USING THE BALANCED SCORECARD PERSPECTIVES TO MEASURE THE PERFORMANCE OF MANUFACTURING COMPANIES IN JORDAN

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ABSTRACT

This research evaluates the use of Balanced Scorecard (BSC), introduced by Kaplan & Norton in the early 1990s, to measure the performance of Jordanian manufacturing companies. For this, the quantitative design was used. Data was collected through a questionnaire from a sample of forty manufacturing companies listed on the Amman Stock Exchange in 2018. The four perspectives (customer, internal process, learning and growth, and financial) were examined. Results reveal that indicators in the financial perspective for Jordanian manufacturing companies only include the traditional financial criteria (e.g., ROA, ROE). It shows that the primary strategy for Jordanian manufacturing companies from a financial perspective is to meet their pre-determined objectives of profit. The Jordanian manufacturing companies show a slight inclination for attempting to improve their financial results. Furthermore and due to the limited resources and high competition, Jordanian manufacturing companies should formulate their strategies based on both financial and non-financial measures suitable for them. Although, this study provides an overview application of BSC in Jordanian manufacturing companies and highlights the need for further research.

Keywords: Balanced Scorecard, Manufacturing Companies, Jordan, Management Accounting, Performance Measures.

INTRODUCTION

The choice of measures to evaluate the performance of business units is one of the most critical challenges of the companies. This is due to intense competition, increased expectations, and augmented customer demand and consciousness (Sroka & Szanto, 2018; Stonkute et al., 2018). Pakurár et al. (2019) emphasized that a performance measurement system of a firm should integrate different measures for ensuring effective strategic performance. Traditionally, the performance measurement system using the management and cost accounting principle is not suitable in the present business environment based on short-term focus. Other shortcomings include inadequate links of firm performance with its strategic goal, daily operations, quality relations, and customer satisfaction and loyalty (Grobler & De Bruyn, 2018). Management accounting, according to researchers (e.g., Kaplan & Norton, 1992), should report all relevant information that includes both financial and non-financial components related to the evaluation of business units' performance.

The Balanced Scorecard (BSC) as performance measure was developed by Kaplan & Norton in the early 90's which includes both financial and non-financial measures. Those variables used to facilitate the formal use of non-financial information in evaluating the business unite effectiveness. Kaplan & Norton linked these variables as indicators to the strategic implications of the following specific performance goals; finance, customers, internal business process, and learning and Growth (Kaplan & Norton, 1992; 1996)[1].

The main purpose of the scorecard is to collect information in order to keep organizations focus on their objectives and create suitable methods to compare and to improve their performance. However, despite the increased adaptation of BSC, the outcomes substantially vary from success to no success (Awadallah & Allam, 2015; Parmenter, 2012). Also, the studies conducted on the implementation of the BSC in the emerging economies are found limited, particularly for Jordan. Such as most of the work is centered on the public, a private and nonprofit organization in the context of SME (Small Medium Enterprises) Basuony, (2014); Hoque (2014); Boateng et al. (2016). Thereby, the study aims to expand the research areas by analyzing the BSC implementation in Jordan.

This study contributes by highlighting the performance management paradigm of Jordan manufacturing company, which is realized as the core player in the country achievement of its Vision 2025. Also, this will help in providing evidence of how to respond to the changes in the business environment. It bridges the literature gap by conducting a study on Jordan as most studies have been conducted outside Jordan and on other regions. It also contributes by meeting the limitation of resources associated with Jordanian companies and with the highly competitive market. Therefore, Jordanian companies should be flexible in responding to the market change that change rapidly and then satisfy customers.

The remainder of this research paper is organized as follows: The next section reviews the literature on BSC to measure the performance of companies then research methodology, and the study results in sections three and four, respectively. Conclusion and recommendations are sets out in the last section.

LITERATURE REVIEW

Theoretical Framework

The theory employed in this research is the Agency Theory. The rationale for the use of Agency theory is its relevant theoretical underpinning in business management studies, which state its impact on the firm perspective. Agency theory is generally defined as the action of the firms, and the measures are taken for controlling those changes (Maestrini et al., 2018). In a particular case, this theory is used concerning the implementation of the BSC across the manufacturing firms in Jordan. Several studies have claimed agency theory as an effective theoretical model for determining the performance measurement, identifying the issues, and regulating the practices for improved results (Azeez, 2015; Boučková, 2015; Dubey et al., 2015). Thereby, the present study uses the agency theory for analysis of the BSC implementation for performance measurement of manufacturing companies in Jordan.

