# The Effect of Regulation and Goal Orientation on Performance Measurement Utilisation: Evidence from Indonesian Local Governments

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**ABSTRACT**

This study examines how regulation of performance measurement and goal orientation affects the utilisation of performance measurement in the context of a developing country's local governments. This study is based on a cross-sectional survey participated by 163 managers of local government agencies in East Java, Indonesia, using a structural approach in data analysis. The results show that the imposition of regulation on performance measurement directly affects performance measurement adoption. The adoption of performance measurement and goal orientation mediate the relation between the regulation and the actual implementation of performance measurement. The likelihood of the actual implementation of performance measurement becomes stronger when there is strong goal orientation. The unique contribution of this study is that it offers a model of regulatory-based performance measurement utilisation under result-based management from a developing country's perspective, depicting that imposed regulation on performance measurement will likely lead to its actual implementation when there is strong goal orientation.

**Keywords:** Goal Orientation, Performance Measurement, Regulation, Results–Based Management
**JEL Classification:** M48

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## 1. Introduction

The emergence of New Public Management ("NPM") has inspired public sector reforms in a number of countries in which the essence of the reform is to improve the performance of public services (OECD, 1993, 1995, 2001; Kuhlmann, 2010). The NPM-based performance measurement has been used for monitoring changes or improvement in the public sector (Hood, 1991), though there are different approaches in NPM adoption among countries (Hood, 1995). Performance measurement (hereafter "PM") has been advocated as a central strategy for gaining greater control over public expenditures, increasing value-for-money, enhancing accountability, and as a means to demonstrate improved managerial competence in the public sector (Behn, 1998; Cavalluzzo & Ittner, 2004; de Bruijn, 2002; Hood, 1991).

Under NPM, development of performance measurement systems ("PMS") is highly regarded and widely adopted as a recipe for improving the public sector's low performance caused by a bureaucratic government (Mwita, 2000). This has been made evident by various public management ("PM") initiatives in a number of countries (OECD, 1993). In OECD member countries, PM has been implemented within the framework of results-based management ("RBM") (OECD, 1993; 1995; 2001; Saldanha, 2002; Treasury Board of Canada, 2002; Try & Radnor, 2007).

Regulatory mandates, such as the *Government Performance and Results Act (GPRA)* and *National Performance Review* in the US (Cavalluzzo & Ittner, 2004; Jones & McCaffery, 1997; Lindblad, 2006) and the *Next Step Initiatives* in the UK (Carter & Greer, 1993; Hyndman & Eden, 2000; Likierman, 1994), are confined to PM initiatives. As a developing country striving to adopt NPM, Indonesia started initiating PM in 1999 through the promulgation of the *President's Instruction No. 7/1999*. Since then, PM has become prominent in local governments after being granted greater autonomy along with the enactment of a decentralisation policy based on *Law No. 32/2004* (superseding *Law No. 22/1999*) on local governments and *Law No. 34/2004* (superseding *Law No. 25/1999*) on fiscal balance between the central and local governments. This was further strengthened through the enactment of *Law No. 17/2003* (on State Finance) and *Government Regulation No. 58/2005* (on Local Government Financial Management) obligating local governments to implement performance-based budgeting. Recent regulatory mandates to improve PM systems are the promulgation of *Government Regulation No. 8/2006* on financial and performance reporting of government

agencies and *Government Regulation No. 6/2008* on the guidelines for the evaluation of local governmental services. The latter prescribes 'results oriented' performance indicators, such as people's wealth, quality of public services, and competitiveness of regions.

RBM or 'managing for results' in the government sectors necessitates the actual implementation of PM (OECD, 1993; 1995; 2001; Saldanha, 2002; Treasury Board of Canada, 2002; Try & Radnor, 2007). While recent public sector reforms signal a shift from output-based governance and control to a more outcome-focused performance management and citizen-oriented (Modell, Jacobs, & Wiesel, 2007), Lüder (1992; 1994) has long argued that the use of PM in the public sector is due to legal requirements, in line with reform actors, legal systems and regulatory framework in different environments. Hence, this study seeks to examine how regulation of PM and goal orientation affect the utilisation of PM.

The unique contribution of this study is that it offers a model of regulatory-based PM utilisation under RBM from the perspective of a developing country, depicting that imposed regulation on PM will likely lead to its actual implementation when there is strong goal orientation. The remainder of this paper consists of five sections. Section 2 presents the literature review and hypotheses development. Sections 3, 4 and 5 respectively present the research methodology, results of the statistical analysis, and discussion on findings. The final section concludes this paper.

