

# The Use of the Balanced Scorecard Performance Measurement System in Manufacturing Companies

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## Abstract

The Balanced Scorecard (BSC) is the most adopted performance measurement system in businesses. This study examined the use of the BSC performance measurement system in small-size manufacturing companies in Jordan.

A qualitative research approach was used to collect data. Data was collected from two groups of participants: 'who used the BSC' and 'who never used it, and not planning to use it in the future'.

The main finding of the study demonstrated that the BSC as a performance measurement system can be used by small size manufacturing companies. This result contradicts the argument by some scholars (including the founders of the BSC: Kaplan and Norton) that the BSC was originally designed for large scale companies. The study also demonstrated that the BSC is effective in measuring financial and non-financial performance measures.

**Keywords:** Balanced Scorecard (BSC), Performance Measurement, Manufacturing Companies.

## INTRODUCTION

The Balanced Scorecard (BSC) is one of the most widely used performance measurement systems, worldwide. The BSC which was introduced by Kaplan and Norton, in 1992, provides a balance between financial and non-financial measures used in all sizes of companies. According to Kaplan and Norton (2001), the BSC has demonstrated success in large non-profit organizations.

The aim of this study is to investigate the use of the BSC in manufacturing companies in Jordan, and attempt to answer the following main question:

**RQ:** *Is the BSC model used in manufacturing companies in Jordan?*

The main question is divided into the following sub-questions:

**RQ1:** *What are the reasons for using or not using the BSC model?*

**RQ2:** *What is the level of knowledge and awareness of the BSC model?*

**RQ3:** *Can the BSC be easily used in small companies, as in large companies?*

## LITERATURE REVIEW

### Performance Measurement Systems

During the last two decades, many researchers attempted to develop new frameworks of performance measurements. Most performance reviewers (Oyon & Hostettler, 1999) agreed that the following performance measurement systems are the most popular: Balanced Scorecard (BSC) (Kaplan & Norton, 1996), Strategic Measurement and Reporting Technique (SMART) (Cross & Lynch, 1988), Performance Measurement Questionnaire (PMQ) (Dixon et al., 1990), & Performance Prism (Kennerley & Neely 2002). This study will briefly describe each one of these systems.

According to Neely et al., (1995, p. 80)

*'performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action. A performance measurement system can be defined as the set of metrics used to quantify both the efficiency and effectiveness of actions'*

Lebas (1995, p. 24) argued that

*'performance measurement and performance management cannot be separated'. He also stated that 'two key questions managers and performance evaluators must answer: why do we want to measure? And what do we want to measure?'*

Lebas (1995, p. 24) summarized 'performance measurement' when he asked the following questions:

*Where we have been? Where are we now? Where do we want to go? How are we going to get there? How will we know we got there?*

### The Balanced Scorecard

Kaplan and Norton (1992) defined the BSC as:

*'a set of measures that gives top managers a fast but comprehensive view of the business. The Balanced Scorecard includes financial measures that tell the results of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities – operational measures that are the drivers of future financial performance. (Kaplan and Norton, 1992, p. 71)*

Kaplan and Norton (1996, p.172) believe that

*'the Balanced Scorecard enables a company to align its*

management processes and focuses the entire organization on implementing long-term strategy and a framework for managing the implementation for strategy'. Furthermore, they also believe that 'the Balanced Scorecard can only translate a company's strategy into specific measurable objectives'. (Kaplan & Norton, 1992, p. 78).

**The Use of the Balanced Scorecard**

According to Kaplan and Norton (1996, p.2), 'the Balanced Scorecard translates an organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and

management system'.

