REVISTA RELAÇÕES INTERNACIONAIS DO MUNDO ATUAL

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PERFORMANCE MEASUREMENT SYSTEM AND FAIRNESS EVIDENCE FROM MANUFACTURING COMPANIES IN INDONESIA

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ABSTRACT
The purpose of this study is to examine how important are the non-financial and relative performance measures when being used to evaluate managers' performance, and to examine the effect of performance measures (non-financial and relative) on the sense of fairness. There were a total of 159 questionnaires that can be analyzed. Multiple linear regression with SPSS software was used for data analysis. The findings showed that non-financial performance measures are more important to be considered by superiors than relative performance measures when evaluating managers' performance; performance measurement system in accordance with the principle of fairness; the use of non-financial performance measures is proven to increase the perception of fairness and the use of relative performance measures is not proven to reduce the sense of fairness. Relative performance measures are a solution to the difficulty of determining the level of performance targets caused by uncertainty.

Keywords: *non-financial measure*, *relative performance measure, fairness*

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1 INTRODUCTION

The performance measurement system is developing rapidly following the increase of complex and competitive business competition. Prior to the 1980s, managers' performance measurement was focused on financial performance measures such as productivity and income (Ghalayini et al., 1997). In the 1980s, performance measurement was developed using non-financial performance measures such as product innovation, leadership, and customer loyalty (Banker et al., 2004; Kaplan & Atkinson, 1998). In the early 2000s, the beyond budgeting literature suggested the use of relative performance measures because they were seen as more adaptive for a competitive environment (Morlidge & Player, 2010).

The development of a performance measurement system was followed by a debate about the advantages of a performance measurement system, specifically in terms of accuracy and its effect on behavior. For example, Jelley & Goffin, 2001 compared relative performance measures with absolute performance measures in the field of psychology. In the field of accounting, many studies compare financial performance measures with non-financial performance measures and associate them with behavior (eg Lau & Scully, 2015; Chia et al, 2014; Baerdemaeker & Bruggeman, 2015). The use of financial performance measures is perceived by managers as a performance that is difficult to achieve and implies the inaccuracy of the performance measurement system (Wiersma, 2017). Non-financial performance measures are seen as being able to overcome the limitations of financial measures and are perceived by managers as measures that can improve employees' outcomes, such as satisfaction, loyalty and morale, and others (Kaplan & Norton, 2001). Regarding the study of relative performance measures, namely performance measures that refer to peer performance (Van Elten, 2017; O'Grady & Akroyd's, 2016) are still very rare. Previous studies have associated relative performance measures to incentive contracts and executive compensation (eg Chen et al., 2012; Dekker et al., 2012).

Because the non-financial performance measures and relative performance measures are seen as more adaptive for a competitive environment and because the

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relative performance measures are rarely examined, this study examines how important it is to use each non-financial performance measure and relative performance measure for superiors in evaluating managers' performance. This study also answers managers' perceptions of the fairness of the performance measurement system and how is the relationship between non-financial performance measures and relative performance measures to the sense of fairness? The relationship between the two requires empirical study because it is related to the complex interaction between individual and organizational goals.

Goal setting theory explains that the absence of goals can lead to ambiguity, confusion, lack of direction, and affecting behavior (Schweitzer et al., 2004). Therefore, this study highlights the appropriate performance measurement system. It is necessary to understand the performance measures that are considered important for superiors and perceived as fair for employees so that there is an alignment between organizational goals and individual goals.

According to organizational justice theory, that is, individuals are concerned with fairness (Greenberg, 1987) and fairness has implications for behavior (Lau & Scully, 2015). Therefore, it is important for organizations to maximize perceptions of fairness to the performance measurement system. This study aims to examine the performance measures that are considered important for superiors and ensure that the performance measurement system used by the company is considered fair. The perception of fairness refers to the principle of fairness according to Leventhal, 1980, namely that the performance measurement system meets the principles of representation, consistency, bias suppression, accuracy, avenue for appeal, and ethicality.

This study develops and adjusts the existing instruments so that the instruments are ensured to be aligned with the context in Indonesia. Instrument development and adjustment is conducted through pilot testing of managers of Go Public manufacturing companies in Indonesia. The reason for choosing managers in Indonesia as a subject is because previously, studies on performance measurement systems were mostly examined in the western countries and very few in the Asian countries (eg Collins et al., 1987; Huang & Chen, 2010).

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This study makes a significant contribution to science, first, enriching the management control system literature in the context of manufacturing companies, by discussing non-financial measures and relative performance measures that are considered fair to employees. Second, provides empirical evidence that in facing a competitive environment, manufacturing companies will use non-financial measures and relative performance measures in evaluating employee's performance. Third, provides evidence that performance measurement systems are associated with the sense of fairness. This study also contributes to practice, which is, organizations can design a performance measurement system using non-financial measures to meet the employee's sense of fairness and the company can use relative performance measures for conditions of uncertainty.

