Reliance on multiple performance measures and manager performance

Mahfud Sholihin
Accounting Department, Universitas Gadjah Mada, Yogjakarta, Indonesia, and
Richard Pike and Musa Mangena
School of Management, Bradford University, Bradford, UK

Abstract

Purpose – The performance measurement literature suggests that companies should consider increasing the diversity of their performance measures to embrace both financial and non-financial measures. The purpose of this paper is to examine whether the use of multiple performance measures which includes both financial and non-financial measures in evaluating subordinates’ performance (reliance on multiple performance measures (RMPM)) affects their performance, or whether the effect is contingent on the specificity and difficulty of the goals contained in the measures.

Design/methodology/approach – A questionnaire survey to various functional managers within a single organization supported by interviews.

Findings – The effect of RMPM on subordinate managers’ performance is contingent on goal specificity. However, the paper does not find the same results for goal difficulty. These findings are discussed within the context of the organization studied.

Research limitations/implications – The samples are from a single organization. Further work would be needed to examine whether the results are generalizable into other organizations and/or settings.

Practical implications – The paper provides insight on how performance measures used to evaluate managers should be designed.

Originality/value – This paper contributes to the literature on supervisory evaluative style, performance measure diversity and goal-setting theory.

Keywords Performance measures, Management effectiveness, Targets

Paper type Research paper

1. Introduction

Previous papers have advocated greater research focus on the behavioural effects of strategic performance measurement systems (Ittner and Larcker, 1998; Otley, 1999; Chenhall, 2005). Such systems exhibit various characteristics, such as diverse performance measures (both financial and non-financial), leading and lagging indicators and goals designed to align individual actions with organizations’ strategy (Ittner et al., 2003; Webb, 2004; Chenhall, 2005). This study focuses on the diversity of performance measures in strategic performance measurement systems. In particular, it investigates whether the effect of multiple performance measures which include both financial and non-financial measures, used to evaluate subordinates’ performance (hereafter referred to as reliance on multiple performance measures, or RMPM) on the subordinates’...
performance is contingent on the perceived level of difficulty of the goals set and
whether these goals are perceived by managers as specific and clear. The study seeks to
contribute to the literature on supervisory evaluative style, performance measure
diversity and goal-setting theory.

In regard to supervisory evaluative style, prior studies have tended to conceptualize
er supervisory evaluative style – or how superiors evaluate the performance of their
subordinates – based on accounting or financial measures (Noeverman et al., 2005).
The stream of studies in this area emanate from the seminal work of Hopwood (1972) and
the contrary findings of Otley (1978). Hopwood’s (1972) study examined whether the
dysfunctional behavioural effect of performance evaluation is a necessary consequence
of using accounting data in performance evaluation, or whether it depends on the manner
in which the accounting data are used. He found that a budget-constrained style is
positively associated with subordinates’ job-related tension and speculated that such
condition will negatively affect subordinates’ performance. Otley (1978) attempted to
replicate and extend Hopwood’s study with some modifications in variable specification
and method. Contrary to Hopwood, Otley found that budget-constrained style was not
associated with subordinates’ job-related tension, but was associated with higher
subordinate manager performance. These early studies motivated others to explore and
develop the research issue, introducing other variables, such as budgetary participation
(Brownell, 1982), participation and task uncertainty (Brownell and Dunk, 1991; Lau et al.,
1995), trust (Ross, 1994), information completeness (Emsley, 2001), and manager’s
work-related values (Subramaniam and Mia, 2003) as the contingent variables.

The present study goes beyond most previous studies on the behavioural effects of
supervisory evaluative style which conceptualize it as reliance on accounting/financial
performance measures, to examine the behavioural effects of performance measure
diversity, employing both financial and non-financial measures. To date, it is not clear
whether and how a combination of financial and non-financial measures affects
managerial performance (MP) (Sholihin et al., 2004). The importance of this topic is
emphasized by Otley and Fakiolas (2000), Hartmann (2000) and Noeverman et al. (2005)
who call for studies in supervisory evaluative style to include non-financial measures
in their analysis. Hartmann (2000, p. 477), for example, suggests:

Based on RAPM (Reliance on Accounting Performance Measures) research specific
hypotheses could be formulated about the usefulness of having multiple performance
indicators [...] about the effect of having non-financial or non-quantitative performance
targets [...] So far, both theory development and empirical evidence [...] are limited
(emphasis and parentheses added).