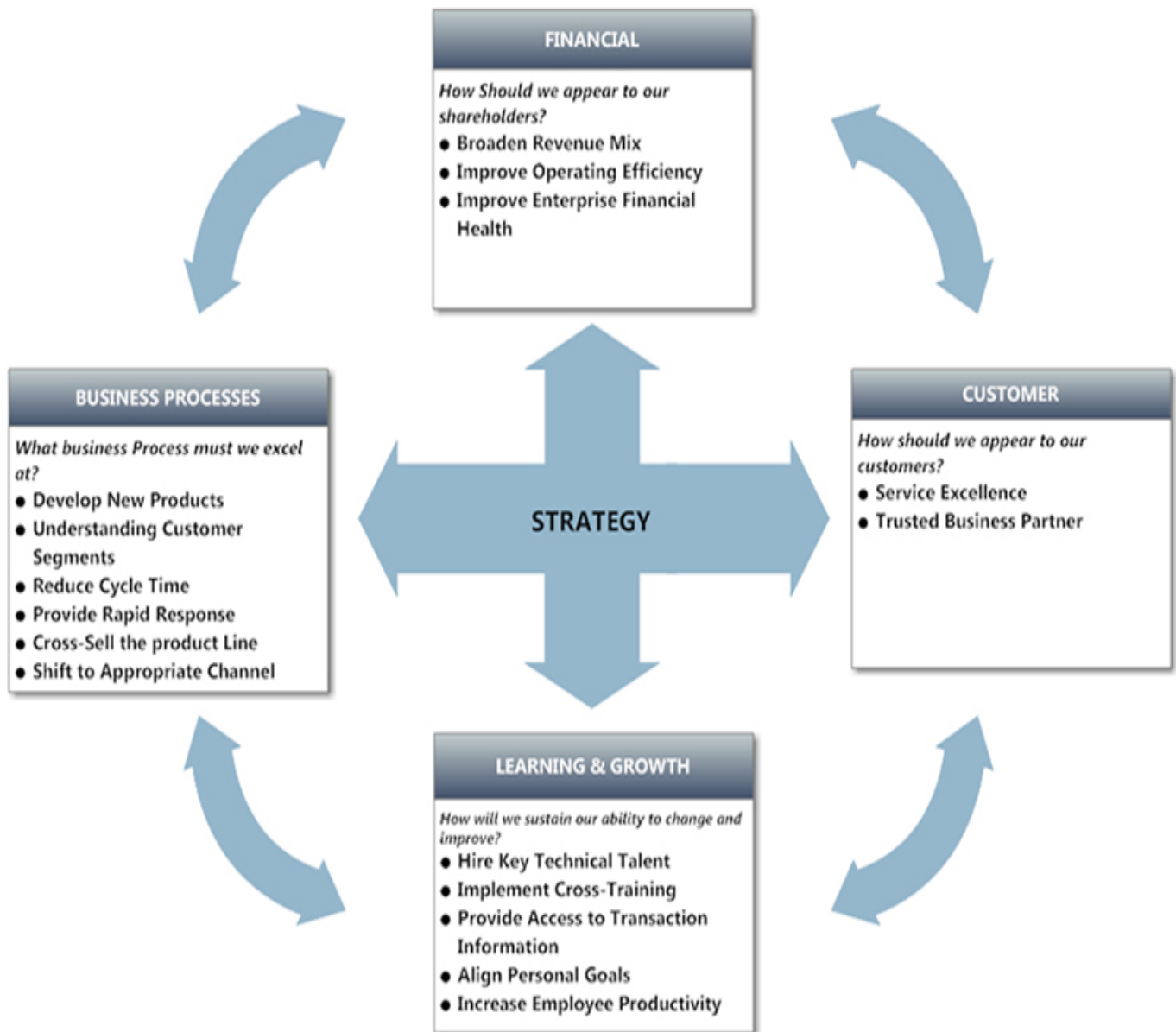
Kaplan and Norton (1992) argue that the BSC allows the evaluation of the organization from four different perspectives (Figure 1):

*Customer Perspective – How do customers see us?*

*Internal Perspective – What must we excel at?*

*Innovation and Learning Prospective – Can we continue to improve and create value?*

*Financial Perspective – How do we look to shareholders?*



Adapted from the Balanced Scorecard by Robert S. Kaplan and Dave P. Norton. Harvard Business School Press. 1996.