## 2. Literature Review and Hypotheses Development

### *2.1 Utilisation of Performance Measurement*

Previous literature in the area of performance management systems ("PMS") and management control systems ("MCS") suggest that studies in these areas are based on coherent theoretical foundations (Chenhall, 2003; Covaleski, Evans, Luft, & Shields, 2003; Australian National Audit Office, 2013), since a theory is needed to contextualise findings and to provide systematic development of knowledge in the field (Chapman, 1997). However, the concept of 'use' of PMS has not been well-defined (Ferreira & Otley, 2009). There is considerable range for the development and operationalisation of the concept of using PMS. Rogers (1999) contends that performance management in the public sector may be viewed narrowly as a set of tools and techniques which can be used

by managers (and politicians) to manage performance within their own organisations. It may also be a product of a number of contextual pressures and expectations. More widely, it can be viewed as a pattern of thinking that results from a wide-ranging set of changing political, economic, social, and ethical pressures that have impacted on public sectors in ways that are far more extensive than simply the deployment of specific techniques. Chenhall (2007) calls for an investigation of the 'adoption' and 'implementation' of management control systems in different environments. Studying PM in the context of a developing country is imperative as the demand for and supply of performance information in the environment may be disproportionate (Mimba, Helden, & Tilemma, 2007).

De Lancer-Julnes (2009), de Lancer-Julnes and Holzer (2001) and Wang (2002) use *knowledge utilisation theory* in explaining the utilisation of PM in Government organisations as adoption of PM does not necessarily lead to its implementation. The need for 'knowledge' in management decision making is central to the impetus of PM (de Lancer-Julnes, 2009, p. 48). According to Beyer and Trice (1982), knowledge utilisation is a behavioural process that involves two stages: 'adoption' and 'implementation'. These two stages are similar to those often observed in the adoption and implementation of change and innovation. De Lancer-Julnes and Holzer (2009, p. 46) argue that there is the notion of 'knowledge as the capacity for action' versus 'knowledge converted into action'. *Adoption* implies that the organisation has the capacity (knowledge) to act. Yet, having the capacity to act does not necessarily mean that activities will actually be devised and take place as a result of this capacity. Hence, *implementation* means that the capacity has been used to carry-out the policy or make a decision (de Lancer-Julnes & Holzer, 2009, p. 48; Sole & Schiuma, 2010).

Based on the above argument, de Lancer-Julnes (2009, p. 49) contends that PM can be viewed as a tool for the creation of 'knowledge' that can be used for decision making that affects programmes and policies at both the micro- (organisation) and macro-level (system-wide). Therefore, 'knowledge utilisation' should be part of the analytical framework for studying the utilisation of PM information in government organisations.

### *2.2 Research Model*

Prior studies on the practices and usefulness of PM in public sectors which were mostly conducted in developed countries have resulted in

different models of PM utilisation (see, for example, Cavaluzzo & Ittner, 2004; de Lancer-Julnes & Holzer, 2001; Jones & McCaffery, 1997; Wang, 2002; Jaaskelainen & Sillanpaa, 2013). Complexities of public sectors necessitate the use of multidimensional performance measures (Brignal & Modell, 2000; Kloot & Martin, 2000; McAdam, Hazlett, & Casey 2005; Kloot, 2009). Country specific factors and the concept of administrative reform specific to its respective communities will affect the utilisation of PM (Budäus & Buchholtz, 1996).

This present study seeks to examine how regulations on PM imposed on local governments affect the two stages of the utilisation of PM as addressed by de Lancer-Julnes and Holzer (2001). Although the model of the present study is adopted from de Lancer-Julnes and Holzer (2001), it has been modified to some extent to suit the Indonesian context particularly in terms of specific regulations on PM in Indonesia. As such, regulation of PM is hypothesised to affect both the adoption and the implementation of PM. As PM is utilised within the framework of results-based management (RBM), it is predicted that the regulation

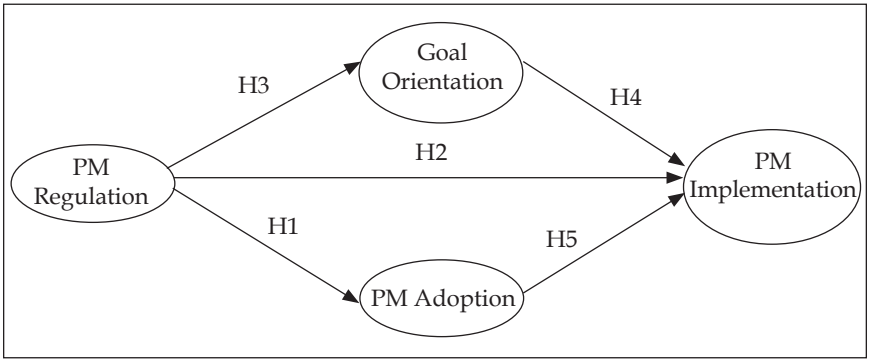


Figure 1: Research Model

on PM which encourages public organisations to be more focused on achieving outcomes will also lead local agency managers to be more goal oriented. It is therefore argued that unless there is a strong goal orientation, it is unlikely that managers will actually implement PM. Therefore, as depicted in Figure 1, goal orientation is predicted as the mediating variable in the relationship between the regulation and the actual implementation of PM.