2 THEORY AND HYPOTHESES DEVELOPMENT

2.1 GOAL SETTING THEORY & ORGANIZATIONAL JUSTICE THEORY

Referring to the goal setting theory, the alignment of individual goals and organizational goals will provide direction and clarity for employees in achieving in the organization. One of the efforts to align individual goals with organizational goals is the use of an appropriate performance evaluation system in evaluating employee's performance. Goal setting theory explains that employee's actions are directed by clear goals, and that clarity of performance evaluation criteria will reduce ambiguity, minimizing misinterpretation. The existence of clear goals through a clear performance evaluation system will increase individuals' understanding of how they will be evaluated (Sholihin, 2009). Goal setting theory supports the importance of clear performance evaluation systems (Lau, 2015).

Organizational justice theory assumes that individuals are concerned with fairness. Leventhal (1980) suggested six rules for evaluating the fairness of a procedure, which in this case is the performance measurement procedure, namely: first, the procedure must be applied consistently across individuals and across time and applied in the same way

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every time it is used; Second, fair procedure is when the decision maker has no interest in a particular decision; Third, procedures should be based on as much accurate information as possible; Fourth, the procedure has the opportunity to be corrected; Fifth, procedures must represent multiple views or involve multiple parties; Sixth, procedures must be in accordance with moral and ethical values.

2.2 NON-FINANCIAL PERFORMANCE MEASURES AND FAIRNESS

Financial measures have been criticized for being too late, too aggregated, historical, short-term, incomplete, and covers limited dimensions (Ittner & Larcker, 1998). To overcome the limitations of financial measures, non-financial measures surfaced (Banker et al., 2004; Kaplan & Norton, 2001), which are seen to include broader dimensions and can develop competitive advantage (Kaplan & Atkinson 1998) so that they can be indicators of organizational performance in the future and create long-term organizational goals (Ittner & Larcker, 1998). Non-financial measures can increase productivity, morale, loyalty, and employee satisfaction; improve performance through a transparent evaluation system (Kaplan & Norton, 2001). The balanced scorecard offers three perspectives of non-financial measures, namely learning and growth, internal business processes and the customer perspective (Kaplan & Atkinson 1998).

The use of non-financial measures creates a fair perception for employees (Lau, 2015). Fair perception includes all aspects related to the processes and procedures in evaluating performance. The criteria for procedural fairness according to Leventhal, 1980 are accurate and complete, oriented to a long-term perspective, can be corrected, consider the interests of all parties, in accordance with moral and ethical values, consistent and unbiased. An important aspect of the performance evaluation process is the type of performance measure and how the performance measure is used (Lau & Sholihin, 2005).

The use of non-financial measures tends to meet the criteria of fairness or tends to be associated with an increase in the perception of fairness, with the first reason, non-financial measures provide various perspectives for superiors in evaluating employees' performance (Agritasia & Sholihin, 2011); second, non-financial measures are flexible so

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that it is more meaningful and makes it easier for employees to understand these performance measures (Chia et al., 2014); third, non-financial measures reflect long-term interests and indicate polite and dignified treatment of employees (Lau & Moser 2008).

H1. Non-financial measures have a positive effect on employees' perceptions of procedural fairness.

2.3 RELATIVE PERFORMANCE MEASURES AND FAIRNESS

"RPE is an employee performance measurement that is evaluated by comparing employees' performance with peer performance and / average performance in one division (O'Grady & Akroyd's, 2016)". "RPE is a method to determine performance standards using the benchmark of groups of peers (Van Elten, 2017)".

It is common that employees are rewarded not only based on individual performance, but also measured relatively to the performance of co-workers (Gibbsons & Murphy, 1990). RPE studies generally examine RPE as part of an executive compensation practice and examine its benefits in terms of reducing noise in performance evaluations (eg, Liu & Leitch, 2013; Chen et al., 2012). RPE research is also still focused on the executive level. According to agency reasoning, RPE reduces noise in performance evaluation, as RPE incorporates information about peer performance into the performance contract between principal and agent (Gibbons & Murphy, 1990). RPE compares actual performance with the performance of groups facing the same external event. Some results indicate that the use of RPE is less efficient/less relevant for business practice (e.g., Garvey & Milbourn, 2006).

As far as tracing the studies of RPE in accounting, it is found that Van Elten, 2017 was the first empirical study to examine the use of RPE at the management level. Van Elten, 2017 shows that RPE is a prominent feature of performance evaluation praxis. About 88% of respondents use peer performance information to determine performance standards. More than 50% of respondents claim that RPE is used for noise mitigation in performance evaluation.

Latham & Seijts (1997) found that employees perceive higher procedural fairness when they receive feedback. Murphy & Cleveland (1995) show that relative performance

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measures produce negative reactions to performance evaluation systems because performance measures are relatively less likely to receive feedback. This may happen because the feedback obtained using the relative performance measure depends not only on the employee's performance, but also on the employee's performance relative to the performance of peers in the comparison group.

Relative performance measures are not clearly defined, so they are poorly understood and expectations on performance that are less clear and less consistent are likely to be considered unfair (Roch et al., 2007). Employees does not have the clarity regarding the type of rating associated with a particular level of performance because performance expectations are not clearly communicated and the standards are inconsistent for employees. Relative performance measures tend to be less accurate and biased in reflecting individual performance, because performance evaluation may be a reflection of work group performance and not the performance of the employees themselves.