**Figure 1:** The Balanced Scorecard Model (Kaplan & Norton, 1992)

In addition to being used as a Performance Measurement System, the BSC can be used a Strategic Management System (Sinha, 2006). According to Kaplan and Norton (1996), the BSC can introduce four management processes: *‘translating the vision; communicating and linking; business planning; & feedback and learning’*.

Many surveys concluded that the BSC was used more in large companies than in small companies. The Chartered Institute of Management Accounting (CIMA) (2009) conducted a survey on hundreds of respondents about the popularity of the BSC. The result showed that the BSC was the most popular management tool. The same survey also concluded that the BSC is used by large companies more than small companies. According to Giannopoulos et al. (2013), the BSC was originally developed to be used by medium and large companies.

Even though the BSC is the most cited performance measurement system (Taticchi et al., 2010), it has strengths and weaknesses. Sriteska and Spickova (2012) summarized them in Table1, below.

**Table 1:** Balanced Scorecard Strong & Weak Points (Sriteska & Spickova, 2012)

<i>Strong Points</i>	<ul style="list-style-type: none"> <li>• <i>clarity of vision and strategy adopted</i></li> <li>• <i>consistent monitoring of strategy</i></li> <li>• <i>concentration on strategic, in the competition environment critical business objectives</i></li> <li>• <i>cross-disciplinary and hierarchy traversing communication process</i></li> <li>• <i>integration of performance measures for operational objectives at an appropriate level</i></li> <li>• <i>cause/effect relationships as instrument for management</i></li> </ul>
<i>Weak Points</i>	<ul style="list-style-type: none"> <li>• <i>does not express the interests of all stakeholders</i></li> <li>• <i>lack of long-term commitment and leadership for management</i></li> <li>• <i>too many/few metrics – development of unattainable metrics</i></li> <li>• <i>lack of employee awareness or a failure to communicate information to all employees</i></li> <li>• <i>constructed as a controlling tool rather than an improvement tool</i></li> <li>• <i>no relationships’ quantification</i></li> <li>• <i>inappropriate to benchmarking</i></li> </ul>

## RESEARCH DESIGN

### Research Methodology

This study is conducted using a qualitative research methodology. Secondary data was gathered through the literature review, while the primary data is collected through a questionnaire that were sent to respondents in selected

manufacturing companies in Jordan. A face-to-face distribution method of questionnaire was used due to the unpopularity of the other methods, such as emails.

### The Questionnaire

The questionnaire was designed based on the literature review. It consisted of closed-ended questions based on Likert Scale (strongly agree, agree, neither, disagree & strongly disagree). The questionnaire was divided into three sections. The first section includes questions on general information about the participant. The second, third, and fourth sections include questions related to the first, second, and third research questions (see Appendix 1).

The intention was to try get as many participants to this study as possible. 80 hard copies of the questionnaire were sent to potential participants. Only 19 participants (representing 19 different manufacturing companies) agreed to answer the questions during the visit of the researcher to their place of work. Out of the 19 participants, 12 have used and/or are still using the BSC model, and 7 participants have never used it before. The participants were general managers, division managers, financial managers, and production engineers. The two samples of the participants were treated separately in terms of data analysis.

### DATA ANALYSIS

The researcher started the questionnaire by reminding the participants of the BSC performance measurement (Table 2). The 1<sup>st</sup> section of the questionnaire is a set of general information questions. The 12 participants were divided as follows: 3 General Managers, 5 Division Managers, 2 Financial Managers, and 2 Production Engineers, representing the 25%, 41%, 17%, and 17% of the total respondents, respectively. In terms of the size of the companies participating in this study, all of them were small size companies with no more than 50 employees and turnover between 1 and 3 million Jordanian Dinar. All companies are manufacturing companies involved in food, clothing, construction, and IT activities.

