STRATEGIC PERFORMANCE MEASUREMENT SYSTEM: A SERVICE SECTOR AND LOWER LEVEL EMPLOYEES EMPIRICAL INVESTIGATION

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Abstract

Resorting to the Schatzki's (2002) 'site of the social' theoretical construct and stance on the peculiar 'sites' of construction and institutionalisation of social practices, we aim to locate the use and efficacy of strategic performance measurement system (SPMS) in service sector organizations and at the lower hierarchical level, and its effect on role clarity, employees' psychological empowerment and performance. This study aims to further the relevant literature, which covers the phenomenon in the manufacturing industry and at the upper level of the organizational hierarchy (Hall, 2008). A survey study of employees at the lower hierarchical level in the banking sector of the southern part of Sumatera including the provinces of Lampung, South Sumatera, Bengkulu and Jambi was conducted and data analyzed using SmartPLS. Our analysis of the empirical data we gleaned from our survey of 135 respondents endorsed the hypotheses set for the study confirming a positive impact of the use of CPMS on lower level employees' role clarity and overall performance in service sector organizations, however, did not support CPMS's effect on the employees' 'psychological empowerment'. The effect and efficacy of the use of SPMS on role clarify, performance and psychological empowerment in the manufacturing sector employees at the upper hierarchical level have already been empirically investigated (see Hall, 2008). This current study aims to not only extend such studies to the service industry but also contribute to the management accounting literature through extending the use of the strategic performance measurement system to employees at the lower hierarchical level in the service sector. It aims at apprising practitioners and policy-makers on the utility and limitation of the use of CPMS in these contexts**.

Keyword: Strategic Performance Measurement System, Service Sector, Schatzki, SmartPLS

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1 Introduction

Over the last two decades the development of comprehensive performance measurement system (CPMS) has demonstrated significant academic and practical contributions through its role in improving organizational and managerial performance as well as contributing to the achievement of organizational objectives (e.g. Burney & Widener, 2007; Burney, Henle, & Widener, 2009; Chenhall, 2005; Hall, 2008, 2011; Ittner, Larcker, & Randall, 2003). Some studies, in the context of individual employees, found that performance measurement system institute a sense of faireness among employee (Burney et al., 2009; Hartmann & Slapničar, 2012), improves employee's job satisfaction (Lau & Martin-Sardesai, 2012) and ensures better managerial performance (Hall, 2011). Ho, Wu and Wu (2014) found a positive correlation between the extent to which operational level employees' consensus is secured in strategy formulation and implementation and the level of their performance and success within the organization. Hall (2008), for instance, did an investigation of the managerial performance in Australian *manufacturing* companies and found that an effective performance measurement system improves managerial performance through clarifying individual employees' roles and psychologically empowering them. This study furthers Hall's findings and empirically tests the efficacy and use of CPMS in terms of employee performance and psychological empowerment in contemporary business organizations in the *service sector* and at the lower hierarchical level.

Several triggering factors signal to the study's significance: First, the literature argues that the service

and the manufacturing industries are fundamentally different (Auzair & Langfield-Smith, 2005; Winata & Mia, 2005), and, as Schatzki's (2002) theoretical conceptualization predicts, social practices get constructed, legitimized and institutionalised at the wider societal level on a peculiar 'site', social practices that flourish in the manufacturing sector context may or may not be as effective in the service sector context. Contrary to the manufacturing sector, the service sector primarily deals in intangible goods that are characterized by *heterogeneity, inseparability* of product and consumption and *perishability* (Auzair & Langfield-Smith, 2005; Cloninger & Oviatt, 2007; Edvardsson, 2005; Zeithaml, Parasuraman, & Berry, 1985). Auzair & Langfield-Smith (2005, p. 400) assert that outcomes of studies conducted in the manufacturing sector '*requires a re-orientation to be effectively implemented in service organizations*'. Therefore empirical replication of existing studies to different business sectors can be reasonably expected to contribute to the literature and apprise policy-makers and practitioners on new insights peculiar to various business sectors and industries. Another trigger for our study is the lack of such studies in the context of the management accounting literature, and this study aimed to fill this void.

It appears that the lack of empirical studies in the context of service sector, within the management accounting field, is due to the initial inattention and focus of most management accounting literature on the manufacturing industries. For example, Shields (1997) reported that the development of management accounting in the North America in 1990s was more focused on the manufacturing sector rather than on the service or the public sector. Similarly, Chenhall (2003) also mentioned that service sector lacked studies in the realm of management accounting. Kihn (2010) emphasized the importance of such studies in the service sector to provide academic contribution to the management accounting literature. Kihn (2010, p. 484) asserts that 'a number of gaps and under-researched yet important areas in the literature were identified in existing management accounting research. They include […] service sector organizations' […]. Next, we chose employees at the lower hierarchical level rather than members of the senior management team, as the application of the strategic performance measurement system in the lower-level employees has attracted meagre attention in the management accounting literature so far. Majority of the previous studies focussed on individuals that were part of the management team representing different hierarchical levels (Burney & Widener, 2007; Hall, 2008). Thus, we expect this study to instigate a new thread of discussion and academic debate in this context.

