

The Mediating Effects of Procedural Justice on the Relationship between Performance-based Remuneration Management and Job Satisfaction

(Kesan Pengantara Keadilan Prosedur ke Atas Hubungan di Antara Pengurusan Saraan Berdasarkan Prestasi dan Kepuasan Kerja)

Mohd Ridwan Abd Razak
(Graduate School of Business, Universiti Kebangsaan Malaysia)
Azman Ismail
(Faculty of Economic and Management, Universiti Kebangsaan Malaysia)

ABSTRAK

In the era of fourth industrial revolution, remuneration management has become an important organizational strategy for achieving organizational objectives. The purpose of this study is to explore the influence of performance-based remuneration management on employee's job satisfaction through the mediating role of procedural justice. A cross-sectional technique was employed to collect primary data from 232 employees of private higher educational institutions in Peninsular Malaysia who experienced the implementation of performance-based remuneration. The Partial Least Square Structural Equation Modelling (PLS-SEM) was used in the data analysis. The outcomes displayed three important findings: first, the relationship between management of performance-based remuneration and procedural justice was significant. Second, the relationship between management of performance-based remuneration, procedural justice and intrinsic job satisfaction was significant. Third, the relationship between management of performance-based remuneration, procedural justice and extrinsic job satisfaction was significant. Statistically, this result confirms that influence of management of performance-based remuneration on job satisfaction is indirectly affected by procedural justice in the studied organizations. This study provides empirical evidence on the importance of procedural justice in managing performance-based remuneration. It is an important input to enhancing employee's job satisfaction in the organization. Further, the study concludes with a discussion on the contributions, limitations and suggestions for future research.

Keywords: Management of performance-based remuneration; procedural justice; job satisfaction; intrinsic job satisfaction; extrinsic job satisfaction

ABSTRACT

Dalam era revolusi perindustrian keempat, pengurusan saraan telah menjadi strategi penting organisasi untuk mencapai objektif organisasi. Tujuan kajian ini adalah untuk meneroka pengaruh pengurusan saraan berdasarkan prestasi ke atas kepuasan kerja pekerja melalui perantaraan peranan keadilan prosedur. Teknik keratan rentas telah digunakan untuk mengumpul data utama daripada 232 pekerja di institusi pendidikan tinggi swasta di semenanjung Malaysia yang telah mengalami pelaksanaan saraan berdasarkan prestasi. Partial Least Square Structural Equation Modelling (PLS-SEM) telah digunakan dalam menganalisa data. Dapatan kajian menunjukkan tiga penemuan penting: pertama, hubungan antara pengurusan saraan berdasarkan prestasi dan keadilan prosedur adalah signifikan. Kedua, hubungan antara pengurusan saraan berdasarkan prestasi, keadilan prosedur dan kepuasan kerja intrinsik adalah signifikan. Ketiga, hubungan antara pengurusan saraan berdasarkan prestasi, keadilan prosedur dan kepuasan kerja ekstrinsik adalah signifikan. Secara statistik, keputusan ini mengesahkan bahawa pengaruh pengurusan saraan berdasarkan prestasi terhadap kepuasan kerja secara tidak langsung dipengaruhi oleh keadilan prosedur dalam organisasi kajian. Kajian ini memberikan bukti empirikal mengenai kepentingan keadilan prosedur dalam mengurus saraan berdasarkan prestasi. Ini merupakan input penting untuk meningkatkan kepuasan kerja pekerja dalam organisasi. Selanjutnya, kajian ini diakhiri dengan perbincangan mengenai sumbangan, batasan dan cadangan untuk penyelidikan di masa depan.

Kata kunci: Pengurusan saraan berdasarkan prestasi; keadilan prosedur; kepuasan kerja; kepuasan kerja intrinsik; kepuasan kerja ekstrinsik

INTRODUCTION

Remuneration is also known in other terms, such as salary, wage, reward and/or pay system. These terms are used interchangeably in various kinds of organizations, but their meanings still refer to the same thing (Forth, Bryson &

Stokes 2016; Newman, Gerhart & Milkovich 2017; Rozila & Scott 2015). In organizational context, it is normally interpreted as an important human resource management function where human resource managers design and administer various types of remuneration systems to reward employees based on their employment relationship

(Drury 2016; Prince et al. 2016; Wickramasinghe & Wickramasinghe 2016). From the employment relationship perspective, domestic organizations will typically develop remuneration packages according to internal equity variables such as seniority, length of service and classification of work (Martocchio 2016; Newman et al. 2017). These variables are used as important bases to determine the type, level and/or amount of remuneration based on the nature of the job structure. For example, a job structure based remuneration is often implemented to distribute remunerations according to employees' tenures, length of services, seniorities and/or memberships (Azman & Mohd Ridwan 2016; Newman et al. 2017; Rahim et al. 2016). Although these remuneration types may help organizations to achieve their objectives, many management scholars criticized that they are most appropriately be implemented in organizations that operate in domestic, stable, predictable and/or less competitive marketplace (Martocchio 2016; Newman et al. 2017; Rahim et al. 2016).

The increase in the worldwide exchange and distribution of views, ideas, values and culture as well as diplomatic ties between north and south countries during the fourth industrial revolution have stimulated successful domestic organizations to become international and multinational organizations in the era of global economy (Forsgren 2017; Sparrow, Brewster & Chung 2016). This situation has encouraged employers to strengthen the transformational process by switching their remuneration management paradigm from job-based remuneration to performance-based remuneration as a means to maintain their survival and competitiveness. Performance-based remuneration consists of two major types: remuneration for group performance (team-based pay and gain-sharing) and remuneration for individual performance (e.g., merit pay, lump sum bonus, promotion based incentives and variable pay) (Martocchio 2016; Newman et al. 2017). These remuneration systems uphold performance contingent remuneration where the type, level, and/or amount of remuneration are provided based on the level of performance, skills, knowledge, competency and/or productivity exhibited by employees, but not on the nature of their job structures (Martocchio 2016; Newman et al. 2017).

