

## **Moderating effect of procedural justice in the relationship between participation in pay systems and personal outcomes**

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### **Abstract**

*This study examines the moderating role of procedural justice in the relationship between participation in pay systems and personal outcomes. This relationship was measured using 203 usable questionnaires that were gathered from hotel employees in Kuching, Sarawak. Outcomes of tests moderating model using hierarchical regression analyses showed that the inclusion of procedural justice into analysis had increased the effect of participation in pay systems on job commitment, but procedural justice had not increased the effect of participation in pay systems on job satisfaction. This result demonstrates that procedural justice does act as a partial moderator in the pay system models of the hotel industry sector. These findings have partially supported compensation studies conducted in most Western countries. In addition, the implications of this study to theory and practice, methodological and conceptual limitations, as well as directions for future research are elaborated in this paper.*

### **Introduction**

Compensation has been generally defined as pay, reward, remuneration, or salary and wage management. These terms are often used interchangeably in organizations, but its meaning still refers to the same thing (Armstrong & Murlis, 1984 & 1994; Deluca, 1993; Milkovich & Newman, 2005; Rajkumar, 1996). In an organization perspective, compensation is often viewed as an important human resource management function where it emphasises planning, organising, and controlling various types of pay systems (e.g., direct and indirect payments, monetary and non-monetary rewards, cash and non-cash payments) for rewarding employees who perform in their work or service (Anthony *et al.*, 1996; Henderson, 2003; Milkovich & Newman, 2005; Noe, Hollenbeck, Gerhart, & Wright, 2004). In a compensation management, participation is recognised as an important pay administration feature that may be used to support the goals and strategy of compensation system (Milkovich & Newman, 2005; Schuler & Van De Ven, 1995; Wallace & Fay, 1988). Participation in pay systems is often defined as an employer encourages employees in different hierarchical levels and categories to discuss and share information-processing, decision-making, and/or problem-solving activities related to pay systems. Collective decisions made through such participation styles will be used to

design and administer pay systems that consider employees' needs and expectations (Appelbaum *et al.*, 2000; Heery & Noon, 2001; Milkovich & Newman, 2005; Wallace & Fay, 1988).

The level of employee participation in pay systems may range from consultation to full participation, which can affect pay decisions (Kim, 1996 & 1999; Lawler, 1992 & 1995; Milkovich & Newman, 2005; Wallace & Fay, 1988). In western organizations, for example, top managers, compensation professionals, internal (e.g., accounting and operating systems) and external experts (e.g., outside consultants that have specialised knowledge and credibility) have been involved in the design, start-up, and operation stages of the pay programs (e.g., gainsharing programs and pay for performance) (Lawler, 1988 & 1992; Kim, 1996 & 1999; Staw & Ross, 1978). Participation in the design and start-up of pay systems is done when employees are given an opportunity to give ideas in establishing pay systems for achieving the major goals of its system, stakeholder's needs and/or organizational strategy (Beer *et al.*, 1984; Lawler, 1984, 1986, 1988, 1989 & 1995; Wallace & Fay, 1988). Participation in operation stages of pay systems involves employee participation in both input and output. Participation in input involves employees' suggestions and input to determine the enterprise's goals, resources, and methods. Participation in output involves employees' shares of the organization's rewards of profitability and/or the achievement of productivity objectives (Sheehan, 1981).

Further research in compensation management reveals that participation in pay systems has a significant impact on personal outcomes such as job satisfaction and job commitment, but the strength of such relationships is influenced by the presence of feelings of procedural justice in organizations (Coyle-Shapiro *et al.*, 2002; Skarlicki & Folger, 2003). Many researchers advocate that greater participation in a pay system will strongly invoke feelings of procedural justice about the system, and that this feeling may lead to increased positive personal outcomes, especially job satisfaction and commitment to an organization (Coyle-Shapiro *et al.*, 2002; Folger & Cropanzano, 1998 & 2001; Janssen, 2001; Robinson *et al.*, 1994). However little has been done to explain the nature of this relationship.