Remainder of the paper is structured in to four main sections: Section 2 reviews the literature and develops hypotheses to drive the study. Section 3 presents the research methods resorted to for the execution of the study and measurement of the variables. Section 4 is devoted to the analysis of the empirical data gleaned for the study and the testing of the hypotheses developed in section 2, followed by section 5 that concludes the study presenting outcomes and shedding light on future research to steer future research in the area.

2 Literature review and hyphothesis development

2.1 Comprehensive performance measurement system (CPMS)

Organizations' CPMS typically focusses on the upper and middle management team members, and extensive literature has addressed most pertinent aspects of this relationship. Literature in the pscychology field predicts the existence of a strong connection between an organization's CPMS, psychological capital and employees' attitude towards work and performance (see, Avey et al. 2011; Peterson et. al. 2011). In line with these findings, employees at the lower organizational hierarchical level would impact on or react to the organization's performance measurement systems (PMS) in a different way to those at the upper hierarchical levels. Similarly, as per Schatzki's (2002) theoretical stance on social practices and their peculiar 'site of construction', the manufacturing and the service sectors being substantially different forms of businesses, the PMS in both sectors ought to focus on different variables of employees' attitude towards work and their performance when deducing their respective PMS.

In the context of employees' performance evaluation, as part of the organization's strategic management systems, it is worthwhile to focus on lower-level employees rather than members of the upper and lower management team and taylor it to their peculiar psychological as well as physical and circumstantial requirements, because usually the performace of lower-level employees translate into the performance of the management and the organization as a whole. This is truer in the case of service organizations. For instance, in the banking sector, servicing client is executed by the front-line employee. Thus, the performance of lower-level employees influences the organizational image, and hence reflects on and translates into the management's own performance. This argument is in line with Kaplan & Norton (1992). de Leeuw & van den Berg (2011, p. 224) assert in this connection that the 'link between performance management and performance improvement implicitly assume that performance management affects behavior of individuals in an organization, which then facilitates the achievement of organizational goals'. Thus, the use of strategic performance measurement system helps motivate employee to achieve organizational objectives (Kaplan & Norton, 1992). Hence, it is important to note how

strategic performance measurement system can communicate organizational objectives to its employees because long-term organizational strategies are influenced, in a positive or a negative way, by the action of employees (Burney et al., 2009).

In the context of the manufacturing sector, the use of a comprehensive strategic performance measuremen system enables the organization to enhance its employees' performance through achieving clarity of role for their employee and ensuring their psychological empowerment (Hall, 2008). Contrary to the manufacturing sector, serving customers in the service sector is more complex because service provided by employees is not merely a transfer of a tangible 'product' but also involves 'psychological' influences on the customer in the form of satisfaction and contentment about the service quality and the organization. Clarity of role and psychological empowerment may help employees better understand and know their role in the organization and how it contributes to the achievement of the organization's overall objectives. In a nutshell, clarity of role and psychological empowerment for employees inculcate in them a sense of satisfaction about their efforts they put in and hence contribute to their enhanced organizational performance.

Hartmann & Slapničar (2012, p. 22) note that the use of a multi-performance measurement system in a business organization refers to 'the number of performance dimensions used in performance evaluation' of its employees. The use of a multi-dimensional performace measurement system proves more beneficial to the organization's achievement of its strategic objectives, compared to the use of a single-dimensional performance measusurement system that is oriented towards the organization's financial perspective only. One of the advantages of using a multi-diamensional performance measurement system is that it enables provision of more detailed and comprehensive information for employees as well as the organization (Hartmann & Slapničar, 2012; Ittner et al., 2003), which, in turn, ensures fairness to employees (Burney et al., 2009; Hartmann & Slapničar, 2012) because it helps them better understand all factors that directly or indirectly affect their performance, how the entire system work and how their performance will be evaluated.

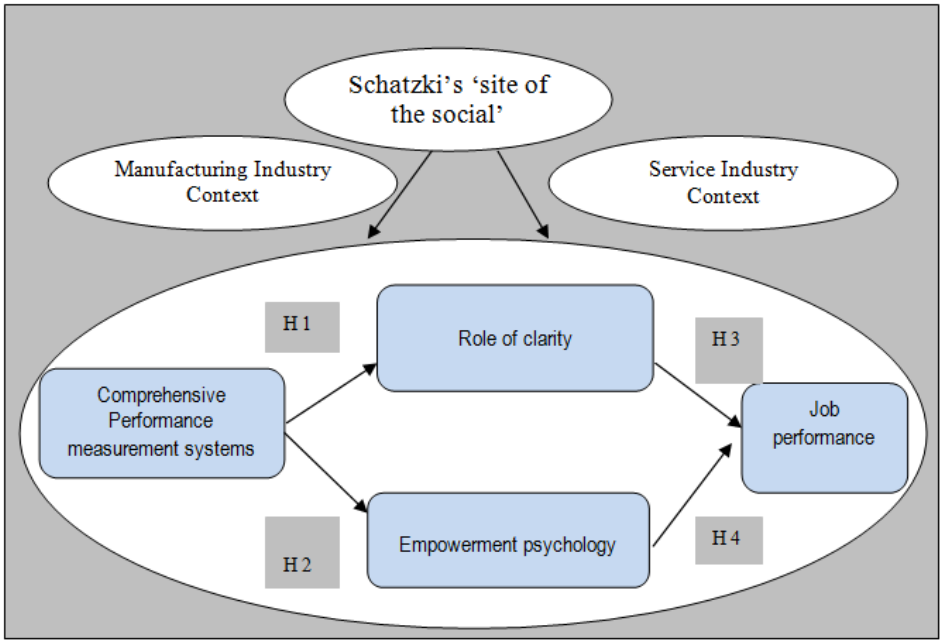
The use of comprehensive performance measurement system (CPMS) at the organizational level, duly recognizing lower level employees snd their contribution to the organization's success, is not merely helpful in achieving higher organizational performance; it can well serve as a driver to achive competitive advantage for the organization (Chenhall, 2005; Kaplan & Norton, 1992, 2001) to help it sustain its growth over the longer run. The literature argues that CPMS can be used as a tool to implement strategic performance measurement systems within the organization (i.e: Hoque & James, 2000). At the individual level, implementation of the system is useful for managers to evaluate employees' performance in conjunction to the organization's set objectives (Kaplan & Norton, 2006). Kaplan and Norton (1996, 2001) assert that performance measurement has moved out from the traditional philosophy that focuses on financial aspects only to various performance measures that are linked to the organization's overall strategy.

