

Impact of Performance Management Systems on Employee Performance

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Abstract: *Performance management systems are designed to improve employee performance. However, the introduction of the Balance Scorecard redesigned the objectives of the performance management system. This study examines the moderating effect of using Balance Scorecard on the impact of performance management systems on employee performance. This research was conducted at manufacturing companies listed on the stock exchange in Indonesia. The research tool is a survey that includes 192 top managers from 63 registered manufacturing companies. The findings show that the use of Balance Scorecard moderates the impact of performance management systems on employee performance. This implies that the use of Balance Scorecard strategically complements and enhances the relationship between employee performance and performance management systems. This study shows that the Balance Scorecard must be used as a multi-dimensional method for measuring performance and as a strategic management system to improve employee performance.*

Keywords: Performance Management System, Balance Scorecard, Employee Performance.

1. Introduction

This is not an overemphasis that performance management is indispensable for organizational effectiveness (Cardy, 2004), because it functions as a process that ensures that employees work hard to achieve organizational mission and goals (Gruman & Saks, 2011) and therefore must be the top priority manager (Lawler, 2008). Despite the fact that one third of employees believe that their company's performance management processes help them improve their performance, there is not enough focus on performance management and studies relating to employee satisfaction in the company (Pulakos, 2009). However, recently for years and based on the modern problems facing these companies, they have begun to refocus their attention on performance management systems (PMS) (Buchner, 2007; Gruman & Saks, 2011) to improve the performance of their employees. Most of these companies now combine their PMS with strategic management systems such as the Balance Scorecard (BSC) that will clarify their strategies and translate them into achievement (Kaplan & Norton, 1992; 1996; 2001). The argument of this paper is that the use of BSC as a strategic management system influences how PMS improves employee performance because the BSC is used as a tool to assess and manage organizational performance (Braam & Nijssen, 2004). Therefore, this paper discusses the moderating effects of BSC on the relationship between PMS and employee performance.

The remainder of this paper first focuses on the literature review and the development of hypotheses, and then presents a research methodology that includes statistical models and testing procedures. Reports on empirical results are provided with a discussion of findings. Finally, a conclusion is reached with provisions for implications, limitations, and suggestions for future studies.

2. Literature Review of Hypotheses Development

2.1 Performance Management System and Employee Performance

According to Rudman (2003), PMS is a gradual integration of HRM activities and organizational business objectives, in which HR activities and management are working together to impact collective and individual behavior and to support the strategy of the organization. Rudman (2003) also argued that it was important that PMS fit in with the organizational culture since PMS is integrated and completed cycle for managing performance. Thus, the stress on PMS is that it unceasingly improves organizational performance, which is achieved by enhanced employee performance (Macky & Johnson, 2000). Similarly, Lawler (2003) suggests that the objectives of PMS are to motivate performance, enhance development of individual's skills, build culture performance, determine individual promotion, eliminate individual poor performance, and assist in implementing business strategies. Furthermore, Zhang (2012) highlighted the major aims of PMS as to ensure that the work performed by employees accomplished the work of the company; employees have a clear understanding of quality and quantity expected from them; employees receive ongoing information about how effectively they are performing relative to expectations; awards and salary increases based on employee performance are distributed accordingly; opportunities for employee development are identified; and employee performance that does not meet expectations is addressed.

Meanwhile, a reliable performance measures for assets or resources, and their strength values. Employee performance is essential to organizational performance. Basically, employee performance is regarded as an employee and what employee does not do; which may include presence at work, quality of productivity, quantity of productivity, timeliness of productivity, and level of cooperation (Güngör, 2011).

According to Macky and Johnson (2000), organizational performance can also be improved by enhanced individual employee performance. Deadrick and Gardner (1997) view employee performance as a function of a particular time period. In their view, it means that performance signifies a distribution of outcomes accomplished, which can be

measured using various parameters that explain the patterns of employee performance at a particular time period. In contrast, Darden and Babin (1994) view employees as a rating system applied in numerous performances.

