



## Performance-based reward administration as an antecedent of job satisfaction: A case study of Malaysia's fire and rescue agencies

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### Abstract

Performance based reward administration is a crucial aspect of organizational reward system. Recent studies reveal that the ability of administrators to appropriately implement communication, participation and performance appraisal in planning and implementing performance-based reward system may have a significant impact on job satisfaction. Although the nature of this relationship is interesting, the role of performance-based reward administration as an important antecedent has not been adequately explained in organizational reward models. This study was undertaken to examine the correlation between performance-based reward administration and job satisfaction in Malaysia. Primary data were gathered from 168 self-report questionnaires completed by employees of fire and rescue agencies in Peninsular Malaysia. The results of SmartPLS path model analysis showed that performance-based rewards administration was positive and significantly correlated with job satisfaction. Overall, the result demonstrated that the capability of administrators to appropriately implement communication, participation and performance appraisal in managing performance based reward system may lead to greater job satisfaction in the organizations studied. Future studies could do well to delve further into aspects of performance-based rewards in organisations such as organizational and personal characteristics, patterns, direction and magnitude of causal relationships, and behavioural elements of organizational justice .

**Keywords:** communication, job satisfaction, organisational participation, performance appraisal, SmartPLS

### Introduction

Reward is often viewed as a pay system designed by employer for the employees of the organization (Ismail et al., 2014, 2015; Milkovich et al., 2014). There is a growing body of literature that recognizes the importance of reward system in addressing the issue of employees' commitments since it may attract and retain competent employees to improve efficiency and productivity of the organization (Ismail & Siti, 2015; Milgo et al., 2014). There is evidence that performance based reward may motivate employees to become more productive and at the same time benefit the organizations through quality products or services offered. For examples, research relating to performance and skill based pay system done by International Labor Organization (ILO) revealed that many Asian employers are now seeking to sustain their competitiveness through pay increases. This practice is related to performance measures as a way of absorbing increased labour costs, while at the same time rewarding and motivating employees.

An analysis of current literature about reward system highlights that there are two types of reward. Those are, reward for group performance (team based pay and gainsharing) and reward for individual performance (e.g., merit pay, lump sum bonus, promotion based incentives and variable pay) (Ismail & Nurzawani, 2009; Milkovich et al., 2014). Although there are various types of reward systems, they use

similar criterion to allocate reward (i.e., employees' performance, skills, knowledge and/or competency) and not by the nature of their job structure (Ismail & Nurzawani, 2009).

Evolution of reward system can be divided into two major approaches; those are traditional and contemporary approaches (Ismail et al, 2014; Ismail & Nurzawani 2009; Markova & Ford, 2011). According to the traditional approach, determination of reward is based on job (e.g., seniority, length of service and classification of work) (Ismail et al, 2014; Ismail & Nurzawani 2009; Markova & Ford, 2011). Meanwhile, for contemporary approach, reward allocation is based on new skills and knowledge possessed by the employees to improve efficiency, effectiveness and performance (Cloutier et al., 2013; Markova & Ford, 2011; Osterloh et al., 2014). Reward distribution in this approach may enhance the efficiency and effectiveness of the organization in order to remain competitive in the global market (Ahmad & Scott, 2015; Auh & Menguc, 2013).

To ensure the implementation of performance based reward is effectively executed, organizations need to strengthen the administration of performance based reward strategies. Administration of performance based reward is often defined as a process of allocating reward in a systematic manner, according to the equity principle based on employees' knowledge, skill, and/or performance (Auh & Menguc, 2013; Day et al., 2014; Osterloh, 2014). The administration of performance based reward has three key components: communication, participation and performance appraisal (Anuar et al., 2014; Salim et al., 2015). Communication is broadly defined as delivering the information about performance based reward systems by an employer to the employees. If this communication is openly and honestly practiced, it will divulge the value of the compensation package quantitatively and qualitatively; deliver accurate information about reward and performance relationship; permit a voice in the system, as well as increase the ability to understand and the perception of equity and fair treatment within the system. As a result, it may enhance the credibility of reward systems (Ismail et al., 2014; Milkovich et al., 2014; Salim et al., 2015).

