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An Empirical Study the Effects of Remuneration and Knowledge Sharing on Managerial Performance in Indonesian Public Sectors

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ABSTRACT

Remuneration and knowledge sharing in workplace are believed to be critical factor of management success to reach the best performance. This study examines relationships between remuneration, knowledge sharing, and managerial performance based on a sample of 258 officials in 40 public service agencies. Partial least squares statistical technique was used to analyze the data. Remuneration positively associates with knowledge sharing and managerial performance. Furthermore, knowledge sharing positively relates with managerial performance. In additional, knowledge sharing positively mediates remuneration and managerial performance. These findings reinforce the importance of remuneration and knowledge sharing to public sector organizations. Public officials should give remuneration in accordance with performance and civilize knowledge sharing within their institutions in order to enhance managerial performance.

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INTRODUCTION

Public sector agencies should serve the public with best performance. The first aspect is that quality of government services is determined by quality of their civil servants. However, civil servants do not give optimum services to public because there is a difference in performance measurement standard between public agencies and civil servants. Nowadays, government agencies performance has been assessed by National Integrity Index (Corruption Eradication Commission, 2012) while the civil servants performance as an individual has been assessed by behavioral indicator (Republic of Indonesia, 1979). A performance measurement of behavioral indicator produces biased values because the performance indicator do not have benchmarks (Wirawan, 2009).

Another quality aspect of public services is determined by remuneration accepted by civil servants. Remuneration is an opportunity dimension to motivate individuals to complete their job (Blumberg and Pringle, 1982). Remuneration can increase productivity of management to achieve the performance (Murphy, 1985; Merhebi *et al.*, 2006; Scholatz and Smit, 2012). In contrast, remuneration received by employees that are not commensurate

with their capabilities can decrease their performance. Currently, government pays remuneration based on tenure, grade, and seniority regardless their performance of any civil servants (Republic of Indonesia, 2013). There is a contradiction, government expects civil servants to provide maximum services to public, but the government itself has not been able to give fair remuneration.

However, organizational performance is an accumulation of individual performance where failures their personel performance will affect on organization performance as whole to realize the goals. Performance theory explains that individual success to achieve the performance is affected by three dimensions i.e. capacity, willingness and opportunity (Blumberg and Pringle, 1982). This theory states that individual's success depends on themselves without regard to social aspects. For example, knowledge sharing among individuals is a form of social interaction. In this regard, Kim (2011) states that knowledge sharing affect on individual performance. Individuals who have a lot of knowledge will be motivated to share their knowledge with other individuals and positively affect on their performances. This study will combine performance theory and social exchange

theory to be able to elaborate the performance determinants.

1. Literature Review:

2.1. Performance theory:

Performance is a function of capacity dimensions, willingness, and opportunity (Blumberg and Pringle, 1982). A capacity is physiological and cognitive ability that allows individuals to perform tasks effectively (e.g. knowledge, skills, age, education level, stamina, expertise, and other variables). A willingness is composed by psychological and emotional characteristics to affect individuals to perform the tasks (e.g. motivation, job satisfaction, personality, anxiety, and other concepts). The third dimension is an opportunity to do something that is influenced by environmental factors that surround it. Variables of opportunity dimension consist of equipment, systems and operating procedures, co-worker relationships, leadership behavior, and so on. Dimension of opportunity has a significant effect on performance if compared to capacity and willingness dimensions (Blumberg and Pringle, 1982).

2.2. Social Exchange Theory:

Social exchange theory is used as a theoretical basis to examine the individual interaction to each other that consider the balance between benefits and cost (Zhang and Ng, 2012). Benefits are any positive outcomes obtained by a person from a relationship. For example monetary reward, social acceptance, or socio-emotional outcomes that are associated with esteem needs, etc. Meanwhile, cost is negative outcomes that are caused by a relationship, e.g. a loss of time, conflict, anxiety, something unpleasant, and the other conditions that spend resources that are owned by an individual. An expectation of an interaction is to get mutual benefits (Zhang and Ng, 2012). Everyone will maximize their benefit and they will stop a relationship each other when cost sacrificed is greater than benefit obtained.