Organizations deciding the output and capabilities of employees. However, according to Zhang (2012) and Ying (2013), good employee performance will lead to increase in perception to consumer quality. Meanwhile, poor performance will increase customer complaints as well as brand switching. Based on all these arguments, employee performance could be viewed as being the related activities that are expected from employees and how well it executed the activities.

In studies related to the impact of PMS on employee performance, Taylor & Pierce (1999) examine the effects of PMS on employee's attitudes and effort. They found that PMS increases employee attitudes since it increases organizational commitment as well as cooperation and satisfaction of employees with their supervisors. Their findings also indicate that the introduction of PMS provides staff with clear measurable targets. However, their results also indicate that the major concerns of the employee on introduction of PMS were unfairness in bonus distributions and ratings. Employees also feel that PMS is somewhat ineffective in the provision of performance incentives, which was the main purpose of appraising rating / bonus distribution. Similar studies like Bevan and Thompson (1992) and Fletcher and Williams (1992) have ascertained that PMS improved employee commitment, motivation and involvement by increasing employees' sense of individual value and improving the employee's view of empowerment.

In some recent studies, Zhang (2012) examined the relationship between PMS and employee performance. The findings show that PMS and employee performance are related positively but insignificantly. Few studies (e.g., Chepkwony, 2014; Kalangulla, 2015; Liu, 2010; Mustapha, 2013; Ogedegbe & Bashiru, 2014; Saeed, et al., 2013) found that there were ward systems positively influencing employee performance. This indicates that they are important for organizations to concentrate on their employees to enhance their performance. Based on all these evidence, this study hypothesized that phases of PMS have relationships with employee performance as follows:

H1: Performance management system has a significant positive influence on employee Performance

H1a: Developing & planning performance system has a significant positive influence on employee performance.

H1b: Managing & reviewing performance system has a significant positive influence on Employee Performance.

H1c: Rewarding performance system has a significant positive influence on employee Performance

2.2. Performance Management System, Balance Scorecard and Employee Performance

Kaplan and Norton (1992) introduced BSC due to several

disparagements of traditional performance measurement system. The focus of BSC is to augment traditional financial measures with non-financial measures of innovation and learning, internal business processes and customer satisfaction. Kaplan and Norton (2001) stressed that the concept of BSC has changed from a performance measurement system to an established framework for a new strategic management system. Organizations that use BSC as a performance measurement system could facilitate change in their business environment (Radebe, 2013), and it can lead the organization to a competitive advantage (Jusoh et al., 2007; Malina & Selto, 2001).

According to Anderson et al. (2006), in organizations, BSC plays a vital role of ensuring continuous training and development of employees, linking performance measures and reward systems, and forcing managers to focus on customer satisfaction. Therefore, BSC assists in balancing the measurement of organizational performance by ensuring communication of crucial processes to accomplish results.

While some studies link performance measurement systems to business performance (e.g., Bourne et al., 2005; Davis & Albright, 2004), some studies link it with strategy (e.g., Braam & Nijssen, 2004). Those that link it with firm strategy argued that organizational performance increases when employees are well aligned with the organizational strategy. The study of Lawson et al. (2003) that focused on the benefit of a scorecard system stressed that performance measurement system will significantly improve employee satisfaction. They found that the relationship between performance measurement and reward system enable the employees to have more awareness of the objectives and goals of the business plan and endeavored for higher performance in relation to organizations that use BSC as a performance measurement system, Braam & Nijssen (2004) showed that the using of BSC will not automatically influence organizational performance, however, the manner it is used matters. BSC that is used to complement corporate strategy will positively affect organizational performance, while the BSC that is not related to corporate strategy can reduce organizational performance.

