

# PAY LEVEL AND DISTRIBUTIVE JUSTICE AS A PREDICTOR OF JOB SATISFACTION IN A PUBLIC INSTITUTION OF HIGHER LEARNING

Azman Ismail<sup>1</sup>, Siti Fakhriah Ishak<sup>2</sup>, Nek Kamal Yeop Yunus<sup>3</sup>, Salomawati Ishak<sup>4</sup>,

<sup>1,2</sup>Faculty of Defence & Management Studies, Universiti Pertahanan Nasional Malaysia.

<sup>3</sup>Faculty of Management & Economics, Universiti Pendidikan Sultan Idris

<sup>4</sup>Commerce Department, Politeknik Sultan Azlan Shah, Behrang, Malaysia

## Abstract

*This study was conducted to examine the mediating effect of distributive justice in the relationship between pay level, distributive justice and job satisfaction using 120 usable questionnaires gathered from academic staff in a public higher institution in East Malaysia, Malaysia. The results of exploratory factor analysis confirmed that the measurement scales used in this study satisfactorily met the acceptable standards of validity and reliability analyses. Next, the outcomes of stepwise regression analysis showed that the relationship between pay level and distributive justice positively and significantly correlated with job satisfaction. Further, this result confirms that distributive justice does act as a full mediating variable in the pay level model of the organizational sample. In addition, discussion, implications and conclusion are elaborated in this paper.*

**Keywords :** *Pay level, Distributive Justice, Job Satisfaction, public higher education institution, mediating variables*

## Introduction

Compensation is a critical human resource management system and its definition may be defined based language and organizational perspectives. In terms of language, compensation is also known as salary and wage, remuneration, reward and/or pay system. These terms are normally used interchangeably in organizations, but they refer to the meaning (Henderson, 2009; Milovich & Newman, 2010). Conversely, in a organizational perspective, compensation is usually defined as an employer designs and administers the various types of pay systems to rewarding its employee contributions (Heneman, 2002; Ismail, Abang Ibrahim, Boerhannoeddin, Ahmad & Abdullah, 2008). In a compensation system, the pay level is viewed as a crucial individual contribution issue where it is established for the similar and/or different work groups based on the balancing between external organizational factors (*e.g.*, economic pressures, government policies, laws and regulations, stakeholder and cultures, and customs) and internal organizational factors (*e.g.*, corporate strategy, management philosophy, type of job, and level of productivity). Survey and job evaluation methods are often used to assess the significance of such variables, and information gathered from such methods will be used to set up pay level policies for the various types of job categories in organizations (Henderson, 2009; Milkovich & Newman, 2010).

Recent studies in this area show that the ability of management to appropriately allocate a pay levels based on employee contributions (job and/or performance) may have a significant impact on personal outcomes, especially job satisfaction (Belfield & Heywood, 2008; Waite & Stites-Doe, 2000). Surprisingly, a further investigation of such relationships reveals that the effect of pay level on job satisfaction is indirectly affected by distributive justice (Allen & White, 2002; Ismail et al., 2008). For example, if an individual perceives that the level of pay is adequately distributed based on proper rules, this will strongly invoke employees' perceptions of distributive justice. As a result, it may lead to enhanced positive personal outcomes, especially job satisfaction in organizations (Bloom, 1999; May *et al.*, 2000). These findings support the notion of distributive theories (*see* Adams ( 1963, 1965) equity theory and Allen and White's (2002) equity sensitivity theory), which reveal that feelings of distributive justice act as a link between pay level and job satisfaction.

Although numerous studies have been conducted, little is known about the strength and direction of mediating role of distributive justice in compensation system models (Robbins, Summer, Miller & Hendrix, 2000); Skarlicki & Folger, 1997). Many scholars reveal that distributive justice has been less emphasized in previous studies because research and theoretical development in the field of compensation arises primarily from the economic perspective, which emphasized on the design of pay systems as reactions to market factors of supply and demand (Olson, Schwab, & Rau, 2000; Ledford & Hawk, 2000; Rajkumar, 1996). This perspective neglects the influence of human psychological factors, such as distributive justice in affecting the relationship between pay level and personal outcomes (Belcher & Atkinson, 1987; Belcher, Ferris, & O'Neill, 1985; Rajkumar, 1996).

### **Objective of the Study**

This study has two major objectives: first, to measure the relationship between pay level and job satisfaction. Secondly, to measure mediating effect of distributive justice and the relationship between pay level and job satisfaction.