With respect to the performance measure diversity literature, previous studies on the
topic have investigated its effects on organisational performance (Hoque and James,
2000; Hoque et al., 2001; Ittner et al., 2003; Chenhall, 2005; Van Der Stede et al., 2006) and
on managers’ performance who use such systems to manage organizations (Burney
and Widener, 2007; Hall, 2008). These studies confirm that the use of financial and
non-financial measures positively affects firm performance. There is, however, a lack of
empirical evidence to show whether and how it affects subordinates’ performance. This
study aims to provide evidence on whether and how performance measure diversity
affects subordinates performance. Anthony et al. (1997) emphasize that management
accounting studies need to address the important issue of how performance
measurement systems can produce desired behaviour and outcomes.
Finally, previous studies on goal-setting characteristics usually focus on a single-goal setting (Locke and Latham, 1990; Cheng et al., 2007). This present study contributes to the goal-setting theory literature by investigating the effects of goal-setting characteristics in a multiple-goal setting context. We examine whether and how goal specificity and goal difficulty affect the relationship between RMPM and subordinate manager’s performance.

Drawing on the responses of functional managers in a global manufacturing organization, we find that goal-specificity moderates the relationship between RMPM and subordinates’ performance. In other words, managers relying more heavily on multiple performance measures achieve higher performance levels when the goals of such measures are clear and specific. However, we do not observe that the level of goal difficulty has the same effect. To understand the findings better and to put them into their organizational context, as suggested by Otley (1999), we followed up the survey with interviews with selected managers from the case organization.

The rest of the paper is organized as follows. The next section will present a literature review and hypothesis formulation. This is followed by a description of the research method. Research findings and discussions are presented in Section 4. Finally, the paper offers conclusions, limitations and suggestions for future research.

2. Literature review and hypothesis development

2.1 Performance measures diversity and its effects

Ittner and Larcker (1998) contend that performance measurement systems are important because they play a key role in the implementation of strategic plans, the evaluation of organizational objective achievement, and the construction of managerial compensation plans. Merchant (2006) argues that performance measures are critical in MP evaluation to motivate managers to exert effort towards attaining organizational goals through a variety of incentives tied to the achievement of those goals.

Various innovations in performance measurement systems have emerged, in part, motivated by the perceived loss of value relevance of traditional financial or accounting measures in understanding organizational performance (Johnson and Kaplan, 1987; Lynch and Cross, 1991; Ittner and Larcker, 1998; Hoque et al., 2001). To overcome these perceived limitations, Kaplan and Norton (1996) and others advocate non-financial measures to complement financial measures; arguing that measures such as product innovation, product leadership and customer loyalty may be better indicators of future profitability than annual profit. Vaivio (1999, p. 409) observes: “It has been claimed that financial measurement should be complemented with ‘new’ non-financial indicators and companies are being advised to erect multidimensional measurement systems.” According to Ittner and Larcker (2000), the distinct benefits of non-financial performance measures are that they provide a closer link to long-term organizational strategies, provide indirect quantitative information on company’s intangible assets, can be good indicators of future financial performance, and can improve managers’ performance by providing more transparent evaluation of their actions.

The use of an appropriate mix of financial and non-financial measures may enable organizations to mobilize and exploit their intangible or intellectual assets as well as their physical tangible assets, which, in turn, may lead to better performance (Atkinson et al., 2001)[1]. Kaplan and Norton (1996) argue that multiple measures, which incorporate both financial and non-financial measures, might function as the cornerstone...
for future success. Hoque et al. (2001) contend that the adoption of a multiple measurement system is capable of providing future performance signals and in motivating breakthrough improvements in critical activities. Kaplan and Norton (1992, p. 79) contend that by combining both financial and non-financial measures, it:

[...] helps managers to understand, at least implicitly, many interrelationships. This understanding can help managers transcend traditional notions about functional barriers, and ultimately lead to improved decision making and problem solving.

Empirical evidence (Van Der Stede et al., 2006; Chenhall, 2005; Ittner et al., 2003; Said et al., 2003; Hoque et al., 2001) suggests that operating a diverse performance measurement system which includes both financial and non-financial measures positively affects organizational performance. Van Der Stede et al. (2006) found firms with more extensive use of financial and non-financial measures have higher performance in terms of financial, operating, employee-related and customer-oriented performance. Chenhall (2005) observed that an integrative performance measurement system which includes financial and non-financial measures significantly affected a range of strategic outcomes. Said et al. (2003) found that firms which employ performance measurement diversity attain higher accounting and market-based performance levels. Similarly, Ittner et al. (2003) found that firms which implement a broader set of financial and non-financial measures had higher stock market returns than those with less extensive measures. Hoque et al. (2001) found that greater use of financial and non-financial measures was associated with improved performance.