The significance of performance-based remuneration is well recognized by organizations that operate in the era of the fourth industrial revolution. For example, the sophistication of technology used in organizations (e.g., robotics, artificial intelligence, nanotechnology, quantum computing and biotechnology) has been linked to humans (i.e. employees) directly (Schwab 2017). This situation has changed the way organizations reward their employees who are considered competent in accordance with the sophistication of technology used by the organizations (Antonietti, Antonioli & Pini 2017; Riaz 2016). Based on the Research Institute of Economy, Trade & Industry, adoption of performance-based remuneration among Japanese organizations shows a significant increase of

30% since 2000. It is interesting that the implementation of PBR has increased the productivity of employees from 26% to 30% (Takao & Kodaman 2015). Meanwhile, Compensation Best Practices Report 2017 reported that 20% employees believed that employees are paid fairly, 45% employees believed that employees are valued at work and 23% employees reported that their companies are transparent about pay (Compensation Best Practices Report 2017). This situation will strongly attract, retain and motivate employees to support the ultimate objectives of organizational remuneration system: efficiency (i.e., improving performance, quality, customers, and labor costs), equity (i.e., fair pay treatment for employees through recognition of employee contributions and employees' needs), compliance with laws and regulations, and ethics (Milkovich, Newman & Gerhart 2014; Newman et al. 2017). Thus, it may lead to maintaining and enhancing organizational performance and competitiveness in a global marketplace (Azman & Mohd Ridwan 2017a, 2017b; Rozila & Scott 2015).

An analysis of the recent literature concerning organizational remuneration system showed that even if performance-based remuneration is well designed, it will not achieve its objective if management does not appropriately manage the system (Martocchio 2016; Milkovich et al. 2014; Newman et al. 2017). According to many scholars, management of performance-based remuneration is usually described as a systematic method used by organization's reward administrators to determine worker's remuneration based on actual worker's performance while performing daily tasks. This strategy is to achieve worker and organizational objectives (Azman, Fuad & Aimi 2015; Azman & Mohd Ridwan 2017b; Xavier 2014). The ability of managers to implement proper guidelines in distributing the type, level and/or amount of remunerations according to performance (e.g., merit, knowledge, competency and/or productivity) will strongly evoke employees' sense of procedural justice. As a result, this may lead to greater job satisfaction (Ali, Amir & Ali 2014; Huong, Zheng & Fujimoto 2016; Olafsen et al. 2015). Even though the nature of this relationship has been studied, the effect of size and nature of procedural justice as an important mediating variable is neglected in the organizational reward research literature (Azman, Asilah & Rahmad 2016; Ghaffari et al. 2017; Olafsen et al. 2015).

Many scholars debate that this condition may be caused by several reasons: first, numerous earlier research have much described the features of performance-based remuneration, such as conceptual definitions, types, purposes and advantages of the remuneration systems in Western and Asian organizational settings (Azman & Mohd Ridwan 2016, 2017b; Castro et al. 2016). Second, many of previous studies have utilized simple correlation and variance test techniques to assess two types of relationships: 1) connection between employees' attitudes based on different personal and service backgrounds with specific types of management of performance-based

remuneration (e.g., pay increases and bonuses types), 2) association between particular types of management of performance-based remuneration and specific employee attitudes (e.g., satisfaction and fairness), and 3) correlation between performance-based remuneration as a single or multidimensional construct with particular employee behavior (e.g., job satisfaction, organizational commitment and turnover). Conversely, how procedural justice acts as an important mediating variable and its effect size in the relationship between management of performance-based remuneration with job satisfaction classification have not been emphasized in the above studies (Heffernan & Dundon 2016; Tremblay & Landreville 2015). As a result, the research outcomes produced only general recommendations and this may not be sufficient to be used as useful guidelines by practitioners in understanding the complexity of performance-based remuneration construct and drawing innovative human resource policies for organizations to become the employer of choice in this era of the fourth industrial revolution (Antonietti et al. 2017; Riaz 2016; Schwab 2017; Takao & Kodaman 2015).

LITERATURE REVIEW

MANAGEMENT OF PERFORMANCE-BASED REMUNERATION

A review of the current literature relating to organizational remuneration system highlighted that even if PBR is well designed, it will not achieve its objective if management does not appropriately manage the system (Martocchio 2016; Milkovich et al. 2014; Newman et al. 2017). According to many scholars, effective management of performance-based remuneration consists of three important elements: communication, involvement and performance evaluation. From reward management perspective, communication is broadly interpreted as a sharing of information process about remuneration systems from organization to employees and from employees to the organization. Communication from organization to employees refers to openness and secrecy policies used by an organization to decide on the amount of remuneration and information that will be shared with their employees (e.g., pay ranges, pay raises, pay averages, and/or individual pay levels). Further, communication from employees to the organization refers to the process where pay administrators (e.g., human resource manager) seek information about remuneration packages from employees (e.g., remuneration expectations and preferences) (Azman & Mohd Ridwan 2017a, 2017b; Rahim et al. 2016). The capability of managers to practice open and honest communication in administering organization's remuneration systems will divulge the value of the remuneration package quantitatively and qualitatively; avoid misunderstanding about remuneration and performance relationships; allow a voice in the system, as well as improve the sense of equity and fair treatment within the system. Consequently, it may enhance the

integrity of remuneration system (Azman et al. 2015; Azman & Mohd Ridwan 2017a; Newman et al. 2017).

Meanwhile, involvement is often viewed as the willingness of employers to encourage employees' participation in the design and management of remuneration systems. Involvement in the performance-based remuneration designs is often described as an employee's contribution in terms of ideas and/or suggestions to formulate the objectives, allocate resources, and determine procedures of remuneration systems. Furthermore, involvement in remuneration management is usually viewed as the sharing of power between employees and manager in making decisions about remuneration distributions. If employers are willing to allow employee's involvement in establishing remuneration systems and making decisions in operating remuneration systems, these will increase employee's motivation, sense of ownership, satisfaction, and innovation, lower grievances and dispute between employers and employees, opportunity of receiving valuable and brilliant recommendations. As a result, these situations may encourage employees to enhance their efforts and being honest in making personal contributions to their organizations (Aimi, Azman & Fatmawati 2014; Azman & Mohd Ridwan 2016; Benn, Teo & Martin 2015).

Further, performance evaluation is usually understood as manager's assessment of employee's traits, behavior and/or results (i.e., actual productivity and performance) by comparing them with established standards using formal assessment methods. Outcomes of this assessment process will be used by managers to determine remuneration based on actual employee's performance or productivity. The ability of manager to fairly implement performance evaluation, connecting the outcomes of performance evaluation with employee's remuneration, adequately determine the type, level and/or amount of remuneration according to employee's actual performance and expectation, will strongly retain and motivate them to continuously support their organizational strategic vision and missions (Akhtar & Khattak 2013; Azman & Mohd Ridwan 2017b; Azman, Ridwan & Zalina 2016; Rabiul et al. 2017).