Meanwhile, participation is often interpreted as the involvement of employees from different hierarchical levels and categories in decision-making, information-processing and/or problem-solving activities relating to the implementation of performance based reward systems (Salim et al., 2015; Shaed et al., 2015). The readiness of administrator to allow employees' involvement in establishing reward systems and making rewards decisions will result in the administrators to receive valuable recommendations; additionally, this action may encourage the employees to be honest in making personal contributions to their organizations (Milkovich et al., 2014).

Further, performance appraisal is often viewed as a cyclical process whereby employers design formal appraisal methods to evaluate employee performance based on the objective criteria. The outcomes of this appraisal system will often be used by administrators as a guideline to determine employee rewards. If administrators are able to adequately allocate rewards according to employee performance, this process may strongly motivate them to support organizational compensation goals (Milkovich et al., 2014).

This phenomenon is particularly impressive when recent study highlights that the capability of administrators to appropriately implement communication openness, strongly encourage employee participation and fairly implement performance appraisal in reward management systems may have a significant impact on personal outcomes, especially job satisfaction (Appelbaum et al., 2013; Khan et al., 2014; Malik, 2013). From the organizational behaviour perspective, job satisfaction is broadly viewed as individual attitudes toward their working conditions and working environments (Fiorilla & Nappo, 2014; Ismail et al., 2015; Joung et al., 2015) as well as positive emotional response of employees to their jobs and work performance (Bednarska & Szczyt, 2015; Chatzoudes et al., 2015; Dierendonck, 2015). According to Bednarska & Szczyt, (2015) job satisfaction plays an essential part in nurturing many desirable work-related consequences (e.g., productivity, job performance, quit, turnover and absenteeism).

Although the nature of this relationship is significant, the predicting variable of administration of performance based reward has been given little attention in the workplace reward research literature (Anuar et al., 2014; Ismail et al., 2011a; Ismail et al., 2014). Many scholars argue that the effectiveness of performance based reward system was given little attention by previous studies. This is because they

largely discussed on the characteristics of the administration of performance based reward system; employed a simple association method to analyze the correlation between certain features of the administration of performance based reward system and general individual attitudes and behaviour, and ignored the measure of effect size of administration of performance based reward system towards specific individual attitudes and behaviour. As a result, these studies had failed to provide adequate findings and did not offer much help to practitioners in understanding the complexity of administration of performance based reward system to enhance organizational competitiveness in new era of borderless market (Anuar et al., 2014; Ismail et al., 2014). Therefore, this situation strongly motivates the researchers to further discover the true nature of this relationship

## **Objective of the study**

This study has three main objectives: first, to measure the relationship between communication and job satisfaction. Second, to measure the relationship between participation and job satisfaction. Finally, to measure the relationship between performance appraisal and job satisfaction. The structure of this study highlights five important areas: literature review, findings, discussion and implications as well as conclusion.

## **Literature review**

The role of performance based reward administration as significant predictor of job satisfaction is consistent with the idea of organizational behaviour theory. For example, Folger & Cropanzano's (1998) procedural justice theory explains that receiving adequate information about reward distribution procedures may strongly evoke positive behaviour to a person. Besides that, Vrooms' (1964) expectancy theory posits that an individual will behave in certain ways if he/she understands the value of outcomes. Further, Lawler's (1971) discrepancy theory suggests that allocating reward based on employee expectations (e.g., contribution and/or effort) may result in positive behaviour. The essence of these theories suggest that perceived high value of outcome and fair treatment will exist if the administrators practice communication openness, encourage employees' involvement in decision making and provide clear information about performance appraisal.

The essence of these theories has gained strong support from performance based reward research literature. For example, several extant studies were conducted using direct effects model to evaluate performance based reward based on different samples, such as perceptions of 20,000 employees from electronic component manufacturing organizations of Singapore and China (Malik, 2013), 331 employees of Malaysian private institutions of higher learning (Anuar et al., 2014), 98 Indian business executives in India (Yadav & Rangnekar, 2015), 22,547 employees from 48 European countries (Pacheco & Webber, 2016), 20,000 employees from the Federal Republic of Germany (Kampkotter, 2014) and 48 library professionals working in Medical College Libraries of Dakshina, Kannada, India (Pushpalatha et al., 2015). Outcomes of these studies found that communication openness, encouragement of the involvement of employees and clear explanations about performance appraisal system could lead to enhanced employees job satisfaction in the organizations (Anuar et al., 2014; Kampkotter, 2014; Pacheco & Webber, 2016; Pushpalatha et al., 2015; Malik, 2013; Yadav & Rangnekar, 2015). Based on the literature, it was hypothesized that:

H1: Communication is positively related to job satisfaction.