### *2.3 PM Regulation and PM Adoption*

When the structure of PM in local governments is not highly regulated by the central government, such as that in France, performance measurement information is likely to be implemented to respond to internal demand (Fouchet & Guenoun, 2007). However, institutional theorists (DiMaggio & Powell, 1983) argue that reforms and accounting innovation such as adoption of PM in public organisations may be based on the need to legitimise itself to dominant constituencies (Brignall & Modell, 2000). In a transition country at the early stage of democratisation and imposed reform like Indonesia, gaining legitimacy from the people is of utmost importance to the government. Yet, proper implementation of PM requires competent staff and accurate data from a reliable information system. Accomplishing this is costly. As such, the adoption of PM by local governments could be mainly due to the need to comply with the imposed regulations. A case study by Hoque (2008) using archived documents concluded that government regulatory frameworks might shape the design of PM and reporting from government departments. The differing motives, i.e. whether local government PM systems are an initiative of local authorities or of higher levels of government, will have a significant effect on the systems (Callanan, 2010). As the practices of PM in Indonesian local governments were based on imposed regulation (*President's Instruction No. 7/1999*, *Government Regulation No. 6/2008*), it is therefore hypothesised that,

H1: The adoption of PM is positively associated with the regulation of PM.

### *2.4 PM Regulation and PM Implementation*

The extent of PM use may vary among adopting organisations. In government sectors, more specifically, PM use is mostly due to the legal requirement, in line with reform actors, legal systems and regulatory framework in different environments (Lüder, 1992). As such, the extent of actual implementation of PM may also be associated with the imposition of regulations. In the case of Indonesia, for instance, recent regulation (*Government Regulation No. 6/2008*) prescribing 120 key 'outcome' performance indicators that must be reported by the government in preparing performance reports will likely affect the actual implementation of PM. Empirical evidence also indicates that the deployment and actual utilisation of PM were significantly associated

with the regulation mandate (Cavalluzzo & Ittner, 2004; de Lancer-Julnes & Holzer, 2001). The hypothesis proposed is,

H2: The implementation of PM is positively associated with regulation of PM.

### *2.5 PM Regulation and Goal Orientation*

The imposition of laws and regulation may affect the implementation of PM through the improvement of goal orientation. In this present study, it is argued that in line with the implementation of results-based management (RBM), mission (goal) orientation plays an important role as the essence of RBM is goals or results oriented. Goals and objectives are instrumental to performance based management (de Lancer-Julnes, 2009, p. 59).

In line with the imposition of performance reporting, the Indonesian central government has provided detailed guidelines (LAN, 2003). For instance, based on the guidelines, government agencies are required to produce performance reports incorporating mission statements, objectives, programmes, and performance targets and achievements. The issuance of *Government Regulation No. 6/2008* prescribing 120 key outcome performance indicators are expected to further guide local agency managers to implement strategic oriented PM. Through such guidelines by the regulations, local agency managers are likely to have better capacity in planning, budgeting, programme management, and performance reporting. Hence, the imposition of the guiding regulations will likely enhance managers' orientation to achieve results. It is therefore expected that,

H3: There is a positive association between government regulation on PM and goal orientation.

### *2.6 Goal Orientation and PM Implementation*

Goal orientation is "a promising motivational construct that may explain why some individuals adapt to change better" (DeShon & Gillespie, 2005, p. 1096). Unfortunately, the current literature on goal orientation is in a state of conceptual and methodological disarray. DeShon and Gillespie (2005) assert that studies on goal orientation identify numerous conceptual ambiguities, including definitional, dimensional and

conceptualisation inconsistencies. These conceptual ambiguities result in a confusing array of goal orientation measures and manipulations and ultimately an incoherent empirical database.

The definition of goal orientation used by researchers of PM in private/business sectors is different from that in the public sector. Goal orientation in research on organisational business performance is commonly associated with achieving 'fit' between individual and organisational goals (DeShon & Gillespie, 2005). In other words, the extent of goal congruence between individual goals and organisational goals affect the organisational performance. On the other side, goal orientation in the public sector refers to an organisation's orientation towards achieving its mission. De Lancer-Julnes and Holzer (2001, p. 706), for example, define goal orientation as "the extent to which the organisation is oriented towards efficient goal achievement".