Empirical Analysis

Performance measures which focus solely on financial components such as maximizing profit and return on capital investment projects have been widely criticized by many researchers (Kaplan & Norton, 1996) due to accounting manipulation and they do not take into consideration non-financial measures such as customer satisfaction. These shortcomings in performance evaluation have caused organization and researchers (Ittner & Larcker, 1998) to create the Economic Valued Added (EVA) mechanism and benchmarking was introduced and was made popular as an organizational improvement tool by the Xerox Company (Abdel-Kader & Luther, 2006)[2].

Kaplan & Norton (1992), to overcome shortcomings in performance evaluation in previous methods, proposed the BSC as a tool to measure performance by combined the financial and non-financial aspects of the enterprises by recognizing four different perspectives[3] for measuring performance.

Hoque & James (2000) studied the effect of scale on the application of BSC in the performance evaluation in manufacturing companies in Australia and found that the degree of BSC adoption is proportional to the scale. Chimwani et al. (2013) studied the BSC application in SMEs in Kenya and they found a gap between three perspectives namely: knowledge of customer, internal business, and learning and growth and their application in SMEs.

Giannopoulos et al. (2013) conducted research in the UK & Cyprus small and medium enterprises and found a highly appreciated role of BSC in small - and medium sized enterprises, which was confirmed by another study conducted by Sofian et al. (2015).

Letza (1996) showed the main function of performance measurement in a strategic context, is to provide the means of control to achieve the objectives required in order to fulfill the company's mission/strategy statement. This view is supported by Neely et al. (1994) who view performance measurement as a key part of "*strategic control*". Fawcett et al. (2007) developed this argument by stating the need for performance measurement to exercise this control through: helping managers to identify good performance, setting targets and demonstrating success or failure. Development of an effective measurement system is a crucial task for any organization exposed to tough competition (Thakkar et al., 2007) and it must be an integral part of the management process. Therefore, performance measurement, according to Neely et al. (2005) can be defined as the process of quantifying the efficiency and effectiveness of action.

According to Kaplan & Norton (1996a), the balanced scorecard is derived from an organizations vision and strategy and view organizational performance from four perspectives: financial, customer, internal business process and learning & growth and in each perspective they divided into four small parts: objectives, measures, targets and initiatives.

Financial performance measures indicate whether a company's strategy, implementation, and execution are contributing to bottom-line improvement. According to Decoene & Bruggeman (2006) these measures reflect the results of past managerial actions and as indicators to profitability targets.

In the customer perspective, managers identify the customer and market segments which include several core or generic measures of successful outcomes from a well formulated and implemented strategy[4].

Internal business process measures indicate the level of a company's performance with respect to activities that are critical to meet customer and financial objectives (Decoene & Bruggeman, 2006). They also indicate what the firm must do internally to meet its customers' expectations.

The Learning and Growth perspective identifies the infrastructure that the organization must build to create long term growth and improvement. Organizational learning and growth come from three principal sources: people, systems and organizational procedures. The financial, customer and internal business process objectives of the BSC typically will reveal large gaps between the existing capabilities of people, systems and procedures and what will be required to achieve breakthrough performance. To close these gaps, businesses will have to invest in

reskilling employees, enhancing information technology and systems and aligning organizational procedures and routines[5].

RESEARCH METHODOLOGY

This research paper used a quantitative research method in addressing the research objectives. Based on this method, this study performs Exploratory Factor Analysis (EFA) to examine the convergence of the observed variables which belong to the indicator system in the BSC to evaluate the performance of companies and to test the reliability of these variables.

This research was conducted in all manufacturing companies[6] listed on the Amman Stock Exchange according to the companies' guide issued by the Jordanian Security Commission (JSC) which stated that there are (44) manufacturing companies working in Jordan in 2018. A questionnaire was used for collecting the data. Prior to its distribution, its validity was ensured by consulting three social science and management professionals who reviewed it for content, language and understanding of BSC variables. Based on the received feedback, questionnaire items were revised and amended. Whereas, for ensuring the reliability of the questionnaire, Cronbach Alpha value was calculated.