H2: Participation is positively related to job satisfaction.

H3: Performance appraisal is positively related to job satisfaction.

## Research methodology

### *Research design*

This study employed a cross-sectional research design which allows the researchers to integrate the performance based reward literature and the real survey as main procedure to collect data for this study. According to Cresswell, (1998) and Sekaran & Bougie (2010), using this data collection procedure may help the researchers to gather accurate data, decrease bias and increase quality of data being collected. This study was conducted at Malaysian fire and rescue department. At the early stage of this study, a survey questionnaire was drafted based on the performance based rewards system literature. After that, a back translation technique was employed to translate the survey questionnaires; thus, there are English and Malay versions in order to increase the validity and reliability of research findings (Cresswell, 1998; Sekaran & Bougie, 2010).

### *Measures*

The survey questionnaire consists of four parts: first, communication has three items adapted from rewards administration literature (Anuar et al., 2014; Garib Singh, 2009; Milkovich et al., 2014). Second, participation has four items adapted from rewards administration literature (Brown et al., 2010; Ismail et al., 2011a; Milkovich et al., 2014). Third, performance appraisal has three items adapted from rewards management literature (Ismail et al., 2011a; Milkovich et al., 2014). Finally, job satisfaction has three items adopted from the Warr, Cook and Wall's (1979) job satisfaction scale. All these items were measured using a 7-item scale ranging from "strongly disagree/dissatisfied" (1) to "strongly agree/satisfied" (7). Demographic variables were used as controlling variables because this study emphasizes on employee attitudes.

### *Sample*

A convenient sampling was employed to collect 168 survey questionnaires from employees of the selected organizations. This sampling technique was applied because the management of the organization had not given the list of registered employees to the researchers and this situation has prevented the researchers from utilizing a random technique in choosing respondents for this study. The participants gave their consent prior to answering the survey questions, and it was on a voluntary basis.

### *Data analysis*

The SmartPLS was used to assess the validity and reliability of the instrument and test the research hypotheses. The main advantage of using this method is because it may provide latent variable scores, avoid small sample size problems, estimate every complex model with many latent and manifest variables, hassle stringent assumptions about the distribution of variables and error terms, and handle both reflective and formative measurement models (Henseler & Chin., 2010, Ringle & Will, 2005). The SmartPLS path model was employed to assess the path coefficients for the structural model using the standardized beta ( $\beta$ ) and t statistics. The value of  $R^2$  was used as an indicator of the overall predictive strength of the model. The value of  $R^2$  is interpreted as follows; 0.19 (weak), 0.33 (moderate) and 0.67 (substantial) (Henseler & Chin., 2010; Chin, 2001). As suggested by Geisser (1975) and Stone (1974), an additional assessment of model fit in PLS analysis was carried out to test predictive relevant using blindfolding ( $Q^2$  statistic). According to Chin (2001), the  $Q^2$  statistic is a jackknife version of the  $R^2$  statistic. It represents a measure of how well observed values are reconstructed by the model and its parameter estimates. A model with  $Q^2$  greater than zero is considered to have predictive relevant. The value of  $Q^2$  is considered as follows: 0.02 (small predictive relevance for an endogenous construct), 0.15

(medium predictive relevance for an endogenous construct), and 0.35 (large predictive relevance for an endogenous construct) (Hair et al., 2014).

## Findings

### *Respondent characteristics*

Table 1 shows that the majority of respondents were males (86.3%), aged from 25 to 34 years old (39.3%), Malaysia Certificate of Education holders (74.4%), support staff (72%), working experiences from 5 to 14 years (32.1%), monthly salary between Malaysian Ringgit 2500 and 3999 (54.2%), and married employees (73.8%).