Kravchuk and Schack (1996) suggest that in dealing with governmental complexity, PM systems be developed in line with a clear and coherent mission, strategy and objective which should provide the focal point for the development of the measurement approach. Based on his study in five states in the US, Broom (1995) reports that performance measures are grounded in mission, goals, and objectives (Johnsen, 1999). PM in government thus should imply 'mission driven management' (Osborne & Gaebler, 1992). While strategic mission may shape the design of PM (Hoque, 2008), Wang and Berman (2000) find that the deployment of PM is associated with mission (goal) orientation. Van Dooren (2005) also finds that PM usage is positively influenced by goal orientation. It is therefore hypothesised that,

H4: The implementation of PM is positively associated with goal orientation.

### *2.7 PM Adoption and PM Implementation*

Prior studies in the US (de Lancer-Julnes & Holzer, 2001) and Taiwan (Yang & Hsieh, 2007) report that PM adoption is the main antecedent to the effective implementation of PM, meaning that the implementation of PM is mostly affected by the adoption of PM; and that the adoption of PM also acts as the mediator of the relationship between other predictors and PM implementation (de Lancer-Julnes & Holzer, 2001). As performance reporting in Indonesian local governments have been practiced for about ten years, i.e. one year since the promulgation of

*President's Instruction (No. 7)* in 1999, it can be expected that the adoption of PM by local government agencies leads to its actual implementation. Therefore, it is hypothesised that,

H5: The implementation of PM is positively associated with the adoption of PM.

## 3. Methodology

### *3.1 Data Collection Procedures*

Data for this study were collected through a survey using a self-administered questionnaire (the survey items are provided in the Appendix) sent to local governments in East Java. The questions were derived from previous research findings (i.e., de Lancer-Julnes & Holzer, 2001; Wang, 2002; Pollanen, 2004; Cavalluzzo & Ittner, 2004) and further adapted with the performance indicators as prescribed in the Indonesian Government regulations on performance reporting *(President Instruction No. 7/1999; Government Regulation No. 8/2006)*.

To ensure that the respondents understand the questions and avoid misinterpretation, a pilot test was conducted by distributing the first draft of the questionnaire to 15 local government officials attending a three day workshop at Brawijaya University. This led to some changes of the wording of certain questions. A second revised draft of the questionnaire was then submitted to two experts, one a senior lecturer in public sector accounting at Brawijaya University and one an expert-practitioner who was involved in designing PM systems for local governments. This resulted in the third revised (final) draft.

The questionnaire was distributed to all local governments in East Java comprising 10 municipalities, 28 regencies and a provincial government (i.e. 39 in total). The purposive judgment sampling technique was used in data collection, whereby the respondents who participated would have been involved in setting financial and operational performance targets of the local governments. Based on the criteria set, there was a total population of approximately 1330 respondents. Using a mathematical formula by Sekaran and Bougie (2009), a minimum sample size required given the estimated population was 300. To be prudent, a total of 450 questionnaires were sent to all 39 local governments in East Java. On the cover letter, the researchers requested the local government secretary to redistribute the questionnaires to the managers of local government agencies. They

were informed that the local government agencies invited to participate should include those performing the following functions: education, health services, infrastructure development, finance management division, local planning agency, and general administrative. First mailing of the questionnaire was conducted during February 2010. Approximately one month after the first mailing, the contact persons in the local governments that did not send a reply were contacted by telephone. This was followed by a letter of reminder attached with another set of the questionnaire.

### *3.2 Variables*

As shown in the research model in Figure 1, there are four construct variables for this present study. *Regulation on PM* (PMREG) refers to local government agencies' compliance with regulation and is defined as the actions required to be taken for implementing PM systems in the government. It was measured by the extent to which local government agencies prepare strategic plans, work plans, performance budgets, and performance reports as mandated by regulations *(President's Instruction No. 7/1999)*.

*Goal Orientation* (GOALORI) is defined as actions taken to achieve targeted performance. The orientation was measured by the extent to which respondents reported that programmes and activities planned and accomplished were based on, and strove to meet the mission and goals of the organisation. *PM Adoption* (PMADOPT) refers to the development of measures of outputs, outcomes and efficiency (de Lancer-Julnes & Holzer, 2001). The practices of PM reporting in Indonesian local governments follow the guidelines for preparing performance reports *(President's Instruction No. 7/1999; Government Regulation No. 8/2006)*. Concerning the results focus and RBM, this variable is defined as the adoption and development of 'outcomes' indicators. Referring to the regulations, this indicator is measured by the extent to which managers use performance indicators of outcome, benefit, and impact of local government programmes.