PROCEDURAL JUSTICE

Extensive studies about successful organizations reveal that the ability of management to appropriately implement communication, involvement, and performance evaluation in performing daily job may have a significant impact on employees' outcomes, especially procedural justice (Pignata et al. 2016; Shaun et al. 2016; Tanius et al. 2017). It is necessary to clarify here exactly what procedural justice means. From organizational management perspective, procedural justice is commonly viewed as a fairness and transparency process used by an organization to make a decision, resolve dispute and/or distribute resources and burdens. Meanwhile, from an organization's remuneration management perspective, procedural

justice is normally described as fairness and transparency concerning the process, methods and mechanisms used to determine the outcomes of employee remuneration (Azman et al. 2016; Sung, Choi & Kang 2017). Within a performance-based remuneration model, many researchers argued that the capability of managers to properly practice communication openness, encourage employees to involve in the design and administration of remuneration systems, and use performance evaluations in determining reward systems may lead to greater sense of procedural justice in organizations (Azman et al. 2016; Martocchio 2016; Newman et al. 2017).

JOB SATISFACTION

Unpredictably, management of remuneration system has been perceived as a remarkable phenomenon when many human resource management literature published in the 21st century disclosed that the relationship between management of performance-based remuneration and procedural justice may enhance job satisfaction (Ali et al. 2014; Azman & Mohd Ridwan 2016). Recent studies pertaining organizational behavior perspective have divided job satisfaction into two main categories; namely intrinsic job satisfaction and extrinsic job satisfaction. Intrinsic job satisfaction refers to employee’s positive attitude toward recognition, achievement, opportunity to use and develop human capacities, advancement and responsibility (Azman et al. 2016; Skaalvik & Skaalvik 2017). Conversely, extrinsic job satisfaction is often related to employees’ positive attitude toward compensation, interpersonal relations, supervision, policy and administration, safety and health, the opportunity for continued growth, social integration, constitutionalism in the work organization, work and total life space, social relevance of work life, status and job security (Azman et al. 2016; Skaalvik & Skaalvik 2017). The discussion

shows that if employees have a positive attitude toward intrinsic job satisfaction and extrinsic job satisfaction, this may lead to higher job satisfaction in the organization (Azman et al. 2016; Can, Holt & Henty 2016; Skaalvik & Skaalvik 2017).

THEORETICAL FRAMEWORK AND HYPOTHESES

Figure 1 illustrates the research framework for this study, where the independent variable is management of performance-based remuneration (i.e., communication, involvement and performance evaluation), procedural justice as a mediator variable, and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) is the dependent variable.

HYPOTHESES DEVELOPMENT

THE RELATIONSHIP BETWEEN MANAGEMENT OF PERFORMANCE-BASED REMUNERATION AND PROCEDURAL JUSTICE

Relationship between communication and procedural justice is consistent with the notion of Leader-Member Exchange Theory (Dansereau, Graen & Haga 1975). This theory posits that quality of relationship between managers and workers based on principles of respect, openness and honesty in sharing information about performance-based remuneration systems may evoke the sense of procedural justice. The notion of this theory gained strong support from the performance-based remuneration literature. For example, studies about the effect of communication on procedural justice find inconsistent result. For example, a study by İnce and Gül (2011) argued that open and honest communication between managers and their subordinates in the organization has no effect on procedural justice.

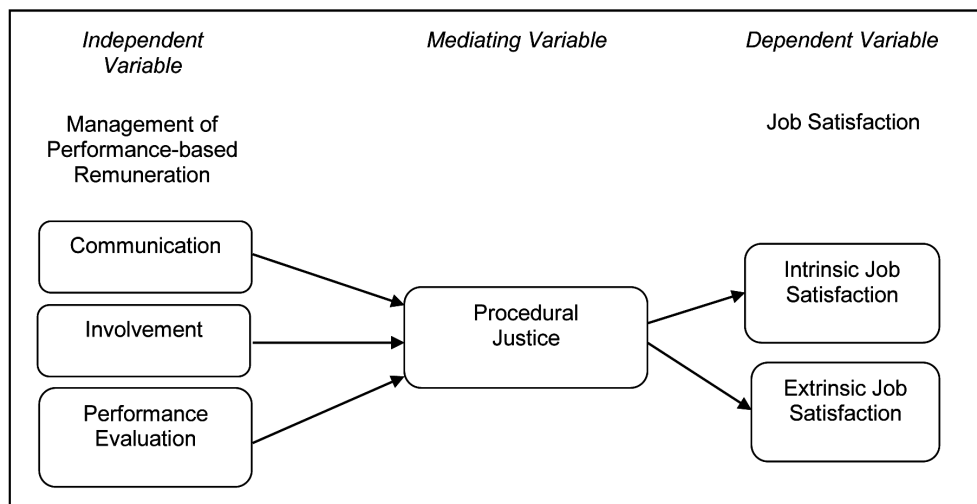


FIGURE 1. Research framework

This finding shows that employees put more values on the adequacy of remuneration than remuneration administration. Conversely, a latest study conducted by Azman and Mohd Ridwan (2017a) found that the ability of organization's reward administrators to openly explain, share and negotiate about performance based reward implementation had enhanced the perception of procedural justice among workers in the organizations. Based on the above discussion, it can be hypothesized that:

H₁ There is a positive relationship between communication and procedural justice.

Further, relationship between involvement and procedural justice is in line with the essence of Control Theory (Thibaut & Walker 1975). This theory suggests that the willingness of managers to encourage workers' participation in decision-making process may induce the sense of justice on the methods used by organization to determine remuneration packages. The essence of this theory is consistent with the recent performance based-remuneration literature. For example, Tremblay and Landreville (2015) who conducted a research in the financial and health care sector in Canada found that workers consider organization's procedure as fair when they are allowed to participate in decision-making process. This finding is supported by the latest study conducted by Azman and Mohd Ridwan (2017a) on public service sector in Malaysia. This study reveals that the readiness of managers to allow workers to participate in the planning and administration of the remuneration system will evoke the sense of justice against the procedures used by the organization in determining remuneration. Based on the above discussion, it can be hypothesized that:

H₂ There is a positive relationship between involvement and procedural justice.

Meanwhile, the relationship between performance evaluation and procedural justice has gained strong support from Agency Theory (Jensen & Meckling 1976). This theory argues that the ability of managers to align remuneration packages with actual worker's performance may enhance the sense of procedural justice among workers in the organization. The spirit of this theory is in line with the performance based-remuneration literature. For example, study conducted by Lau (2015) revealed that workers who received clear information about the duties and responsibilities assessed in the performance evaluations will feel more justified on the procedures used by the organization. Meanwhile, Azman et al. (2016) found that the capability of managers to behave comfortably while conducting performance evaluation such as give constructive advice to workers on performance improvement, listen to workers' justification, discuss workers' evaluation findings and provide explanation will lead to an increased sense of procedural justice in organization. Based on the above discussion, it can be hypothesized that:

H₃ There is a positive relationship between performance evaluation and procedural justice.