Other studies (Webb, 2004; Burney and Widener, 2007; Hall, 2008) have investigated the impact of performance measure diversity on individual managers’ attitudes and behaviours. Webb (2004), using an experimental design, found that the cause-and-effect linkage of non-financial and financial measures affects managers’ goal commitment. A survey by Burney and Widener (2007) found that performance measurement diversity linked to strategy positively affects managers’ performance through its relation with job relevant information and role ambiguity. Such a system increases job relevant information and reduces role ambiguity; performance is higher when managers perceive that their role ambiguity is lower. Hall (2008) also examined the effect of performance measurement diversity on MP. Using the data collected from a survey of SBU managers of Australian manufacturing organizations, he found performance measurement diversity to be positively associated with role clarity and psychological empowerment which, in turn, were positively associated with MP.

The forgoing discussion indicates that performance measurement diversity has positive effects. However, few prior studies have investigated this issue at the level of subordinate. The literature suggests that agents (subordinates) who are evaluated using multiple performance measures should attain higher performance levels because such measures can improve motivation of the agents (Feltham and Xie, 1994; Datar et al., 2001), direct subordinates’ attention to those aspects of the job being measured (Moers, 2005), and align subordinates’ effort along the dimensions emphasized by those measures (Banker et al., 2000). However, based on goal-setting theory, we argue that the association between RMPM and subordinate performance is not a simple one; the effect of RMPM on subordinate performance is contingent on the perceived specificity and difficulty of the goals contained in the measures as will be discussed below.
2.2 Goal-setting theory

Goal-setting theory has its roots in experimental psychology and management theory (Locke and Latham, 1990). Its basic premise is that an individual's conscious intentions regulate his/her actions, and performance is influenced by a person's intention to perform (Locke et al., 1981). Goals are defined as "what a person is trying to accomplish or intends to do" (Tosi et al., 2000, p. 150). Goal-setting theory argues that, ceteris paribus:

- a person with difficult goals will do better than someone with easy goals; and
- a person with specific goals (knows precisely what he or she needs to do, or is supposed to do) will do better than someone whose goals or intentions are vague.

For example, a unit manager with a goal “to increase the return on sales for the unit on the previous year” has a much less specific goal than a manager with a target “to attain a gross margin on sales of 30 per cent and a operating margin of 8 per cent for the year”. In other words, goal theory argues that specific and difficult goals positively affect performance (Locke et al., 1981; Locke and Latham, 1990, 1991, 2002, 2006).

The mechanism for how goals affect performance draws on three attributes of motivated action: arousal or intensity of effort, duration of effort, and choice or direction (Locke and Latham, 1990). Concerning intensity of effort, laboratory experiments suggest that difficult goals will lead individuals to exert more effort than those with “do best” goals. Duration of effort over time (also known as persistence) is influenced by goal specificity; subjects with specific goals spend more time doing their task compared to those with non-specific goals. Finally, goals affect performance via directional effects. First, they orient the individual towards goal relevant activities and materials and away from goal-irrelevant ones. Second, they activate the individual’s stored knowledge and skills that are perceived as relevant to the task. Further, Locke and Latham (1990, pp. 92-3) distinguish between goal difficulty and goal specificity as follows:

While the difficulty of the goal should be most logically related to effort and arousal, the specificity of the goal should have the most effect on direction of attention and direction of effort [...]. Goal specificity should also raise performance level of a task as compared with no goal at all [...]. Presumably the specific objective gave the manager a clearer picture of what they were to achieve than did general objectives [...]. Performance goals single out for action those aspects of performance that are relevant to the goal.

In the context of this paper, it is argued that when subordinate managers know precisely what they are supposed to do, they will do better than subordinate managers whose goals are vague, because those with specific goals will exert more effort and spend more time pursuing those targets. Furthermore, specific goals will clarify what is required to accomplish their tasks. Hence, it is expected that where performance is evaluated using financial and non-financial measures, and the goals contained in the measures are specific, performance will be enhanced. In the accounting literature, Kren and Liao (1988, p. 285) observe that “Clear, specific goals encourage the development of task-relevant plans by stimulating the individual to think more about actions that are needed to reach the goal [...].” With regard to goal difficulty, subordinates who perceive that their goals are difficult are expected to spend more effort in accomplishing their jobs compared to those with easy goals; the greater effort, the higher the performance. The normative literature on control systems (Merchant and Van Der Stede, 2003) also suggests that to be able to motivate managers to perform better, a performance evaluation system should first, define
the dimensions of performance measures (either financial or non-financial or a combination of financial and non-financial); second, describe the standard of performance by defining the level of performance target (difficulty), the specificity/clarity of the target; and third, implement reward-performance link systems. The foregoing discussion suggests that to achieve higher performance, subordinates should be evaluated using multiple performance measures which have attainment levels that are both specific and challenging. The following hypothesis therefore will be tested:

\[ Ha1. \] The effect of RMPM on MP is contingent on goal specificity.

\[ Ha2. \] The effect of RMPM on MP is contingent on goal difficulty.