By considering that the relative performance measure has the potential to violate a number of procedural fairness criteria according to Leventhal (1980), namely performance is not clearly defined and less consistent, the relative performance measure is expected to reduce the perception of fairness of employees.

H2. Relative performance measures have a negative effect on employees' perceptions of procedural fairness.

3 RESEARCH METHOD

This study aims to explain (1) the manager's perception of the performance measurement system that is important to superiors (2) the manager's perception of fairness in the performance measurement system, (3) the relationship between the performance measurement system and fairness. This study collects primary data through questionnaires to managers via email, post, and personal/direct questionnaires and interviews.

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The survey was conducted on managers of go public manufacturing companies in Indonesia with a sampling frame of 105 companies with more than 500 employees (www.idx.co.id, 2018). The sample selection is based on the number of employees for the purpose of controlling company size (Lau & Scully, 2015). This study uses a non-probability sampling technique for practical considerations, especially in terms of data accessibility.

Large manufacturing industries were chosen with the arguments, (1) to limit the industry (He & Lau; 2012); (2) non-financial measures and performance measures are relatively more commonly used in large companies (Lau & Scully, 2015); (3) control procedures through performance measurement systems tend to be more complex in large companies (Lau & Moser, 2008). This study was conducted at the individual level. The manager level is considered to have accommodated greater responsibilities in the company (Butterfield et al., 2005). This study does not limit the functional area, thus allowing generalization of the results of the research (Hopwood, 1972).

3.1 PRELIMINARY STUDIES & PILOT TESTING

This study begins by conducting face-to-face interviews with four top managers of manufacturing companies in Indonesia. Managers who were interviewed represent the pulp & paper, office furniture, and metal industries with positions in logistics, accounting, marketing, and general affairs.

The question asked was “How is the performance evaluation process in your company and is it considered fair to employees and how does it impact on dysfunctional behavior?”

Respondents’ Summary:

In manufacturing companies, the performance evaluation uses several measures, such as financial measures, non-financial measures, and relative measures. Financial measures such as budget are still used as a benchmark for achieving targets which are the basis for giving bonuses and often affect career development. Therefore, dysfunctional behavior related to budget achievement still exists in the organization for the purpose of getting bonuses and getting better performance evaluation. In addition to

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the budget, the performance evaluation process also uses the non-financial performance measures and relative performance measures. Non-financial performance measures are considered fair enough, because they are in accordance with the scope of work of the employees. For the relative performance measures, some think that the measures are unfair, because the indicators are based on the leadership's prerogative and are not included in the key performance indicators, but some consider it fair enough, especially in the conditions of uncertainty faced by the company. Managers also agree that a more transparent and open performance evaluation system will reduce dysfunctional behavior and be perceived as fair for managers.

Based on the results of the preliminary study, this study examines performance measures that are considered important for superiors in evaluating employee performance and whether each performance measures which are considered important for superiors are also perceived as fair by employees.

Pilot Testing

To obtain the research instruments which are aligned to the context in Indonesia, this study conducted pilot testing. The pilot test was conducted in the period of July 2018 – August 2018 with two steps:

a. First step, the questionnaires were distributed to five colleagues for the purpose of getting feedback regarding the format of the questionnaires, the estimated time to complete the questionnaires, and understanding the words and questions of the questionnaires. Slight revisions were made based on the feedbacks from colleagues.

b. Second step, questionnaires were distributed to 41 managers of Go Public manufacturing companies via email, post, and face-to-face questionnaires. The goal is to get respondents' answers to test the validity and reliability. Feedbacks from respondents regarding questions that need to be added and respondents' comments are also the focus of this pilot testing. A total of 31 questionnaires were returned and could be processed. Respondents came from various sub-sectors and various divisions.

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Table 1. Number of Respondents by Sub-Sector, Division and Method of Questionnaires Distribution

Sub Sector	Division	Questionnaires Distribution
Pulp & Paper (2)	Logistics (1)	Email (8)
Office Furniture (1)	Accounting (2)	Direct Questionnaire (6)
Metals and such (6)	Marketing (9)	Questionnaire via post (17)
Food and Beverage (7)	General affairs (10)	
Automotive & Components (1)	R & D (1)	
Cement (8)	Engineering (1)	
Ceramic, Porcelain & Glass (6)	Maintainance (1)	
	Project (1)	
	Product (3)	
	Operation (2)	
Total 31	**Total 31**	**Total 31**

Table 1 shows that 31 respondents came from the pulp & paper, office furniture, metal and such, food and beverage, automotive and components, cement and the ceramics, porcelain & glass sub-sectors. Most of the respondents came from 4 sub-sectors, namely cement, food and beverage, metals, and the ceramics, porcelain and glass sub-sectors. Managers who participated in the pilot testing were managers from the logistics, accounting, marketing, general affairs, engineering, maintenance, project, product and operations divisions. Most of the respondents came from general affairs and marketing divisions. Questionnaires were distributed via email, face to face and by post.

