلى فهم بطاقة الأداء المتوازن Balanced Scorecard في الشركات الصناعية الأردنية، من خلال دراسة مدى استخدام هذه الشركات لهذه البطاقة. وتهدف هذه الدراسة أيضاً إلى دراسة أثر مجموعة من العوامل الداخلية والخارجية على استخدام بطاقة الأداء المتوازن. وهذه العوامل هي: إستراتيجية الشركة، والهيكل التنظيمي، والبيئة الخارجية، ودرجة المنافسة في الأسواق، وحجم الشركة. وقد تبين من نتائج الدراسة أن هناك تأييداً كبيراً في تطبيق بطاقة الأداء المتوازن في الشركات الصناعية الأردنية. وبينت النتائج أيضاً أن تنظيم الإجراءات الإدارية وحجم الشركة يؤثران إيجابياً على استخدام بطاقة الأداء المتوازن. كما بينت النتائج أن إستراتيجية الشركة، المركزية والبيئة الخارجية ودرجة المنافسة لا تؤثر إيجابياً على استخدام بطاقة الأداء المتوازن. وقد أوصت الدراسة بتوجيه الباحثين لدراسة مجالات أخرى في موضوع بطاقة الأداء المتوازن، والخاصة بإمكانية التوسع في تطبيقها والتركيز على المنافع المترتبة على استخدامها.

Majdy I. Zuriekat (Ph.D. in Accountancy, Huddersfield University Business School/ United Kingdom, 2005). Assistant Professor of Accountancy at al-Balqa Applied University/Accounting Information Systems Department. Part-time Lecturer at the Arab Academy for Banking and Financial Sciences. Part-time Lecturer at the German Jordanian University. Research interests: Two Published articles in Management Accounting and Accounting Information System. Current research in Management and Cost Accounting includes issues pertaining to Activity-Based Costing Systems, Total Quality Management and Just in Time Manufacturing Approaches, among other issues.