3. Research method

3.1 Research setting and sample
The study employs a sample of functional managers of a manufacturing organization located in the UK. The company is part of a highly centralized global organization operating in a specialist, research-driven sector. Its declared vision is to be the leading service-driven company and the preferred partner in its sector, with a mission of customer commitment by combining leading edge technology and innovations with superior applications and customer service skills. To achieve its vision and mission, the company has identified values to be promoted throughout the organisation, namely, customer focus, personal engagement, team orientation, innovation, shareholder commitment, integrity and sustainability. The declared corporate culture is one of high performance, accountability and entrepreneurship. Its main strategic thrust has been to invest in high growth sites and markets, and divest itself of poorly performing businesses, aimed at increasing return on invested capital to place it in the top performance quartile in the industry. Much of this performance improvement is to be realized through reducing complexity, using fewer suppliers and closing smaller plants. The company emphasizes the importance of financial as well as non-financial performance measures.

A total of 99 questionnaires, together with a covering letter each explaining the purpose of the study and assuring data confidentiality, were sent to all functional managers representing all seven UK sites using the internal organization’s mailing system. The responses, however, were sent directly to the researchers. This produced a total of 52 responses. Careful inspections of the responses, however, led to two respondents being dropped as unusable, yielding a final total of 50 responses for analysis (a 51 per cent response rate).

3.2 Variables and their measurement

3.2.1 Reliance on multiple performance measures. This variable is conceptualized as the use of a combination of financial and non-financial measures in MP evaluation. It differs from previous studies on supervisory evaluative style which, as observed by some review papers (Otley and Fakiolas, 2000; Noeverman et al., 2005), tend to conceptualize supervisory evaluative style as solely financial-based performance evaluation. We study the effect of RMPM as the literature on supervisory evaluative style advocates examination of the behavioural effects of both financial and non-financial measures (Hartmann, 2000; Otley and Fakiolas, 2000; Noeverman et al., 2005). Moreover, the organization studied evaluates the performance of its managers using both financial
and non-financial criteria as indicated in its documentation and confirmed in discussions with managers.

The instrument to measure this variable is adopted from Ittner et al. (2003). They identified possible categories of measures used in performance measurement systems based on value driver discussion in the balanced scorecard, intangible asset, intellectual capital, and value-based management approaches. The categories are: relations with customers, relations with employees, operational performance, product and service quality, alliances with other organizations, relations with suppliers, environmental performance, product and service innovations, community performance and financial performance. To ascertain the validity of this instrument for this current study, prior to the distribution of the instrument to our respondents we performed the following steps. First, we discussed the measure with a manager from the organization to ascertain that the measures are relevant and appropriate. Second, the results of the discussion were presented to the senior management team to validate that the items and wordings were appropriate for the sample organization as suggested by Otley and Fakiolas (2000) and Noeverman et al. (2005). In this process, managers were given opportunity to put forward measures which were not initially included in the questionnaire as well as to eliminate the measures which were not considered relevant to their organisation.

The above procedure led to the development of an instrument with ten categories, as shown in the Appendix. Whilst Ittner et al. (2003) used the instrument to assess the importance of the ten categories for firms’ long-term organizational success, our study is concerned with managers’ performance evaluation. We therefore amended the wording along the lines of Hopwood (1972), asking how much importance respondents thought their supervisors attach to the various performance evaluation categories when evaluating their performance, using a seven-point Likert scale, anchored 1 (no importance) and 7 (always important).

Detailed descriptive statistics for each category are presented in Table I (Panel A). The table indicates that the sample managers perceive the most important category used in their performance evaluation as operational performance (e.g. productivity, on-time delivery, safety and cycle time) with an average score of 5.88, and the least important criteria as community performance (e.g. public image and community performance), with an average score of 2.54. Financial criteria (e.g. annual profit, return on assets and return on sales) is perceived as the second most important criteria in performance evaluation, followed by relations with employees (e.g. employee satisfaction and employee turnover), relations with customers (customer satisfaction and customer loyalty/retention), and product and service quality (e.g. defect rates, returns and quality awards). We do not perform factor analysis for this variable as the items represent various different categories of performance measures, albeit they incorporate both financial and non-financial categories.

To see whether different functions have different perceptions on the importance of the categories used to evaluate their performance, Table I (Panel B) provides the means of each category by function. Financial performance was ranked first for accounting and finance managers and sales and marketing managers, joint second by production managers, and joint fifth by human resource managers. The latter two functions placed highest importance on operational performance. Owing to the small number of samples in each function, we only performed analyses on the total sample.
Moreover, the ANOVA test indicates no significant difference between functions \( (p = 0.246) \). These results support the suitability of sample data for further analysis.