RELATIONSHIP BETWEEN MANAGEMENT OF PERFORMANCE-BASED REMUNERATION, PROCEDURAL JUSTICE AND JOB SATISFACTION

The mediating effect of procedural justice is consistent with the main idea of organizational justice theory. For example, Lind and Tyler's (1988) Group Value Model proposes that relational judgments about authorities has three major types: standing or status recognition (e.g., assessments of politeness, treatment with dignity, and respect individuals' rights and entitlements), neutrality (e.g., decision-making procedures are unbiased, honest and decision based on evidence), and trust (e.g., motives of the decision-maker are fair and reasonable or otherwise). Capability of managers to provide sufficient information about implementation of performance-based remuneration will enhance worker's understanding and sense of justice pertaining guidelines used to distribute remuneration. This situation may increase the level of worker's job satisfaction and motivate them to give strong support to achieve remuneration objectives. The idea of this theory is supported by recent studies in this area where they found that the effect of the relationship between communication about remuneration systems and job satisfaction (intrinsic and extrinsic job satisfaction) is vague when the sense of procedural justice is present in organizations. Studies such as Rokhman (2011) and Wahibur and Arif (2012) found no significant mediating effect of procedural justice on the relationship between communication and intrinsic job satisfaction, as well as extrinsic job satisfaction. However, Sušanj and Jakopec (2012) and Ali et al. (2014) found that quality communication relationship between managers and workers in communicating remuneration information will enhance worker's understanding of remuneration system and evoke worker's sense of justice towards remuneration allocation procedures. This understanding may lead to increased worker's job satisfaction, intrinsically and extrinsically. Based on the above discussion, it can be hypothesized that:

H₄ The relationship between communication and intrinsic job satisfaction is mediated by procedural justice.

H₅ The relationship between communication and extrinsic job satisfaction is mediated by procedural justice.

Further, Leventhal's (1976) Self-Interest Model suggests that decision making process has six justice rules: decisions based on accurate information, apply consistent allocation procedures, do correct decisions, suppress bias, practice moral and ethical standards in decision-making, and ensure allocation process meets recipients' expectation and needs. Willingness of managers to encourage workers' participation in decision making process while performing daily job operations

may induce the sense of procedural justice. Subsequently it may influence worker's outcomes, especially job satisfaction. The spirit of this theory is in line with the outcomes of study conducted by Wahibur (2011). This study revealed that the more employees feel that they are given the opportunity to take part in decision making process, the more they perceive the fairness in terms of method, mechanism and process used by organization to determine employee remuneration. This situation in turn prompts them to reciprocate by increasing their intrinsic and extrinsic job satisfaction. Conversely, extended study done by Wahibur and Arif (2012) exposed that employee's involvement in decision making process may enhance employee's sense of procedural justice. However, the presence of these two variables in the relationship is incapable to increase job satisfaction (i.e., intrinsic and extrinsic job satisfaction). Based on the above discussion, it can be hypothesized that:

- H₆ The relationship between involvement and intrinsic job satisfaction is mediated by procedural justice.
 H₇ The relationship between involvement and extrinsic job satisfaction is mediated by procedural justice.

Besides that, Folger and Cropanzano's (1998) Due-Process Appraisal System explained that good assessment practices have three justice features: adequate notice (e.g., explanation, discussion and feedback about performance criteria), fair hearing (e.g., informing performance assessments and their procedures through a formal review session), and judgment based on evidence (e.g., applying consistent performance criteria and honesty and fairness principles, as well as providing better explanations about performance ratings and reward allocations). Ability of managers to determine worker's remuneration based on actual performance in performing daily jobs and consistent with worker's expectation may strongly evoke the sense of procedural justice. This scenario, will evoke the sense of satisfaction tremendously among workers in the organization. The essence of this theory is supported by several recent studies, such as Azman et al. (2016). This study revealed that the capability of managers to fairly implement performance evaluation and appropriately provide constructive feedback for worker's performance improvement may strongly evoke worker's sense of procedural justice and this situation may enhance job satisfaction, intrinsically and extrinsically. Based on the above discussion, it can be hypothesized that:

- H₈ The relationship between performance evaluation and intrinsic job satisfaction is mediated by procedural justice.
 H₉ The relationship between performance evaluation and extrinsic job satisfaction is mediated by procedural justice.

METHODOLOGY

RESEARCH DESIGN

A cross-sectional research design is employed because it permits the researchers to integrate the remuneration management literature and survey questionnaire as the main procedure to collect the data for this research. This data collection procedure may enhance the ability of collecting accurate data, decreasing bias data and increasing quality data (Creswell 2014; Lomand 2016; Sekaran & Bougie 2016). This study was conducted at private higher educational institution in Kuala Lumpur. For confidentiality, the names of the organizations are kept anonymous. At the initial stage of this research, the survey questionnaire was developed based on the performance-based remuneration literature. After that, a back to back translation technique was used to translate the questionnaire into English and Malay languages in order to enhance the validity and reliability of research outcomes (Creswell 2014; Lomand 2016; Sekaran & Bougie 2016).

MEASURES

Appendix 1 shows the all constructs, items and sources. The survey questionnaire consists of three major sections: firstly, management of performance-based remuneration features, namely communication has five items (e.g., In administering the reward system, my immediate boss is frank and candid with me about pay raises and in administering the reward system, my immediate boss represents my pay interests with upper management) involvement has five items (e.g., My boss discusses with me job performance standards that may influence my wage rate and my boss discusses recommendations related to my pay with me), and performance evaluation has six items (e.g., In evaluating job performance, my immediate boss explains the reasons for my performance appraisal and in evaluating job performance, my immediate boss frequently observes my performance), adapted from performance-based remuneration management literature (Coyle-Shapiro et al. 2002; Fay & Thompson 2001; Guthrie 2000; Pettijohn, Pettijohn & D'Amico 2001). Secondly, procedural justice was measured using four items (e.g., Procedures that allow me to appeal or challenge the salary raise decisions and procedures that allow me to appeal or challenge promotion decisions), adapted from performance-based remuneration related procedural justice literature (Moorman 1991) Finally, job satisfaction features, namely intrinsic job satisfaction has three items (e.g., How satisfied or dissatisfied are you with the way your organization is managed and how satisfied or dissatisfied are you with your chance of promotion) and extrinsic job satisfaction has three items (e.g., How satisfied or dissatisfied are you with your fellow workers and how satisfied or dissatisfied are you with your immediate boss), adapted from organizational behavior literature (Warr, Cook & Wall 1979). All items

used in the questionnaire were measured using a 7-item scale ranging from “strongly disagree/dissatisfied” (1) to “strongly agree/satisfied” (7). Demographic variables were treated as controlling variables because this research focused on employee attitudes.