A letter was also sent to each company secretary of the (44) companies to secure access and to obtain the most appropriate persons to complete the questionnaire. In this letter, respondents were informed of the nature of the research and the researcher explained that the sensitive matters obtained during the research will not be included in the research paper. One company preferred to be removed from our sample leaving (43) companies which were satisfactory for the purpose of conducting this research.

The research covered only the manufacturing companies' headquarters, where the targeted respondents were expected to exist. The targeted respondents represent the parties that had the ability and knowledge to address it; therefore, the questionnaire was sent to the financial manager, production manager, human resource manager, quality controller, and external relation manager of each company granted permission to participate in this research. The rationale for the selection of these individuals is based on the understanding that these professionals recognize the importance of management accounting techniques involved in the workplace in these institutions. Five questionnaires were distributed to each company in order to maintain an equal number of questionnaires distributed to all manufacturing institutions. Two hundred and fifteen questionnaires were distributed among which only two hundred were received in proper form while fifteen were unorganized and improper and hence were discarded, leaving (40) companies participated in this research.

The questionnaire contains three parts. The first part of the questionnaire deals with demographic information such sex and age of respondents, respondents' position, experience and qualification. The second part requests information on the BSC variables uses within the companies. These questions specifically focus on the respondents' understanding of the term "*Balanced Scorecard*" and the type of BSC variables uses. The third part of the questionnaire lists BSC variables under four perspectives[7] based on the management accounting literature and on the previous research findings: Financial Perspective which contains sixteen items; Customer

Perspective contains seven items; Internal Business Process Perspective contains twelve items; and Learning and Growth Perspective contains nine items as shown in Table 1 below.

Table 1
BSC VARIABLES AND THEIR RESOURCES

Name of Variables	Code	Resources
Financial Perspectiv		
Revenue growth rate	FIN 1.01	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Revenue / employee growth rate	FIN 2.02	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Profitability ratio	FIN 3.03	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Return on Investment (ROI)	FIN 4.04	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Return on Assets (ROA)	FIN 5.05	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Return on Equity (ROE)	FIN 6.06	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Profitability of turnover	FIN 7.07	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Gross profit margin	FIN 8.08	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Return on Capital Used (ROCE)	FIN 9.09	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Rate of return on cost	FIN 10.10	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Rate of profitability of fixed assets	FIN 11.11	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Rate of stock price increase	FIN 12.12	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
The rate of increase of dividends	FIN 13.13	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Profit rate of common stock	FIN 14.14	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Total cost reduction ratio	FIN 15.15	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Rate of unit cost reduction	FIN 16.16	Chriyha et al (2012); Singh and Schmidgall (2002); VU Thi et al (2018)
Customer Perspective		
Number of complains/ customers	CUS 1.17	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Time to settle a complaint	CUS 2.18	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Percentage of customers leaving the company	CUS 3.19	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Frequent use of the product customer	CUS 4.20	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Incorrect delivery rate	CUS 5.21	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Rate of turnover of new customers	CUS 6.22	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Percentage of new customers who want to return	CUS 7.23	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Internal Business Process Perspective		
Sales rate of new products / total sales collection.	INT 1.24	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Revenue Ratio of New Market / Total revenue	INT 2.25	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Rate of R & D expenditure / total cost	INT 3.26	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Rate of non-standard products	INT 4.27	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Rate of Returned Goods	INT 5.28	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
New product ratio / total product	INT 6.29	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Number of turns of	INT 7.30	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton

inventory		(1996); VU Thi et al (2018)
The storage time of the goods	INT 8.31	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Time of freight	INT 9.32	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Percentage of suppliers that meet the requirements	INT 10.33	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Rate of time the supplier delivers the goods properly	INT 11.34	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Percentage of suppliers is usually the supplier for the business	INT 12.35	Felice & Petrillo (2013); Karabay & Kurumer (2012); Kaplan & Norton (1996); VU Thi et al (2018)
Learning and Growth Perspective		
Coefficient of renewal of equipment	LEG 1.36	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Proportion of indirect labors with postgraduate qualifications	LEG 2.37	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
The percentage of indirect workers has a college degree	LEG 3.38	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Proportion of indirect workers undergraduate level	LEG 4.39	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
The rate of direct labor with high skill level	LEG 5.40	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Rate of investment costs information equipment	LEG 6.41	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Proportion of employees wishing to work long at the business	LEG 7.42	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Rate of exchange experience work	LEG 8.43	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)
Rate of training staff training/total cost	LEG 9.44	Chriyha et al (2012); Felice & Petrillo (2013); Karabay & Kurumer (2012); VU Thi et al (2018)