### 3.2.2 Managerial performance

The MP measurement instrument is a self-rating measure developed by Mahoney \textit{et al.} (1963, 1965). This instrument is an established measure and has been used extensively by many prior studies in supervisory evaluative style (Brownell, 1982; Brownell and Hirst, 1986; Brownell and Dunk, 1991; Lau \textit{et al.}, 1995; Otley and Pollanen, 2000). It consists of eight dimensions of managerial activity (planning, investigating, coordinating, evaluating, supervising, staffing, negotiating and representing) and one dimension of overall performance. Respondents rate their performance using a seven-point Likert type scale, anchored 1 (very low) and 7 (very high).

Govindarajan (1984) and Brownell and Mcinnes (1986) both provide evidence on its reliability and its construct validity. A more recent assessment of this measure by Chong and Eggleton (2007) and Kominis and Emmanuel (2007) also support the validity and reliability of this measure\cite{2}. For this study, the validity and reliability of the instrument was tested as follows. First, the eight dimensions of managerial activity were factor analysed. This analysis revealed that the eight dimensions loaded on three factors (eigenvalues greater than one, percentage of cumulative variance explained = 79.071). Supervising staff, obtaining and maintaining staff and evaluating subordinates’ activities loaded on factor 1 (we name it “staff management” dimension) with factor loadings of 0.928, 0.872 and 0.838, respectively. Coordinating my area’s activities, Planning for my

<table>
<thead>
<tr>
<th>Panel A. Descriptive statistics of the performance categories (all managers)</th>
<th>Panel B. Means of perceived importance performance categories by function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Min</td>
</tr>
<tr>
<td>Relations with customers</td>
<td>1</td>
</tr>
<tr>
<td>Relations with employees</td>
<td>1</td>
</tr>
<tr>
<td>Operational performance</td>
<td>1</td>
</tr>
<tr>
<td>Product and service quality</td>
<td>1</td>
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<tr>
<td>Alliances with other organizations</td>
<td>1</td>
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<tr>
<td>Relations with suppliers</td>
<td>1</td>
</tr>
<tr>
<td>Environmental performance</td>
<td>1</td>
</tr>
<tr>
<td>Product and service innovations</td>
<td>1</td>
</tr>
<tr>
<td>Community performance</td>
<td>1</td>
</tr>
<tr>
<td>Financial performance</td>
<td>1</td>
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Table I.
area of responsibility, and investigating issues in my area loaded on factor 2 (we called it “planning and control” dimension) with factor loadings of 0.890, 0.875 and 0.664, respectively. “Negotiating for my responsibility’s interests” and “Representing the interests of my area” loaded on factor 3 (we named it “external affairs management”) with factor loadings of 0.909 and 0.891, respectively. Second, we regressed the score of overall performance on the above three factors of managerial activities. The results of the regression analysis shows 41.4 per cent variance explained by these three factors ($F = 10.363, \ p < 0.001$). This suggests that the three factors account for approximately 41 per cent of the variance of the overall rating, with the remaining 59 per cent being attributable to other factors, such as functional and job-specific characteristics (Kominis and Emmanuel, 2007). The regression analysis, however, revealed that only “planning and control” and “external affair management” factors significantly affect overall performance. The coefficient value of “planning and control” is 0.472 ($t = 3.592; \ p = 0.001$) and that of “external affair management” is 0.280 ($t = 2.177; \ p = 0.035$).

Following previous studies (Brownell, 1982; Brownell and Hirst, 1986; Dunk, 1989; Brownell and Dunk, 1991; Otley and Pollanen, 2000; Chong and Chong, 2002; Chong and Eggleton, 2007; and Chong and Johnson, 2007), we use the single overall performance measure.

3.2.3 Goal-setting characteristics. As previously mentioned, two goal-setting characteristics studied are goal specificity and goal difficulty. We chose these characteristics as Locke et al. (1981) and Locke and Latham (1990, 2002, 2006) observe that goal specificity and difficulty are the most robust goal-related variables having positive impacts on performance. To measure goal specificity, we use three items taken from Fang et al. (2005):

1. My superior specifically explained what my performance goals are.
2. I have very specific performance goals in my job.
3. I understand the exact level of my assigned performance goals.

For goal difficulty, we measured this variable using a single item: my assigned performance goals are difficult to achieve.

Respondents were requested to indicate their level of agreement to the above items, using a seven-point Likert type scale ranging from 1 (strongly disagree) to 7 (strongly agree). The results of factor analysis for goal specificity indicate that all the three items loaded on a single factor with an eigenvalue value greater than 1 (eigenvalue = 2.596; total variance explained = 86.536 per cent; minimum factor loading = 0.896). The Cronbach’s alpha coefficient is 0.922, indicating that this variable is valid and reliable. The average score for goal specificity is 4.51 (SD = 1.57, min = 1.33, max = 7.00), and that for goal difficulty is 4.42 (SD = 1.55, min = 1.00, max = 7.00).