SAMPLE

The targeted population of this study is employees of two private higher educational institutions in Kuala Lumpur. A purposive sampling technique was employed to distribute 334 survey questionnaires to academic and non-academic staff in the organization. The sampling technique was utilized because the organization could not provide the list and information details about employees to the researchers due to confidentiality. As a result, this constraint does not allow the researchers to select participants using a random technique. To overcome this problem, researchers distributed survey questionnaires to workers in the organization who have worked more than three years. This strategy is to ensure that all respondents understand and familiar with performance-based remuneration system. From the number, only 232 usable questionnaires were returned to the researchers. The survey questionnaires were answered by participants based on their consent and on a voluntary basis.

FINDINGS

SAMPLE PROFILE

Appendix 2 shows that majority of respondents were female (58%), aged between 26 to 30 years old (44%), bachelor degree holders (47%), lecturers (52%), academic staff (76%), working experience between 3 and 5 years (41%), monthly salary between RM2001 and RM2500 (32%), and permanent staff (78%).

VALIDITY AND RELIABILITY OF THE MEASUREMENT SCALE

Appendix 3 shows that the loadings of variables are greater than 0.70 in their own constructs in the model. Additionally, the correlation between items and factors has higher loadings than other items in the different constructs. In sum, the results show that the measurement model meets the criteria established for validity and reliability analyses (Henseler, Ringle & Sarstedt 2014). All constructs have average variance extracted (AVE) values larger than 0.5, indicating that the constructs examined meet the acceptable standard of convergent validity (Barclay, Higgins & Thompson 1995; Fornell & Larcker 1981; Henseler et al. 2014).

TABLE 1. The results of convergent and discriminant validity analysis

Variable	1	2	3	4	5	6	Composite Reliability
Communication	0.844						0.925
Extrinsic Job Satisfaction	0.485	0.819					0.859
Intrinsic Job Satisfaction	0.385	0.745	0.843				0.888
Involvement	0.539	0.455	0.353	0.844			0.925
Performance Evaluation	0.650	0.481	0.392	0.416	0.863		0.946
Procedural Justice	0.481	0.605	0.614	0.584	0.469	0.883	0.934

Table 1 shows the results of the convergent and discriminant validity analyses. All constructs have values of \sqrt{AVE} in diagonal that are greater than the squared correlation with other constructs in off diagonal, showing that all constructs meet the acceptable standard of discriminant validity (Henseler et al. 2014; Zhang 2009). Conversely, the values of composite reliability for all constructs are greater than 0.80, indicating that the instrument used in this study has high internal consistency (Henseler & Chin 2010).

ANALYSIS OF THE CONSTRUCTS

Table 2 shows the results of variance inflation factor and descriptive statistic. The mean values for the constructs are from 4.000 to 4.624, signifying that majority of the respondents perceived that the levels of communication,

TABLE 2. The results of variance inflation factor and descriptive statistics

Variable	Mean	Standard Deviation	Variance Inflation Factor	
			3	4
Communication	4.347	1.370	1.542	
Involvement	4.000	1.454	1.313	
Performance Evaluation	4.624	1.266	1.528	
Procedural Justice	4.000	1.306		1.000
Intrinsic Job Satisfaction	4.259	1.349		
Intrinsic Job Satisfaction	4.055	1.326		

involvement, performance evaluation, intrinsic job satisfaction and extrinsic job satisfaction range from

high (4) to highest level (7). Meanwhile, the values of variance inflation factors for the relationship between the independent variables (i.e., communication, involvement and performance evaluation) and the dependent variable (i.e., intrinsic job satisfaction and extrinsic job satisfaction) are less than 5.0, indicating that the data are not affected by serious collinearity problem (Hair et al. 2017).

OUTCOMES OF TESTING HYPOTHESES H₁, H₂, AND H₃

Table 3 shows the results of testing the direct effects model. The inclusion of communication, involvement and performance evaluation in the analysis contributed 41 percent of the variance in procedural justice. This result indicates that the overall predictive strength of the model is moderate (Henseler & Chin 2010). Furthermore, the results of the testing hypotheses for the model displayed three important findings: first, communication significantly correlates with procedural justice ($\beta = 0.568$; $t = 7.573$), therefore H₁ is supported. Second, involvement significantly correlates with procedural justice ($\beta = 0.545$; $t = 5.984$), therefore H₂ is supported. Finally, performance evaluation significantly correlates with procedural justice ($\beta = 0.591$; $t = 9.934$), therefore H₃ is supported. In overall, the result demonstrates that communication, involvement and performance evaluation act as important predictors of procedural justice in the organization examined.

As an extension to the testing of the above hypotheses, tests for effect size (f^2) and predictive relevance for the reflective endogenous latent variable (Q^2) were performed using Bootstrapping and Blindfolding procedures, respectively. The result of the Bootstrapping test shows that the relationship between communication and procedural justice has f^2 value of 0.476, which is higher than 0.35, indicating that communication has a large effect on procedural justice (Hair et al. 2017). Meanwhile, the relationship between involvement and procedural justice has f^2 value of 0.423, which is higher than 0.35, indicating that involvement has a significant effect on procedural justice (Hair et al. 2017). Furthermore, the relationship between performance evaluation and procedural justice has f^2 value of 0.536, which is higher than 0.35, indicating that performance evaluation has a substantial effect on procedural justice (Hair et al. 2017). Conversely, the results of the predictive relevance test show that the value of Q^2 for procedural justice is 0.311 and this value is greater than zero. This result shows that the model has predictive relevance (Hair et al. 2017).

OUTCOMES OF TESTING HYPOTHESES H₄ AND H₅

Table 4 shows that the inclusion of communication and procedural justice in the analysis explains 53 percent of the variance in intrinsic job satisfaction and 39 percent in extrinsic job satisfaction, indicating that the variables provide moderate support to the model (Henseler & Chin 2010; Henseler et al. 2014). Specifically, the relationship between communication and procedural justice is significantly correlated with intrinsic job satisfaction ($\beta = 0.725$; $t = 12.178$) and extrinsic job satisfaction ($\beta = 0.622$; $t = 13.425$). Thus, H₄ and H₅ are supported. This finding confirms that procedural justice acts as important mediating variable in the relationship between communication and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) in the organization studied.