3.1.1 Pilot Testing Instruments

Non-Financial Performance Evaluation

A total of 17 non-financial performance measures with three perspectives of the Balanced Scorecard developed by Kaplan & Norton (1992) were included in the pilot test. Customer perspective (8 items), which includes market share; On-time delivery; number of customer complaints; survey of customer satisfaction; warranty repair costs; customer response time; cycle time from order to delivery; percent shipments returned due to poor quality. Internal business processes (6 items), which include manufacturing lead time; rate of scrap material loss; material efficiency variance; labour efficiency variance; percent

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defective products shipped; ratio of good output to total output. Learning and growth perspective (3 items), which includes number of new patents, number of new product launches, time to market new products.

Relative Performance Evaluation

A total of 3 items of relative performance measure developed by Van Elten (2017), were included in the pilot test, namely the performance of your peers; the performance of your peers where your actual performance is substantially better than your peers; the performance of your peers where your actual performance is significantly worse than your peers.

Perceptions of Procedural Fairness

The pilot test was also conducted on 7 items of questions about procedural fairness developed by Colquitt et al., 2001. The seven items were, that I was able to express my views and feelings in the preparation of performance evaluation procedures; I have the influence over the results received through the performance evaluation procedure; performance evaluation procedures are applied consistently; performance evaluation procedures are free from bias; performance evaluation procedures are based on accurate information; I can appeal the results received from the performance evaluation procedure; performance evaluation procedures uphold ethical and moral standards.

3.2 VALIDITY AND RELIABILITY TEST RESULTS

Validity test refers to the value of outer loadings with a rule of thumb of 0.7 and reliability test which uses Cronbach's alpha with the threshold of 0.7 (Hair et al. 2012).

Table 2. Validity & Reliability Test Results (Pilot Test)

	Outer Loadings	p-value	Notes	Cronbach's Alpha	Notes

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Non-Financial Measure				0.964	Reliable
NFM2	0.749	<0.001	Valid		
NFM4	0.848	<0.001	Valid		
NFM5	0.821	<0.001	Valid		
NFM6	0.818	<0.001	Valid		
NFM7	0.809	<0.001	Valid		
NFM8	0.848	<0.001	Valid		
NFM9	0.834	<0.001	Valid		
NFM10	0.768	<0.001	Valid		
NFM11	0.865	<0.001	Valid		
NFM12	0.811	0.004	Valid		
NFM14	0.837	<0.001	Valid		
NFM15	0.855	0.003	Valid		
NFM16	0.859	<0.001	Valid		
NFM17	0.838	<0.001	Valid		
Relative Performance Evaluation				0.800	Reliable
RPE 2	0.913	0.006	Valid		
RPE 3	0.913	0.003	Valid		
Procedural Fairness				0.919	Reliable
PF1	0.769	<0.001	Valid		
PF2	0.842	<0.001	Valid		
PF3	0.899	<0.001	Valid		
PF4	0.923	<0.001	Valid		
PF5	0.913	<0.001	Valid		

Table 2. shows that there are 14 valid non-financial performance measures questions and 3 invalid items, namely NFM1, NFM3 and NFM 13. For relative performance measures, there is 1 invalid question item, namely RPE1 and 2 invalid procedural fairness question items, namely PF 6 and PF7. Therefore, 2 items were used to measure relative performance and 5 items were used to measure procedural fairness.

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The pilot test also shows that non-financial performance measures, relative performance measures, and procedural fairness have Cronbach's alpha values above 0.7, which ranges between 0.800 – 0.964, which means that they meet the reliability value.

Table 3. Summary of Instruments Used

Variables	**∑ items of Pilot Test**	**Pilot Test Results**	**Interview Results**	**Final**
Non-Financial Measure (NFM)				
Internal Business Process	6 items	4 valid items		
Learning & Growth	3 items	3 valid items		
Customer	8 items	7 valid items		
	17 items	14 valid items	0	14 items
Relative Performance Evaluation (RPE)	3 items	2 valid items	5 items	7 items
Fairness	7 items	5 valid items	0	5 items
Total item	**27 items**	**321** valid items	**5 items**	**26 items**

Table 3 shows that from the results of the validity test on 27 question items, there are 21 valid items that can be used for the final testing.

At the pilot testing stage, this study also received an additional 5 question indicator items for relative performance measures. The five questions are relative performance measures measured by comparing the performance of managers with peers in terms of (1) delivering ideas; (2) accepting additional duties outside the main responsibilities; (3) completing additional duties outside the main responsibilities; (4) overcoming employees' turnover; (5) suppressing overtime hours. Thus, there are 7 statement items used to measure RPE, namely 2 items from Van Elten, 2017 and 5 items from pilot testing results.