Hotel industry in Kuching, Sarawak was used as a case study. Information gathered from seven employees involving in the in-depth interviews showed that the hotels generally used fixed salary system plus variable pay (e.g., productivity, performance and/or profitability) to reward their employees. Specifically, individual hotels in the industry have not used similar approaches to design the type, level and/or amount of pay. These differences are strongly influenced by the owners' interests, external hotel factors (e.g., competitors' pay) and internal hotel factors (e.g., ability to pay). In order to achieve hotel strategy and goals, management teams have allowed their employees to involve in the design and administration of pay systems. For example, employees' views, comments and suggestions are sought by hotel management as an input to establish the goals, level and structure of compensation system. Although such participation styles are widely practiced, majority employees feel that the type, level and/or amount of pay that they receive do not meet their expectations, as well as the procedures used to allocate such pays are not consistently and sufficiently explained in organizations. These conditions have motivated employees' feelings of injustice, thus lead to increased negative personal outcomes, such as decrease job satisfaction and job commitment. The nature of this relationship is given less attention in past research studies. Hence, this situation encourages the researchers to further investigate the moderating role of procedural justice in the pay system models of hotel industry.

## **Review of the Related Literature**

Procedural justice is an important aspect of organizational justice theory, which emphasizes fairness in decision-making (Cropanzano *et al.*, 2001; Cropanzano & Greenberg, 1997; Greenberg, 1987a & 1987b). It is concerned with providing employees with input into decision making by ensuring fair treatment, communicating information accurately, consistently, suppressing bias, and providing opportunities for rectification (Leventhal, 1976; Thibaut & Walker, 1978). This suggests that within a compensation framework, opportunities provided for employees to participate in decisions about the design and administration of the pay systems, will increase fairness of the general process (e.g., process of allocating pay raises), and fairness of a manager dealing with employees (e.g., how a supervisor treats employees' complaints about pay systems). As a result, it may lead to increased job satisfaction and job commitment (Greenberg, 1987a & 1987b; Lepak & Snell, 1999; Liu *et al.*, 2003; Skarlicki & Folger, 2003).

The notions of procedural justice theories are consistent with compensation research literature. For example, Janssen (2001) conducted a study about the pay distribution systems in a Dutch organization and found that management employees who were empowered and involved in decisions about distributing reward levels, had more positive perceptions about the systems. This perception may lead to increased job satisfaction. Besides that, Coyle-Shapiro *et al.* (2002) examined the profit sharing plans in a UK multinational supplier of aerospace components and found that employee participation in the distribution of profit sharing rewards positively affected employees' perceptions that rewards are paid fairly based on management goals. This feeling may lead to an enhanced sense of commitment to the organization. The theoretical and empirical evidence have provided a good support for the use of procedural justice as a moderator in this study.

## **Research Methodology and Procedure**

### ***Sample***

The target population of this study was employees who are working in private-owned hotels operating in Kuching, Sarawak. Of the registered list, 20 hotels agreed to participate in this study. Of the 300 questionnaires that were distributed to the employees, 203 questionnaires were completed by the participants. Participants answered questionnaires on voluntarily basis. The number of this sample is higher than the minimum sample size of 200 participants required, based on the sampling formula recommended by Boomsma (1982), sufficient enough to produce valid and reliable research findings.

### ***Research Design***

This study used a cross-sectional research design where it allowed the researchers to integrate compensation research literature, the in-depth interviews, the pilot study and the survey questionnaire as a main procedure to gather accurate, less bias data and increase quality of data being collected (Cresswell, 1998; Davis, 1996; Sekaran, 2000). The in-depth interviews were first conducted to seven experienced employees who held management and non-management positions in several hotels owned by individuals and private companies in Kuching, Sarawak. Their opinions were sought to understand the nature of pay system practices, procedural justice characteristics, job satisfaction characteristics, job commitment characteristics, and relationship between such variables in the organizations. Information gathered from this method was used to develop a content of survey questionnaire for a pilot study. Next, a pilot study was conducted involving 20 experienced employees who held

management and non-management positions in the hotels. Their views were used to verify the content of survey questionnaire designed for this study.

The survey questionnaire has four sections. Firstly, participation in pay systems consists of 11 items that were developed based on pay design literature (see Guthrie, 2000; Pettijohn *et al.*, 2001; Tata, 2000; Young, 1999; Williams, 1995). Secondly, procedural justice was measured using 4 items that were modified from the Moorman's (1991) procedural justice scale. Thirdly, job satisfaction was measured using a 8-item Overall Job Satisfaction scale developed by Warr *et al.*, (1979). Finally, job commitment was measured using a 5-item scale developed by Mowday *et al.*, (1979). These items were measured using a 7-item scale ranging from "strongly disagree/dissatisfied" (1) to "strongly agree/satisfied" (7).