*PM Implementation* (PMIMPL) refers to actual use of performance measures, such as strategic planning, management decision, budgeting, resources allocation, programmes management, monitoring and evaluation, reporting, benchmarking, and reward and punishment (Cavalluzzo & Ittner, 2004; de Lancer-Julnes & Holzer, 2001; Pollanen, 2004; Wang, 2002). PMIMPL is measured by the managers' reports

of the extent to which the aforementioned managerial activities were accomplished and any related decisions which were made based on performance measures.

### *3.3 Data Analysis*

Before performing statistical analysis for hypotheses testing, firstly, data screening was conducted to detect any outliers. Secondly, to check any indication of response bias, an independent sample *t*-test was conducted to compare the mean scores between 30 early responses and 30 late responses. The results (table not included) indicate that there were no significant differences between the early group and late group of responses. As such, there was no indication of response bias for data collected.

Statistical analysis for hypotheses testing was undertaken using the structural equation approach. PLS-Smart software was utilised as it allows performing analysis of multiple relationships simultaneously with greater flexibility in doing path analysis. The structural equation approach is particularly useful when one dependent variable becomes an independent variable in subsequent dependent relationships (Hair, Anderson, Tatham, & Black, 1998, p. 578).

At the first stage in using PLS, each latent (construct) variable was modelled in a separate measurement model, which related the indicators to their associated latent variables. Only indicators with loading factor >0.60 were included in the analysis. The second stage involved constructing the structural model by specifying the relationships among construct variables as hypothesised. As the objective of PLS is to maximise variance explained rather than fit, prediction-oriented measures such as $R^2$ are used to evaluate PLS models.

## 4. Results and Discussion

### 4.1 *Profile of Respondents*

Of the 450 questionnaires mailed to 39 local governments, 212 responses were received, representing a 47.1 per cent response rate. Of the 212 responses, 163 responses were usable, for a final response rate of 36.2 per cent. Profile of respondents participating in the survey is reported in Table 1.

Table 1: Demographic Profile of Respondents

| | Frequency | Percent |
|---|---|---|
| Panel A: Functional area (n=163) | | |
| Planning agencies | 16 | 9.82 |
| Finance and assets management | 32 | 19.63 |
| Education | 12 | 7.36 |
| Public health | 27 | 16.56 |
| Public works/housing/infrastructure development | 28 | 17.18 |
| General administrative | 26 | 15.95 |
| Others | 22 | 13.50 |
| | | |
| Panel B: Level of education (n=163) | | |
| Senior high school | 2 | 1.23 |
| Diploma/Polytechnic | 8 | 4.91 |
| Bachelor/Undergraduate degree | 75 | 46.01 |
| Masters degree | 77 | 47.24 |
| Doctorate | 1 | 0.61 |
| | | |
| Panel C: Length of service (n=163) | | |
| 5 – 10 years | 34 | 20.86 |
| 11 – 15 years | 30 | 18.40 |
| 16 – 20 years | 35 | 21.47 |
| 21 – 25 years | 38 | 23.31 |
| 26 – 30 years | 22 | 13.50 |
| | | |
| Panel D: Age group (n=163) | | |
| 26 – 30 years | 13 | 7.98 |
| 31 – 35 years | 22 | 13.50 |
| 36 – 40 years | 25 | 15.34 |
| 41 – 45 years | 29 | 17.79 |
| 46– 50 years | 37 | 22.70 |
| 51 – 55 years | 36 | 22.09 |
| >55 years | 1 | 0.61 |

Further analysis on the demographics of respondents indicates that their average age was 43 years; average length of service in local government was 17.6 years and in current position was 6.5 years. As expected, respondents from different functional areas participated in

the survey. Most of them held at least a Bachelor or Masters degree and had been working in the local government for more than 10 years. Thus, it is believed that they were able to provide credible responses through the self-administered questionnaires.

### *4.2 Descriptive Statistics and Measurement Model*

The descriptive statistics of the construct variables and their reliability are reported in Table 2. Reliability of each construct variable was assessed using Fornell and Larcker's (1981) measure of composite reliability and Cronbach alpha (Hair *et al.*, 1998). As shown in Table 3, the composite reliability scores are above 0.80 and alpha scores for each variable are above 0.70, which is well above the acceptable limits (Nunnaly, 1978). All measurement models for each latent variables are found to have satisfied their convergent validity as their factor loadings (Table 3) are >.60 and there is no *t*-statistic <1.96 (table not included) (Chin, 1998; Hair *et al.*, 1998).