The summary of descriptive statistics of each variable is shown in Table II.

4. Empirical results and discussions
Recall that the present study expects the positive effect of RMPM on subordinates’ performance to be contingent on goal specificity and goal difficulty. Table III provides a Pearson correlation analysis. The table shows that RMPM is not associated with MP. Further, goal specificity and goal difficulty are not significantly associated with either dependent variable (MP) or independent variable (RMPM). The results provide initial support that the effect of RMPM on performance is contingent on goal specificity
and goal difficulty and that goal specificity and goal difficulty are moderating variables on the relationship between RMPM and job performance. Shields and Shields (1998) and Hartmann and Moers (1999) defined a moderator variable as a variable which affects the relationship between an independent and a dependent variable but does not have significant bivariate relationships with the independent and dependent variables. However, it affects the relationship between an independent and dependent variable.

To test the interaction effect of goal specificity and goal difficulty on the relationship between RMPM and subordinates’ job performance, this study employs moderated regression analysis (MRA) with the following equation:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + e \]

where \( Y \) is MP, \( X_1 \) is RMPM; \( X_2 \) is goal specificity or goal difficulty. We use the MRA and not use multiple linear regression analysis because the focus of our study is the moderating effect, resulting from MRA. The choice of MRA, therefore, is more appropriate and able to maintain the consistency between the hypothesis and the choice of method of analysis. A significant coefficient of \( b_3 \) would support the hypotheses indicating that RMPM and goal characteristics jointly affect subordinate managers’ performance (Subramaniam and Mia, 2003).

Table IV presents the results of the MRA to test the moderating effect of goal specificity on the relationship between RMPM and job performance. The results indicate there is a statistically significant \((p = 0.022)\) two-way interaction between RMPM and goal specificity affecting MP. The table also indicates that the interaction is positive,
which means the interaction between RMPM and goal specificity positively affects MP. Therefore, our hypothesis that the effect of RMPM on MP is contingent on goal specificity is supported.

Table V presents the results of the MRA to test the moderating effect of goal difficulty on the relationship between RMPM and MP. It shows that there is no significant two-way interaction between RMPM and goal difficulty affecting MP. Therefore, $Ha_2$ which states that the effect of RMPM on MP is contingent on goal difficulty is not supported by our data.

We now place our findings within the specific context of the organization from which responses are drawn, based on semi-structured interviews with managers. Prior to 2000, the division enjoyed considerable autonomy. However, the recent slow down in growth in its major markets, increased competition, and the simultaneous acquisition of a major competitor contributed to a financial crisis and necessitated restructuring, with operations being centralized through the parent company operating a global ERP system from its European headquarters. One of the effects of this restructuring has been a reduction in the number of employees by one-third over a six-year period and massive scale plant closures in Europe (with the UK division bearing the initial brunt). The parent company has established highly centralized, planning and control mechanisms, with UK managers having limited influence on strategic decision making.

In an attempt to increase cash flow, prices were significantly increased leading to long standing customers defecting, and weakening customer relations and employee morale in the organisation. There was little reward for employees attaining performance measures, little opportunity for promotion, low or non-existent pay rises or other little financial or non-financial rewards. In other words, some managers saw that the appraisal system was inadequate:

\[
\text{[...] yearly appraisal is merely formality (Marketing managers).}
\]

\[
\text{Performance evaluation is inadequate and vague [...] at present the appraisal system is informal and not enforced [...] innovation and creativity are not being rewarded and encouraged [...] no rewards for meeting performance target [...] nothing happen whether they (targets) are achieved or not (R&D Manager).}
\]

\[
\text{I'm asked to give more effort than others who appear to get more reward financially and credit for what they do [...] (but I'm) not being given the credit for (my) achievement (Production manager).}
\]

\[
\text{(The company) had not any performance appraisal. No formal appraisal [...] (Health and safety manager).}
\]

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Coefficient value</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>$b_0$</td>
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<td>0.000</td>
</tr>
<tr>
<td>RMPM</td>
<td>$b_1$</td>
<td>0.169</td>
<td>0.549</td>
</tr>
<tr>
<td>GD</td>
<td>$b_2$</td>
<td>$-0.005$</td>
<td>0.983</td>
</tr>
<tr>
<td>RMPM $\times$ GD</td>
<td>$b_3$</td>
<td>$-0.008$</td>
<td>0.894</td>
</tr>
</tbody>
</table>

**Table V.**
The results of MRA with goal difficulty as the moderating variable

**Notes:** $R^2 = 3.4$ per cent; $F = 5.547; p = 0.653$
Some managers observed that the above situation and the group’s strong focus on seeking to satisfy shareholder needs created dysfunctional behaviour among some managers. Those factors lead to a condition where managers have little motivation and low morale. As a manager stated:

One of the most striking things I have noticed is that there is a total lack of empowerment for managers and employees. Innovation and creativity are not being rewarded or encouraged. The company needs a workable performance management system that rewards and empowers employees and that will build morale. [...] At present the appraisal system is informal and not enforced (R&D Manager).

