

THE NEED FOR PERFORMANCE MEASUREMENT IN CONSTRUCTION STRATEGY DEVELOPMENT: A CURRENT SCENARIO

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Performance measurement has become more important to the construction sector as an additional way of improving and sustaining business in the long-term. Most large construction organisations in the United Kingdom (UK) practice performance measurement because they believe it gives a positive impact to their businesses in the long-term. Performance measurement is seen as an important way of keeping an organisation on track in achieving the organisation's objectives and strategy. However, there are still construction sector organisations that believe performance measurement do not aid in creating and developing appropriate strategies for their organisations. This paper explores the current approaches to performance measurement with a particular focus on the connection between performance measurement and strategy development. It reports on semi-structured interviews with performance measurement directors and managers in large UK construction companies. Semi-structured interviews revealed that performance measurement is being practised in organisations either directly or indirectly to help improve businesses and profits. All organisations agreed that the financial aspects such as profit margins and growth, as well as non-financial aspects such as health and safety and customer satisfaction are the important criteria to be measured and will be accounted in creating an organisation's strategy. The interviews also revealed that performance measurement has a direct relationship with the strategy development. These findings suggest that the best way to create an organisation's strategy is by understanding the performance measurement process of organisations and identifying the appropriate criteria which need to be measured to improve business, identify strengths and opportunities which, in turn, can create a way to maximise profits for an organisation. This is expected to lead to the development of a migration path, which would help organisations target relevant performance measures and embed them in their organisation strategy in a structured step by the manner.

Keywords: organisation strategy, performance measurement, strategy development.

INTRODUCTION

Awareness of performance measurement is notably increasing as the business world undergoes the phenomenon of globalisation. Performance measurement is not an unusual for most large organisations in the UK. It is being practised by a variety of organisations in the construction industry and is not a new agenda for the industry (Khalfan *et al.*, 2001). The UK Government initiated the Latham Report in 1994 and

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the Egan Report in 1998 which recommended an improvement of the construction industry's business performance. Since then, many companies and organisations in the construction industry are aware of performance measurement and its importance in an organisation. Performance measurement is now firmly on the construction industry management agenda, but it is not limited to construction. The changing nature of work such as increasing competition, specific improvement initiatives, national and international quality awards, changing organisational roles, changing external demands and the power of information technology have driven organisations from all sectors to search for ways of monitoring and improving performance (Beatham, 2003; Robinson *et al.*, 2005).

The ability of organisations to manage projects and offer good services is more likely to depend on the capability of organisations in industry, which includes the previous performance of the organisation in the industry. The main factor why organisations need to measure performance is to identify the level of excellence in terms of financial and non-financial aspects such as leadership, customer satisfaction and policy compared to their competitors in industry. The results from this will be used to create and develop strategies for the organisation. The ability of an organisation to improve its performance is not based on what has been made and what has been done. It has to be looked at in the initial stage of business management in the first place. This includes the process of creating and developing strategies, a necessary part of strategic management (Sulaiman and Hashim, 2003). Although formulating strategies for long-term business to compete in markets is fundamental to strategic management process, only a few construction contractors have adopted formal processes in the formulation of long-term strategies (Price, 2003).

The most challenging part of measuring performance is not only about knowledge and experience or understanding the use of the right tools or methods to measure performance, but also obtaining the correct sources of information or data that will be used to measure an organisation's performance, especially when what has to be measured keeps changing (Hubbard, 2006). Therefore, an organisation has to be aware of all sources and data that might be used to measure overall performance of an organisation.

Chinowsky and Meredith (2000) mentioned that the entire life of a construction project represents opportunities for professional services. However, the knowledge to identify, find and pursue these opportunities must be developed as part of an expanded construction organisation strategy. Strategy can be defined as 'for doing something or to do something'. It is 'a plan intended to achieve a particular purpose' (Oxford Advanced Learner's Dictionary, 2008). Literally, it is the process of quantification and action leading to performance. Performance measurement is used as a business tool for formulating corporate strategy (Yu *et al.*, 2007).

It is widely accepted that strategy intensively involves performance to attain goals (Luu *et al.*, 2008). The creation of goals and objectives of an organisation not only relies on what the organisation wants to achieve in the long-term, but also needs to include elements of performance measurement as an additional means for making goals more realistic and achievable in the future. It has to be understood that every strategy developed must be evaluated and assessed critically to ensure that it is suitable to be implemented by organisations.