Meanwhile, van der Kooy (2010) examined the impact of performance measurement on the individual employees. He found that well implemented performance measurement systems assist in improving the quality of employees' work, and it enhances the interaction between employees and managers. It also facilitates better understanding of the organization's goals and the job expectations. A performance measurement system also increases the psychological commitment of employees, and motivates and coordinates a more dynamic work culture. However, the moderating effect of BSC as a performance measurement system has not been examined from past studies. Jusoh et al. (2007) examined the moderating effect of BSC on the strategy and performance relationship. They found that BSC partially moderates the strategy and performance relationship. Therefore, based on all the arguments explained above, this study aims to examine the moderating effect of BSC on the performance management system and employee performance relationship by developing the following hypotheses

H2: The BSC usage moderates the relationship between performance management system and employee performance.

H2a: The BSC usage moderates the relationship between developing and planning Performance system and employee performance

H2b: The BSC usage moderates the relationship between managing and reviewing Performance system and employee performance

H2c: The BSC usage moderates the relationship between rewarding performance system and employee performance

3. Methodology

3.1 Population and Sample

The population of this study is manufacturing firms in Jordan. The basis forth chosen manufacturing industry is due to the rapid change in the manufacturing environment, the industry is the most affected by the new development in performance measurement system. Moreover, after the government service sector, manufacturing sector is the second biggest contributor to the GDP of Jordan. The 63 manufacturing firms listed on the Amman stock exchange were used as sample for this study. A survey based on questionnaire was applied and the respondents are the top managers of the manufacturing firms. 252 questionnaires were assigned for the survey but only 202 were received. After sorting due to some incomplete responses and errors, 192 responses were finally usable for this study, which is 76.2 response rate.

3.2 Measuring Variables

To examine the moderating role of BSC on the impact of performance management system on employee performance, this study uses three constructs to measure performance management system, four constructs to measure BSC measures usage, and four constructs to measure employee performance

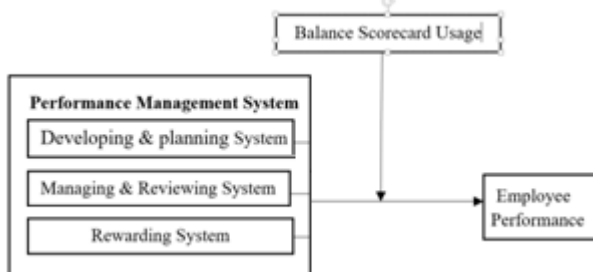


Figure 1: Conceptual Framework

3.3. Performance Management System

The three constructs for PMS was adopted from the study of Ying (2013) and Zhang (2012). Each construct consists of four questions, which make a total of twelve questions for PMS. A seven-point Likert scale was applied that ranged from $-1 =$ strongly disagree to $-7 =$ strongly agree. By applying Cronbach alpha, (Cronbach, 1951), the result of the reliability check showed that the alpha coefficient of developing and planning system is.80, for managing and reviewing system is.83, while for rewarding system

produced.75. However, according to Nunnally (1978), in exploratory studies alpha coefficients of.50 to.60 are satisfactory.

3.4 BSC Usage

The constructs which is the dimension of BSC was adopted from the study of Hoque et al. (2001) which were originally adopted from Kaplan and Norton (1996). The BSC measures comprises of twenty-one item scale, which are the generic measures usually applied by firms in manufacturing industry. Therefore, the respondents are to indicate the extent to which their firms use each of the measure across the four dimensions applying —a seven-point Likert-type scale ranging from 1 (not at all) to 7 (to a great extent)l.

Based on the data factorability, Bartlett Test of Sphericity (Bartlett, 1954) is statistically significant (Chi- Square = 838.76, $p < .01$), while the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy showed.87, which surpass the value.60 recommended by Kaiser (1974). The results showed that the data is appropriate based on its factorability. In addition, in determining the groups of the 20 items based on the BSC four dimensions a principal component analysis (PCA) with varimax rotation was applied. The results showed a four component factors and Eigen (not clear what this is) values that is greater than 1, explaining 82.4% of the variance. The components were named Financial Perspective, Customer Perspective, Internal Business Process Perspective, and innovation and learning Perspective which is in line with previous studies on the BSC scale (e.g., Jusoh et al., 2007). The results of the reliability check on the BSC measures showed Cronbach alpha values of.87 for financial perspective, .78 for customer perspective, .82 for internal business process perspective, and.65 for innovation and learning.