The respondents were asked to indicate the frequency of use of these variables using a five point Likert- type scale (1) indicating "never" as a lowest level and (5) indicating "Very often" as a highest level and descriptive statistics were used to provide the basis for discussion. Thus, the instrument for measuring each set perspective of BSC has been chosen in this study for three reasons. First, they are well documented and representative of the current management accounting literature. Second, they have been developed and independently tested in past studies. Third, they measure key concepts discussed previously on the literature review section.

Data analysis is done by using the Statistical Package for Social Sciences (SPSS) software for reliability assessment of the BSC four indicators and obtained exploratory factor analysis.

RESULTS AND DISCUSSION

The background information of the respondents (81% males, 19% females) are presented in Table 2 below, indicating that they are mature 95% of the respondents are over 25 year of age,

highly educated 45% had a college degree, with very good working experience 50% of the respondents had over 11 years of experience.

Table 2
BACKGROUND INFORMATION

Measure	**Items**	**Percentage (%)**
Gender	Male	81%
	Female	19%
Age	Under 25 years	5%
	25 – 35 years	39%
	36 – 45 years	37%
	Above 46 years	19%
Education	College diploma	38%
	Bachelors	32%
	Masters	13%
	Others	17%
Experience	Less than 5 years	10%
	6 – 10 years	40%
	11 – 15 years	30%
	More than 16 years	20%

Understanding BSC Terminology

The BSC was asked to know the respondent's understanding of this term. They all generally agreed that BSC is aimed to obtain relevant information needed for managers in making daily decisions to enhance the control function. Also, respondents agreed that the BSC used is a proper tool for managers to derive companies for success. This is consistent with the findings of other studies that regarded BSC as a progress driving stimulant in the competitive business environment. Such as Al-Hosaini & Sofian (2015) state that the use of BSC can help monitor the performance of the firms which help a company to identify potential opportunities and risk for effectively responding to it. Dinh et al. (2018) on Vietnam also showed similar results emphasizing the manager's understanding must further be improved for optimizing BSC benefits.

Thus, the finding of this research showed that respondents perceived that BSC enables management to obtain relevant information for proper decision making, which is consistent with Ittner & Larcker's (2002) finding who argued that management accounting practices support the organizational structure and management accounting processes. Furthermore, respondents agreed that financial goals are the main strategy for their companies and other strategies such as customers and internal business process are less important which are not consistent with Garrison et al. (2014) who argued that learning is necessary to improve internal business processes; improving business processes is necessary to improve customer satisfaction, and improving customer satisfaction is necessary to improve financial results.

Table 3
DESCRIPTIVE STATISTICS

	Usage			**Importance**	
Variable code	**N**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**
FIN 1.01	200	4.5915	0.73384	3.8293	0.85418
FIN 2.02	200	4.4937	0.75288	4.9467	0.86238
FIN 3.03	200	4.755	0.63421	3.9638	0.86559