Wide body of the literature endorses the existence of positive effects of implementing the CPMS on employees' behavioural and psychological attributes and their consequential impact on the organization's overall performance. The literature acknowledges the contribution of the use of CPMS in enhancing employees' efficiency and quality of work, as psychologically they feel more content with a system that promotes fairness among all employees and highlights their individual contributions (Burney et al., 2009; Hartmann & Slapničar, 2012).

2.2 The development of hyphoteses

The research framework for this study is diagrammatically demonstrated in Figure 1. Before we instigate elaborating in detail on the development of hypotheses we, in order to apprise readers' of the study's theoretical contribution, briefly describe the research framework for the study and how it explains the hypotheses that drive the study. Figure 1 demonstrates that using comprehensive performance measurement system (CPMS) helps employees, through emphasizing goal clarity, understand and better comprehend their role as to how it contributes to the achievement of the organization's objectives, what is expected of them and how their individual roles relate and link to their peers' work and to the overall organizational strategy. The figure demonstrates Schatzki's (2002) 'site of the social' and asserts that the link among the stated variables would vary in different industries' context, as social practices get legitimized and eventually widely institutionalized on different 'construction sites' peculiar to the circumstances and social settings of the players involved in the process. Thus, social practices that get institutionalized in the manufacturing industry's context may not get legitimization and wider societal acceptance in the service sector, and vice versa. Furthermore, goal clarity within the organization and its contribution to employees' enhanced performance can be linked to the performance targets set for them as depicted through the Key Performance Indicators (KPIs) stipulated for each employee. In addition, as briefly elaborated on above, role clarity contributes to the enhancement of employees' motivation to work through reinforcing their psychological empowerment, which, in turn, would have a positive impact on their performance. Following sections further elaborate on the development of each of the hypotheses.

Figure 1. Theoretical framework of the study



2.2.1 CPMS and role clarity

Hall (2008) notes that implementing CPMS positively affects on role clarity within the organization. Psychology theory predicts that employees' individual performance would improve if they know and understand what is expected of them in the organization's pursuit of its set goals and strategy (Arvey, Dewhirst, & Boling, 1976). Having a clearer, rather than vague, role for employees with intelligible targets to meet, helps create an environment of certainty for employees, which eventually translates into their better performance and, in turn, that of the organization as a whole. Several studies have imperically validated that individuals' productivity and performance enhances when they have a clearer understanding of their individual roles and the targets they aim to accomplish irrespective of the intricacy of their respective jobs (Adhikari, 2010; Latham & Baldes, 1975; Latham & Kinne, 1974; Locke, 1968; Locke & Latham, 2002). As 'service' and 'product' in the service sector are virtually inseperatable due to the constituents' dealing in 'intangible products' (Mills & Margulies, 1980), the literature advocates the fact that employees need to be very clear about processes and procedures of the provision of their employer's 'intangible product' to ensure a high quality service to customers (Sawyer, 1992).

It is argued that CPMS has an advantage in improving employees' understanding of their individual roles. Given this, efficient CPMS in place enables translation of the overall organizational goals and strategy into a clearer set of intelligible roles (Chenhall, 2005; Ittner et al., 2003; Kaplan & Norton, 1996, 2001; Kaplan & Norton, 2006). Overall organizational objectives can be cascaded to smaller units that become personal objectives widely known as *key performance indicators* (KPIs) (Kaplan & Norton, 2001). These KPIs explain the individual tasks and responsibilitis within the organization's larger performance measurement system, and are a useful tool to measure employees' success in achieving their set targets or the extent of their deviation from them. Each individual throughout the organization has different KPIs depending on his or her role in the organization. KPIs clarify employees' individual roles within the organization and the CPMS ensures coordination among them for the accomplishment of the organization's overall objectives. The discussion thus leads us to put forth the following hyphothesis in the peculiar context of the service industry:

H1: There is a positive relationship between the effective implementation of comprehensive performance measurement system and the clarity of employees' roles.