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4 RESULT AND DISCUSSION

Table 4. Final Sample Quantity

	Quantity
Pilot Testing	
Questionnaires distributed personally (hardcopy)	41
Incomplete Questionnaires	10
Questionnaires that are able to be processed	31
Final Testing	
Questionnaires via post	530
Questionnaires distributed personally (*hardcopy*)	32
Questionnaires via Link	87
Total Sent Questionnaires	649
Total Responded Questionnaires	156
Total Incomplete Questionnaires	28
Total Processable Questionnaires (Final)	**128**

Table 4 shows that in the pilot testing, 41 questionnaires were distributed personally and 31 which could be processed. For the final test, questionnaires were obtained by post, personal questionnaires, and questionnaires via link. To address the adequacy of the sample size, questionnaires were distributed personally to 32 respondents. In addition, distribution via link was also conducted and 87 respondents were obtained. Of the 156 final questionnaires that were responded and as many as 128 questionnaires could be processed.

The following is an analysis of survey data collected during the period of September 2018 - November 2018.

Table 5. Respondents' Profile

Respondents' Profile	**∑ (%)**
Industries	
Consumer Goods industry	54 (42.16%)
Chemical industry	44 (34.36%)
Automotive Industry	9 (7.03%)
Textile Industry	7 (5.46%)
Cable Industry	5 (3.90%)
Gas Industry	3 (2.34%)
Electronic Industry	2 (1.56%)
	128 (100%)

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Gender	
Female	30 (23.4%)
Male	98 (76.6%)
	128 (100%)
Age	
< 30 years old	12 (9.4%)
30 – 40 years old	27 (21.1%)
41 – 50 years old	62 (48.4%)
> 51 years old	27 (21.1%)
	128 (100%)
Academic Degree	
Bachelor degree	97 (75.8%)
Magister & Doctoral degree	31 (24.3%)
	128 (100%)
Department	
Marketing	49 (38.3%)
Production	33 (25.8%)
Accounting	17 (13.3%)
Human Resources	16 (12.5%)
Others	13 (10.2%)
	128 (100%)
Manager Position	
< 2 years	18 (14.1%)
3 – 5 years	36 (28.1%)
6 – 8 years	30 (23.4%)
> 9 years	44 (34.4%)
	128 (100%)
Number of employees under manager's responsibility	
< 100 employees	111 (86.7%)
100 – 200 employees	9 (7.0%)
200 - 500 employees	2 (1.6%)
> 500 employees	6 (4.7%)
	128 (100%)

Table 5 shows that the largest number of manufacturing industries participating in the survey are the consumer goods industry (54 respondents, 42.16%) and the chemical industry (44 respondents, 34.36%). The rest are the automotive industry (7.03%); textiles (5.46%); cable (3.90%); machinery and heavy equipment (3.12%); gas (2.34%) and electronics (1.56%). The demographic characteristics of managers include gender, age,

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last education, department, length/period of service in the current position, and number of employees under the manager's responsibility. Table 5 shows that almost all divisional managers are male (76.6%) and 23.4% are female. Almost half of the respondents, i.e. 48.4%, are in the 41-50 years age group. The number of respondents was the same for the age group of 30-40 years and age >51 years, namely 21.1%; and 9.4% of respondents aged < 30 years. Almost all managers have a bachelor's degree (75.8%) and 24.3% have master's and doctoral degrees. The majority of respondents came from the marketing division (38.3%) and the production division (25.8%). The numbers are almost the same for the accounting division and human resources division, namely 13.3% and 12.5%. The rest are managers of the research and development division, maintenance, engineering, logistics, IT and operations divisions. The numbers of respondents with a position as manager are as follows: 3-5 years (28.1%), > 9 years (34.4%), 6-8 years (23.4%) and 18 respondents with less than 2 years experiences (14.1%). The majority of managers (86.7%) supervise less than 100 employees. The rest, namely 9 managers are in charge of between 100-200 employees, 2 managers are in charge of between 200-500 employees and 6 managers are in charge of more than 500 employees.

4.1 DESCRIPTIVE STATISTICS & MEASUREMENT ITEMS

Table 6. Descriptive Statistics

Performance Evaluation Measures	N	Mean	Std. Deviation
Non-Financial Measures	128	90.92	6.13960
Relative Performance Measures	128	32.32	10.44516
Procedural Fairness	128	31.67	3.09460

Source: Output SPSS

Table 6. shows that the mean for the use of non-financial performance measures is 90.92 and the mean for the use of relative performance measures is 32.32. This means that the company has used these two performance measures as a tool to evaluate the performance of managers from each division. With a higher mean between non-financial performance measures than relative performance measures, this indicates that non-financial performance measures are considered more important to be considered by

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superiors than relative performance measures when evaluating managers' performance. The results also show that the mean is (31.67) for the perception of procedural fairness and this indicates that managers agree that the performance evaluation system is in accordance with fairness principles, such as being accurate, free from bias, and applied consistently.

Respondents' Responses to Non-Financial Measure

The non-financial performance measures are measured by 14 question items developed by Hoque et al (2001) which are derived from the three dimensions of the Balanced Scorecard according to Kaplan & Norton, 1992. The 14 items consist of internal business processes (4 items); learning and growth (3 items) and customer perspective (7 items). Respondents were asked to answer the question “How important is non-financial performance measures used by your superior to evaluate your performance?