**Table 1. Respondent characteristic (n = 168)**

Respondent	Sub Profile	Percentage
Gender	Male	86.3
	Female	13.7
Age (years)	< 25	10.1
	25 – 34	39.3
	35 – 44	27.4
	45 – 54	17.3
	> 55	6
Education Level	LCE / SRP	3.6
	MCE / SPM	74.4
	HSC / STPM	9.5
	Diploma	7.7
	Degree	4.8
Position	Management & professional group	13.7
	Supervisory group	8.9
	Technical staff	3.6
	Clerical & support staff	72
	Other	1.8
Tenure of service (years)	< 5	17.9
	5 – 14	32.1
	15 – 24	22
	> 25	28
Gross monthly salary (MYR)	< 1,000	4.8
	1,000 – 2,499	34.5
	2,500 – 3,999	54.2
	4,000 – 5,499	4.2
	5,500 – 6,999	2.4
Marital status	Single	26.2
	Married	73.8

Note:

LCE / SRP : Lower School Certificate / Sijil Rendah Pelajaran

MCE / SPM : Malaysia Certificate of Education / Sijil Pelajaran Malaysia

HSC / STPM : Higher School Certificate / Sijil Tinggi Pelajaran Malaysia

### *Validity and reliability of instrument*

Table 2 shows the factor loadings and cross loadings for different constructs. The correlation between items and factors had higher loadings than other items in the different concepts; and the loadings of variables were greater than 0.70 in their own constructs in the model, and these values are considered

adequate (Henseler & Chin, 2010). Overall, the validity of the measurement model has met the criteria. Meanwhile, the values of composite reliability for all constructs were greater than 0.80, indicating that the instrument used in this study had high internal consistency (Henseler & Chin., 2010; Nunally & Bernstein, 1994).

Table 3 shows the results of convergent and discriminant validity analyses. All concepts had the values of AVE larger than 0.5, indicating that they met the acceptable standard of convergent validity (Barclay et al, 1995; Fornell & Larker, 1981). Besides that, all concepts' values of AVE in diagonal were greater than the squared correlation with other concepts in off-diagonal, signifying that all concepts met the acceptable standard of discriminant validity (Henseler & Chin, 2010; Yang, 2009).

**Table 2. The results of factor loadings and cross loadings for different constructs and composite reliability**

Construct	No. Of Item	Cross Factor Loading				Composite Reliability
		1	2	3	4	
Communication	3	0.78 to 0.83				0.85
Participation	4		0.76 to 0.84			0.87
Performance Appraisal	3			0.80 to 0.85		0.86
Job Satisfaction	3				0.77 to 0.86	0.86

**Table 3. The results of convergent and discriminant validity analyses**

Construct	AVE	1	2	3	4
1. Communication	0.66	<b>0.81</b>			
2. Participation	0.64	0.50	<b>0.79</b>		
3. Performance Appraisal	0.67	0.43	0.38	<b>0.82</b>	
4. Job Satisfaction	0.68	0.34	0.37	0.40	<b>0.82</b>

*Analysis of the constructs*

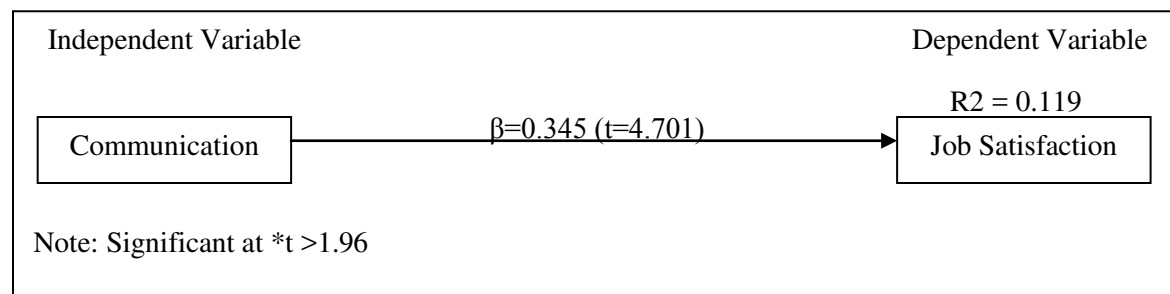
Table 4 shows the results of variance inflation factor and descriptive statistics. The means for all constructs ranged from 4.93 to 5.28; signifying that majority of respondents perceived that the levels of communication, participation, performance appraisal and job satisfaction ranged from high (4) to highest level (7) in the organizations. Meanwhile, the values of variance inflation factor for the relationship between the independent variable (i.e., communication, participation and performance appraisal) and the dependent variable (i.e., job satisfaction) were less than 5.0, signifying that the data were not affected by serious collinearity problem (Hair et al., 2014). These results further confirmed that the instrument used in this study has met the acceptable standards of validity and reliability analyses.