The 2<sup>nd</sup> section of the questionnaire was designed to be answered by the participants who used in the past and/or still using the (BSC). This section asks the participants to record their level of agreement or disagreement with a set of selected statements, which are reasons for using the BSC. 67% of the participants recorded their agreement and strong agreement that performance measurement systems are useful tools for any business success. The results show that 92% of agreement and strong agreement that the BSC is one of the most used performance measurement systems. This result shows how popular the BSC is, even in small companies, which contradicts the argument by Giannopoulos et al. (2013) when they argued that the BSC was originally developed for medium and large-size companies. Furthermore, the results show 75% of agreement and strong agreement that the BSC is an effective measurement tool. About 59% believed that the BSC is not suitable for all sizes of companies, while a slightly smaller percentage (33%) believe otherwise.

The higher management usually play an important role in the support of implementation of any tools or technique in the company. The results show 83% of agreement and strong agreement that the executive management is satisfied with the use of the BSC in the company. This goes with the next result that showed an 83% agreement and strong agreement that the use of the BSC helps in balancing the short and long-term goals of the company.

The BSC accommodates both financial and non-financial performance measures. The two important non-financial performance measures (chosen by the researcher) are: *customer satisfaction* and *product or service quality*. For instance, the results recorded a 67% of agreement and strong agreement that the BSC helps in improving the customer satisfaction, and 75% of agreement and strong agreement that the BSC improves the level of product or service quality. The two financial performance measures (chosen by the researcher) are: *sales* and *company profit*. The results showed that 75% agreement and strong agreement that the BSC boosts sale, and same percentage of agreement and strong agreement that the BSC increases the profit in the company.

**Table 2:** Results of the 2<sup>nd</sup> Section of the Questionnaire

No.	Reasons for using the BSC	SA	A	N	D	SD
1.	Performance Measurement Systems are useful tools for business success	2	6	1	3	0
2.	The BSC is one of the most used Performance Measurement Systems	4	7	0	1	0
3.	The BSC is an effective performance measurement system	6	3	1	1	1
4.	My executive management is satisfied with the use of the BSC in my company	6	4	0	2	0
5.	The BSC is suitable for all sizes of companies	0	4	1	6	1
6.	The BSC is easy to implement in all sizes of companies	0	2	1	7	2
7.	The BSC helps in balancing the long and short-term goals for the company	1	9	1	1	0
8.	The use of the BSC helps in the enhancement of the customer satisfaction	3	5	1	2	1
9.	The use of the BSC improves the level of product/service quality	2	7	0	2	1
10.	The use of the BSC boosts the sales	3	6	1	2	0
11.	The use of the BSC increases the company's profit	4	5	1	1	1

The 3<sup>rd</sup> section of the questionnaire was designed to be answered by participants who never used and/or not planning to use the BSC (Table 3). This sample is relatively small (7 participants only: 2 general managers, 1 financial managers, and 4 production engineers). The section asks participants to

record their level of agreement or disagreement with selected statements representing the reasons for not using the BSC.

The results showed that 71% of the participants don't use the BSC because they believe it is not an effective performance measurement system, while 86% believe that the BSC is not easy to use and implement. The same percentage (86%) are convinced that the BSC is irrelevant to their businesses. The percentage of the participants who indicated that they don't use the BSC, but they use a different performance measurement system was small (29%).

When asked if the reason for not using the BSC is because it doesn't help in achieving the strategic goal of the company, 86% recorded their agreement and strong agreement. The fact that the company is too small and can be managed without a performance measurement system was supported by 100% of the participants. Furthermore, the participants recorded a 71% agreement and strong agreement that non-improvement of the profit (financial measure), quality, and customer satisfaction (non-financial measures) are the reasons for not using the BSC.