2.2.2 CPMS and employees' psychological empowerment

Psychological empowerment has been conceptualized as a psychological statement (Zhang & Bartol, 2010) and is defined in the literature as 'motivational contruct' that bases itself on four element - meaning, competence, self-determination and impact (Spreitzer, 1995). The phenomenon indicates that individuals are psychologically empowered as they feel a responsibility as well as the ability to do tasks with a meaningful and proactive stance (Spreitzer, 1995). Hall (2008) posits that pscychological empowerment advocates the existence of a relationship between an effective dissemination of information within the

organization and employees' intrinsic motivation to perform better. Thus, it is argued that the dissemination of detailed information on the performance measurement system within the organization enhances employees' capability to develop psychological power through gaining a better understanding of the meaning of the tasks they are entrusted to perform, the competence level expected of them to reach, and the potential outcome of the tasks for the organization (Hall, 2008).

Non-financial performance measures constitute an integral part of an organization's comprehensive performance measurement systems (CPMS). Vaivio (1999) and Henri (2006) note that non-financial performance measures are closely linked with the organization's interactive performance measurement system, which is more focused on informal processes that are resorted to within contemporary organizations to communicate organizational objective and apprise employees of their individual achievements and overall performance. The intensity of communication among employees creates conducive environment of knowledge sharing that contributes to enhancing their level of competence and, in turn, to accomplishing their individuals and collective organizational goals. Thus, it can be reasonably assumed that CPMS has close links with employees' psychological empowerment, and hence we forward the following hypothesis:

H2: There is a positive relationship between the effective implementation of comprehensive performance measurement system and employees psychological empowerment.

2.2.3 Role clarity and individual performance

Carroll and Tosi (1970) concluded that role clarity enables organizations to improve work relationship between the upper and the lower level employees. Empirical evidence shows that role clarity has a positive impact on individual performance (Hall, 2008). Individual performance is expected to increase through a better clarity of roles, which, in turn, would make employees better understand what they are expected to accomplish in their respective jobs. In addition, enhanced clarity of role enables organizational members to achieve their individual objectives and targets even if these are relatively intricate and seemingly difficult to accomplish (Adhikari, 2010; Latham & Baldes, 1975; Latham & Kinne, 1974; Locke, 1968; Locke & Latham, 2002).

According to motivational theory, role clarity stimulates individuals' persistence to achieve their set goals (Locke & Latham, 2002), which, in turn, enables them to rigorously pursue successful accomplishment of their assigned task and contribute to their enhanced performance at work (Latham & Locke, 1975). Whitaker, Dahling, & Levy (2007) also established in their empirical study that clarity of role contributes to enhancing individual performance. Thus, we put forth the following hyphotesis:

H3: There are positive relationships between role clarity and individual performance

2.2.4 Psychological empowerment and individual performance

The primary key of employees' pscychological empowerment in contemporary organizations is rooted in the quality, commensurate with appropriate level, of the responsibility they are entrusted to discharge. In addition, job quality, which invariably encompasses role clarity, helps enhance employees' quality of work and overall performance as well as increase their intrinsic motivation that has repercussions for the organization's ability to retain experienced employees and ensure low employee turnover. Consequently, individuals' satisfaction with their job can contribute to their sense of wellbeing and pscychological empowerment within the organization (Spreitzer, Kizilos, & Nason, 1997). Psychological empowerment is a peculiar dominating employee performance enhancement factor that influences their creative skills (Zhang & Bartol, 2010). Zhang & Bartol (2010) note that the improvement of individual performance through the enhancement of employees' creatity at work is achieved as individuals perceive that their assigned work has a meaningful contribution to the accomplishment of the organizational objectives, and, thus, they objectively attempt to solve any problem that they confront in relation to their individual work – a quality that eventually benefit their organization. Hence, we posit that:

H4: there is a positive relationship between employees' psychological empowerment, conferred on them through ensuring the quality and clarity of their role, and their overall performance.

3 Research method

3.1 Research sample

This research is a survey study conducted on the banking sector in the Southern part of Sumatera including the Province of Lampung, South Sumatera, Bengkulu and Jambi. Banking sector is selected as a sample study as: 1) banking sector is 'a reflection of a 'successful' organization (Johnston, Brignall, & Fitzgerald, 2002); 2) most national banking operations in Indonesia apply comprehensive performance measurement system such as the balance scorecard or six sigma; and 3) banks as a prominent constituent of the country's financial sector, are actively debating their choice of value drivers and performance measures (Ittner et al., 2003, p. 722). In addition, we intentionally chose banking industry for the purpose of this study as the sector is listed in the Indonesia Stock exchange – a fact, in the context of Indonesia that reflects its substantially large size and

technological and operational advancement. This signals inclusion of the country's one of the most influential and large business sector in the study's domain, which is beneficial for the study's outcomes in terms of effectiveness and efficacy, as such companies usually employ multiple performance evaluation measures compared to their smaller counterparts (Lau & Sholihin, 2005, p. 401).

We sent out more than two sets of questionares to each bank in our sample. This is in line with Van der Stede, Young, & Chen's (2005, p. 666) assertion regarding the limitation of sending one questionnaire to each organization that 'using one respondent weakens the validity of the study because a single individual often cannot reasonably reflect the beliefs of an entire organization'. Furthermore, Lau & Sholihin (2005) and O'Connor et al. (2011, p. 368) argue that sending more than one quesionnaire to each organization reduces 'common method bias'.