2.3. Remuneration and Managerial Performance:

Generally, remuneration policy is related to employee's welfare. Providing adequate remuneration can affect on productivity in performance achievement. Each organization has a different approach to determine components of remuneration. There are six components of remuneration, namely: salary, bonus, salary plus bonus, deferred compensation, ex-ante value of stock options, and total compensation (Murphy, 1985). Meanwhile, wage or salary is the most sensitive component of remuneration in working relationship between owner and employees.

A good remuneration system can strengthen key values of organization and accelerate the achievement of organizational goals (Sutrisno, 2009). Remuneration is an opportunity dimension to affect

the individual performance (Blumberg and Pringle, 1982). High amount of remuneration can increase employee motivation (Rowley and Jackson, 2010), but in large sums it causes high operating costs for organizations (Robbins and Judge, 2007). Remuneration in government agencies is expected to motivate civil servants to improve services to public (Sancoko, 2010) and reduce corruption (Rianto, 2009). Similarly, remuneration based on performance can grow employee's sense of belonging to organizations (Gibson, Ivancevich, and Donnelly, 1999). In country with low socio-economic condition, incentive has significant effect on performance (Pham and Swierczek, 2006). Remuneration positively affects on managerial performance so that ultimately the company goals can be achieved (Murphy, 1985; Merhebi *et al.*, 2006; Scholatz and Smit, 2012). In conclusion, remuneration motivates employees to achieve organizational goals. Therefore, we hypothesize:

H1: Remuneration affects on managerial performance.

2.4. Remuneration and Knowledge Sharing:

Social exchange theory states that relationship among humans is based on reciprocal behavior (Liu *et al.*, 2011). Social exchange has shaped a pattern of give-and-take in organizations. Organizations receive employee's services and employees receive remuneration from organizations. In addition, employees will share knowledge to other employees, in such a way that it can increase the knowledge value (Muafi, 2011) and motivate individual to think logically and do innovation (Setiarso *et al.*, 2012).

Knowledge sharing is influenced by dimension of organizational effort (Liu *et al.*, 2011). One factor of organizational effort is reward system. As an example, organizations provide incentives for employees to form their behavior in workplace (Cabrera and Bonache, 1999). A reward system significantly affect on behavior of knowledge sharing (Liang, Liu and Wu, 2008; Liu *et al.*, 2011). A monetary reward (e.g. salary increases and bonuses) and non-monetary reward (e.g. promotion and training opportunity) affects on knowledge sharing behavior of individuals through the electronic knowledge repositories (Kankanhalli, Tan, and Wei, 2005). This reward is very necessary to motivate employees to achieve performance targets (Zhang and Ng, 2012). Accordingly, the hypothesis is follows:

H2: Remuneration affect on knowledge sharing.

2.5. Knowledge Sharing and Managerial Performance:

Interpersonal relationship is a factor to accelerate the achievement of organizational goals although the relationship is transactional (Zhang and Ng, 2012). An interaction among personals encourages knowledge sharing within organization

where every employee has valuable private information. Disclosure of private information can help superiors or owners to develop strategic policies to assist subordinates to achieve their performance targets (Murray, 1990). For example, sharing information from subordinates to superiors at time of budget preparation has benefits in order to obtain an adequate budgetary endorsement for their unit work (Nouri and Parker, 1998).

Information sharing to superior has positive effect on managerial performance (Parker and Kyi, 2006) because it provides many inputs for manager to realize performance targets. Managerial performance will increase if the information shared to other individual is knowledge (Davenport and Prusak, 2005). It is a valuable intangible asset of organization and useful to maintain a competitive advantage (Wang and Wang, 2012).