Table 7. Non-Financial Performance Measures (*Internal Business Process*)

How Important	Rate of material scrap loss	Material efficiency variance	Percent defective products shipped	Ratio of good output
	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Often important	11 (8.6%)	9 (7.0%)	9 (7.0%)	17 (13.3%)
Usually important	39 (30.5%	38 (29.7%)	34 (26.6%)	40 (31.3%)
Always important	78 (60.9%)	81 (63.3%)	85 (66.4%)	71 (55.5%)

Source: SPSS Output

Table 7 shows that the majority of divisions use non-financial measures (internal business processes) in evaluating the performance of managers. Respectively are measures that are considered to be always important in evaluating the performance of managers, namely the percentage of defective products shipped (66.4%); material efficiency variance (63.3%); rate of material scrap loss (60.9%), and the ratio of good output to total output (55.5%).

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Measures that are seen as usually important in evaluating the performance of managers are the ratio of good output to total output (31.3%); rate of material scrap loss (30.5%), material efficiency variance (29.7%) and percent defective product shipped (26.6%). The rest, respondents considered that non-financial performance measures related to internal business processes are often important measures used by superiors to evaluate their performance. Consecutively 13.3% 8.6%; 7%; 7% of respondents explained that the size of the ratio of good output to total output, rate of material scrap loss, material efficiency variance, percent defective product shipped are measures that are often important for employers to evaluate their performance. The results conclude that the non-financial measures (internal business processes) used to evaluate divisional performance are quite diverse.

Table 8. Non-Financial Measures (*Learning & Growth*)

How Important	Number of new patents	Number of new product launches	Time to market new products
	Freq (%)	Freq (%)	Freq (%)
Often important	43 (33.6%)	41 (32.0%)	36 (28.1%)
Usually important	55 (43.0%)	52 (40.6%)	51 (39.8%)
Always important	30 (23.4%)	35 (27.3%)	41 (32.0%)

Source: SPSS Output

For the non-financial performance measures from the perspective of learning and growth, table 8 shows that time to market new products; number of new product launches, number of new patents are always important measures used by superiors in evaluating managers' performance, namely 41 (32%); 35 (27.3%) and 30 (23.4%) respectively. In addition, 55 (43%); 52 (40.6%) and 51 (39.8%) respondents perceive that the number of new patents, number of new product launches, and time to market new products are measures that are usually important for superiors in evaluating managers' performance. Almost a third of respondents also think that performance measures from a learning and growth perspective are often important for superiors in evaluating managers' performance.

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Table 9. Non-Financial Measures (Customer)

How Important	Market Share	On time Delivery	Number of customer complaint	Warranty repair cost	Customer response time	Cycle time from order to delivery	Shipment returned due poor quality
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Often important	10 (7.8%)	9 (7.0%)	4 (3.1%)	6 (4.7%)	6 (4.7%)	4 (3.1%)	9 (7.0%)
Usually important	43 (33.6%)	34 (26.6%)	14 (10.9%)	22 (17.2%)	10 (15.6%)	19 (14.8%	17 (13.3%)
Always important	75 (58.6%)	85 (66.4%)	110 (85.9%)	100 (78.1%)	102 (79.7%)	105 (82%)	102 (79.7%)

Source: SPSS Output

Table 9 shows that the always important measures used by superiors in evaluating the managers' performance are the number of customer complaints (85.9%), cycle time from order to delivery (82%), customer response time (79.7%), percent shipments returned due to poor quality (79.7%); warranty repair cost (78.1%), on time delivery (66.4%), market share (58.6%). The usually important measures used by superiors in evaluating managers are market share (33.6%), on time delivery (26.6%), warranty repair cost (17.2%), customer response time (15.6%), cycle time from order to delivery (14.8 %), percent shipments returned due to poor quality (13.3%), number of customer complaints (10.9%). The often-important measures used by superiors in evaluating managers are market share (7.8%), on time delivery (7%), percent shipments returned due to poor quality (7%); warranty repair cost (4.7%), customer response time (4.7%), cycle time from order to delivery (3.1%), number of customer complaints (3.1%).

Table 9 shows that the non-financial performance measures used by superiors to evaluate managers' performance are very varied, which include the perspective of learning & growth, internal business, and customer.

The responses to Relative Performance Evaluation

There are a total of 7 question items were used to measure RPE-Use (2 items from Van Elten, 2017 and 5 items from pilot testing). Respondents were asked to answer this

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question 'How important are the performance results of your colleagues in the organization used by your superiors to evaluate your performance?'

Table 10. Relative Performance Evaluation

How Important	Better Actual Performance	Worse actual performance	Delivering idea	Accepting Additional tasks	Finishing Additional tasks	Overcoming Turnover	Suppressing Overtime
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Never important	2 (1.6%)	3 (2.3%)	2 (1.6%)	2 (1.6%)	2 (1.6%)	2 (1.6%)	4 (3.1%)
Seldom important	4 (3.1%)	6 (4.7%)	3 (2.3%)	3 (2.3%)	7 (5.5%)	17 (13.3%)	9 (7.0%)
Occasionally important	29 (22.7%)	28 (21.9%)	43 (33.6%)	34 (26.6%)	33 (25.8%	35 (27.3%)	37 (28.9%)
Sometimes important	18 (14.1%)	30 (23.4%)	8 (6.3%)	18 (14.1%)	9 (7.0%)	8 (6.3%)	11 (8.6%)
Often important	26 (20.3%)	17 (13.3%)	28 (21.9%)	30 (23.4%)	35 (27.3%)	30 (23.4%)	25 (19.5%)
Usually important	26 (20.3%)	24 (18.8%)	21 (16.4%)	21 (16.4%)	21 (16.4%)	14 (10.9%)	17 (13.3%)
Always important	23 (18.0%)	20 (15.6%)	23 (18.0%)	20 (15.6%)	21 (16.4%)	22 (17.2%)	25 (19.5%)