This study used a convenience sampling plan. The list of hotel was obtained from the Tourism Development Board pamphlets, travel agents and internet. From the list, 20 hotels agreed to participate in this study. The unit of analysis for this study is employees who have worked in the hotel industry. As an exploratory study, the budget and time allocated for this study are limited. In this constraint, 300 questionnaires were distributed to the employees. Of the number, 203 questionnaires were returned, yielding 67.6 percent of response rate. Participants answered questionnaires based on their consents and a voluntarily basis. The number of this sample is higher than the minimum sample size of 200 participants required, based on the sampling formula recommended a size by Boomsma (1982), considered to be sufficient enough to produce valid and reliable research findings.

### **Analysis**

The Statistical Package for Social Science (SPSS) version 14.0 was used to analyze the questionnaire data. Firstly, validity and reliability analyses were conducted to determine the psychometric properties of questionnaire data used for this study. The main advantage of using these analyses may lead to acceptable research findings (Edward & Thomas, 1993; Morgan *et al.*, 1999). Secondly, a Pearson's correlation analysis was first conducted to test the direct effect of participation in pay systems on job satisfaction and job commitment. Thirdly, a moderated multiple regression analysis (as recommended by Cohen and Cohen, 1983) was used to test the moderating effect of procedural justice in the relationship between participation in pay systems, job satisfaction and job commitment. In this model testing, potential variables were determined based on regression tests and subjective decisions (e.g., prior knowledge, relevant research, in-depth interviews and pilot study).

The main advantage of using the potential controlling variables (i.e., respondents' characteristics) into analysis may decrease confounding results in testing interaction hypotheses (Jaccard *et al.*, 1990; Kleinbaum *et al.*, 1988). Moderating effects are a type of interaction where the strength of relationship between an independent variable and a dependent variable is changed when other variables are present (Jaccard *et al.*, 1990; Kleinbaum *et al.*, 1988). Proof of an interaction is evident when the relationship between interacting terms (i.e., product terms) and the dependent variable is significant. The fact that the significant main effects of predictor variables and moderator variables simultaneously exist in analysis it does not affect the moderator hypothesis and is significant to interpret the interaction term (Baron & Kenny, 1986).

### **Research Findings**

#### **Sample Profile**

Most respondents' characteristics were age between 26 to 30 years old (38%), secondary school certificates (87%), supporting staff (51%), serve less than 5 years (72%), and monthly

salary less than RM1500 per month (71%). Prior to the hypotheses testing, the preliminary psychometric assessments and correlational analysis were reviewed.

**Psychometric Assessments**

The results of validity analysis showed that items for each variable (i.e., participation in pay systems, procedural justice, job satisfaction and job commitment) had factor loading values greater than 0.40, signifying relatively high validity standard (Hair, Anderson, Tatham & Black, 1998). The results of reliability analysis showed each research variable, such as participation in pay systems (alpha=.92), procedural justice (alpha=.79), job satisfaction (alpha=.85) and job commitment (alpha=.77) had a value of Cronbach alpha of more than 0.63, indicating the relatively high reliability of the measurement scales (Nunnally & Bernstein, 1994). The measurement scales that had high psychometric properties were used as a baseline to test research hypotheses.

**Descriptive Statistics and Pearson Correlation Analysis**

Table 2 shows the mean values of each non-demographic variable between 4.5 and 5.2, indicating that the levels of participation in pay systems, procedural justice, job satisfaction and job commitment range from high (4) to highest (7). The correlation coefficients between the independent variable (participation in pay systems), the moderating variable (procedural justice), and the dependent variable (i.e., job satisfaction, and job commitment) were less than 0.90, indicating the data are not affected by a serious co-linearity problem (Hair *et al.*, 1998). These correlations also provide further evidence of validity and reliability for measurement scales used in this research.