Table 2: Descriptive Statistics and Reliability

| Variable | Mean | Standard Deviation | Cronbach Alpha | Composite Reliability |
|---|---|---|---|---|
| PM regulation (PMREG) | 5.847 | 0.115 | 0.834 | 0.934 |
| Goal orientation (GOALORI) | 6.085 | 0.147 | 0.908 | 0.915 |
| PM adoption (PMADOPT) | 5.800 | 0.222 | 0.889 | 0.912 |
| PM Implementation (PMIMPL) | 6.056 | 0.130 | 0.880 | 0.895 |

In addition, cross-loadings among variables as presented in Table 3 show that the factor loadings of each variable are unidimensional. Each item loads higher on the construct it intends to measure than on any other construct (Chin, 1998). Square roots of AVE statistic of each variable (see Table 4) are greater than the respective correlations between the constructs. The results of these two tests demonstrate adequate discriminant validity. Overall, the measurement model indicates that each construct exhibits satisfactory reliability and validity.

Table 3: Cross Loadings from PLS Model

| Items | GOALORI | PMADOPT | PMIMPL | PMREG |
|---|---|---|---|---|
| goalori1 | **0.842** | 0.345 | 0.304 | 0.548 |
| goalori2 | **0.849** | 0.284 | 0.326 | 0.456 |
| goalori3 | **0.903** | 0.328 | 0.406 | 0.562 |
| goalori4 | **0.858** | 0.415 | 0.479 | 0.648 |
| goalori5 | **0.843** | 0.459 | 0.390 | 0.588 |
| adopt1 | 0.440 | **0.645** | 0.223 | 0.339 |
| adopt2 | 0.605 | **0.786** | 0.254 | 0.418 |
| adopt3 | 0.680 | **0.818** | 0.287 | 0.572 |
| devt1 | 0.540 | **0.803** | 0.320 | 0.413 |
| devt2 | 0.632 | **0.874** | 0.340 | 0.499 |
| devt3 | 0.734 | **0.874** | 0.368 | 0.580 |
| impl1 | 0.669 | 0.286 | **0.833** | 0.430 |
| impl2 | 0.542 | 0.293 | **0.812** | 0.387 |
| impl3 | 0.520 | 0.218 | **0.811** | 0.281 |
| impl4 | 0.685 | 0.379 | **0.830** | 0.354 |
| impl5 | 0.540 | 0.241 | **0.823** | 0.347 |
| pmreg1 | 0.741 | 0.398 | 0.305 | **0.889** |
| pmreg2 | 0.734 | 0.381 | 0.238 | **0.903** |
| pmreg3 | 0.775 | 0.348 | 0.369 | **0.825** |
| pmreg5 | 0.586 | 0.290 | 0.290 | **0.668** |

Table 4: Correlation Matrix and Average Variance Extracted (AVE)

| | GOALORI | PMADOPT | PMIMPL | PMREG | AVE |
|---|---|---|---|---|---|
| GOALORI | **0.860** | | | | 0.739 |
| PMADOPT | 0.522 | **0.804** | | | 0.646 |
| PMIMPL | 0.637 | 0.467 | **0.822** | | 0.675 |
| PMREG | 0.677 | 0.520 | 0.494 | **0.826** | 0.683 |

*Note:* Diagonal cells are the square root of AVE.

### *4.3 Hypotheses Testing*

The structural model in PLS provides estimates of path coefficients ($\beta$), *t*-statistic and its *p*-value (significance level) that is used to test the hypotheses. As PLS makes no distributional assumption, bootstrapping (500 samples with replacement) is used to evaluate the statistical significance of each path coefficient (Chin, 1998). Figure 2 is the final model depicting significant path coefficients. The figure shows how

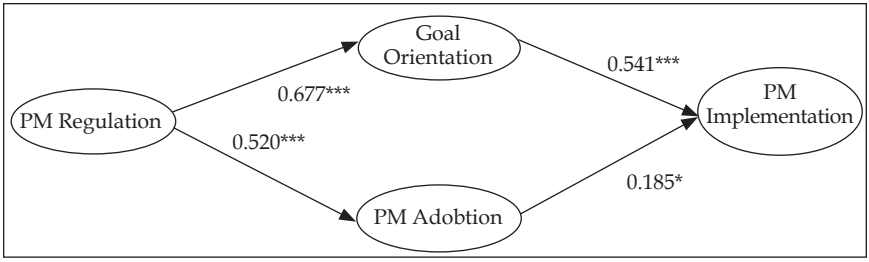


Figure 2: Final Model

Note: *, *** indicate significance at 10% and 1% levels respectively.

the relation between regulation on PM and implementation of PM is mediated by the adoption of PM and goal orientation.