### **Explanation of the Constructs**

This study has three important constructs: pay level, distributive justice and job satisfaction. Firstly, pay level is generally defined as the average of the group of rates for each job which includes a combination of several pay components such as base pay, increases, benefits, allowances and perquisites (Henderson, 2009; Milkovich & Newman, 2010). It differs according to jobs in the organization, jobs in a specific department, or combination of any job types in the organization for achieving external competitive equity (Anthony, Perrewe & Kacmar, 2002; Henderson, 2009). In an era of global competition, many organizations have established three types of pay level policy, namely the lead (an employer providing higher wages for its employee than the average wage paid by competitors), the match (an employer rewarding wage rates for its employees that matches the wage rates paid by competitors), or the lag policies (an employer distributing wages rates lower for its employee than average wages paid in the external market) (Anthon *et al.*, 1996; Gomez-Mejia, Welbourne & Wiseman, 2000; Milkovich & Newman,2010).

In practice, some organizations design one form of pay level policy at one time and will shift to another within the same or different occupational families at the different times (Anthony *et al.*, 2000 ) ; Henderson, 2009 ; Milkovich & Newman, 2010 ). These practices are often done based on on the organizations' abilities to pay, and/ or interests to remain competitive in their product market. For example, a lead policy is often adopted for critical skill group, match policy with less critical skills and lag policy for jobs that are easily in the local labour market ( Anthony *et al.*, 1996 ; Lawler 1995,2000).

Although pay level policies are well designed according to a situational approach the ability of management to properly implement such policies may attract, retain and motivate good employees to support organizational strategy and goals. ( Gomez-Mejia, Welbourne, Wiseman,, 2000 ; Milkovich & Newman , 2010 )

Secondly, distributive justice is often defined as fairness in the actual distribution of reward (deCarufel, 1986 ; Green berg, 2003 ; Sweeney & Mcfarlin, 1993 ). In practice, if an individual perceives that the level pay is adequately distributed based on employee contributions, this will invoke employees' perceptions of distributive justice will be invoked. As a result, it may lead to induced positive personal outcomes, such as job, satisfaction ( *see* Adams, 1963, 1965 ; Bloom, 1999' May *et al.*, 2000 )

Thirdly, job satisfaction is often defined as an individual;s attitude perception or appraisal toward his or her job ( Hodson, 1991 ; Luthans, 1989 ; Weiss & Cropanzo, 1996 ), pleasurable or emotional state about his/her job (Hodgetts, 1991 ; Locke, 1990a & 1990b ), positive reaction ( Maathis & Jackson, 2000 ), and action tendencies toward work ( Vecchio, Hearn & Southey , 1992 ). These definitions broadly describe that an employee who has a low level of job satisfaction has a positive attitude toward the job ( Hodson, 1991 ; Vecchio *et al.*, 1992; Weiss & Cropanzo, 1996 ).

## **Literature Review**

This section provides theoretical and empirical evidence supporting the two relationships: (1) between pay level job and job satisfaction and (2) between pay level, and distributive justice and job satisfaction.

Many previous studies used a direct effects model to examine individual contribution based on different samples, such as a 123 on-managerial bank employees ( Waite & Stites-Doe, 2000 ), and 56,354 teacher across public schools, 10,760 teacher across 3558 private schools ( Belfield & Heywood, 2008 ). Findings from these studies reported that the willingness of managers to appropriately determine the levels of pay based on employee contributions ( *e.g.*, job and performance ) had motivated employees to improve their job satisfaction in the respective organizations ( Belfield & Heywood, 2008 ; Waite & Stites-Doe, 2000 ). Thus, it was hypothesized that :

**Ha1 : There is a positive relationship between pay level and job satisfaction.** Several recent studies used an indirect effects model to investigate pay level designs using different samples, such as 250 tellers from fifty branches of prominent multistate, western bank

(Bettencourt & Brown , 1997 ), and 190 usable questionnaires from academic employees who have worked in Malaysian public community colleges ( Ismail *et al.*, 2008). Findings from these studies reported that the ability of the management to adequately provide the level of pay based on employee contributions had increased employees' perception of distributive justice of the pay systems and consequently lead to an enhanced job satisfaction in the respective organizations ( Better & Court & Browb, 1997 ; Ismail *et al.*, 2008 ).