**Table 2: Means, Standard Deviations, and Correlation between Variables**

Variable	Mean	SD	Pearson Correlation Coefficients (Pearson's r)																	
			1	2	3	4	5	6	7	8	9	10								
1. Sex	NA	.5	1																	
2. Age	2.2	1.1	.07	1																
3. Education	NA	1.1	.09	.08	1															
4. Position	NA	.72	.11	-.20**	-.36**	1														
5. Length of Service	2.1	1.0	-.02	.61**	.01	-.21**	1													
6. Salary	2.1	1.2	-.04	.25**	.72**	-.48**	.22**	1												
7. Participation	4.5	1.2	.04	.02	.27**	-.31**	.05	.36**	1											
8. Procedural Justice	4.5	1.1	.06	.00	.30**	-.19**	.01	.37**	.57**	1										
9. Job Satisfaction	5.2	.8	.08	.19**	.04	.04	.14	.12	-.03	.12	1									
10. Job Commitment	5.0	.9	.06	.14*	.19**	-.20**	.18**	.19**	.53**	.42**	.30**	1								

Note: \* p<0.05; \*\*p<0.01 level      NA=Not Applicable      SD=Standard Deviation

N=203

Reliabilities represented on diagonal (1)

Values of Pearson's r between -1 to +1 indicates the strength of the linear correlation between two variables. Negative or positive correlation coefficients indicate a negative or positive linear way

**Outcomes of Hypothesis Testing**

The first hypothesis to be tested is that:

H1: There is a positive relationship between participation in pay systems and personal outcomes (as measured by job satisfaction and job commitment)

Table 2 shows that participation negatively and insignificantly correlated with job satisfaction ( $r=-.03$ ,  $p<.68$ ), therefore H1 was not supported. Conversely, participation positively and significantly correlated with job commitment ( $r=.53$ ,  $p<.00$ ), therefore H2 was supported. These results demonstrate that participation in pay systems has been an important predictor of job commitment in the hotel industry sample. Next, a moderating role of procedural justice in the hypothesized model was tested in order to measure the strength of such relationships (see Tables 3 and 4).

The second hypothesis to be tested is that:

H2: Interaction effect of participation in pay systems and procedural justice will positively impact job commitment

The inclusion of procedural justice in Step 3 of the Table 3, reveals that procedural justice is a moderating variable for the participation in pay systems and job commitment relationships ( $\beta=.75$ ,  $p<.02$ ). The results demonstrate that the strength of such relationships has positively been affected, which can be a signal that procedural justice is a moderator in the hotel industry sample.

**Table 3: Hierarchical Regression Results for the Moderating Variable with Job Commitment As a Dependent Variable**

Variable	Dependent Variable (Job Commitment)		
	Step 1	Step 2	Step 3
Sex	.06	.01	.01
Age	.01	.08	.08
Education	.13	.14	.14
Position	-.13	-.03	-.00
Length of Service	.15	.15	.13
Salary	.01	-.21*	-.24*
<u>Independent Variables</u>			
Participation		.44***	.04
Procedural Justice		.20**	-.21
<u>Interactions</u>			
Participation x Procedural Justice			.75*
R Squared	.08	.35	.37
Adjusted R <sup>2</sup>	.05	.32	.34
F	2.89**	12.87***	12.36***
R Square Change	.08	.27	.02
F Change R <sup>2</sup>	2.89**	29.40***	5.75***

Note: \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

The third hypothesis to be tested is that:

H3: Interaction effect of participation in pay systems and procedural justice will positively impact job satisfaction

The inclusion of procedural justice in Step 3 of the Table 4, reveals that procedural justice is not a moderating variable for the participation in pay systems and job satisfaction relationships ( $B=.35$ ,  $p>.35$ ). These results demonstrate that the strength of such relationships has not been affected, which can be a signal that procedural justice is not a moderator in the hotel industry sample.