As an extension to the testing of the research hypotheses, tests for mediating types, effect size (f^2) and predictive relevance (Q^2) were conducted using the Algorithm and Blindfolding procedure. The results show that the direct effects model (relationship between communication and intrinsic job satisfaction, as well as, communication and extrinsic job satisfaction) is significant, and the values of the direct path between communication and intrinsic job satisfaction, as well as extrinsic job satisfaction are close to zero. As a whole, the results indicate that procedural justice acts as an important mediating variable in the relationship between communication and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) (competitive mediation type) (Zhao, Lynch & Chen 2010). With respect to effect size, the results show that the relationship between communication and procedural justice has f^2 value of 0.329, which is greater than 0.15 and indicates that communication has a medium effect on procedural justice (Hair et al. 2017). Meanwhile, the relationship between procedural justice and intrinsic job satisfaction as well as extrinsic job satisfaction have f^2 value of 0.910 and 0.632 respectively, which is higher than 0.35. This situation indicates that procedural justice has a large effect on intrinsic job satisfaction and extrinsic job satisfaction (Hair et al. 2017). In regard to predictive relevance, the result shows that the value of Q^2 for procedural justice is 0.179, which is greater than zero for the reflective endogenous latent variable. The result has predictive relevance (Hair et al. 2017). Finally, the values of Q^2 for

TABLE 3. The outcomes of testing the hypotheses H₁, H₂ and H₃

Hypothesis	Path	Beta Value	t-Value	R ²	Decision
H ₁	Communication → Procedural Justice	0.568	7.573	0.409	Supported
H ₂	Involvement → Procedural Justice	0.545	5.984		Supported
H ₃	Performance Evaluation → Procedural Justice	0.591	9.934		Supported

Note: Significant at * $t > 1.96$

TABLE 4. The outcomes of testing the hypotheses H₄ and H₅

Hypothesis	Path	Beta Value	t-Value	R ²	Decision
H ₄	Communication → Procedural Justice → Intrinsic Job Satisfaction	0.725	12.178	0.526	Supported
H ₅	Communication → Procedural Justice → Extrinsic Job Satisfaction	0.622	13.425	0.387	Supported

Note: Significant at *t > 1.96

intrinsic job satisfaction and extrinsic job satisfaction are 0.362 and 0.155 respectively, which is greater than zero, showing that they have predictive relevance (Hair et al. 2017).

OUTCOMES OF TESTING HYPOTHESES H₆ AND H₇

Table 5 shows that the inclusion of involvement and procedural justice in the analysis explains 52 percent of the variance in intrinsic job satisfaction and 39 percent in extrinsic job satisfaction, indicating that the variables provide moderate support to the model (Henseler & Chin 2010; Henseler et al. 2014). Specifically, the relationship between involvement and procedural justice is significantly correlated with intrinsic job satisfaction ($\beta = 0.723$; $t = 11.134$) and extrinsic job satisfaction ($\beta = 0.622$; $t = 13.565$). Thus, H₆ and H₇ are supported. This finding confirms that procedural justice acts as important mediating variable in the relationship between involvement and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) in the organization studied.

As an extension to the testing of the research hypotheses, tests for mediating types, effect size (f^2) and predictive relevance (Q^2) were conducted using the Algorithm and Blindfolding procedure. The results show that the direct effects model (relationship between involvement and intrinsic job satisfaction, as well

as, communication and extrinsic job satisfaction) is significant, and the values of the direct path between involvement and intrinsic job satisfaction, as well as extrinsic job satisfaction are close to zero. As a whole, the results indicate that procedural justice acts as an important mediating variable in the relationship between involvement and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) (competitive mediation type) (Zhao et al. 2010). With respect to effect size, the results show that the relationship between involvement and procedural justice has f^2 value of 0.366, which is greater than 0.35 and indicates that communication has a large effect on procedural justice (Hair et al. 2017). Meanwhile, the relationship between procedural justice and intrinsic job satisfaction as well as extrinsic job satisfaction have f^2 values of 0.940 and 0.632 respectively, i.e. higher than 0.35. This situation indicates that procedural justice has a large effect on intrinsic job satisfaction and extrinsic job satisfaction (Hair et al. 2017). In regard to predictive relevance, the result shows that the value of Q^2 for procedural justice is 0.193, which is greater than zero for the reflective endogenous latent variable. The result has predictive relevance (Hair et al. 2017). Finally, the values of Q^2 for intrinsic job satisfaction and extrinsic job satisfaction are 0.359 and 0.154 respectively, i.e. greater than zero, showing that they have predictive relevance (Hair et al. 2017).

TABLE 5. The outcomes of testing the hypotheses H₆ and H₇

Hypothesis	Path	Beta Value	t-Value	R ²	Decision
H ₆	Involvement → Procedural Justice → Intrinsic Job Satisfaction	0.723	11.134	0.522	Supported
H ₇	Involvement → Procedural Justice → Extrinsic Job Satisfaction	0.622	13.565	0.387	Supported

Note: Significant at *t > 1.96

OUTCOMES OF TESTING HYPOTHESES H₈ AND H₉

Table 6 shows that the inclusion of performance evaluation and procedural justice in the analysis explains 52 percent of the variance in intrinsic job satisfaction and 39 percent in extrinsic job satisfaction, indicating that the variables provide moderate support to the model (Henseler & Chin 2010; Henseler et al. 2014). Specifically, the relationship between performance evaluation and

procedural justice is significantly correlated with intrinsic job satisfaction ($\beta = 0.723$; $t = 10.581$) and extrinsic job satisfaction ($\beta = 0.623$; $t = 13.413$). Thus, H₈ and H₉ are supported. This finding confirms that procedural justice acts as important mediating variable in the relationship between performance evaluation and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) in the organization studied.