3.5 Employee Performance

Four constructs of employee performance were adopted and modified from various studies which include Bevan and Thompson (1992), Meyer and Becker (2004), Herpen et al. (2005) and van der Kooy (2010). The four constructs included productivity with six items, motivation with eight items, employee satisfaction with six items, and commitment also with six items. A seven-point Likert scale was applied that ranged productivity with.76, motivation with.78, employee satisfaction with.71, and commitment with.73 coefficient.

3.6 Testing Procedures

A regression analysis was applied to test the moderating role of BSC usage on the relationship between performance management system and employee performance. Employee performance (dependent variable) was regressed with the three variables of performance management system (independent variables) in the first step to evaluate hypothesis

- 1) The second step include the moderating variable to examine hypothesis
- 2) In determining the moderating effects, the variation in R^2 was observed. The moderating effect will be identified

when the variation in R2 is statistically significant. Based on these method, the regression model used to examine the hypotheses goes thus:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + e$$

Where Y is employee performance (productivity, motivation, employee satisfaction, and commitment), X1 is performance management system (developing and planning, managing and reviewing, and rewarding system), X2 is the BSC usage(financial perspective, customer perspective, internal business processes perspective, as well as innovation and learning perspective), while X1X2 represents the interaction term, and stands for the error term.

4. Results

4.1. Descriptive Statistics

The descriptive statistics depicted in Table 1 shows the summary statistics of all the variables in this study. The results imply that the mean of the variables are strewn between the range of 4.00 and 7.00, while the standard deviation is between 0.67 and 1.89.

Table 1: Descriptive Statistics

	Min.	Max.	Mean	Std. Deviation
Performance Management System:				
Developing and planning	3.50	7.24	6.53	.84
Managing and reviewing	4.50	7.90	6.86	.70
Rewarding	4.00	7.82	5.67	.67
BSC Usage:				
Financial	3.76	8.00	6.89	.87
Customer	3.32	8.00	6.43	1.89
Internal business process	3.00	8.00	6.40	1.21
Innovation and learning	2.00	8.00	5.88	1.75
Employee Performance:				
Productivity	3.00	8.00	4.93	1.58
Motivation	4.13	8.00	6.80	.86
Employee satisfaction	3.90	8.00	5.87	.97
Commitment	2.55	8.00	4.82	.89

4.2. Performance Management System and Employee Performance

The results of the regression on the relationship between performance management variables (developing and planning, managing and reviewing, and rewarding system) and employee performance are shown in Table 2 below. When productivity is used as the dependent variable, the model is explaining 44% variation in productivity (with F= 23.29, p <.01), and indicating that all the three phases of PMS (i.e., developing and planning, managing and reviewing, and rewarding system) has positive significant influence on productivity of employees at t = 4.42 (p <.01) for developing and planning, t = 2.43 (p <.01) for managing and reviewing, and t = 2.34 (p <.01). When motivation is used as the dependent variable, the model is explaining 32% variation in motivation (with F= 30.24, p <.01), and implying that motivation of employees is influenced by all the three phases of PMS at t = 3.25 (p <.01) for developing and planning, t = 3.29 (p <.01) for managing and reviewing, and t = 2.02 (p <.01) for rewarding system. Further more, when employee satisfaction is used as the dependent

variable, the model is explaining 40% variation in employee satisfaction (with F= 25.14, p <.01), and signifying that developing and planning performance, managing and reviewing performance has positive significant impact on employee satisfaction at t = 4.17 (p <.01) and t = 2.20 (p <.01) respectively. However, rewarding system of PMS has insignificant impact on employee satisfaction. In addition, when commitment is used as the dependent variable, the model is explaining 48% variation in commitment, and implying that developing and planning performance, managing and reviewing performance, and rewarding performance has influence on employee commitment at t = 3.13 (p <.01), t = 2.19 (p <.01), and t = -0.74 (p <.01) respectively.