The results of the hypotheses test presented in Table 5 inform that there is a significant positive association between regulation on PM and PM adoption ($\beta$=0.520, $t$=6.912, $p$<0.01). The explanatory power ($R^2$) of this association is 43.1 per cent. On the other hand, there is no significant positive association between regulation on PM and the implementation of PM ($\beta$=0.077, t=0.758, p>0.10). Hence, H1 is strongly supported but H2 is not supported. Findings of this study indicate that while the regulation on PM has imposed on local governments to adopt PM, it is unable to actually implement PM for decision making. Consistent with Hoque (2008), this study has proven that the adoption of PM is driven by regulations. In addition, the results may support Fouchet and Guenoun's (2007) argument that PM is unlikely to be implemented

Table 5: Structural Model, Path Coefficient, and R-square

| | Independent Variables | | | |
|---|---|---|---|---|
| Dependent Variables | PMREG | GOALORI | PMADOPT | $R^2$ |
| PM adoption (PMADOPT) | 0.520 | – | – | 0.431 |
| | (6.912)*** | | | |
| Goal orientation (GOALORI) | 0.677 | – | – | 0.458 |
| | (13.151)*** | | | |
| PM Implementation (PMIMPL) | 0.077 | 0.541 | 0.185 | 0.271 |
| | (0.758) | (5.899)*** | (1.877)* | |

Note: n = 163. Each cell reports the path coefficient and ($t$-value). Blanks cells indicate that the path is not hypothesised.

Note: *, *** indicate significance at 10% and 1% levels respectively.

when it is mainly to respond to external (the central government) imposition; and also confirms the argument that governments adopting PM do not necessarily mean that they actually implement it for making managerial decisions (de Lancer-Julnes, 2009; de Lancer-Julnes & Holzer, 2001). For the case of Indonesia, this study provides evidence that the regulations on PM as mandated by *President's Instruction No. 7/1999* and further imposed on local governments specifically through the issuance of *Government Regulation No. 6/2008* have successfully forced local governments to adopt outcome-based PM.

For the relationship between goal orientation and PM implementation, there is a significant positive association ($\beta$=0.541, $t$=5.899, $p$<0.01) suggesting that H3 is strongly supported. The significant influence of goal orientation on PM implementation found in this study is consistent with prior studies by de Lancer-Julnes and Holzer (2001), Hoque (2008), Wang and Berman (2000) and van Dooren (2005). This finding leads to a notion that the greater the extent of goal orientation, the more likely local government agencies will implement PM. This is in line with the guidelines for performance reporting (LAN, 2003) that suggest performance reports produced by local governments should present their mission statement, strategies, objectives, programmes and activities, and also report on their performance achievement of the programme and activities.

The relation between regulation on PM and goal orientation shows a significant positive association ($\beta$=0.677, $t$=13.151, $p$<0.01). The explanatory power ($R^2$) of this association is 45.8 per cent. The positive association between PM regulation and goal orientation may indicate that both regulations, which require outcome oriented performance reports, might have guided local agency managers to be more focused on outcomes achievement. This suggests that H4 is strongly supported. Finally, H5 is supported as PM implementation is also positively associated with the adoption of PM although it is weakly significant ($\beta$=0.185, $t$=1.877, $p$<0.10). The finding is not consistent with prior studies in the US (de Lancer-Julnes & Holzer, 2001) and Taiwan (Yang & Hsieh, 2007) which reported PM adoption as the main antecedent for effective PM implementation. Although the practices of performance reporting in Indonesian local governments have been in place for almost 10 years, the present study indicates that the adopted PM may not actually be implemented. $R^2$ of 0.271 indicates the explanatory power of the two antecedents to PM implementation, i.e. goal orientation and PM adoption.

In addition to the above findings, it is worth comparing the strength of PM adoption and goal orientation variables in mediating the relation between regulation of PM and its actual implementation. The magnitude of an indirect effect can be estimated by multiplying the coefficients of paths connecting two variables through a mediating variable. An indirect effect is considered significant and meaningful when the magnitude is greater than or equal to the absolute threshold of 0.06 (Bartol, 1983; Lau & Sholihin, 2005; Mia & Clarke, 1999; Sharma, 2002). However, Hair *et al.* (1998) argue that an indirect effect less than 0.08 is considered a small effect that is too rare to add to the substantive conclusion. Both PM adoption and goal orientation significantly mediate the indirect effect of PM regulation on PM implementation. However, the indirect effect through goal orientation which is 0.366 is much greater than that through the mediation of PM adoption, which is 0.096. Hence, in contrast to prior studies (de Lancer-Julnes & Holzer, 2001; Yang & Hsieh, 2007), this study reveals that PM adoption is not the main antecedent to the actual implementation of PM, but goal orientation is so.