Knowledge can be gained through interaction with others and it can be transferred to colleagues in many forms, e.g. feedback, clarification, or advice (Hutzschenreuter and Horstkotte, 2010). Knowledge sharing is able to improve the knowledge, skills, experience, ideas, and attitude of an individual, which has great benefits to organization (Wang and Wang, 2012). Knowledge sharing improves performance (Wang and Wang, 2012) because it can reduce conflict among team members, minimize duplication of knowledge, and generate new knowledge to provide the best solution. Based on above descriptions, we propose the hypothesis below:

H3: Knowledge sharing affects on managerial performance.

2.6. Knowledge Sharing mediates the effect of remuneration on managerial performance:

Social exchange theory states that interaction among individuals in organizations is transactional reciprocal relationships (Amayah, 2013). Employees will share their knowledge to other employees if the organization gives rewards, for instance remuneration. Management takes this policy as a form of appreciation for the sacrifices or costs that are incurred by employees to get knowledge.

The reward system was significantly related to performance (Murphy, 1985; Pham and Swierczek, 2006) and to knowledge sharing behavior (Liang, Liu and Wu, 2008; Liu *et al.*, 2011). Employees' remuneration in high amount can grow a sense of belonging to organization (Gibson, Ivancevich, and Donnelly, 1999) and motivate them to achieve performance targets (Rowley and Jackson, 2010). This finding is consistent with performance theory which states that remuneration is an opportunity dimensions to affect the success of individual performance (Blumberg and Pringle, 1982). Organization reward can motivate employees to share knowledge (Kankanhalli, Tan, and Wei, 2005). Other research showed that behavioral of knowledge

sharing is able to enhance the capabilities of individuals on knowledge, skills, experience, ideas, and attitudes, so that they can create a competitive advantage for their organization (Wang and Wang, 2012). Knowledge sharing positively affects on employee's competency and performance (Hsu, 2008; Wang and Wang, 2012) due to many alternatives of relevant decisions provided knowledge sharing .

In conclusion, remuneration improves employees performance and affects on activity of knowledge sharing while this increases the capability and competence of employees. Each employee who have the capability and high competence will result high performance. In other words, effect of remuneration to managerial performance will increase if individuals share their knowledge. Therefore, hypothesis proposed in this study is:
H4: Knowledge sharing mediates the relationship between remuneration and managerial performance.

2. Rresearch Methodology:

3.1. Samples and Data Collection:

This study was conducted in 40 Higher Education Public Service Agencies in Indonesia. These organizations are government agencies with authorities to collect public service revenues and can directly use the proceeds collected to finance the expenditure without having to deposit the cash into state account (Republic of Indonesia, 2005). Analysis unit of this study is civil servants that occupy middle officers with authorities in areas of budget and financial management. Questionnaires were sent by mail or visited to respondent's office. Respondents are 452 that were selected from 1,222 middle officers based on stratified random sampling approach. The survey can gathered 270 but 12 questionnaires are invalid. Therefore, 258 questionnaires can be used for analysis (a validity rate 57,1%). Demographics of samples were 29.5% women and 70.5% male (see table 1). The education level of samples was 29.8% undergraduates, 54.7% masters, and 15.5% doctors.

3.2. Variable Measurements:

To meet the research objectives, items in questionnaire were derived from previous research and government regulations. The questionnaires ask respondents to answer questions about their managerial performance, remuneration, knowledge sharing, and demographics. Managerial performance (MP) was measured by officer job targets that were successfully completed. These indicators are adopted from Government Regulation No. 46 (Republic of Indonesia, 2011) which was developed based on outputs approach in order to fit with measurement standard of public organization performance. Officer job targets include four items, namely realization of budget, realization of outputs, timeliness, and output qualities that are successfully completed. Respondents were asked to answer MP by selecting

one point on a seven-point Likert scale ranging from one (lower) to seven (greater) of targets that they had planned. Remuneration (RM) was measured with two items, namely the remuneration based on workload (Rusmajadi, 2012) and the remuneration based on performance achievement (Republic of Indonesia, 1999). The response scale of RM is a seven-point Likert-type scale ranging from one (strongly

disagree) to seven (strongly agree). Measurement of knowledge sharing (KS) uses four items (Zhang and Ng, 2012) that included the sharing of technical expertise, managerial expertise, policy documents, and collaboration in solving work problems. The response scale of KS is a seven-point Likert-type scale ranging from one (never) to seven (very often).