Source: SPSS Output

Table 10 shows how important relative performance measures are used by superiors in evaluating managers' performance. The relative performance measure referred is the comparison of the manager's performance with the peer's performance (1) when the actual performance is better than the peer; (2) when the actual performance is worse than peers; (3) in terms of delivering ideas; (4) willingness to accept additional tasks outside the main responsibilities; (5) in terms of finishing additional tasks outside the main responsibilities; (6) overcoming employees' turnover; (7) suppressing overtime hours.

Most of the respondents (23%-34%) answered that the relative performance measures are measures which are sometimes important for superiors in evaluating the managers' performance. As many as ±15%-19% of respondents perceive that relative performance measures are always important, ±10%-20% of respondents perceive that relative performance measures are usually important and as many as ±19%-27% of respondents perceive that relative performance measures are often important for

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superiors to evaluate their performance. There are less than 10 respondents who think that relative performance measures are seldom important and never important.

The Responses to Procedural Fairness

Procedural fairness is measured using 5 question items from the instrument developed by Colquitt et al., 2001. This instrument measures respondents' perceptions of the fairness of performance evaluation procedures in organizations. Respondents were asked to provide opinions about the procedures used by superiors to evaluate performance, namely whether they meet the principles of fairness.

Table 11. Procedural Fairness

How Important	Expressing Views & feelings	Influence Over Performance Evaluation Procedures	Consistent	Free from bias	Based on Accurate information
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
neither agree nor disagree	1 (0.8%)				
slightly agree	28 (21.9%)	21 (16.4%)	20 (15.6%)	18 (14.1%)	18 (14.1%)
Agree	29 (22.7%)	65 (50.8%)	39 (30.5%)	47 (36.7%)	33 (25.8%)
Strongly agree	70 (54.7%)	42 (32.8%)	69 (53.9%)	63 (49.2%)	77 (60.2%)

Source: SPSS Output

Table 11 describes the managers' opinion regarding the performance evaluation procedures used by superiors in evaluating the managers' performance. The majority of respondents considered that the performance evaluation procedures fully complies with the principle of fairness. A strongly agree rating was given by 70 respondents (54.7%) for the statement 'the performance evaluation procedures express my views and feelings'. Likewise, for other statements, such as 'I have the influence over the results received through the performance evaluation procedure (32.8%); performance evaluation

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procedures are applied consistently (53.9%); the performance evaluation procedures are free from bias (49.2%) and the performance evaluation procedures are based on accurate information (60.2%).

Based on further interviews by telephone, information about manufacturing companies are facing a lot of uncertainty (high uncertainty) so that it is quite difficult to determine the target level of managers' performance was obtained. By using a relative performance measures in which the managers' performance is compared with the peers' performance, either individually or in business units, it can overcome the difficulty of determining target level of performance. The relative performance measures so far are acceptable to managers. Other additional information was also obtained and supports the previous explanation, namely that performance targets based on relative measures are not subject to or refer to the managers' performance in the previous year, so it is unlikely that this measure can be manipulated. Therefore, the use of relative performance measures does not make managers think that this measure can damage perceptions of fairness, although of course this also cannot be generalized.

4.2 HYPOTHESES TEST

Multiple linear regression analysis with IBM SPSS Statistics 22 software was used for Hypothesis Testing

Table 12. Result of Regression Equation Estimation

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.413	.738		4.623	.000
	NFM	.546	.117	.387	4.670	.000
	RPE	.136	.034	-.327	-3.944	.000

a. Dependent Variable: PF

Based on the value of unstandardized coefficients, the multiple linear regression equation is as follows: $\mathbf{Y = 3.413 + 0.546\ X_1 + 0.136\ X_2}$

Y = *Procedural fairness;* X_1 = *Non-financial measure*; X_2 = *Relative performance evaluation*

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Non-financial measures have a positive sign coefficient, this indicates that the increased usage of non-financial measures as performance evaluation criteria tends to make employees' perceptions of procedural fairness to be more positive. Relative performance evaluation has a coefficient that is also positive, this indicates that the increased usage of relative performance measures as performance evaluation criteria does not tend to reduce employees' sense of fairness. The coefficient of determination (R Square) value is 0.194, which indicates that the non-financial measures and relative performance evaluations have an effect of 19.4% on procedural fairness.