Before distributing the qustionaire, we conducted several pilot studies with an aim to eliminate problems that respondents would have encountered while answering questions, which may have negatively impacted on the study's response rate and/or the quality of responses. In addition, since all survey qustions were adopted from the original version written in English (Hall, 2008 and 2011), it was necessary to translate them into the local language, Bahasa Indonesia, to ensure respondents' adequate level of understanding of the questions asked. The pilot study also helped to ensure that the translated version of the questionnaire had a similar meaning to the original version. These pilot studies were conducted through five respondents. Following their suggestions the questionnaire was revised and sent back to them to get their final feedback. After the first draft of the quesionnaire was finalized, the next step for us was to conduct a pilot study in relation to ascertaining the study's validity and reliability. The reliability and validity runs' outcome for our pilot study that involved 23 respondents was considered adequate and, thus, the questionnaire was ready to be deployed for the main study. Table 1 presents demographic information of all respondents.

Table 1. Demographic information of respondents

		N	Cumulative	%	Cumulative (%)
Gender	Male	72	72	53.3	53.3
	Female	63	135	46.7	46.7
Ages	< 35	70	70	51.9	51.9
	36-40	45	115	33.3	85.2
	41-45	19	134	14.1	99.3
	>46	1	135	0.7	100
Education	SMA/Diploma	23	23	17.0	17.0
	Sarjana	95	118	70.4	87.4
	Master/S2	17	135	12.6	100
Division	Accounting & finance	33	33	24.4	24.4
	General	25	58	18.5	43
	Human resources	12	70	8.9	51.9
	Marketing	32	102	23.7	75.6
	Others	33	135	24.4	100
Type of Bank	Konvensional	81	81	60	60
	Syari'ah	54	135	40	100

We distributed 200 quetionaires to employees in the banking sector in four provinces - Lampung, Bengkulu, Palembang and Jambi, out of which 164 respondeds completed and returned the questionnaire. Our final evaluation shortlisted 135 respondents' completed questionnaire as usable for the purpose of our study.

3.2 Variable measurements

3.2.1 Comprehensive performance measurement systems

This study's questionnaire was originally used by Hall (2008) and consisted of nine items that revolved around various aspects of a contemporary organization's performance measurement system. The questionnaire used in Hall's studies contained constructs that were different to those used in previous such studies such as Hoque and James (2000). The instrument used in Hall's study is more comprehensive in approach and focuses more on the characteristics of a comprehensive performance measurement instrument. Hall (2008, p. 150) notes that among the nine items covered in the questionnaire, five explained the extent to which the performance measurement system of the strategic business unit of subject organization presented information on the organization's performance across multiple operational aspects. Another four items probed the extent to which performance measures were integrated with the organization's strategy across its value chain fuctions, from research and development through to aftersale customer service and

support. Hall (2008) took these four items from Chenhall (2005). All nine items of the questionnaire used for this current study probed respondents to appise researchers on the extent to which each item was provided to them by their organization, using 7-point Likert scale (1 = not at all, to 7 = to a great extent).

3.2.2 Role clarity

The questionnaire adopts the 'role clarity' variable from Sawyer (1992), who divides it into two aspects - process clarity and goal clarity. Part of the questionnaire that covered various aspects of the role clarity variable comprised of 10 items, half of which pertained to process clarity and the rest to goal clarity. In this part of the instrument, respondents were probed on the extent of the clarity of their role and goals/targets within the organization as perceived by them, using 7-point Likert scale (1= very unclear, to 7 = very clear).

3.2.3 Psychological empowerment

Part of the questionnaire that dealt with questions on employees' psychological empowerment within the organization used constructs developed by Spreitzer (Spreitzer, 1995). Spreitzer (1995) categorized employees' psychological empowerment into four distinct categories: meaning, competence, self-determination and impact. The construct comprised of twelve questions all aimed at measuring the extent to which respondents agreed or disagreed to these item, measured on a 7-point Likert scale (1=very disagree to 7= very agree).

3.2.4 Employee performance

Individual performance refers to an employee's quality of actions and the carrying out of their assigned duties in connection to their stipulated roles within the the organization. Koopmans et al. (2013) note that employees' performance measurement areas that frequently get attention area related to how objective and efficient they are with respect to their assigned tasks within the organization. Part of the questionnaire used in this study that is aimed at measuring employees' performance within the organization was originally developed and used by Williams & Anderson (1991). In the context of management accounting literature, this contruct has been used by Burney et al. (2009), which comprised of eight questions where respondents were asked to indicate a measure of their performance in relation to their assigned tasks using a 7-point Likert scale (1 = very far below average, to 7 = very far above average).

4 Data analysis

We resorted to PLS-SEM to analyse the empirical data we gleaned for the study. PLS is 'a family of alternating least squares algorithms, which extend principal component and canonical correlation analysis' (Henseler & Sarstedt, 2013, p. 567). In addition, the most obvious objectives of using PLS are to maximize explained variance in the dependent constructs and, additionally, to evaluate data quality on basis of measurement model characteristics (Hair, Ringle, & Sarstedt, 2011, p. 140).

4.1 Assessing reliability and validity

Evaluation of reliability is assessed using Cronbach's alpha and composite reliability. The rule of thumb in this connection dictates that a good reliability is considered to have been achived if the reliability score is above 0.7, which signals acceptance of the results (Hulland, 1999). Table 2 below illustrates this for the current study. It shows that the Cronbach alpha and composite reliability are above 0.7, and thus signals towards the adequate level of reliability of the study's outcomes.