Table 1: Samples of research.

Items	Frequency	Proportion
Age (years-old)		
Under 45	40	15.5%
46~50	73	28.3%
51~55	106	41.1%
Over 55	39	15.1%
Gender		
Male	76	29.5%
Female	182	70.5%
Education		
Undergraduate	77	29.8%
Master	141	54.7%
Doctor	40	15.5%
Tenure as civil servants (years-old)		
Under 20	54	20.9%
21~25	65	25.2%
26~30	81	31.4%
Over 30	58	22.5%

In order to ensure its face and content validity, initial questionnaire was reviewed by two professors and four associate professors. Furthermore, pilot test was done to participation of 34 civil servants who are full-time practitioners in field of budgeting and government financial management. Subsequently, their comments and suggestions were used to improve the questionnaire to produce a final version.

3.3. Analysis method of validity and models:

This study used primary data that was collected through questionnaires with survey method. This method has some weakness, namely subject samples

give incorrect answers or respondents who do not provide a response proved to have more representative answers (Indriantoro and Supomo, 1999). Before testing the hypothesis, research data will be tested nonresponse bias by comparing the 78 questionnaires that were received at beginning and at end. Independent samples test results showed that all variables with significance more than 0.05 means insignificant (table 2). Therefore, it can be concluded that there was no difference between the respondents who answered and the respondents who did not answer or did not return the questionnaires.

Table 2: The Results of Nonresponse Bias Testing.

Variable	t	df	Sig	Mean (beg)	Mean (end)	Std.Dev (beg)	Std.Dev (end)
KM_beg – KM_end	0.161	154	0.872	25.73	25.64	3.36	3.60
RM_beg – RM_end	-0.913	154	0.363	30.82	31.54	4.95	4.87
KS_beg – KS_end	0.298	154	0.766	23.05	22.92	2.43	2.92

Note: beg (beginning), end (ending), Sig (significance), Std.Dev (Standard Deviation)

Hypothesis testing used is Smart Partial Least Square (SmartPLS) version 2.0 because this is an exploratory research. Another reason, SmartPLS can be used to analyze the constructs with reflective and formative indicators (Hair *et al.*, 2010). Two phases of SmartPLS analysis are model measurement and evaluation of inner model. Measurement model is to assess validity and reliability of constructs. At second phase, inner model evaluation is used to determine the coefficient R^2 and the t-statistic value of each relationship between independent and dependent variable.

3. Research result:

3.1. Measurement model:

Reliability and validity assessment of constructs are used to validate the measurement model. Reliability testing is used to measure the consistency of respondent's answers to indicators of a construct. In PLS, reliability construct is measured by two criteria, namely composite reliability and cronbach's alpha. All constructs in table 3 show the composite reliability ranging from 0.825 to 0.865. PLS is expected to have the value reliability 0.70 although many studies use 0.50 as the cutoff (Chin, 1998). Cronbach's alpha values ranged from 0.622 to 0.793. A construct is reliable if the value of cronbach's

alpha greater than 0.70, but this value can be downgraded becomes greater than 0.60 for exploratory research (Hair *et al.*, 2010).

Table 3: Results of exploratory factor analysis.