FIN 4.04	200	4.8747	0.56267	3.8819	0.89377
FIN 5.05	200	4.2841	0.89876	3.9024	0.93692
FIN 6.06	200	4.3891	1.09894	4.2286	0.49418
FIN 7.07	200	1.5786	0.70849	3.0472	0.70832
FIN 8.08	200	2.3753	0.85468	3.3619	0.68852
FIN 9.09	200	2.1452	0.95848	4.0845	0.90677
FIN 10.10	200	3.5316	0.92357	3.5029	1.14392
FIN 11.11	200	1.5829	0.75126	3.6267	0.99018
FIN 12.12	200	1.4934	0.69646	4.0429	1.18931
FIN 13.13	200	4.7122	0.77394	2.6695	1.79256
FIN 14.14	200	1.6578	0.72456	2.9869	1.41671
FIN 15.15	200	4.5391	0.74947	2.7012	1.88898
FIN 16.16	200	3.3478	1.17948	2.2202	0.82919
CUS 1.17	200	1.8366	0.72519	3.9228	0.13015
CUS 2.18	200	1.5955	0.76458	3.8591	0.66339
CUS 3.19	200	1.8763	0.71653	3.941	0.66244
CUS 4.20	200	2.6897	0.96872	4.1852	0.59071
CUS 5.21	200	2.175	0.95274	3.5033	1.06692
CUS 6.22	200	2.1582	1.05867	4.2245	0.59218
CUS 7.23	200	3.6498	0.73858	4.2772	0.76932
INT 1.24	200	3.4234	0.84915	4.0691	0.71053
INT 2.25	200	1.5286	0.85282	3.8107	0.9267
INT 3.26	200	2.4438	0.83835	3.7971	0.74186
INT 4.27	200	4.4861	0.83754	4.114	0.66508
INT 5.28	200	2.5378	0.90137	3.6334	0.66922
INT 6.29	200	4.8458	1.09489	4.1524	0.68745
INT 7.30	200	3.3522	0.98765	3.2771	1.06064
INT 8.31	200	2.1395	1.17416	3.6963	1.08278
INT 9.32	200	2.5236	1.3834	3.7616	0.70584
INT 10.33	200	3.4234	0.96541	4.1529	0.64352
INT 11.34	200	2.1737	1.07462	4.1353	0.6744
INT 12.35	200	2.5374	0.84135	4.1321	0.69326
LEG 1.36	200	2.3342	0.85423	4.0543	0.78648
LEG 2.37	200	2.9352	0.71346	4.1824	0.6286
LEG 3.38	200	2.8617	1.1766	4.0743	0.66763
LEG 4.39	200	1.5673	1.32597	2.9671	1.11854
LEG 5.40	200	1.5318	0.99372	3.684	0.83575
LEG 6.41	200	3.5236	0.7783	4.0633	0.70194
LEG 7.42	200	2.4947	1.55451	4.1895	0.8037
LEG 8.43	200	2.6257	0.81854	3.9041	0.82693
LEG 9.44	200	2.6467	0.90468	4.016	0.70314
Valid N (list-wise)	200				

The descriptive statistics of the level of usage and the importance of each variables used in this research is shown in Table 3.

Reliability Assessment

Reliability assessment of the financial variables scale, as shown in Table 4 below, the test result obtained six variables observed that have the correlation coefficient is greater than 0.5 and Alpha coefficient = 0.821.

Table 4
THE RELIABILITY OF THE SCALE IN THE FINANCIAL PERSPECTIVE

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.821	6			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Total Correlation	Cronbach's Alpha if Item Deleted
FIN 1.01	19.6993	10.781	0.497	0.796
FIN 2.02	19.5889	10.263	0.587	0.775
FIN 3.03	19.5958	10.671	0.525	0.788
FIN 4.04	19.6757	9.762	0.650	0.748
FIN 5.05	19.5872	10.525	0.495	0.779
FIN 6.06	19.4841	9.877	0.689	0.766

Reliability assessment of the customer variables scale, as shown in Table 5 below, the test result obtained two variables observed that have the correlation coefficient is greater than 0.5 and Alpha coefficient = 0.820.

Table 5
THE RELIABILITY OF THE SCALE IN THE CUSTOMER PERSPECTIVE

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.820	2			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CUS 6.22	4.2245	0.353	0.704	
CUS 7.23	4.2772	0.347	0.704	

Reliability assessment of the internal business variables, as shown in Table 6 below, the test result obtained six variables observed that have the correlation coefficient is greater than 0.5, and the Alpha coefficient = 0.811.

Table 6
THE RELIABILITY OF THE SCALE IN THE INTERNAL BUSINESS PERSPECTIVE

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.811	6			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
INT 1.24	20.8156	5.813	0.635	0.763
INT 6.29	20.7176	6.184	0.574	0.782
INT 10. 33	20.7474	6.225	0.533	0.784
INT 11. 34	20.7698	6.174	0.605	0.775
INT 4.27	20.7284	6.323	0.565	0.793
INT 12. 35	20.8327	6.114	0.568	0.781

Reliability assessment of the learning & growth variables, as shown in Table 7 below, the test result obtained five variables observed that have the correlation coefficient is greater than 0.5 and Alpha coefficient =0.812.