These studies support the notion of distributive justice theories. For example, Adams' ( 1963 & 1965 ) equity theory and Allen and White's ( 2002 ) equity sensitivity theory clearly posit that individuals who perceive that the level of pay that they receive are equitable with their contributions ( *e.g.*, merit, skills and/or performance ) may affect his/ her attitudes and behaviour ( Adams, 1965 & 1986 : Allen & White, 2002 ) ; Ismail, Faisal & Imail , 2005 ). Application of these theories in a compensation model shows that the willingness of management to adequately determine the levels of pay based on employee contributions (*e.g.*, job and or performance ) had increased employees; feelings of distributive justice. Consequently, it could lead to an enhanced job satisfaction in organizations ( Belfield & Heywood, 2008 ; Waite & Stites-Does , 2000 ). Thus, these studies are used as evidence to propose a conceptual framework for this study as shown in Figure 1.

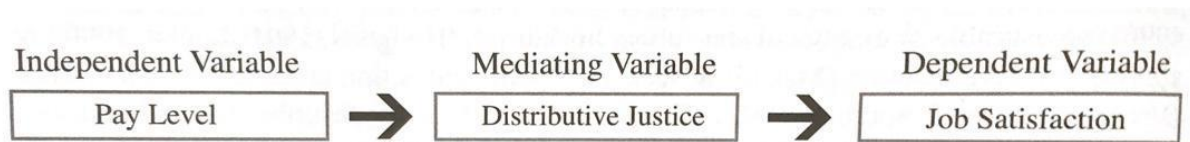


Figure 1 : Conceptual framework

Based on the framework, it can be hypothesized that :

**Ha2 : Distributive justice and positively mediates the effect of pay level job satisfaction.**

### Methodology

This study used a cross-sectional research design, which allowed the researchers to intergrate training management literature, the in-depth interview, the pilot study and the actual survey as a main producer to gather data for his study. The use of such methods may gather accurate and less biased data ( Cresswell, 1998 ; sekaran , 2000 ). This study was conducted in a public institution of higher learning in East Malaysia, Malaysia. For confidential reasons the name of this organization is kept anonymous. At the early stage of this study, in depth-interviews were conducted involving one experience HR officer in the studied institution. He was selected using a purposive sampling technique because he had working experience more than 10 years and had posed good knowledge about compensation program in the institution studied.

Information gathered from the interview shows that pay level is designed and controlled by the stakeholders and administered by the Human Resource Management Departments ( HRMD ) of the institution. The HRMD has used a standardized and

centralized approach to ensure equity in determining pay levels to all employees who work in the similar and/or different job groups. In terms of pay design, the department is given little autonomous power to determine pay level, but they are given flexibilities to use their creativities and innovations to administer pay level policies based on procedures formulated by the stakeholders. However, the effectiveness of pay level policies is often assessed based on employees' feelings of distributive justice. For example, the majority of employees often compare their bosses' styles in allocating pay levels with other employees who have held the same positions and/or qualifications within the institutions. If employees perceive that their bosses consistently practice equity in allocating pay levels (e.g., level of pay is appropriately determined based on job and/or performance), their feelings of distributive justice will strongly increase. As a result, it may lead to increased job satisfaction (e.g., satisfied with the ability to implement duty and responsibility and satisfied with the physical working conditions) in the institution. The nature of this relationship is interesting, but mediating role of distributive justice is neglected because of the paucity of compensation research literature in this country.

The information helped the researchers to understand the nature of pay level policy, distributive features and job satisfaction elements, as well as the relationship between such variables in the studied institution. After transcribing, categorizing and comparing the information with relevant theoretical and empirical evidence, the triangulated outcomes were used as a guideline to develop the content of the survey questionnaire for the pilot study. Next, a session was initiated for discussing the items in the survey questionnaire with five experienced lecturers, namely two lecturers from one social science and humanity based faculty, and three lecturers from two science and technology based faculty in order to verify the content and format of the questionnaire for the actual study. The back translation technique was used to translate the survey questionnaires in Malay and English; this may increase the validity and reliability of the instrument (Van Maanen, 1983; Wright, 1996).

The survey questionnaire consisted of three sections. Firstly, the pay level had 5 items that were modified from compensation management literature (see Ismail et al., 2008; Lawler, 1995, 2000; Henderson 2009; Milkovich & Newman, 2020). Secondly, distributive justice had five items that were adapted from Jones, Scarpello & Bergman (1999) and Moorman's (1991) distributive justice scale. Thirdly, job satisfaction was measured using 6 items that were measured using a 7-item scale ranging from "very strongly disagree/dissatisfied" (1) to "very strongly agree/satisfied" (7). Demographic variables were used as a controlling variable because this study focused on employee attitudes.