The organizational context described above may help explain why the results show that difficult goals do not interact with RMPM affecting performance. In this organization, it is appears that the rewards managers receive are not contingent on their performance, and this, together with the generally low levels of motivation referred to earlier, leads them to prefer less challenging goals. This is consistent with literature on control system which argues that to motivate managers the performance evaluation system should be implemented based on a reward-performance linked system whereby managers are rewarded based on the accomplishment of the performance target. When managers perceive that their rewards are not affected by the level of their performance, they are not motivated to accomplish difficult jobs (Kominis and Emmanuel, 2007).

Another possible explanation of why RMPM does not interact with goal difficulty affecting performance is because the performance target is seen to be unattainable and the level of difficulty is not accepted by managers. If managers perceive that the goals are unachievable, they will become frustrated and perform poorly. With regard to the role of goal acceptance, Latham and Yukl (1975, p. 824) argue, “Goals that are assigned to a person (e.g. by supervisors) have an effect on behaviour only to the degree that they are consciously accepted by the person”. The importance of goal acceptance as an attribute of goal setting which may affect performance is also emphasized by Steers and Porter (1974) and Erez and Kanfer (1983).

The results of the interview indicate that the performance targets are perceived to be too difficult, unattainable and unacceptable by managers within this organization. In addition, some managers perceive that they lack the resources and authority to attain the target. For example, some managers said about their superiors:

[...] target fairly well defined, but limited inadequate resources to achieve them [...] very little control over the most important parameters to achieve targets [...] budget is insufficient (marketing manager).

The goal is difficult because (I have) a lack of control. Only have controls over technical performance [...] Must also achieve costs which are out of my control [...] I have very little control over achieving targets [...] (production manager).

They (superiors) make our life too difficult [...] they do not know whether we have enough resources to achieve the targets (R&D manager).

Finally, another possible explanation why RMPM does not interact with goal difficulty is because managers lack the intrinsic rewards/motivators such as self-actualization, self-determination, empowerment, decision autonomy, status, recognition and self-esteem in their job. Whilst these intrinsic motivators significantly influence the motivation
of middle-level management (Kominis and Emmanuel, 2007), it is likely that the intrinsic motivation and morale do not exist in this organization. For example, one manager said:

[...] when superiors set goals too high for demoralized managers who are fearful of losing their jobs in order to improve performance, the managers are not able to respond. [...] ironically, it’s this situation where demoralized managers are least likely to be empowered, leading to a vicious circle of declining morale.

Based on our quantitative and qualitative results, the practical implications of our study results are as follows. First, the use of multiple performance measures in evaluating subordinate managers in itself does not affect subordinates’ performance, rather the positive effects of the use of multiple performance measures on MP are contingent on the specificity or clarity of the measures. Second, to achieve beneficial motivational effects in the design of performance measurement systems, there should be a clear link between rewards and performance achievement. Third, the level of difficulty contained in the performance measures should be acceptable and attainable. The results are consistent with the normative literature in management control systems (Merchant and Van Der Stede, 2003) and goal-setting theory (Locke and Latham, 2002).

5. Conclusions, limitations and suggestions for future research

Previous studies on supervisory evaluative style tend to focus on the behavioural effects of reliance on accounting performance measures. This study extends the literature by examining whether RMPM, which incorporate both financial and non-financial measures is associated with subordinates’ job performance, and if so whether the relationship is contingent on goal specificity and goal difficulty.

Based on 50 responses gathered from various functional managers within a single organization, this study finds that RMPM in itself does not affect performance. More importantly, this study provides support that the effect of RMPM on performance is contingent on goal specificity. However, the results do not support the moderating effect of goal difficulty on the relationship between RMPM and subordinates’ MP. Interviews with managers suggest that the lack of support for the interaction effects of RMPM and goal difficulty on subordinates’ performance may be influenced by the observation that subordinates:

- do not accept the level of the performance target (too difficult);
- perceive the link between performance and rewards is weak;
- lack the required resources; and
- lack intrinsic motivators, such as self-actualization, self-determination, feelings of increased power, decision autonomy, status, recognition and self-esteem in their job.