PERFORMANCE MEASUREMENT

Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of past actions (Neely *et al.*, 2005). It can also be described as the process of quantifying action, which encompasses the selection of what activities to measure, why and what are the performance standards and benchmarks to be referred (Santa *et al.*, 2006). Kagioglou *et al.* (2001) state that performance measurement is the process of determining how successful organisations or individuals have been in attaining their objectives and strategies. To achieve this, the outputs of an organisation's strategic and operational processes are measured in a quantifiable form to monitor the organisation in detail, internally and externally. Sinclair and Zairi (1995) and Mbugua *et al.* (1999) define performance measurement as a systematic way of evaluating the inputs and outputs in construction activities and it is known as a tool for continuous improvements. This has been agreed by Cain (2004) who stated that performance measurement is the initial stage in an improvement process that gives benefit to users as well as organisations. Considering the various definitions of performance measurement, it is seen that performance measurement is a process to identify efficiency and effectiveness by undergoing a critical evaluation of all aspects of management such as leadership, planning, human resources, financial and workers. By the end of the process, it will help the managerial staff to formulate effective strategies that help towards achieving the organisations' objectives and goals.

Importance of performance measurement

Over the past decade, many organisations have been alerted to the importance of measuring performance for their businesses. Performance measurement is critical to the success of almost any organisation. Understanding performance measurement can help organisations realise its importance towards business profitability and maintaining a long-term competitive advantage. Performance measurement is used as a business tool for evaluating management performance, managing human resources and formulating corporate strategy (Yu *et al.*, 2007; Kulatunga *et al.*, 2007 and Baldwin *et al.*, 2001). Performance measurement is asserted, as it is a way to improve business and leads to successful organisation business. Performance measurement is seen as an important way of keeping an organisation on track in achieving the organisation's objectives and as a monitoring mechanism employed by the owner of an organisation (Tapanya, 2004). In the complex and ever-changing environment, organisations are looking to performance measurement as an additional way for increasing profits, enlarging market and strengthening existence in industry (Theeranuphattana and Tang, 2008). It also reflects "organisational culture and philosophy and describes how well work is done in terms of cost, time and quality" (Lukviarman, 2004).

Selection of performance measurement tools and models

There are various tools and models to measure performance. Robinson *et al.* (2005) state that there are several considerations in the implementation of performance measurement models such as strategic planning, operationalisation and review. Strategic planning is a crucial part of performance measurement as it is very important for the business objectives to be defined. Therefore, choosing the appropriate and right model to measure performance is critical but not easy. Performance measurement tools and models are increasingly being used to encourage organisations to focus on measuring a wider range of business performance issues relating to processes, people and product (Carrillo *et al.*, 2003). Other factors affecting the purpose of using the

model are also based on how wide is the model has been used in the industry (British Quality Foundation, 2000). Changing financial into non-financial measures is affected by the changing of the environment and the importance of the non-financial term in the development of business has created many models of performance measurement. These methods are being used to assist organisations to become more competitive and sustainable (Dalrymple and Bryar, 2006). Key Performance Indicators (KPIs), The Balanced Scorecard and The European Foundation of Quality Management (EFQM) Excellence Model are some of the performance measurement tools and models widely used in the UK construction industry.

METHOD

In addition to the critical analysis of the literature review on the theoretical data of performance measurement, the current study used semi-structured interviews as an approach to gain information from the industry. Using this approach gives the interviewer an opportunity to explore answers more widely or other areas of discussion introduced by the interviewee (Barbour, 2008).

Interview and procedure

Five large construction organisations in the UK involved in building and civil work and services were invited to participate in interview sessions. All the organisations are listed in the top 75 construction organisations in the UK in year 2008. Table 1 shows brief information about the respondent's organisations. The interviews involve five managerial staff of different organisations; head of business excellence, process improvement manager, performance improvement director, business improvement director and business improvement manager in the UK. All of them have many years of experience with the industry and are responsible for the development of performance measurement of organisations and are involved with arranging, managing, implementing and evaluating organisation performance.

Table 1: Brief information about the respondents' organisations

	COMPANY 1	COMPANY 2	COMPANY 3	COMPANY 4	COMPANY 5
ITEM					
Number of employee	Approx. 600	Approx. 2,800	Approx. 3,000	1,986	Approx. 400
Turnover (£000)	300,000	4,714,300	1,400,000	307,000	207,000
Business type	Building and civil	Building and civil	Building	Infrastructure	Building

Semi-structured interviews were used to assess the experience and understanding of performance measurement by construction organisations. The interviews had four objectives:

1. To identify knowledge and understanding of performance measurement in construction organisations.
2. To assess current practices and effectiveness of performance measurement in construction organisations.
3. To identify the performance measurement tool and model used in construction organisations.
4. To identify the relationship between performance measurement and strategy development in construction organisations.

Pilot interviews took place before the main interviews. Their purpose was to examine whether or not the interview questions were well developed and suitable to gain data for the study.