**Table 3:** Results of the 3<sup>rd</sup> Section of the Questionnaire

No.	Reasons for not using the BSC	SA	A	N	D	SD
1.	It's not an effective system	1	4	2	0	0
2.	It's not easy to use and implement	3	3	1	0	0
3.	It's irrelevant to my business	0	6	1	0	0
4.	I use a different but similar performance measurement system	0	2	1	4	0
5.	It doesn't help in achieving the strategic goal of the company	3	3	1	0	0
6.	The company is too small and can be managed without a performance measurement system	1	6	0	0	0
7.	It doesn't improve the profit in the company	1	4	2	0	0
8.	It doesn't improve quality of the product or service	2	3	2	0	0
9.	It doesn't improve the customer satisfaction	2	3	2	0	0

## CONCLUSIONS

This study tried to shade the light on the use of the BSC in the manufacturing companies in Jordan. All participants represented small-size companies in the manufacturing industry.

Most of the work by Kaplan and Norton (the founders of this BSC) concentrated on large-scale companies. Very little was done on linking the BSC with small-size companies. This study demonstrated the use of the BSC in small-size companies, which contradicts what was believed by many scholars (including Johanson et al., 2006) that the BSC was designed mainly for large-size companies.

The 12 participants (in this study) who used the BSC were convinced that this performance measurement system is useful and effective because it provides effective financial and non-financial performance measures for the company. On the other hand, the 7 participants who never used the BSC, have their reasons for doing so. What is probably lacking, for this small sample, is the knowledge and awareness of the benefits that the BSC can bring to the business once it's used properly.

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## APPENDIX

### Appendix 1: The Questionnaire

The following questions are about the Balanced Scorecard (BSC), which is a Performance Measurement System, used by many companies worldwide, to provide financial and non-financial measures. The BSC allows the evaluation at four different perspectives: Customer Perspective, Internal Business Perspective, Innovation & Learning Perspective, and Financial Perspective.

#### 1<sup>st</sup> Section: General Information Questions

1. What is your position at the company -----
2. What business activities is your company involved in? -----
3. The number of employees in my company is:  
a) Less than 50    b) Between 50 & 100    c) Between 100 & 200    d) More than 200
4. The annual turnover of my company is:  
a) Less than 1M    b) Between 1M & 2M    c) Between 2M & 3M    d) More than 3M

#### 2<sup>nd</sup> Section: For Businesses Who Use the BSC

*This section is answered by participants who used (or currently using) BSC*

*My company has been using the BSC for ..... years*

Please show your level of Agreement or Disagreement with the following statements:

1. Performance Measurement Systems are useful tools for business success  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
2. The BSC is one of the most used Performance Measurement Systems  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
3. The BSC is an effective performance measurement system  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
4. My executive management is satisfied with the use of the BSC in my company  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
5. The BSC is suitable for all sizes of companies  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
6. The BSC is easy to implement in all sizes of companies  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
7. The BSC helps in balancing the long and short-term goals for the company  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree
8. The use of the BSC helps in the enhancement of the customer satisfaction  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree

9. The use of the BSC improves the level of product/service quality  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
10. The use of the BSC boosts the sales  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
11. The use of the BSC increases the company's profit  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree

**3<sup>rd</sup> Section: For Businesses Who Don't Use the BSC**

*This section is answered by participants who never used (or are not planning to use) the BSC.*

Please indicate the reason for not using the BSC by showing

your level of Agreement or Disagreement with the following statements:

1. It's not an effective system  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
2. It's not easy to use and implement  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
3. It's irrelevant to my business  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
4. I use a different but similar performance measurement system  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
5. It doesn't help in achieving the strategic goal of the company  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
6. The company is too small and can be managed without a performance measurement system  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
7. It doesn't improve the profit in the company  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
8. It doesn't improve the quality of the product or service  
a) Strongly Agree      b) Agree      c) Neither      d) Disagree      e) Strongly Disagree
9. It doesn't improve the customer satisfaction  
a) Strongly Agree    b) Agree    c) Neither    d) Disagree    e) Strongly Disagree