Latent Variable		Mean	S.D	Loading ^a
Knowledge Sharing (KS) (AVE=0.617; CA=0.793; CR=0.865)				
KS1		5.02	1.26	0.721**
KS2		5.70	0.93	0.808**
KS3		5.72	1.07	0.793**
KS4		5.91	0.98	0.817**
Managerial Performance (MP) (AVE=0.544; CA=0.717; CR=0.825)				
MP1		5.30	1.10	0.692**
MP2		5.32	1.00	0.820**
MP3		5.64	0.81	0.645**
MP4		5.25	0.98	0.781**
Remuneration (RM) (AVE=0.724; CA=0.622; CR=0.839)				
RM1		3.88	1.93	0.821**
RM2		6.28	0.92	0.880**

Note: (AVE) Average Variance Extracted, (CA) Cronbach's alpha, (CR) Composite Reliability, (S.D) Standard Deviation, ^a **p<0.01 level; *p<0.05

The objective of construct validity measurement is to determine the instrument ability to measure what should be measured (Cooper and Schindler, 2006). Construct validity is considered high if having strong correlation between the construct and question items. Construct validity consists of convergent and discriminant validity. Values of convergent validity in table 3 show outer loading ranging from 0.645 to 0.880 and Average Variance Extracted (AVE) ranging from 0.544 to 0.724, which exceed the acceptance level of 0.50 (Hair *et al.*, 2010). In

addition, all loading for each construct were significant (p<0.01). Finally, discriminant validity was tested by comparing the square root AVE for each construct and correlation of latent variables. Table 4 shows the value of square root of AVE for each construct is greater than latent variable correlations in same row and column. Overall, these statistics indicate that value of reliability and validity are adequate and sufficient to assess the structural model.

Table 4: Discriminant Validity and Latent Variables Correlations.

Variable	KS	MP	RM
Knowledge Sharing (KS)	0,785		
Managerial Performance (MP)	0,285**	0,736	
Remuneration (RM)	0,267**	0,202**	0,850
Mean	22,36	21,51	10,16
S.D	3,33	2,88	2,30

Note: the numbers in diagonal row are square roots of Average Variance Extracted. **<0.01; *<0.05.

3.2. Structural model:

After validates the measurement model, we tested our hypothesis using the PLS method. Chin (1998) suggest that bootstrapping procedure should be done with 500 sub-samples when testing the statistical significance of each path that using t-tests. Fig. 1 shows a graphical depiction of structural model with path coefficient and t-values for each path. Table 5 reports the results of hypothesis testing. Remuneration variable affects on managerial performance (path coefficient = 0.20, p <0.01) and knowledge sharing (path coefficient = 0.27, p <0.01). Remuneration is positively associated to achievement of managerial performance and to knowledge

sharing. These support H1 and H2. These results support the performance theory and social exchange theory. Knowledge sharing variable affects on managerial performance (path coefficient = 0.25, p <0.01), supporting H3. In H4 hypothesis, result shows that knowledge sharing mediate the effect of remuneration on managerial performance (path coefficient = 0.14, p <0.05). Lower path coefficient (from 0.27 to 0.14) showed that there was partial mediation in this association (Hair *et al.*, 2010). The squared multiple correlation coefficients (R^2) of 0.071 (for KS) and 0.098 (for MP) indicate that variability of dependent variables can be explained by variability of independent variables.

Table 5: Results of hypotheses testing.

Hypotheses	Path coefficient	t-value	Result
H1 Remuneration affect on managerial performance.	0.20	3.71	Supported
H2 Remuneration affect on knowledge sharing.	0.27	4.37	Supported
H3 Knowledge sharing affects on managerial performance.	0.25	3.37	Supported
H4 Knowledge sharing mediates the relationship between remuneration and managerial performance.	0.14	2.33	Supported