## 5. Implications of the Study, Limitations, Suggestions for Future Research

This study examines factors affecting the adoption and implementation of PM in local governments in Indonesia. Generally, the results indicate that PM utilisation in Indonesian local governments are regulatory driven. In particular, PM regulation is a determinant for PM adoption. However, PM regulation can only affect the actual implementation of PM through the mediating variables of PM adoption and goal orientation. These results may accentuate the importance of institutionalising RBM or 'managing for results' within public organisations (Modell, Jacobs, & Wiesel, 2007; OECD, 1993; 1995; 2001; Saldanha, 2002; Treasury Board of Canada, 2002; Try & Radnor, 2007). As such, to enhance the effectiveness of PM utilisation, there should be stronger imposition on local governments to focus on setting and managing programmes that are more outcome-oriented (citizen centred). Furthermore, the findings imply that dividing PM utilisation in local governments into two stages based on knowledge utilisation theory (Beyer & Trice, 1982) is more crucial in identifying antecedents to PM utilisation.

This study contributes to the enrichment of PM studies in the public sector, particularly local governments in a developing country. The results of this study support the argument that utilisation of PM in

the public sector is due to legal requirements (Lüder, 1992; 1994) and may confirm the argument that different country specific factors, as reflected in the regulatory framework, result in different patterns in the utilisation of PM (Budäus & Buchholtz, 1996). More importantly, this study acknowledges the contribution of 'knowledge utilisation theory' in PM utilisation in local government agencies since the findings show that the determinant factors affecting stages of PMS use (adoption and implementation) are different.

The findings need to be interpreted with caution in light of the limitations of this study. Firstly, besides a relatively small sample size and limited scope of this study, i.e. in one province, the purposive sampling used did not include all local government agencies. Secondly, for the reasons of adapting with the Indonesian regulatory contexts, a new instrument was developed to measure construct variables. Although the instrument exhibited satisfactory psychometric properties, future research needs to refine and validate the instrument. Finally, this study does not specifically address the possibility of any dysfunctional behaviour that might be exhibited by public sector managers when utilising PM (Grizzle, 1999). Future research should address this issue along with the complexities of public sector organisations.

Case studies to further elaborate performance measurement practiced by local governments in other developing countries also need to be conducted as case studies would be able to provide deeper insights. Case studies may be able to further elaborate country specific factors as well as the effect of different types of administrative reform and regulatory frameworks towards utilisation of performance measurement.

In conclusion, this study offers a model depicting that government regulation on PM is the antecedent of PM utilisation. The results show that regulation of PM affects the actual implementation of PM through the adoption of PM and goal orientation. The likelihood of the actual implementation of PM becomes stronger when there is strong goal orientation.

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## Appendix: Survey Items

1. Regulation on Performance Measurement (PMREG) (1 = no extent, 7 = very great extent).
   As has been mandated by regulations on PM, to what extend have you prepared the following?

| Item | Label |
|---|---|
| Prepare strategic plan incorporating performance targets. | pmreg1 |
| Prepare annual work plan incorporating performance targets. | pmreg2 |
| Prepare performance based budget. | pmreg3 |
| Prepare progress (interim) report of performance. | pmreg4 |
| Prepare annual performance report. | pmreg5 |

2. Goal Orientation (GOALORI) (1 = no extent, 7 = very great extent).

| Item | Label |
|---|---|
| Your agency has formulated clear mission statement. | goalori1 |
| The mission statement is based on local government's mission. | goalori2 |
| Your programs and activities have been focused on achieving its mission. | goalori3 |
| The mission statements were translated into stated goals. | goalori4 |
| The stated goals of this SKPD are of your main concern to achieve. | goalori5 |
| Stated goals and objectives of this SKPD are measurable. | goalori6 |

3. Performance Measurement Adoption (PMADOPT) (1 = no extent, 7 = very great extent).
   To what extent have you *adopted* the following performance measures for your agency's programs/activities?

| Item | Label |
|---|---|
| Outcome | adopt1 |
| Benefit | adopt2 |
| Impact | adopt3 |
| Others [please, specify] …… | adopt4 |

4. To what extent have you *further developed* (to be more applicable) the following performance measures for your agency's programs/ activities?

| Item | Label |
|---|---|
| Outcome | devt1 |
| Benefit | devt2 |
| Impact | devt3 |
| Others [please, specify] …… | devt4 |

5. Performance Measurement Implementation (PMIMPL) (1 = no extent, 7 = very great extent).
To what extent have you used performance information for carrying-out the following functions?

| Item | Label |
|---|---|
| Strategic planning | impl1 |
| Resources allocation | impl2 |
| Budgeting | impl3 |
| Program management | impl4 |
| Monitoring and evaluation of activities | impl5 |
| Reporting performance to top management | impl6 |