Table 2. AVE, Composite reliability, Cronbach Alpha and R^2

	AVE	Composite Reliability	Cronbachs Alpha	R^2
CPMS	0.652	0.944	0.933	
Goal clarity (GC)	0.721	0.928	0.902	0.406
Process clarity (PC)	0.655	0.905	0.868	0.349
Mean	0.794	0.921	0.870	0.280
Competence (Comp)	0.751	0.900	0.834	0.314
Impact (Imp)	0.715	0.883	0.802	0.263
Self-Determination (SD)	0.704	0.877	0.791	0.257
Employee Performance (EP)	0.673	0.935	0.919	0.593

Validity measurement using PLS can be conducted through the convergent and discriminant validity test. Hair, Ringle and Sarstedt (2011) mentioned that the rule of thumb for the model evaluation for convergent validity can be verified from the *Average Variance Extracted* (AVE), which should score higher than 0.5. Table 2 indicates that AVE score for each contruct is higher than 0.5, which signals towards the adequacy of the convergent validity of the items the analysis covered.

Table 3. Fornell-Larcker criterion

	CPMS	GC	PC	MEAN	COMP	IMP	SD	EP
CPMS	**0.807**							
GC	0.637	**0.849**						
PC	0.590	0.680	**0.809**					
Mean	0.529	0.699	0.583	**0.891**				
Comp	0.560	0.703	0.737	0.679	**0.866**			
Impact	0.512	0.595	0.604	0.563	0.589	**0.846**		
SD	0.507	0.524	0.655	0.547	0.590	0.594	**0.839**	
EP	0.588	0.663	0.682	0.581	0.656	0.534	0.612	**0.82**

Table 4. Cross Loading

	CPMS	GC	PC	MEAN	COMP	IMP	SD	Kinkar
CPMS 1	**0.825**	0.614	0.447	0.451	0.445	0.364	0.417	0.509
CPMS 2	**0.779**	0.563	0.462	0.440	0.440	0.350	0.290	0.425
CPMS 3	**0.813**	0.545	0.417	0.429	0.381	0.469	0.388	0.451
CPMS 4	**0.873**	0.512	0.537	0.442	0.530	0.457	0.507	0.504
CPMS 5	**0.765**	0.515	0.441	0.436	0.465	0.402	0.374	0.453
CPMS 6	**0.786**	0.452	0.471	0.370	0.443	0.384	0.356	0.436
CPMS 7	**0.815**	0.477	0.532	0.432	0.464	0.433	0.462	0.469
CPMS 8	**0.811**	0.516	0.501	0.400	0.435	0.414	0.426	0.532
CPMS 9	**0.796**	0.440	0.477	0.442	0.460	0.446	0.441	0.484
GC 1	0.530	**0.850**	0.580	0.601	0.593	0.433	0.411	0.626
GC 2	0.561	**0.924**	0.604	0.649	0.622	0.474	0.404	0.625
GC 3	0.480	**0.817**	0.497	0.548	0.501	0.501	0.449	0.471
GC 4	0.526	**0.868**	0.609	0.590	0.652	0.543	0.501	0.557
GC 5	0.600	**0.779**	0.585	0.571	0.603	0.580	0.465	0.517
PC 1	0.549	0.615	**0.860**	0.585	0.614	0.542	0.610	0.570
PC 2	0.454	0.526	**0.811**	0.486	0.597	0.561	0.579	0.597
PC 3	0.424	0.469	**0.802**	0.340	0.556	0.398	0.475	0.477
PC 4	0.411	0.583	**0.781**	0.434	0.564	0.415	0.415	0.533
PC 5	0.533	0.550	**0.792**	0.485	0.641	0.505	0.550	0.570
Mean 1	0.428	0.601	0.493	**0.854**	0.593	0.436	0.460	0.468
Mean 2	0.512	0.628	0.552	**0.931**	0.609	0.533	0.495	0.552
Mean 3	0.470	0.642	0.511	**0.887**	0.615	0.530	0.506	0.530
COMP 1	0.476	0.604	0.612	0.680	**0.874**	0.513	0.499	0.608
COMP 2	0.487	0.659	0.622	0.599	**0.881**	0.470	0.471	0.545
COMP 3	0.493	0.565	0.681	0.482	**0.844**	0.548	0.563	0.550
Impact1	0.505	0.596	0.595	0.535	0.617	**0.872**	0.503	0.469
Impact2	0.390	0.468	0.471	0.487	0.435	**0.846**	0.544	0.514
Impact3	0.397	0.428	0.453	0.389	0.426	**0.818**	0.457	0.359
SD1	0.377	0.451	0.580	0.475	0.545	0.574	**0.846**	0.557
SD2	0.369	0.296	0.488	0.395	0.400	0.423	**0.798**	0.423
SD3	0.514	0.540	0.573	0.496	0.526	0.492	**0.871**	0.547
EP1	0.500	0.615	0.527	0.529	0.539	0.433	0.533	**0.829**
EP2	0.474	0.604	0.508	0.505	0.537	0.389	0.520	**0.848**
EP3	0.523	0.541	0.591	0.492	0.519	0.458	0.563	**0.852**
EP4	0.479	0.561	0.580	0.472	0.553	0.421	0.405	**0.818**
EP5	0.434	0.507	0.501	0.419	0.483	0.463	0.445	**0.802**
EP6	0.456	0.441	0.611	0.441	0.547	0.382	0.476	**0.776**
EP7	0.501	0.532	0.595	0.473	0.586	0.521	0.560	**0.816**

In addition, discriminant validity can be assessed using the Fornell-Larcker's cross loadings. Fornell-Larcker criterion indicates that "a latent construct shares more variance with its assigned indicator than with another latent variable in the structural model' (Hair et al., 2011, p. 146). In an alternative explanation, Henseler, Ringle and Sarstedt (2012, p. 269) mentioned that "the AVE of each latent variable

should be higher than the squared correlations of all the other latent variables". Table 3 indicates that the analyses of the current study's empirical data comply with this requirement, and hence, the discriminant validity for the study measured using the Fornell-Larcker criterion is accepted.