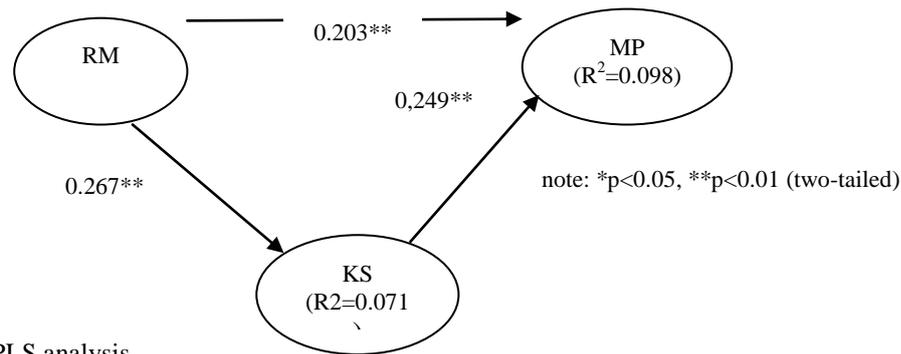


Fig. 1: Result of PLS analysis.

3.3. Discussion:

Government ought to implement remuneration policy to motivate employees to provide the best services to public. This study finds that remuneration positively affects on managerial performance. This finding shows that high remuneration will produce high managerial performance. This finding concurs with Murphy (1985), Merhebi *et al.* (2006), Pham and Swierczek (2006), Scholatz and Smit (2012) which states that remuneration improves performance so effectively that quality of public services become better (Sancoko, 2010). This study also found that remuneration in government agencies should consider the workload and the job performance, because the indicators meet the elements of justice. When based on performance, remuneration can grow affirmative feelings of employees in order to participate in organizations and motivate them to achieve organizational goals (Gibson, Ivancevich, and Donnelly, 1999). However, government should consider the principle of proportionality, operational performance, and equality when making the remuneration policy (Ministry of Education and Culture, 2014). Practically, remuneration should be paid proportionally with financial capabilities of government organization and appropriately with employee's ability to accomplish the performance targets. Equality shows the remuneration of government employees should have equal weight with similar industries.

Remuneration is related to payroll system. Remuneration in Public Services Agencies is aimed to provide services to public with good quality. Hypothesis testing shows that remuneration significantly affects on knowledge sharing. Employees will strive to achieve organizational goals if employees get adequate remuneration. This finding supports the social exchange theory which states that an interaction among employees shape give-and-take pattern (Liu *et al.*, 2011). Economic rewards act as a trigger for knowledge sharing. Organizations provide better remuneration to employees then they will give the best services to organizations. This result concurs with Cabrera and Bonache (1999); Liang, Liu, and Wu (2008); Liu *et al.* (2011);

Kankanhalli, Tan, and Wei (2005) which states that incentive or a reward system affects on knowledge sharing behavior among employees. The reward is very useful to motivate employees to achieve performance targets (Kankanhalli, Tan, and Wei, 2005; Zhang and Ng, 2012). Knowledge sharing is proven to increase other employee's capability in workplace which in turn can decrease operating cost of organizations, such as the cost of development of human resources. Therefore, one policy should be taken by management is to develop a knowledge sharing culture among employees. For instance, employees who have been trained are required to share their knowledge with superiors and coworkers. Knowledge sharing can be done at any time either formally or informally meetings even use information technology, for example using the Electronic Knowledge Repositories (EKR) because this system is a place of storing knowledge that facilitate employees to upload and access the knowledge.

Either superiors or subordinates have different capacity in knowledge. They are expected to be willing to share their knowledge. Knowledge sharing has been carried out in government agencies. The types of knowledge sharing are collaboration in solving problems, sharing documents, sharing managerial expertise, and sharing technical expertise. Respondents were very often to collaborate in problem solving because they have similarity duties and authorities in workplace. Collaboration across work groups can accelerate the performance achievement (Huang, 2009). Hypothesis testing shows that knowledge sharing significantly affects on managerial performance. Individuals who often share the knowledge are proven their performance is increased. This finding supports Wang and Wang (2012) which states that knowledge sharing positively affects on performance. Performance achievement targets will be easier because knowledge sharing can reduce conflict among team members, reduce duplication of knowledge, and generate synergistic knowledge for the best problem solving. Knowledge sharing is very helpful and facilitate managers in making decisions because managers has been available of choices of alternative

decisions and get feedback of policies that have been implemented. Knowledge sharing can improve the knowledge, skills, experience, ideas, attitudes, and become the backbone of organizational learning (Wang and Wang, 2012). Knowledge sharing can produce better managerial performance because this encourages improvements in business processes, products, and services offered by company (Law and Ngai, 2008).