**Table 4. The results of variance inflation factor and descriptive statistics**

Construct	Mean	Standard Deviation	Variance Inflation Factor
1. Communication	5.28	.64	1.47
2. Participation	4.93	.65	1.40
3. Performance Appraisal	5.26	.64	1.28
4. Job Satisfaction	5.10	.61	

*Outcomes of testing hypotheses 1*

Figure 1 shows that the inclusion of communication in the analysis explained 12 percent of the variance in the dependent variable. Specifically, the results of testing the research hypothesis showed that communication was positively and significantly correlated with job satisfaction ( $\beta=0.345$ ;  $t=4.701$ ), therefore H1 was supported. This result confirms that communication is as an important determinant of job satisfaction.

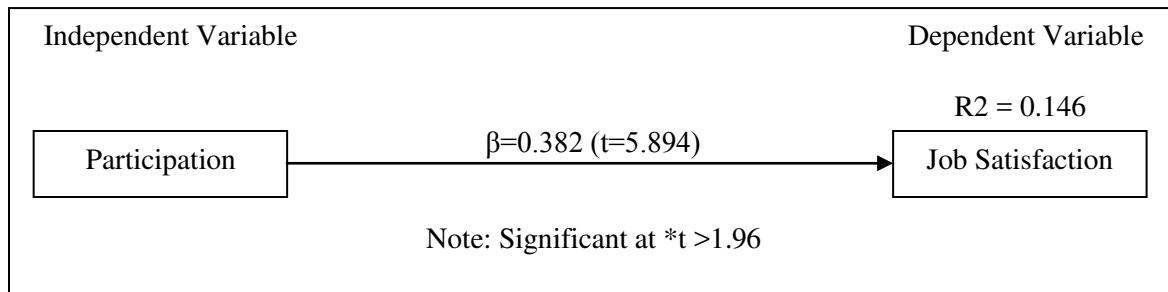


**Figure 1. The outcomes of testing H1**

As an extension to the testing of the research hypotheses, other tests were further conducted to determine the effect sizes for all constructs, overall predictive strength of the model and predictive relevant for the reflective endogenous latent variable in the hypothesized model. The result of testing effect sizes ( $f^2$ ) for communication showed that it had  $f^2$  value of 0.135, less than 0.15 (Hair et al., 2014); indicating that it had small effect. Besides that, the value of  $R^2$  for job satisfaction was less than 0.19 (Chin, 2001; Henseler & Chin, 2010); signifying that the overall predictive strength of the model was weak. Additionally, a test of predictive relevance for the reflective endogenous latent variable was further conducted based on Stone-Geisser's formulae:  $q^2=Q2_{included}-Q2_{excluded}/1-Q2_{included}=0.135$ ; indicating that it was greater than zero for the reflective endogenous latent variable. This result had predictive relevance. In terms of explanatory power, the  $q^2$  value for job satisfaction was less than 0.15, showing that it had medium predictive relevance (Hair et al., 2014).