As aforementioned that an alternative way to assess the discriminant validity test is to use Cross-loading characteristics. Hair, Ringle, and Sarstedt (2011, p. 269) note that discriminant validity using cross-loading is accepted if 'an indicator has a higher correlation with another latent variable than with its associated one'. As depicted in table 4 below, all items of each construct carry a higher value than the items of other contructs. Thus, discriminant validity using cross loading is acceptable. Overall, based on the above explanation, measurement of reliability and validity in this study signals towards adequacy and hence qualifies acceptance.

4.2 Assessing structural models

In this study, evaluation of structural models can be carried out using R^2 for dependent variables and path coefficients. Hair, Ringle and Sarstedt (2011, p. 271) note that R^2 'expresses a specific proportion of the endogenous latent variables's explained variance'. Some scholars (see, for instance, Camisón & López, (2010) assert that R^2 that is over 0.1 may be reasonable.Table 2 indicated that R^2 for the study's dependent variables is accepted. Another assessment of structural models is path coefficients (β). Hair, Ringle and Sarstedt (2011, p. 271) note that the parameter 'estimates of the path relationships in the structural model can be interpreded as standardized regression coeficients'. Consistent with the previous research in the area of management accounting (see, for instance, Hartmann & Slapnicar, (2009), testing this paramether using bootstrap procedure with 500 replacements is endorsed. Table 5 shows that most of the constructs have a strong relationship.

Table 5. Structrual Models – contructs' interrelationships

Hypotheses relationship	Standard coefficients	T-value
CPMS and Role clarity		
CPMS –> Process clarity	0.590 ***	8.623
CPMS –> Goal clarity	0.637 ***	11.761
CPMS and Psychological empowerment		
CPMS –> Meaning	0.629 ***	7.986
CPMS –> Competence	0.560 ***	8.599
CPMS –> Self-determination	0.507 ***	8.294
CPMS –> Impact	0.512 ***	6.850
Role clarity and Employee performance		
Process clarity –> Employee performance	0.208 ***	1.531
Goal clarity –> Employee performance	0.208 **	2.325
Psychological empowerment and Employee performance		
Meaning –> Employee performance	0.047 *	0.501
Kompetensi –> Employee performance	0.139	1.553
Determinasi Diri–> Employee performance	0.197	1.987
Impact –> Employee performance	-0.009 *	0.106
CPMS –> Employee performance	0.135 *	1.363

Note: *** $p < 0.01$
** $p < 0.05$
* $p < 0.10$

4.3 Test hyphotheses

4.3.1 The relationship between comprehensive performance measurement systems (CPMS) and role clarity

Hypothesis 1 states that there is a positive relationship between CPMS and role clarity. According to the statistical analysis the relationship between comprehensive performance measurement system and goal clarity is quite strong ($\beta = 0.637$, $t = 11.761$, $p < 0.01$). In addition, CPMS also has a strong relationship with another dimension of role clarity - process clarity ($\beta = 0.590$, $t = 8.623$, $p < 0.01$). Objective interpretation of the above analyses signals towards the acceptablility of our hypothesis 1.

4.3.2 The relationship between CPMS and psychological empowerment

Hypotesis 2 states that there is a positive relationship between CPMS and employees' psychological empowerment. Testing of the hypothesis using SmartPLS concluded that the CPMS has a strong positive effect on the 'meaning' part, out of the four described earlier, of employees' psychological

empowerment. This can be seen from the path coeffients (β = 0.529, t=7.986, and p<0.01). In addition, CPMS also has a significant positive relationship with the 'competence' component (β=0.560, t=8.599 and p<0.01). Furthermore, the CPMS has a significant positive effect on the 'impact' part of employees' psychological empowerment (β=0.512, t=6.850 and p<0.01) in addition to the 'self-determination' part (β=0.507, t=8.294 and p<0.01). Evaluation of these analyses ascertains the existence of a significant positive relationship between CPMS resorted to in contemporary organizations and the empolyees' psychological empowerment. Thus, hypothesis 2 is accepted.

4.3.3 The relationship between Role clarity and employee performance

Hypothesis 3 asserts that there is a positive relationship between role clarity and employee performance. The outcome of our statistical analyses depicted that both role clarity and goal clarity have a positive relationship with employee performance (β = 0.208, t = 2.325, p< 0.05). Process clarity also has a significant effect on employee performance as depicted by the statistical analyses (β = 0.208, t = 1.531, p < 0.10). Hence, acceptance of H3 is endorsed.