Table 7
THE RELIABILITY OF THE SCALE IN LEARNING AND GROWTH PERSPECTIVE

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.812	5			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LEG 9.44	15.8266	5.152	0.626	0.781
LEG 3.38	15.9977	4.375	0.634	0.757
LEG 6.41	16.3160	5.257	0.361	0.851
LEG 2.37	15.9257	4.531	0.735	0.741
LEG 7.42	15.9540	4.589	0.696	0.753

Results of the Exploratory Factor Analysis (EFA) in Table 8 below shows that the results of the EFA obtained nineteen variables that have KMO coefficient =0.787 and converge into 4 groups. The results show that perspective concerning the international business process, learning and growth, and customer were high; whereas, the financial perspective remained an understudied area in which application in the firm remains challenging. These results highlight that the management of the firm still relies on the traditional methods of accounting. These findings are corroborated by the study results of M'maiti (2014), which indicate a similar problem among the managers in Kenya. It was also emphasized that the use of conventional practices such as comparing historical records constraints the financial growth of the company, which limits its adequate use of financial resources. Thereby, this study recommends connecting the company vision with the financial perspective along with market dynamics to optimize its financial progress statistics.

Table 8
RESULTS OF THE EXPLORATORY FACTOR ANALYSIS

		Factor		
	1	**2**	**3**	**4**
Internal Business Process				
INT 1.24	0.751			
INT 6.29	0.682			
INT 10.33	0.653			
INT 11.34	0.642			
INT 4.27	0.630			
INT 12.35	0.569			
Financial				
FIN 4.04		0.816		
FIN 6.06		0.713		
FIN 2.02		0.655		
FIN 5.05		0.557		
FIN 1.01		0.530		
FIN 3.03		0.527		
Learning and Growth				

LEG 9.44			0.880	
LEG 3.38			0.781	
LEG 6.41			0.753	
LEG 2.37			0.732	
LEG 7.42			0.667	
Customer				
CUS 6.22				0.874
CUS 7.23				0.788

In applying the BSC to assess the performance of Jordanian companies, most targeted respondents believe that Jordanian companies focus on financial performance, but they do not maintain their ability to change and improve to be able to deliver more value to customers. Also, no attempt to make customers recognize that Jordanian companies are delivering more value. Therefore, most of the Jordanian companies' performance measures not consistent with, and follow from, the company's strategy. This, according to Garrison et al. (2014), can lead to a lack of focus and confusion. Therefore, in the light of agency theory, control needs to practice for regulating the business operations (Safriliana et al., 2016).

The present study shows that BSC applicability and its different perspective are relevant for the Jordanian manufacturing firms. The analysis of the managers' response showed that understanding of the BSC perspective enables a firm to prioritize its planning, continue its need assessment, supply in clear structure for continual quality development as well as establish a quality integrated culture and environment. It shows that managers had adequate understanding and practice mechanisms concerning the customer, learning, and development as well as the international business process; however, they lacked understanding concerning the development of a financial perspective. The responses show that the transition to the BSC financial perspective remains inadequate; emphasizing that strategic planning should be introduced for addressing the needs concerning the smooth application of BSC across different performance indicators. The present study also suggests that further research is needed to know and possibly examine factors that affect BSC usage in manufacturing companies for performance evaluation. Also, more research is needed to know the state action to popularize the BSC among workers and to encourage enterprises to apply BSC in their performance assessment.

CONCLUSION AND RECOMMENDATIONS

Based on the results shown in Table 9 below, the indicators in the financial perspective for Jordanian manufacturing companies only include the traditional financial criteria such as ROA. Therefore, the major strategy for Jordanian manufacturing companies in regards to the financial perspective is just attaining some specific objectives such as profit. In regards to the other three perspectives, the Jordanian manufacturing companies show littles emphasis on improvement as an attempt to improve their financial results.

In regards to the customer perspective, the companies attempt to increase the new customer turnover rate and increase the returnee customers' percentage to be able to satisfy customers and maintain loyalty. Also, in regards to the internal business process perspective, the companies' emphases on standard products and increase sales rate of a new product, which consists of the company's strategies such as improve product quality and management capacity. Furthermore, in regard to learning and growth perspective, the companies invested more money in new equipment to modernize their processing and increase the rate of staff training, which

consists of the company's strategies such as to invest modern equipment and improve labor skills.