Table 2: Regression results of Performance Management System and Employee Performance

	Dependent Variables			
	Productivity	Motivation	Employee Satisfaction	Commitment
R ²	0.44	0.32	0.40	0.48
Adj R ²	0.40	0.30	0.38	0.46
F	23.29	30.24	25.14	27.34
Sig.	0.00	0.00	0.00	0.00
Independent Variables	Standardized Coefficients (t)			
Dev & Plan	4.42***	3.25***	4.17***	3.13***
Man & Rev	2.43***	3.29***	2.20***	2.19***
Reward	2.34***	2.02***	1.60	-0.74**

4.3 Moderating influence of BSC Usage on Performance Management System and Employee Performance relationship

The results of the moderating influence of BSC usage on PMS and employee performance relationship is depicted in Table 3 below. It shows that the performance management system and employee performance relationship is moderated by BSC usage as predicted by the main hypothesis. This indicates that BSC usage significantly moderates the PMS and employee performance relationship with t = -1.95 (p <.01) for productivity, t = -1.04 (p <.01) for motivation, t = -1.40 (p <.01) for employee satisfaction, and t = -1.48 (p <.01). In addition, the interaction between developing and planning performance and BSC usage are statistically significant at t = 2.32 (p <.01) for productivity, t = 2.74 (p <.01) for motivation, t = 1.90 (p <.01) for employee satisfaction, and t = 2.68 (p <.01) for commitment. Furthermore, the interaction between managing and reviewing performance and BSC usage are significant at t = 3.21 (p <.01) for productivity, t = 2.11 (p <.01) for motivation, t = 2.47 (p <.01) for employee satisfaction, and t = 0.81 (p <.01) for commitment.

Table 3: Regression results of the moderating influence of BSC Usage on Performance Management System and Employee Performance relationship

	Dependent Variables			
	Productivity	Motivation	Employee Satisfaction	Commitment
R ²	0.46	0.35	0.43	0.51
Adj R ²	0.41	0.31	0.40	0.47
F change	1.75	1.31	1.85	1.96
Sig. F change	0.19	0.25	0.32	0.20

F	14.50***	11.13***	13.52***	9.18***
Independent Variables	Standardized Coefficients (t)			
Dev & Plan	-0.49	-1.96	0.52	-2.87
Man& Rev	2.62	-1.52	0.97	1.35
Reward	-0.85	-0.43	-0.80	2.12
BSC	1.95***	1.04***	1.40***	1.48**
Dev&Plan*BSC	2.32**	2.74**	1.90**	2.68**
Man&Rev*BSC	3.21***	2.11**	2.47**	0.81**
Reward*BSC	3.07***	2.45***	0.97	1.72**

Moreover, the interaction between rewarding system and BSC usage are statistically significant at $t = 3.07$ ($p < .01$) for productivity, $t = 2.45$ ($p < .01$) for motivation and $t = 1.72$ ($p < 0.1$) for commitment, however, the interaction is insignificant under employee satisfaction.

5. Discussions

This study examines the moderating role of BSC usage on the impact of performance management system on employee performance. The first hypothesis (H1) assumed performance management system has a significant positive influence on employee performance. The results of this study supported this assumption and finds that performance management system has a significant positive impact on employee performance. It was found that developing and planning performance and managing and reviewing performance system of performance management system positively contribute to all dimensions of employee performance which is supporting hypotheses H1a and H1b. However, rewarding performance system positively contributes to employee productivity, motivation, and commitment but insignificantly to employee satisfaction which indicate a mixed support of hypothesis H1c.