**Table 4: Hierarchical Regression Results for the Moderating variable with  
Job Satisfaction As a Dependent Variable**

Variable	Dependent Variable (Job Satisfaction)		
	Step 1	Step 2	Step 3
Sex	.07	.07	.07
Age	.15	.15	.14
Education	-.07	-.08	-.08
Position	.15	.12	.14
Length of Service	.04	.04	.04
Salary	.20	.18	.17
<u>Independent Variables</u>			
Participation		-.14	-.33
Procedural Justice		.17*	-.02
<u>Interactions</u>			
Participation x Procedural Justice			.35
R Squared	.07	.09	.09
Adjusted R <sup>2</sup>	.04	.05	.05
F	2.34*	2.34*	2.17*
R Square Change	.07	.02	.00
F Change R <sup>2</sup>	2.34*	2.23	.88

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

### Discussion and Implications

In the hotel industry sector, participation in pay systems has been practiced at both organizational and departmental levels. At organizational level, participation is done via committees, briefings and meetings. At departmental level, participation is done via interaction between HR officers and employees. In these participation systems, the employees' views are often sought after by the employers to design and administer pay system issues, such as, salary level, salary rise, performance related salary, rewards training program, promotion training program, recognition plans, excellent service awards, training opportunity, promotion procedure, and salary differentials. Majority employees feel that such participation styles are actively implemented in the organizations (as described in Table 2, mean value for participation in pay systems is 4.45, signifying the level of participation is high).

When majority employees feel that the level of participation in pay systems is actively practiced, this may lead to increased feelings of procedural justice in the organizations (as described in Table 2, mean value for procedural justice is 4.48, signifying the level of procedural justice is high). Consequently, the interaction between participation in pay systems and procedural justice has affected job commitment, but the interaction between participation in pay systems and procedural justice has not affected job satisfaction in the organizations. These findings show that procedural justice has played a partial moderating role in the pay system models of the hotel industry.

The implications of this study can be divided into three major categories: theoretical contribution, robustness of research methodology, and practical contribution. In terms of theoretical contribution, the findings this study confirm that procedural justice has played important role as a partial moderator in the pay system models of the hotel industry. Specifically, this study reveals two important findings. These are: firstly, procedural justice has been recognized as important moderator for the participation in pay systems and job commitment relationships. These results have supported and extended compensation studies

conducted in most Western countries (see Coyle-Shapiro *et al.*, 2002; Greenberg, 1987a & 1987b; Skarlicki & Folger, 2003).

Secondly, procedural justice has not been recognized as an important moderator for the participation in pay systems and job satisfaction relationships. These results have not supported compensation studies conducted in most Western countries (see Janssen, 2001; Cropanzano & Greenberg, 1997; Skarlicki & Folger, 2003). According to information gathered from the in-depth interviews, this result may be affected by the nature of pay system practiced in the hotel industry sector. For example, majority employees have accepted that participation in pay systems is a high performing human resource management practice, but employees feel that they are not provided sufficient power to make final decisions about the type, level and/or amount of pay in the organizations. In this situation, majority employees feel that such participation styles as a “pseudo participation” where negotiations with HR officers and/or managers may not fulfill their needs and expectations. The failure of such participation styles is due to the owners of the organizations (e.g., board of director or individuals) have much power and often use mitigating tactics (e.g., excuses) to waive employees’ demands. These practices have increased employees’ misconceptions, misjudgments, and negative feelings about the pay systems. As a result, it may lead to decreased job satisfaction in the workplace.

With respect to the robustness of research methodology, the questionnaire data used in this study have exceeded a minimum standard of validity and reliability. This can lead to the production of accurate findings. In terms of practical contributions, HR officers and/or managers may use these findings as a reference to plan effective strategy to achieve the major goals of human resource management and organization. These objectives may be achieved if organizations focus on two major issues. Firstly, update curriculum and learning styles in compensation training programs for HR managers and/or managers. For example, curriculum and learning activities should not only stress on technical aspects, but also need to give more attention on interpersonal communication skills, problem solving and decision-making techniques. HR officers and/or managers who have these skills will feel confident to provide better explanations, openly and honestly conducting discussions and motivate employees to support pay policy and procedures in organizations. Secondly, shift a paradigm of human resource planning, selection and placement to hire experienced people. Experienced HR managers and/or managers have sufficient knowledge, skills and capabilities in compensation system as well as general management. Their experiences may be used to tackle not only employees’ complaints, but also attract, retain and motivate competent employees to support pay systems management. If these suggestions are implemented, this will increase employees’ perceptions of justice about the procedures of allocating pay in organizations. As a result, it may lead to increased positive personal outcomes such as job satisfaction and job commitment.