As an extension to the testing of the research hypotheses, tests for mediating types, effect size (f^2) and predictive relevance (Q^2) were conducted using the Algorithm and Blindfolding procedure. The results show that the direct effects model (relationship between performance evaluation and intrinsic job satisfaction, as well as, performance evaluation and extrinsic job satisfaction) is significant, and the values of the direct path between performance evaluation and intrinsic job satisfaction, as well as extrinsic job satisfaction are close to zero. As a whole, the results indicate that procedural justice acts as an important mediating variable in the relationship between performance evaluation and job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) (competitive mediation type) (Zhao et al. 2010). With respect to effect size, the results show that the relationship between performance evaluation and

procedural justice has f^2 value of 0.385, which is greater than 0.35 and indicates that communication has a large effect on procedural justice (Hair et al. 2017). Meanwhile, the relationship between procedural justice and intrinsic job satisfaction as well as extrinsic job satisfaction have f^2 values of 0.960 and 0.633 respectively, i.e. higher than 0.35. This situation indicates that procedural justice has a large effect on intrinsic job satisfaction and extrinsic job satisfaction (Hair et al. 2017). In regard-to predictive relevance, the result shows that the value of Q^2 for procedural justice is 0.202, which is greater than zero for the reflective endogenous latent variable. The result shows predictive relevance (Hair et al. 2017). Finally, the values of Q^2 for intrinsic job satisfaction and extrinsic job satisfaction are 0.360 and 0.156 respectively, i.e. greater than zero, showing that they have predictive relevance (Hair et al. 2017).

TABLE 6. The outcomes of testing the hypotheses H_8 and H_9

Hypothesis	Path	Beta Value	t-Value	R ²	Decision
H_8	Performance Evaluation → Procedural Justice → Intrinsic Job Satisfaction	0.723	10.581	0.523	Supported
H_9	Performance Evaluation → Procedural Justice → Extrinsic Job Satisfaction	0.623	13.413	0.388	Supported

Note: Significant at * $t > 1.96$

DISCUSSIONS AND IMPLICATIONS

The findings of this research show that the relationship between management of performance-based remuneration and procedural justice has enhanced workers' satisfaction with intrinsic and extrinsic job conditions. In relation to the context of this research, human resource administrators and line administrators have put greater effort to appropriately plan and manage remuneration programs for various job levels and classifications based on the broad policies and procedures set up by their stakeholders. Majority of the workers view that the levels of communication, involvement, performance evaluation, procedural justice, intrinsic job satisfaction, and extrinsic job satisfaction are high. This situation explains that the ability of management to appropriately implement communication, involvement, and performance evaluation in performing daily job operations will evoke employees' sense of procedural justice. Consequently, this may lead to higher intrinsic and extrinsic job satisfaction in the organizations.

This research provides three important implications: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, the findings of this research revealed six specific outcomes: first, relationship between communication and intrinsic job satisfaction is mediated by procedural justice. Second, relationship between involvement and intrinsic job satisfaction is mediated by procedural justice. Third, relationship between

performance evaluation and intrinsic job satisfaction is mediated by procedural justice. Fourth, relationship between communication and extrinsic job satisfaction is mediated by procedural justice. Fifth, relationship between involvement and extrinsic job satisfaction is mediated by procedural justice. Finally, relationship between performance evaluation and extrinsic job satisfaction is mediated by procedural justice. The outcomes are consistent with the notion of Leventhal's (1979) Self-Interest Model, Lind and Tyler's (1988) Group Value Model, and the Due-Process Appraisal System by Folger and Cropanzano's (1998), which reveal that the ability of management to make pay decisions and appropriately conduct performance evaluation in determining remunerations based on performance will strongly evoke workers' sense of procedural justice. Consequently, this feeling may lead to higher workers' satisfaction with intrinsic and extrinsic job conditions in the organizations. The outcome also supported and extended studies by Ali et al. (2014), Azman et al. (2016) and Heffernan and Dundon (2016).

With respect to the robustness of research methodology, the survey questionnaire used in this research has met the acceptable standards of validity and reliability analyses. This condition may lead to the production of valid and reliable research findings. Concerning practical contribution, the findings of this research may be used as important recommendations by practitioners to improve the management of performance-based remuneration in

organizations. In order to meet this aim, top management needs to give more attention to the following aspects. Firstly, the type, level and/or amount of remuneration for high performers should be revisited in order to retain and motivate them in supporting the current organizational strategic vision and missions. Secondly, the adequacy of pay levels and structures should also be revised according to the new job challenges and expectations such as job enlargement and job enrichment. Third, in addition to performance criterion, needs and equality criteria should also be applied to ensure fairness in remuneration systems. These criteria will appreciate all employees' contributions and this situation may help to improve their standards of living, life satisfaction, ethical behavior, statuses, and pro-social behavior in society. Fourth, besides remuneration for individual performance, remuneration for group performance should also be planned because it will boost teamwork and collaboration between different job levels and classifications. This situation may help to upgrade service quality and organizational image. Finally, high commitment management practices should be promoted in enhancing communication openness, participative decision making, and performance management. This working culture will decrease workers' misunderstanding about the relationship between performance and remuneration, and this may enhance their support toward performance-based remuneration goals. If these suggestions are seriously considered, this may motivate them to accomplish their organizational strategy and goals.

LIMITATIONS AND FUTURE RESEARCH

The conclusion should be careful with some limitations of this research. First, a cross-sectional research design may not capture detailed causal connections between the variables of interest. Second, this research does not specify the relationship between specific features for the independent variable, mediating variable and dependent variable. Third, the outcomes of SmartPLS path model only describe the level of performance variation explained by the regression equations. Fourth, this research only explains general perceptions of workers who work in Malaysian private higher educational institutions. Finally, sample of this research is taken using a purposive sampling plan and this method may not be able to avoid response bias. These limitations may reduce the ability to generalize the findings of this research to other types of organizations.

The limitations should be considered when designing future research. First, several important organizational and worker characteristics (e.g., organizational size and ranking, as well as gender, age, education and position) should be further explored, where these characteristics may show meaningful perspectives for understanding how individual similarities and differences influence the management of performance-based remuneration within an organization. Second, longitudinal study is a better research design to be used in future research because it

has more capabilities to explain the patterns of change and the direction, as well as magnitude of causal relationships amongst variables of interest. Third, to fully understand the effect of performance-based remuneration management on individual attitudes and behaviors via its impact upon procedural justice, more organizations need to be used in future research. Fourth, other specific theoretical constructs of organizational justice, such as distributive justice and interactional justice need to be given the attention because they have been widely acknowledged as an important link between management of performance-based remuneration and many types of personal outcomes (Azman & Mohd Ridwan 2017a; Mutmainah & Sugiri 2017; Rahim et al. 2016). Fifth, a larger sample size should be used because it may decrease response bias and represents the studied population. Finally, other elements of performance-based remuneration such as pay rises, pay forms, leadership style, and managerial accountability need to be given priority because their roles are often discussed in many remuneration management research literature (Al-Sada, Al-Esmael & Faisal 2017; Chen, Eriksson & Giustiniano 2017; Ghosh et al. 2016). The significance of these issues needs to be further elaborated in future research.