*Outcomes of testing hypotheses 2*

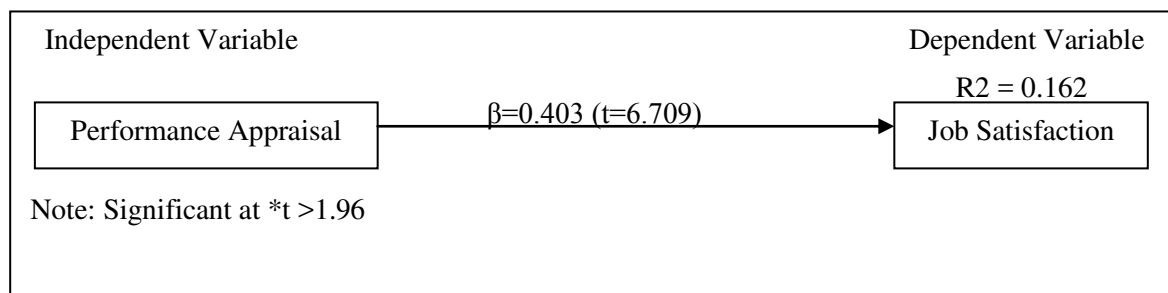
Figure 2 shows that the inclusion of participation in the analysis explained 15 percent of the variance in the dependent variable. Specifically, the results of testing the research hypothesis showed that participation was positively and significantly correlated with job satisfaction ( $\beta=0.382$ ;  $t=5.894$ ), therefore H2 was supported. This result confirms that participation is as an important determinant of job satisfaction.



As an extension of testing the research hypotheses, other tests were further conducted to determine the effect sizes for all constructs, overall predictive strength of the model and predictive relevant for the reflective endogenous latent variable in the hypothesized model. The result of testing effect size ( $f^2$ ) for participation showed that it had  $f^2$  value of 0.171, higher than 0. 0.15 (Hair et al., 2014); indicating that it had moderate effect. Besides that, the value of  $R^2$  for job satisfaction was less than 0.19 (Henseler & Chin, 2010); signifying that the overall predictive strength of the model was weak. Additionally, a test of predictive relevance for the reflective endogenous latent variable was further conducted based on Stone-Geisser's formulae:  $q^2=Q2_{included}-Q2_{excluded}/1-Q2_{included}=0.085$ , indicating that it was greater than zero for the reflective endogenous latent variable. This result had predictive relevance. In terms of explanatory power, the  $q^2$  value for job satisfaction was less than 0.02, showing that it had small predictive relevance (Hair et al., 2014).

### Outcomes of testing hypotheses 3

Figure 3 shows that the inclusion of performance appraisal in the analysis explained 16 percent of the variance in the dependent variable. Specifically, the results of testing the research hypothesis showed that performance appraisal was positively and significantly correlated with job satisfaction ( $\beta=0.403$ ;  $t=6.709$ ), therefore H3 was supported. This result confirms that performance appraisal is as an important determinant of job satisfaction.



**Figure 3.** The outcomes of testing H3

As an extension of testing the research hypotheses, other tests were further conducted to determine the effect sizes for all constructs, overall predictive strength of the model and predictive relevant for the reflective endogenous latent variable in the hypothesized model. The result of testing effect size ( $f^2$ ) for participation showed that it had  $f^2$  value of 0.194, more than 0. 0.15 (Hair et al., 2014), indicating that it had moderate effect. Besides that, the value of  $R^2$  for job satisfaction was less than 0.19 (Henseler & Chin, 2010), signifying that the overall predictive strength of the model was weak. Additionally, a test of predictive relevance for the reflective endogenous latent variable was further conducted based on Stone-Geisser's formulae:  $q^2=Q2_{included}-Q2_{excluded}/1-Q2_{included}=0.194$ , indicating that it was greater than



zero for the reflective endogenous latent variable. This result had predictive relevance. In terms of explanatory power, the  $q^2$  value for job satisfaction was greater than 0.15, showing that it had medium predictive relevance (Hair et al., 2014).

## Discussion

The findings of this study confirmed that performance based reward administration is an important determinant of job satisfaction in the studied organizations. In the context of this study, administrators have implemented performance based reward systems based on the policies and rules as set up by their stakeholders. Majority of the respondents viewed that the levels of communication, participation, performance appraisal and job satisfaction are high. This situation posits that the abilities of administrators to appropriately plan and implement communication openness, highly encourage employee involvement in making rewards decisions, and implement fairly performance appraisal in determining employees' rewards based on their performance may enhance job satisfaction among the employees of the organizations.