### **Limitations of the study**

The conclusion drawn from the results of this study should consider the following limitations. Firstly, this study was a cross-sectional research design where the data were taken one time within the duration of this study. This research design did not capture the developmental issues (e.g., intra-individual change and restrictions of making inference to participants) and/or causal connections between variables of interest. Secondly, this study only examines the relationship between latent variables and the conclusion drawn from this study does not specify the relationship between specific indicators for the independent variable, moderating variable and dependent variable.

Thirdly, the outcomes of multiple regression analysis have focused on the level of performance variation explained by the regression equations and it is also helpful to indicate the amount of dependent variable variation not explained (Tabachnick & Fidell, 2001). Although a substantial amount of variance in dependent measure explained by the significant predictors is identified, there are still a number of unexplained factors that can be incorporated to identify the causal relationship among variables and their relative explanatory power. Therefore, one should be cautious about generalizing the statistical results of this study. Finally, the sample for this study was taken from one organizational sector that allowed the researchers to gather data via survey questionnaires. These limitations may decrease the ability of generalizing the research findings to other organizational settings.

### **Directions for Future Research**

The conceptual and methodological limitations of this study need to be considered when designing future research. Firstly, this study sets a foundation for research on relationships between participation in pay systems, procedural justice, job satisfaction and job commitment. It has raised many questions as well as confirming initial propositions. A few research areas can be further explored as a result of this study. Secondly, besides existing organizational and personal characteristics used in this study, other potential organizational and personal characteristics that may influence participation in pay systems need to be further explored. These variables may provide meaningful perspectives for understanding of how individual similarities and differences affect participation in pay systems.

Thirdly, the cross-sectional research design has a number of shortcomings, therefore other research designs such as longitudinal studies should be used as a procedure for collecting data and describing the patterns of change and the direction and magnitude of causal relationships between variables of interest. Fourthly, the findings of this study rely very much on the sample taken from the hotel industry sector. To fully understand the effect of participation in pay systems on job satisfaction and job commitment via their impact upon feelings of procedural justice, more types of organizational sectors (e.g., government linked companies, timber companies, shipping companies, and direct selling companies) need to be used as a pay referent in future study.

Fifthly, as an extension of the procedural justice studies, the theoretical construct of distributive justice needs to be considered in future research since it has been widely recognized as an important link between participation in pay systems and individual attitudes and behaviors. For example, perceptions of fairness about pay rises, distributions of workload and allocation of benefits may strongly induce positive personal outcomes such as decrease job dissatisfaction, intention to leave organization as well as increase job performance (see Adams, 1963 & 1965; Ambrose, 2002; Guthrie, 2000; Tang & Chiu, 2003; Zenger, 1992). Finally, job performance, turnover, and deviant behaviors have been found to be important outcomes of the effect of procedural justice in compensation management literature (see Ambrose, 2002; Sweeney & McFarlin, 1993; Tang & Chiu, 2003; Tang *et al.*, 2000). The importance of these issues needs to be further elaborated in future research.

### **Conclusions**

This study shows two major outcomes of testing moderating and direct effects models. Firstly, outcomes of testing direct effects model showed that participation in pay systems was a positive and significant predictor of job commitment, but participation in pay systems was not

a predictor of job satisfaction. In order to decrease confounding results and increase the credibility of this study, a moderating model is further tested to measure the strength of such relationships. Outcomes of testing moderating model revealed that procedural justice was a moderating variable for the participation in pay systems and job commitment relationships, but procedural justice was not a moderating variable for participation in pay systems and job satisfaction relationships.

In sum, this study confirms that procedural justice has played important role as a partial moderator in the pay system models of the hotel industry sector. According to information gathered from the in-depth interviews, the nature of pay system practices within the organizations has been identified as a powerful external factor that may overrule the moderating role of procedural justice in the relationship between participation in pay systems and job satisfaction. These results partially support compensation research literature. Therefore, current research and practice within pay system models needs to consider perceptions of procedural justice as a critical aspect of pay systems. The findings of this study further suggest that procedural justice should be seen as a crucial aspect of pay system where individuals' perceptions of justice about the procedure of allocating pay may induce positive subsequent personal outcomes (e.g., satisfaction, commitment and thus performance). Hence, these positive outcomes may lead employees to support organizational and human resource management goals and strategy.

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