The researchers had obtained an official approval to conduct the study from the head of the target organization and also received advice from him about the procedures of conducting the survey in his organizations. The targeted population for this study

Was 900 academic staff who worked in eight faculties in a public institutions of higher learning in East Malaysia, Malaysia. The participating faculties were three from social science and humanity based faculty, and five were from science and technology based faculty. In the first step of data collection, the researchers met HR managers of the studied organizations to get their opinions about the rules of distributing survey questionnaires in their organizations. Considering the organizational rules, a quota sampling was used to determine the number of sample size based on the period of study and budget constraints, which were 300 academic employees. After that, a convenient sampling was chosen to distribute the survey questionnaires because the list of registered employees was not given to the researchers and this situation did not allow the researchers to choose random respondents in the organizations. Of the number, 120 usable questionnaires were returned to the researchers, yielding a response rate of 40 percent. The survey questionnaires were this sample exceeds the minimum sample of 30 participants as required by probability sampling technique, showing that it may be analysed using inferential statistics ( Sekaran, 2000 ; Leedy & Omrod, 2005 ).

The Statistical Package for Social Science ( SPSS) version 16. 0 was used to analyse the data from the questionnaire. Firstly, exploratory factor analysis ( EFA ) was used to assess the normality of data and validity and reliability of measurement scales ( Nunally & Bernstein, 1994 ; Hair et al, 1998 ). Relying on the guidelines set up by these statisticians, a factor analysis with direct oblimin rotation was first done for all the items that represented each research variable, and this was followed by the test, that is, Kaiser-Meyer-Olkin Test (KMO ), Bartlett's test of sphericity ( BTS ), eigenvalue, variance explained and Cronbach alpha (  $\alpha$  ). The value of the factor analysis for all items that represent each research variables was 0.4 and more, indicating the items met the acceptable standard of validity analysis. All research variables have exceeded the acceptable standard for Kaiser-Meyer-Olkin's value of 0.6 were significant in Bartlett's test of sphericity, showing that measure of the sampling adequacy for each variable was acceptable. All research variables had eigenvalues larger than 1 and variance explained had value more than 0.45, signifying that the variables met the acceptable standard of validity analysis ( Hair et al, 1998 ). All research variables exceed the acceptable standard of reliability analysis of 0.70, indicating the variable met the acceptable standard of reliability analysis ( Nunally & Bernstein, 1994 ). Variables that met the acceptable standard of validity and reliability analysis were used in testing hypotheses.

Secondly, analysis of variance, Pearson correlation analysis and descriptive statistics were conducted to analyze the constructs and the usefulness of the data set ( Tabachnick & Fidell, 2001 ; Yaacob , 2008 ). Finally , Stepwise regression analysis was utilized to test the mediating hypothesis because it can assess the magnitude of each independent variable, and vary the mediating variable in the relationship between many independent variables and one dependent variable ( Baron & Kenny, 1986 ; Foster et al., 1998 ). According to Baron and Kenny (1986), the mediating variable can be considered when it meets three conditions: first the predictor variables are significantly correlated with the hypothesized

mediator. Second, the predictor and mediator variables are all significantly correlated with the dependent variable. Third, a previously significant effect of predictor variables is reduced to non-significance or reduced in terms of effect size after the inclusion of mediator variables into the analysis ( Wong & Law, 1995 ). In this regression analysis. Standardized coefficients ( standardized beta ) were used for all analyses ( Jaccard et al., 1990 ).

## Findings

The majority of the respondent were mostly males ( 55.8% ) than females ( 44.2% ). Most respondents were aged between 31 to 35 years ( 47.5 % ). A large number of respondents had a Masters degree ( 90.8% ). The majority of respondents specialized in the field of science and technology. Most respondents worked between 2 to 5 years ( 59.2%). The biggest group of respondents serve as permanent and confirmed staff ( 76.7 % ). Lecturers represented the largest group of respondents ( 88.3% ). The salaries of the majority of respondents were between RM 2501 and RM 3500 ( 45.8 % ).