Table 9
APPLICATION OF BSC: FROM STRATEGY TO PERFORMANCE MEASURES

Objectives-Strategies / Perspectives	**Code**	**Measures**
/ Financial Perspective		
	FIN 1.01	Revenue growth rate
Improve earnings	FIN 2.02	Revenue / employee growth rate
	FIN 3.03	Profitability ratio
	FIN 4.04	Return on Investment (ROI)
	FIN 5.05	Return on Assets (ROA)
	FIN 6.06	Return on Equity (ROE)
/ Customer Perspective		
Maintain loyalty	CUS 6.22	Rate of turnover of new customers
Satisfy customers	CUS 7.23	Percentage of customers who want to return
/ Internal Business Process Perspective		
	INT 1.24	Sales rate of new products / total sales collection.
Improve management capacity	INT 4.27	Rate of non-standard products
Improve product quality	INT 6.29	New product ratio / total product
	INT 10.33	Percentage of suppliers that meet the requirements
	INT 11.34	Rate of time the supplier delivers the goods properly
	INT 12.35	Percentage of suppliers is usually the supplier for the business
/ Learning and Growth Perspective		
	LEG 2.37	Proportion of indirect labors with postgraduate degree
Improve labor skills	LEG 3.38	The percentage of indirect workers has a college degree
Invest modern equipment	LEG 6.41	Rate of investment costs information equipment
	LEG 7.42	Proportion of employees wishing to work long at the business
	LEG 9.44	Rate of training staff training/total cost

In brief, the Jordanian manufacturing companies should carefully select performance measures for their own company's balanced scorecard. The strategic planning of the company states that plans and performance perspectives must be consistent with the company's strategy by considering customer satisfaction, product quality, modern equipment, and labor skills.

Basing on these research findings, some recommendations are given for manufacturing companies and the country as a whole. It is proposed that the company should direct its attention to the factors and improve the application of BSC in business. For the country as a whole, they should have specific guidelines to popularize BSC knowledge for all enterprises in general and manufacturing companies in particular; firms should have policies to support and encourage enterprises, in general, to apply BSC in their performance assessment. It suggests that the information related to BSC must be popularized across different units of the firm for improving its progress. Moreover, the financial performance of the firm should also be connected to its competitors and rival for improving the financial aspect. Manufacturing firms are also suggested to compare their profit from that of their competitor for better analysis. Similarly, it also suggests that the BSC model can help to link the performance measures with the firm business strategy deriving excellence and efficiency in Jordan.

ENDNOTE

1. Kaplan and Norton provide the reader with useful information on BSC concept in regards to the strategy map and a framework to translate a strategy into operational terms.
2. Benchmarking is based on identifying a "best practice" either internally or externally and then studying how this can be used to improve current and future performances.
3. These perspectives are: financial, customers, internal business process, and learning and growth perspectives as proposed by Kaplan & Norton, 1992, 1996.
4. According to Kaplan & Norton (1996b), the customer perspective enables business unit managers to articulate the customer and market based strategy that will deliver superior future financial returns.
5. According to Kaplan & Norton (1996b), these objectives are articulated in the learning and growth perspective of the BSC.
6. Due to their large contribution accounted around 20% to the GDP of Jordan
7. The BSC variables adapted in this research was developed and used by Felice & Petrillo (2013) and VU Thi et al (2018).

APPENDIX

The Questionnaire

Section 1: Demographic information

The aim of this section is to gather background information

1. Sex a. Male b. Female
2. Age a. under 25 years b. 25-35 years c. 36-45 years d. over 46 years
3. Education a. College diploma b. Bachelor's degree c. master's degree d. others
4. Experience a. Less than 5 year's b. 6-10 years c. 11-15 years d. Over 16 years

Section 2: Information on BSC Terminology

Please feel free to use the space below to make any comments related to the common characteristics of BSC *Improvement not on just attaining some specific objective*.

Section 3: BSC performance measures

Please indicate the relative possible importance and usage of each item below by choosing the appropriate number on the scale.

Notes: Based on five-point scale (S1: Never = 1; S2: Rarely = 2; S3: Sometimes = 3; S4: Often = 4; S5: Very often = 5).

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