This study provides three important implications: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, the findings of this study provided an opportunity in understanding the influence of communication, participation and performance appraisal at enhancing employees' job satisfaction in the performance based reward system models of the studied organizations. This result also supported and extended the studies of Brown et al. (2010), Ismail et al. (2011a), Ismail et al. (2011), and Anuar et al. (2014). With respect to the robustness of research methodology, the survey questionnaire used in this study had satisfactorily met the standards of validity and reliability analyses. This situation could lead to accurate and reliable research findings.

In regard with the practical contribution, the findings of this study can be used as guidelines by practitioners to enhance the effectiveness of the performance based reward administration in their organizations. This objective may be realized if management paid attention on the following aspects: first, the adequacy of reward should be revisited in line with the current national cost of living and organizational expectations. Improvement in this aspect may help high performers to improve on their standards of living and statuses in society, as well as motivate them to continuously support their organizations' agendas. Second, training content and methods should be updated by concentrating on strengthening administrators' creative skills. These skills may encourage the administrators to be rational while executing their daily jobs, respect employees' voices, upgrade employees' potentials to reach a better career, learn new problem-solving strategies and share the organization's interests. Consequently, it may enhance the capacity of administrators to practice comfortable interaction styles in resolving employees' complaints and demands. Third, administrator should encourage the involvement of employees from different levels and job categories in the process of discussion, information sharing, decision making and problem solving relating to the implementation of reward system in the organization. Therefore, it may improve the perception of fairness among employees of a performance based reward system implemented by the organization. Finally, performance appraisal should be used as an important instrument to develop employees' potentials and talents. For examples, administrators need to identify employees' weaknesses, provide material and moral support in building employee's capabilities, and suggest unconventional ways to improve employees' well-beings at workplace. If these suggestions are strongly considered, this may motivate employees to support and appreciate the performance goal system implemented in the organizations.

## Conclusion, limitation and suggestion

This study supports that the abilities of administrators to appropriately implement communication openness, strongly encourage participation and fair performance appraisal in performance based reward

have motivated the employees to enhance their job satisfaction in the studied organizations. The results also supported and broadened organizational performance based reward research literature which mostly is published abroad. Therefore, current research and practice within organizational reward model needs to consider communication, participation and performance appraisal as vital dimensions of the performance based reward domain. This study further suggests that the abilities of administrators (e.g., managers and/or supervisors) to properly plan and implement performance based reward will strongly induce positive personal outcomes (e.g., fairness, ethics, quality, comply with law, commitment and performance). Further, these positive outcomes may lead toward maintaining and enhancing organizational competitiveness and performance in global economy.

This study is cautious with the methodological and conceptual limitations. First, a cross-sectional research design used in this study may not capture causal connections between the variables of interest. Second, the outcomes of SmartPLS path model analysis have not measured the relationship between specific indicators for the independent variable and dependent variable. Third, the sample of this study is limited to employees of Malaysia Fire and Rescue Department. Thus, the generalization of these findings to other organizations is very restricted. Fourth, this study uses a direct effect model to show the relationship between the independent variables and the dependent variable without examining the effects of moderating or mediating variable. The findings may differ if mediating or moderating variable is adopted. Finally, this study employed a small number of samples and it is exposed to the bias issues. If these limitations are strongly considered, a better finding may be discovered by future research.

There are a number of suggestions to strengthen future research in this field: first, several organizational and personal characteristics should be further explored, whereby this may show meaningful perspectives in understanding how individual similarities and differences influence the implementation of performance based rewards by the organizations. Second, other research designs (e.g., longitudinal studies) should be utilized to collect the data and describe the patterns of change and the direction and magnitude of causal relationships amongst variables of interest. Third, to fully understand the effect of performance based reward on job satisfaction, more varied organizations need to be involved. Fourth, response bias and common-method variance are common issues in survey method. In order to reduce these weaknesses, the use of a larger sample size may better characterize the studied population. Finally, other specific elements of behaviour such as organizational justice (i.e., distributive, procedural, informational and interpersonal) need to be considered as a mediating or moderating variable to explain the relationship between dependence and independent variables. The importance of these issues needs to be further explored in future studies.

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