CONCLUSION

This research tested a conceptual schema developed based on the remuneration management research literature. The instrument used in this research met the acceptable criteria of validity and reliability analyses. The outcomes of SmartPLS path model revealed that the relationship between management of performance-based remuneration (i.e., communication, involvement, and performance evaluation) and procedural justice has been a major predictor of job satisfaction (i.e., intrinsic job satisfaction and extrinsic job satisfaction) in the organizational sample. Therefore, current research and practice within the workplace remuneration program need to view procedural justice as a crucial factor of the management of performance-based remuneration domain. This research further suggests that the ability of management to appropriately implement communication, involvement, and performance evaluation will strongly induce positive employee outcomes (e.g., organizational commitment, job motivation, job retention, pay satisfaction, job performance, and job satisfaction). Thus, this positive influence may lead to the maintaining and enhancing of organizational competitiveness and performance in this era of the fourth industrial revolution.

ACKNOWLEDGEMENTS

We thank the Ministry of Higher Education, Malaysia and the Centre for Research and Instrumentation (CRIM), UKM for supporting this study under the Fundamental Research Grant Scheme (FRGS) [Project code: FRGS/1/2014/SS05/UKM/02/7].

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Mohd Ridwan Abd Razak (corresponding author)
Graduate School of Business
Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor, MALAYSIA
E-Mail: mohdridwan76@gmail.com

Azman Ismail
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor, MALAYSIA.
E-Mail: azisma08@gmail.com

APPENDIX

APPENDIX 1. Item scale for the all constructs

Constructs	Items	Sources
Communication	<ul style="list-style-type: none"> • In administering the reward system, my immediate boss backs me up when he/she feels I have a valid complaint about my pay. • In administering the reward system, my immediate boss is honest and ethical in dealing with me about my pay issues. • In administering the reward system, my immediate boss is frank and candid with me about pay raises. • In administering the reward system, my immediate boss represents my pay interests with upper management. • In administering the reward system, my immediate boss applies the same standards to everyone when making pay decisions. 	(Guthrie 2000; Pettijohn et al. 2001)
Involvement	<ul style="list-style-type: none"> • My staff association has influence in reward administration practices. • My staff association is represented in promotion practices. • My boss discusses with me job performance standards that may influence my wage rate. • My boss discusses recommendations related to my pay with me. • I am given the opportunity to express my opinions regarding the amount of salary I receive compared to my workload. 	(Coyle-Shapiro et al. 2002; Fay & Thompson 2001)
Performance Evaluation	<ul style="list-style-type: none"> • In evaluating job performance, my immediate boss obtains accurate information about my performance. • In evaluating job performance, my immediate boss explains the reasons for my performance appraisal. • In evaluating job performance, my immediate boss frequently observes my performance. • In evaluating job performance, my immediate boss uses relevant information to appraise my performance. • In evaluating job performance, my immediate boss becomes familiar with my performance before evaluating it. • In evaluating job performance, my immediate boss uses consistent standards when evaluating my performance. 	(Pettijohn et al. 2001)
Procedural Justice	<ul style="list-style-type: none"> • Procedures used to collect accurate information necessary for making reward decisions. • Procedures that allow me to appeal or challenge the salary raise decisions. • Procedures that allow me to appeal or challenge promotion decisions. • Procedures designed to allow for requests for clarification or additional information about the reward decision. 	(Moorman 1991)
Intrinsic Job Satisfaction	<ul style="list-style-type: none"> • How satisfied or dissatisfied are you with the amount of responsibility you are given. • How satisfied or dissatisfied are you with the way your organization is managed. • How satisfied or dissatisfied are you with your chance of promotion. 	(Warr, Cook and Wall 1979)
Extrinsic Job Satisfaction	<ul style="list-style-type: none"> • How satisfied or dissatisfied are you with the physical working conditions. • How satisfied or dissatisfied are you with your fellow workers. • How satisfied or dissatisfied are you with your immediate boss. 	(Warr, Cook and Wall 1979)

APPENDIX 2. Respondent profiles (n = 232)

Respondent	Sub Profile	Percentage
Gender	Male	42
	Female	58
Age (years)	Less than 25	22
	26 – 30	44
	31 – 35	17
	36 – 40	10
	41 – 45	1
	More than 46	6
Education	LCE / SRP / PMR	1
	MCE / SPM	12
	HSC / STPM	2
	Diploma	26
	Bachelor	47
	Master	11
Position	Ph.D	1
	Professional & Management	29
Division	Support group	19
	Lecturer	52
	Academic	76
Length of Service (years)	Non-Academic	24
	Less than 3	38
Service Status	3 – 5	41
	6 – 8	14
	9 – 11	5
	12 – 14	1
	More than 15	1
	Permanent	78
Monthly Salary (Ringgit Malaysia)	Probation	6
	Contract	15
	Temporary	1
	Less than 1000	19
	1001 – 1500	9
	1501 – 2000	24
	2001 – 2500	32
	2501 – 3000	7
	3001 – 3500	4
	3501 – 4000	2
	4001 – 4500	1
5001 – 5500	1	
5501 – 6000	1	

Note: LCE / SRP / PMR: Lower School Certificate / Sijil Rendah Pelajaran / Penilaian Menengah Rendah
MCE / SPM: Malaysia Certificate of Education / Sijil Pelajaran Malaysia
HSC / STPM: Higher School Certificate / Sijil Tinggi Pelajaran Malaysia

APPENDIX 3. The results of factors loadings and cross loadings for different constructs

Constructs	COMM	EJSA	IJSA	INVO	PEEV	PRJU	AVE
Communication							0.712
1. COMM1	0.862						
2. COMM2	0.804						
3. COMM3	0.888						
4. COMM4	0.849						
5. COMM5	0.814						
Extrinsic Job Satisfaction							0.671
1. EJSA1		0.720					
2. EJSA2		0.857					
3. EJSA3		0.841					
Intrinsic Job Satisfaction							0.711
1. IJSA1			0.873				
2. IJSA2			0.814				
3. IJSA3			0.841				
Involvement							0.712
1. INVO1				0.848			
2. INVO2				0.840			
3. INVO3				0.837			
4. INVO4				0.861			
5. INVO5				0.834			
Performance Evaluation							0.745
1. PEEV1					0.892		
2. PEEV2					0.840		
3. PEEV3					0.859		
4. PEEV4					0.862		
5. PEEV5					0.860		
3. PEEV6					0.863		
Procedural Justice							0.780
1. PRJU1						0.891	
2. PRJU2						0.893	
3. PRJU3						0.891	
4. PRJU4						0.857	