The variables used in this study had Kurtosis value of less than  $\pm 2$  or skewness value of less than  $\pm 2$  ( Hair et al., 1998 ), therefore it could be generalized that the variables satisfactory met the requirements of univariate normality assumption. Table 1 shows that the survey questionnaires consisted of 15 items, which were related to three variables : pay level ( 5 items), distributive justice ( 5 items ), and job satisfaction ( 5 items ). Relying on the guidelines set up by Hair et.al ( 1998 ) and Nunally and Bernstein ( 1994 ), the values of Kaiser-Meyer-Olkin ( KMO ) and the Bartlett's test of sphericity, eigenvalues larger, variance explained more than 0.45, factor loadings and reliability analysis met the acceptable standard of validity and reliability analyses. It indicates that the measurement scales used in this study had high validity and reliability standards as shown in Table 1.

**Table 1** Results of Validity and reliability Analyses

Measure	Items	Factor Loadings	KMO	Bartlett's Test of Sphericity	Eigenvalue	Variance Explained	Cronbach Alpha
Pay Level	5	0.568-0.698	0.744	182.540, P=.000	2.596	51.927	0.741
Distributive Justice	5	0.698-0.880	0.870	309.833, P=.000	3.424	68.483	0.885
Job Satisfaction	5	0.552-0.793	0.739	127.833, P=.000	2.500	50.008	0.748

Table 2 shows the results of Pearson correlation analysis and descriptive statistics. The means for the variables range from 4.7 to 5.6, signifying that the levels of pay level, distributive justice and job satisfaction ranging from high ( 4 ) to highest level ( 7 ). The correlation coefficients for the relationship between the independent variables ( *i.e.*, pay level ) and the mediating variable ( *i.e.*, distributive justice ), and the relationship between the independent variable ( *i. e.*, pay level) and the dependent variables ( *i.e.*, job satisfaction )

were less than 0.90, indicating the data are not affected by serious collinearity problem ( Hair *et al.*, 1998 ).

**Table 2** Results of Pearson Correlation Analysis & Descriptive Statistics

Variable	Mean	Standard Deviation	1	2	3
Pay Level	4.7	.99	1		
Distributive Justice	5.0	1.1	.49**	1	
Job Satisfaction	5.6	.81	.21*	.40**	1

Note : Significant at \* 0.05 ; \*\* 0.01 ; \*\*\* 0.001 Reliability Estimation in the Parenthesis ( 1)

As described in Table 2, the outcomes the Pearson correlation analysis showed that pay level positively and significantly correlated with job satisfaction (  $r = .21$  ,  $p < 0.05$  ), therefore  $H_{a1}$  was supported. This result indicates that pay level is an important determinant of job satisfaction in the studied organization.

Table 3 shows that demographic variables were entered in Step 1 and then followed by entering independent variable ( *i.e.* , pay level ) in Step 2, and mediating variable ( *i.e.* , distributive justice ) in Step 3. Job satisfaction was used as the dependent variable. An examination of multicollinearity in the coefficients tables shows that the tolerance value for the relationship between the independent variable ( *i.e.* , pay level ) and the dependent variable ( *i.e.* , job satisfaction ) were 0.83. While, the tolerance value for the relationship between the independent variable ( *i.e.* , pay level ), the mediating variable ( *i.e.* , distributive justice ) and the dependent variable ( *i.e.* , job satisfaction ) was 0.65. These tolerance values were more than the established tolerance value of .20 ( as a rule of thumb ), indicating the variables were not affected by multicollinearity problems ( Fox, 1991 : Tabachnick *et al.*, 2001 ).

**Table 3** Results of Stepwise Regression Analysis for Distributive Justice

Variable	Dependent Variable (Job Satisfaction)		
	1	2	3
<u>Controlling Variable</u>			
Gender	.09	.08	.10
Age	.29*	.23	.16
Education	-.23	-.22	-.15
Field of Study	-.06	-.08	-.07
Length of Service	-.08	-.03	.05
Type of Service	-.05	-.03	-.00
Position	.23	.22	.14
Monthly Salary	-.22	-.21	-.21
<u>Independent Variable</u>			
Pay Level		.15	.03



<u>Mediating Variable</u>			
Distributive Justice			<b>.33***</b>
R Square	.09	.11	.18
Adjusted R Square	.02	.03	.10
R Square Change	.09	.02	.07
F	1.32	1.5	2.32
F Change	1.32	2.44	9.063**