Table 12 shows that the t-value for the effect of non-financial measures on procedural fairness of 4.670, with a significance value of .000, hence the results show that non-financial measures have a positive effect on procedural fairness. The results of this study provide empirical evidence that the increased usage of non-financial measures as performance evaluation criteria tends to make subordinates' perceptions of procedural fairness to be more positive. The results support the hypothesis 1. The t-value of the effect of relative performance evaluation on procedural fairness is 3.944, with a significance value of .000; it can be concluded that the relative performance evaluation has a positive effect on procedural fairness. The results do not support hypothesis 2. The study results provide empirical evidence that the increased usage of relative performance measures as performance evaluation criteria does not tend to reduce employees' perceptions of procedural fairness.

The result that of non-financial performance measures can increase the perceptions of procedural fairness added up to the list of similar results from previous research, namely, Lau, 2015; Chia et al., 2014. This finding further strengthens the argument that the use of non-financial performance measures meets the criteria of fairness so that it is perceived by employees as a fair way to evaluate their performance. The result which explains relative performance measures do not reduce perceptions of procedural fairness is not in accordance with the argument of Murphy & Cleveland (1995) who explained that the relative performance measures produce a negative reaction to the performance evaluation system. Based on confirmation via telephone with several information about manufacturing companies are facing a lot of uncertainty so that it is difficult to actually determine the target level of managers' performance was obtained.

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This condition makes companies often forced to use relative performance measures in which the managers' performance is compared with the performance of colleagues/peers, either individually or in business units in order to overcome the difficulty of determining the performance target level and relative measures so far are acceptable to managers. Top managers also added that the performance targets based on relative measures did not refer to the previous year's performance so as to avoid possible manipulation. Therefore, the relative performance measures are perceived to be quite fair.

5 CONCLUSION AND IMPLICATION

This study concludes that the performance evaluation system with non-financial performance measures plays an important role in increasing the sense of fairness of employees and the use of relative performance measures in performance evaluation is not proven to reduce the sense of fairness. These findings contribute to accounting practices and justification for organizations to design non-financial performance measures in performance evaluation systems to help organizations increase the employees' sense of fairness and may eventually have an impact on employees' outcomes or performance. These results also provide justification for organizations to consider using relative performance measures in situations of uncertainty, considering that relative performance measures have not been shown to reduce the sense of fairness.

The results of the study also show that for non-financial measures, the most important measures used by superiors in evaluating managers' performance, respectively from the perspective of internal business processes, are percent defective product shipped, material efficiency variance, rate of material scrap loss, and ratio of good output to total output. From the perspective of learning and growth, namely time to market new products; number of new product launches, number of new patents. From the customer perspective, namely number of customer complaints, cycle time from order to delivery, customer response time, percent shipments returned due to poor quality, warranty repair cost, on time delivery, market share.

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Respondents' perceptions of the importance of relative performance measures used by superiors in evaluating the managers' performance turned out to have varying results. Some perceive that the relative performance measures are occasionally important (23-34%); always important (15%-19%); usually important (10%-20%); often important (19%-27%). Only a few judges that relative performance measures are seldom important and never important.

This study supports the goal setting theory, namely the need for alignment of goals between employees and the organization, as well as the need for an appropriate control system to ensure the emergence of a sense of fairness for employees. The study findings prove that the application of appropriate performance evaluation controls through non-financial performance measures can improve the alignment of individual goals and organizational goals and this alignment has an impact on the sense of fairness. These results support Sholihin, 2009 and Lau, 2015. On the other hand, relative performance measures do not damage/affect the sense of fairness and these results are inconsistent with Roch et al., 2007 and Murphy & Cleveland, 1995. Relative performance measures are a solution to the difficulty of determining performance target levels which is caused by uncertainty.

This study also supports the organizational justice theory, namely that employees care about the sense of fairness, including fairness in the performance evaluation system. The results of the study imply that procedural fairness may depend on the type of performance measures.

The results of the study have practical implications, first, to increase the sense of fairness to the performance evaluation system, companies can design non-financial measures that are designed according to the employees' working situation; second, companies should pay more attention to the rules of procedural fairness of the performance evaluation system, because a fairly perceived performance evaluation system will help to align the employees' behavior with organizational goals; third, the companies should implement a performance evaluation system that refers to the six principles of fairness by Leventhal, 1980, namely (a). consistent, performance evaluation procedures that are consistently applied across all employees and are enforced in the same way each time they are used; (b). free from bias, superiors have no interest in certain

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decisions; (c). accurate, superiors must develop performance evaluation procedures referring to good and accurate information; (d). can be corrected, superiors develop performance evaluation system procedures that allow for receiving complaints and correcting decisions; (e). representation, superiors implement a performance evaluation system that reflects participatory; (f). ethical, superiors apply performance evaluation procedures that are based on moral and ethical.

This study is supported by a relatively small sample and this could be most likely affecting the strength of the test. There is still a lack of references on relative performance measures in management accounting studies, hence, for future research, it is expected to continue to explore these variables. Considering that perceived fairness may also be related to company scale and type of company, future research could highlight a sample of small organizations and the non-manufacturing sector. Future research can continue to examine the impact of the sense of fairness on the performance evaluation system, namely, in particular the impact of the sense of unfairness in the use of relative performance measures in evaluating performance.

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