Our results therefore partly support goal theory in that goal-specificity affects performance, i.e. individuals with more specific goals perform better than those with less-specific goals. In addition, this study supports the literature on control systems which suggests that to be an effective control system, and to motivate managers to perform better, a performance evaluation system should specify the performance targets and implement a reward-performance linked system.

From a practical perspective, these results suggest that setting specific targets is very important as it will guide managers on what should be achieved. With so much attention
in the accounting literature devoted to performance measure diversity, there is a need to reinforce the importance of goal specificity. Equally, it should be recognised that goal difficulty is only likely to increase the performance of managers when goals are accepted, the link between goal achievement and rewards is clear, and the resources to support the goal achievability are available. As management accountants are usually key personnel in the design of performance measurement, evaluation and reward systems the findings of this study are particularly relevant to accounting. First, the prescriptive literature typically argues that organisations (whether in the private or public sector) should implement scorecard–type performance measurement systems involving multiple performance measures. However, for the organisation studied in this paper, the level of RMPM by superiors to evaluate subordinate manager performance is not significantly associated with MP and therefore we cannot advocate that greater use of multiple performance measures is bound to motivate managers to attain higher performance levels. Rather, the effect is contingent on the specificity or clarity of the measures as such specificity will orient the individual towards goal relevant activities and away from goal-irrelevant ones (Locke and Latham, 1990) and “Clear, specific goals encourage the development of task-relevant plans by stimulating the individual to think more about actions that are needed to reach the goal [...]” (Kren and Liao, 1988, p. 285). This suggests that in designing performance measurement systems accountants should seek to establish clear and specific targets to be achieved.

Second, the interview findings suggest that when the design of performance measurement systems include performance targets which are difficult to achieve, it is important to ensure that the targets are perceived as attainable.

The study is not without limitations. First, it uses a sample from one organization and should not be generalized to other organizations. Future studies should investigate whether the same effects exist for organizations with different characteristics, such as the service sector or not-for-profit organizations. Other studies could select managers from a randomly selected sample of firms, or employ a larger sample of respondents within a single firm to permit further exploration by function. Second, since this study suggests the importance of the strong link between rewards and performance, resource adequacy, goal acceptance, and intrinsic motivation, future studies should consider these variables in their models. Finally, this study has the inherent limitations associated with survey methods. Future research could examine the same topic using an in-depth qualitative case study approach.

Notes

1. Some literature (Said et al., 2003; Ittner et al., 2003; Van Der Stede et al., 2006) suggests that the selection of the measures should fit the strategy of the organization. Kaplan and Norton (1996) contend that the measures should have cause-and-effect linkage, while Chenhall (2005) argues the measures should be integrative.

2. These two papers also advocate this type of measures (a self-rating approach) compared to superior’s rating approach.

References


Mahoney, T.A., Jerdee, T.H. and Carrol, S.J. (1963), Development of Managerial Performance: A Research Approach, South Western, Cincinnati, OH.


Further reading

Appendix. Questionnaire

Reliance on multiple performance measures

When your superior (your line manager) is evaluating your performance, how much importance do you think he or she attaches to the following items?

Please respond based on the following scale for each of the items listed below:

1. Never important 4. Sometimes important 6. Usually important
2. Seldom important 5. Often important 7. Always important
3. Occasionally important

1. Your relations with customers (e.g. customer satisfaction and customer loyalty/retention).
2. Your relations with employees (e.g. employee satisfaction and employee turnover).
3. Your operational performance (e.g. productivity, on-time delivery, safety and cycle time).
4. Your product and service quality (e.g. defect rates, refund/returns and quality awards).
5. Your alliances with other organizations (e.g. joint marketing, joint research and development).
6. Your relations with suppliers (e.g. on-time delivery and input into product/process design).
7. Your environmental performance (e.g. environmental compliance).
8. Your product and service innovations (e.g. new product development and product development cycle time).
9. Your community performance (e.g. public image and community development).
10. Your financial performance (e.g. annual profit, return on assets and return on sales).

Performance

How would you rate your performance on the following items?

Please respond based on the following scale for each of the items:

2. Low 5. Above average 7. Very high
3. Below average

1. Planning for my area of responsibility.
2. Coordinating my area’s activities.
3. Evaluating subordinates’ activities.
4. Investigating issues in my area.
5. Supervising staff.
6. Obtaining and maintaining suitable staff.
7. Negotiating for interest of my responsibility.
8. Representing the interests of my area.

Goal-setting characteristics
For each statement below please indicate your level of agreement using the following scale:

2. Disagree  5. Slightly agree  7. Strongly agree
3. Slightly disagree

Goal-specificity items
1. My superior specifically explained what my performance goals are.
2. I have very specific performance goals in my job.
3. I understand the exact level of my assigned performance goals.

Goal difficulty
1. My assigned performance goals are difficult to achieve.

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