4.3.4 The relationship between psychological empowerment and employee performance

The relationship between the various components of employees' psychological empowerment and their performance can be evaluated as follows: While the 'meaning' component did not show a positive effect on employee performance (β = 0.047, t = 0.501, p < 0.10), the 'competence' component did depict a positive but weak effect on employee performance (β = 0.139, t = 1.553, p < 0.10). Similarly, the 'impact' component did not show a positive effect on employee performance (β = -0.009, t = 0.106, p < 0.10), while the 'self-determination' dimension did with employees'performance, with the former impacting significantly on the later (β = 0.197 t = 1.987, p < 0.05). Thus, all the dimensions of employees' psychological empowerment depicted a positive effect on their performance with the exception of the 'competence' and the 'self-determination' dimensions. Thus, H2 is partly supported.

4.3.5 The relationship between CPMS and employee performance

Additional test was conducted to measure the direct effect of the relationship between CPMS and employee performance. Results from our statistical analyses showed that the CPMS did not depict positive effect on employee performance (β = 0.135 t = 1.363, p < 0.1). Thus, direct effect between CPMS and employee performance did not show up following our statistical analyses.

Table 6 summarises the outcomes of the statistical analyses carried out to test the study's hypotheses.

Tabel 6. Summary of hypotheses test

Hypotheses	Descriptions	Results
H1	There is a positive relationship between comprehensive performance measurement systems and role clarity	Supported
H2	There is a positive relationship between comprehensive performance measurement systems and psychological empowerment	Supported
H3	There is a positive relationship between role clarity and employee performance	Supported
H4	There is a positive relationship between psychological empowerment and employee performance	Partly supported
H5	There is a positive relationship between comprehensive performance measurement systems and employee performance	Rejected

4.4 Path analysis

Path analysis is conducted to see the extent to which role clarity and psychological empowerment variables cast a mediating effect on the relationship between the comprehensive performance measurement systems (CPMS) and employee performance. Path analysis is recommended if a study's all hypotheses are supported. In the current study, direct effect of the relationship between the CPMS and employee performance does not seem to be significant. Therefore, we are inclined towards acknowledging the indirect effect, which explains a full mediating effect on the relationship between the CPMS and employee performance.

5 Conclusions

Resorting to Schatzki's (2002) 'site of the social' theoretical construct, this study aimed to apprise practitioners and professionals in contemporary organizations that effective social practices get constructed and institutionalized widely using peculiar 'sites' for their construction and development. Acknowledging the significant difference between the manaufacturing and service sectors (Winata & Mia,

2005), as the relationship between CPMS and employees performance at the upper hierarchical level in the manufacturing industry context has already been explored (see Hall, 2008), this study chose the service sector and the lower-level employees to assess and evaluation the relationship between the two constructs. Understandably, the conclusions reached by Hall (2008) may not be generalizable to the service sector. Thus, the current study contributed to the literature through filling in the void. Secondly, the selection of the target employee in the service sector for the current study was paid scrupoulous attention. Major portion of a service sector constituent's business strategy is executed by the lower to middle level employees as, understandably, they have a more direct and frequent contact with customers when providing service to them. Thus, the quality of service provided by them to customers will influence the brand and reputation of the entire organization, which, in turn, will be reflected in the organization's overall performance. Thus, this study chose the lower-level employees as its target audience.

We analysed the data we gleaned from the 135 valid survey responses using SmartPLS. Although the 'site' of the Hall's (2008) study was significantly different, we found significant similarities between Hall's (2008) outcomes and the outcomes our study's empirical analyses came up with, with only few minor exceptions. Hall's (2008)'s study found that the relationship between the organization's CPMS and managerial performance is mediated by only one dimension of employees' psychological empowerment – 'meaning'. However, as depicted by the current study's outcomes, the 'competence' as well as the 'self-determination' dimensions of employees' psychological empowerment mediated the relationship between CPMS and employees performance. On the other hand, as table 6 depicted, all Hypotheses set for the study were endorsed with the exception of Hypothesis H5; hypothesis H4 was only partially supported. Consistent with Hall's (2008) study outcomes for the manufacturing industry and the upper level of the organizational hierarchy, majority of the hypotheses set for the current study were substantiated thereby exhibiting similarity across the manufacturing industry and the service industry on most fronts.

As with most empirical studies, this study acknowledges its drawbacks; the first one stems from the study's research 'site' – the banking industry, which, for any country, usually portrays a business sector that has relatively good governance in place. In the case of Indonesia, the business sector is controlled by the Indonesia government through the Bank of Indonesia's numerous rules, regulations and directives issued from time to time. In addition, most of the banks in Indonesia that are listed in the Indonesia Stock Exchange have been subjected to the 'strategic performance measurement systems' to ensure good governance. Thus, caution needs to be exercised when generalizing this study's outcomes to other service sectors such as the hospitality industry, education, public utitilies, and so on. Future empirical research may steer its focus to test the replicability of this study's outcomes and research design to such service industry constitutents that are not normally subjected to stringent rules and regulations.

The study's outcomes assert that implementation and effective monitoring of the comprehensive performance measurement systems (CPMS) could enable contemporary organizations to motivate employees to fully exploit their competence in carrying out their assigned tasks, which may, in turn, have a significant positive influence on their overall performance. Furthermore, implications of the effective implementation of the CPMS also would positively influence employees' cognitive skills and motivate them to work harder because of the clarity of roles and their relevance to the organization's overall objectives and strategies.

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