Note : Significant at \* $p < 0.05$  , \*\* $p < 0.01$  , \*\*\* $p < 0.001$

Table 3 shows the results of testing hypotheses in Step 3. The inclusion of distributive justice in Step 3 revealed that the relationship between pay level and distributive justice positively and significantly correlated with job satisfaction ( $\beta = 0.33$  ,  $p < 0.001$  ), therefore H2 was supported. The relationship explains that before the inclusion of distributive justice into Step 2, pay level ( $\beta = 0.15$  ,  $p > 0.05$  ) was not found to be a significant predictor of job satisfaction. In terms of explanatory power, the inclusion of pay level in Step 2 had explained 11 percent of the variance in dependent variable. As shown in Step 3 ( after the explained 11 percent of the variance in dependent variables. As shown in Step 3 ( after the inclusion of distributive justice into the analysis), the previously significant relationship between pay level and job satisfaction ( Step 2 :  $\beta = 1.5$  ,  $p > 0.05$  ) did not change significantly ( Step 3 :  $\beta = 0.03$  ,  $p > 0.05$  ). In terms of explanatory power, the inclusion of distributive justice in Step 3 had explained 18 percent of the variance in dependent variable. Statistically, this results sends a message that distributive justice does act as full mediating variable in the organization studied.

### **Discussion and Implications**

The findings of this study confirm that distributive justice does act as full mediating variable in the relationship between pay level and job satisfaction. In the context of this study, Human Resource ( HR ) managers and/ or managers use the policy and procedures formulated by the stakeholders to distribute pay levels to all employees. In terms of employees' perspective, the majority of employees perceive that employers have provided higher pay levels based on their contributions. Employees perceive that HR managers are able to use rules for allocating the appropriate levels of pay to all employees, and this has invoked their feelings of justice about the pay systems. When the employees' feelings of distributive justice are high, job satisfaction in the organization may increase.

The implications of this study can be divided into three major aspects : theoretical contribution , robustness of research methodology and practical contribution. In terms of theoretical contribution, the findings of this study support that effect of pay level on job satisfaction is indirectly influenced by feelings of distributive justice. This result explains that academic staff who have experienced high feelings of distributive justice. This result explains that academic staff who have experienced high feelings of distributive justice will have high satisfaction, appreciation and not prejudice about the rule for distributing the levels of pay different and/or similar job categories. Thus, this feeling may lead employees to increase their satisfaction with job in the organizations. These findings have supported and extended previous research conducted by Bettencourt and Brown ( 1997 ), Allen and White ( 2002 ), and Ismail et al. ( 2008).

Regarding the robustness of research methodology, the survey questionnaires used in this study satisfactorily met the requirements of validity and reliability, and this could lead to the production of accurate and reliable findings. With respect to practical contributions, the findings of this study may be used as guidelines by HR practitioners to improve the design and administration of pay level policies in organization. Firstly, the level of pay needs to be determined based on multiple criteria (such as job, performance, need and/or competitor's pay). This change may increase employee appreciation about the implementation of pay system. Secondly, pay entitlements (e.g., salary, health care and official work claims) need to be adjusted according to current organizational challenges. This effort may help employees to meet their basic needs. As well as improve standards of living and statues in society. Thirdly, the contents and methods of compensation training program need to be updated according to current organizational changes. This improvement may help to increase the capabilities of HR managers in designing creative pay plans, using proper distribution rules, as well as tackling employee perceptions about pay systems. Finally, human resource policies need to focus on recruiting knowledgeable and experienced employees about labor and employment laws. This recruitment policy may help to decrease inefficiency in implementing pay policies and procedures. Considering such suggestions will invoke employees' feelings of justice about pay systems and this may lead to increased positive employee outcomes in organizations.

## **Conclusion**

This study proposed a conceptual framework based on compensation research literature. The measurement scales used in this study met the acceptable standards of validity and reliability analyses. The outcomes of stepwise regression analysis confirmed that distributive justice did act as a full mediating variable in relationship between pay level and job satisfaction in the studied organizations. The result has also broadened and supported compensation research literature mostly published in Western countries. Therefore, current research and practice within the pay system models need to consider perceptions of distributive justice as crucial dimension of the pay level police. This study further suggests that the ability of HR managers and/or managers to practice justice principles in allocating pay level for employees who work in different and/or similar job categories will strongly invoke employees' feelings of distributive justice. As a result, it may lead to increased positive attitudinal and behavioural outcomes (e.g., satisfaction, commitment, performance and good work ethics). Thus, these positive outcomes may lead employees to increase and sustain organizational competitiveness in a global economy.

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