The plausible reason for a positive influence of developing and planning performance on employee performance is that most of these firms set their mission and objectives in the planning performance stage. Also, the objectives set by these firms could align with the target set by the firms which does not put pressure on the employees. Another plausible reason is that the objectives of the firms which indicate the productivity and ability of the firms increases the motivation of the employees.

The plausible reason for a positive influence of managing and reviewing performance on employee performance can be traced to the discussions and interactions between management and employees that increases job satisfaction and other employee performance, which then lead to organizational success. The interaction between management and employees enable employees to know the situation and the problems of the firms and provide some suggestions to solve the problems. This interaction will then improve the performance of the employees.

The plausible reason for a mixed influence of performance management system on employee performance can be deduced that most employees do not base their satisfaction and commitment on the reward received from their organizations. Though, this is in contrast with some studies that believe that financial rewards positively influence job

satisfaction, and which then lead to high performance (Saeed et al., 2013; Mustapha, 2013).

The second hypothesis (H2) assumed that BSC usage moderates the relationship between performance management system and employee performance. The overall results supported this assumption and finds that BSC usage positively moderates the relationship between performance system and employee performance. BSC usage moderates the relationship between developing and planning performance and all dimensions of employee performance as used in this study. This is supporting hypothesis H2A. Meanwhile, BSC usage also moderates managing and reviewing performance and productivity, motivation, employee satisfaction relationship but insignificantly towards the relationship between managing and reviewing performance and commitment. This shows that the support of hypothesis H2b is mixed. However, BSC only moderates the relationship between rewarding performance and productivity and motivation respectively, but is insignificant towards the relationship between rewarding performance and employee satisfaction and commitment respectively.

The plausible reason for the positive impact of BSC usage on the relationship between performance management system and employee performance is that most of the organizations use BSC as a means that enable the implementation of strategic change in their organizations since it provides effective and efficient communications of strategy as well as knowledge and distribution of information. The plausible reason for the positive interaction between developing and planning performance and BSC usage under all employee performance dimension can be traced to the usage of BSC as a strategic tool in the developing and planning.

Stage of the organization which help to communicate crucial processes to improve the productivity, motivation, satisfaction and the commitment of the employees. This can also be traced to the plausible reason for the positive interaction between managing and reviewing performance and BSC usage under all employee performance dimension assessed, as BSC usage will assist in reviewing performance and improve the interaction between management and employees towards enhancing organizational performance. However, in the case of rewarding performance, BSC usage moderates its relationship with all dimensions of employee performance applied in this study except employee satisfaction. This is an indication that BSC usage link performance measures and reward systems and ensure continuous training and development of employees.

6. Conclusion

The purpose of this study is to examine the moderating effect of BSC usage on the relationship between performance management system and employee performance. This study was carried out in manufacturing firms in Jordan. 192 responses were usable and analyzed from the questionnaires sent to top managers of the 63 manufacturing firms. The findings show that BSC usage moderates the relationship between performance management system and employee performance. This

implies that these firms use BSC both as a performance measure and as a tool to that enable the implementation of strategic change in their organizations since it provides effective and efficient communications of strategy as well as knowledge and distribution of information. This study contributes to existing management research on the usefulness and the importance of performance measures, specifically BSC usage. The evidence of this study is in line with the argument of some previous studies (e.g., Braam & Nijssen, 2004; Jusoh et al., 2007; Lee 2012; Ondogo et al., 2016) that BSC serve as a performance measurement tool that positively enhance employee performance, and as a strategic tool that complements corporate strategy and positively impact organization performance. This implies that BSC should be use as a multidimensional method to performance measurement and as a strategic management system to improve employee performance.

The main limitation of this study is that it focuses on the usage of BSC in a manufacturing sector. Future studies can test the BSC usage in other sectors such financial, oil and gas, and agricultural sectors in emerging economy.

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