Remuneration affects services to community but these services will be more effective if civil servants have knowledge sharing. This behavior can reduce emotional distance between superiors and subordinates and improve individual's capability. Therefore, government should design remuneration structure that can motivate knowledge sharing among employees. If employees educated then organization's goals will be easily realized.

3.4. Academic implications:

Social interaction among individuals is needed to accelerate the performance targets achievement. This finding implication is individuals who have low capability, low willingness, and small opportunity is able to achieve the performance targets if they are willing to interact with other individuals. Increased performance dimensions will move in a positive direction when individuals share experience, information, and knowledge to other people in workplace. Adversely, individuals who do not make a social interaction will fail to achieve performance despite having high performance dimensions. Competition among individuals cause of conflict and disrupt in process to achieve performance targets. In conclusion, this research shows that social exchange theory is appropriate to supplement performance theory.

3.5. Managerial implications:

Remuneration policy can increase the civil servants performance in public sector organizations. This research implication is officials of public institution should create a remuneration committee to determine level of remuneration, evaluate the performance of each employee, serve the inspection of authorized institutions, and revise nominal values of remuneration (e.g. the change of inflation rate). To change the employees mindset, remuneration should be paid in accordance with performance achievement or workload. This policy has three positive effects, namely to eliminate social envy in workplace, encourage the output attainment of each activity, and save labor costs than pay the honorarium per activity.

Managerial performance will be increased if the parties share their knowledge in workplace. Knowledge sharing can be done at formal and informal meeting forums, exchange documents, as well as use social media (e.g. e-mail, twitter, messenger, and facebook). This study results have

implication for the officials of public institutions to build a task force of repository management of knowledge and information. This task force is expected to build infrastructure knowledge sharing with apply advanced information technology. Another important task is to promote a culture of knowledge sharing. Every employee is motivated for voluntary knowledge sharing through electronic repository because it has many advantages such as paperless, encourage creation of new knowledge, stimulate a creativity and an innovation, reduce the cost of development of human resources, creating closeness emotional among employees so a working atmosphere become comfortable and conducive.

4. Limitations:

Knowledge sharing can improve the relationship effectiveness of remuneration to managerial performance. However, a focus of this study was knowledge sharing among individuals regardless of individuals position in organizations, both as leaders and subordinates. Therefore, future study are expected to explore the knowledge sharing between leaders and subordinates. Leader-member exchange theory explains that relationship between leaders and subordinates is a reciprocal relationship (dyadic) which is beneficial to both parties (Yukl, 2001). Knowledge sharing who notice individual position is expected to generate new research finding because the knowledge sharing between superiors and subordinates has undergone a process of sorting, customized, and timely in accordance with problems encountered.

This study developed indicators of managerial performance and remuneration that were adopted from government regulation. These variables have met the reliability value, but its value is closer to minimum required limit. Future research is expected to improve the indicators of these variables to improve reliability.

Indicators of knowledge sharing in this research were developed by Zhang and Ng (2012) which they were used without pay attention to knowledge type that was shared. Knowledge is divided into two types, namely explicit knowledge and tacit knowledge (Wang and Wang, 2012). Explicit knowledge is more easily found in workplace because it can be easily captured, codified and shared. In contrast, tacit knowledge is difficult shared because it is human experience, so that individuals need face-to-face interaction to share of knowledge. Therefore, future research is expected to explore both types of knowledge (explicit and tacit knowledge) and determine its effect on managerial performance.

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