The face-to-face interviews used a set of questions developed from the extant literature. Topics covered included reasons for implementing performance measurement, performance measurement processes, performance measurement tools and models used and relationship between strategy development and performance measurement. Most of the interviews lasted at least an hour and a half. The information obtained was then analysed and evaluated.

RESULTS AND DISCUSSION

Knowledge and understanding of performance measurement in organisations

Generally, all respondents shared a similar understanding that performance measurement was to 'improve business' and 'maximise profits'. Improve business was in the sense of making improvement in the process of projects and overall organisation business. Two respondents mentioned that performance measurement is an ongoing process in their organisations. It is involved in the process of planning, operations and review. Furthermore, some respondents believe that performance measurement is an approach to maximise opportunity for organisations and mitigate risk. All respondents showed performance measurement gives benefit rather than negative impact to an organisation. The benefits gained from performance measurement as mentioned by all respondents are:

1. Identify the potential area to be improved by organisations.
2. High productivity in work.
3. Projects put in place, know what can help to deliver projects (what gets measured, gets done).
4. Manage resources.
5. Employers are more efficient in delivering their tasks.
6. High passion of staff in commitment to their organisations.

Apart from that, all respondents agreed that performance measurement helps them in the process of creating and developing strategies for organisations.

It was stated that;

'It provident you measure your performance. It does not really matter how you measure it. It is about knowing where you are and where you want to be and put them in the action plan'.

This quote illustrates that performance measurement can assist in identifying organisation needs for strategy development.

Even though there are differences in length of direct involvement with the performance measurement process, it does not make any differences in the interpretation of performance measurement by respondents. Three had more than 10 years' direct experience in performance measurement. Another two had less than 10 years.

Performance measurement system

A performance measurement system is a way to help generate performance measurement activities in an organisation. The interviews revealed that the systems can be divided into two: separated and non-separated performance measurement systems. A separated or 'individual' performance measurement system means every

unit or department in an organisation uses a different system from each other for running performance. A non-separated or 'corporate' system means every unit or department in an organisation uses a similar system to generate performance measurement. A majority of respondents reported that a non-separated system was used to run the performance measurement process of their organisations. Only one respondent used a separated performance measurement system.

Adaptation of other systems to generate performance measurement is helping organisations to smooth the performance measurement process. Adaptation of system means taking other organisations' or individuals' approaches or taking an established and well known system for running performance measurement in the organisation. Three respondents used adapted systems in generating the performance measurement process. The following is the adapted system based on one respondent:

1. Site Man: used by quantity surveyor for gaining orders from customers, placing orders with supplier and evaluating works.
2. Summer Account: used in finance to produce reports to answer various queries.
3. Human Resource System: used in Human Resource (HR) department.
4. Umbrella System: describes how the business is run by the organisation.

Although all of the systems above had never been used by other respondents, the functions of the systems are similar to theirs which use other adapted system for the same purpose. One respondent used a system called 'dashboard', a system of one page reports including all the information about project including financial, management and customers, 'Oracle Management Accounting System' and 'planning packages'. Two respondents had created their own system for generating performance measurement. All the systems (adapted systems and created) involve the use of computers. However, 'pen and paper' method is used entirely by all respondents with support from the computerised system.

Performance measurement process

The interviews revealed that all parties from managerial to bottom level in organisations were involved either directly or indirectly in the performance measurement process. Employees play a vital role by supporting managerial staff in doing their tasks and roles to create efficient and effective ways of management. Managerial staff are responsible for assisting business units and functional units staff in doing their tasks and aligning these with the organisation's target.

The managerial staff decided organisation targets needing to be achieved in every year. Every individual has his or her own objectives and targets to achieve the organisation's objectives and targets. The main objectives came from the main board or Chief Executive Team (CET) (the term used by one respondent) and are cascaded to everybody in-group. The individual objectives and targets need to be aligned with organisation needs. Senior managers will monitor individual objectives and targets to make sure they are suitable to be used and practised to achieve the organisation's. Any individual objective and target not meeting the organisation's targets or maybe clashing with them will be reset.

Performance criteria measured

In discussion of performance criteria measured, there is not much difference in choosing the appropriate ones. All respondents measured financial and non-financial aspects of their organisations. There are many criteria used by respondents to measure the results of business performance. Those cited by all five respondents were: People

aspect; Safety aspect; Customer satisfaction; Business risk; Growth; and Margin improvement and balance sheet.

One respondent also considered sustainability as one of the main criteria measured for her organisation. Another respondent mentioned that the serious intention to measure non-financial aspects started in the past ten years. Financial aspect is the only necessary criterion measured by any organisation in the last ten years.

It was stated that;

'If we went back more than ten years, there was very little measurement of anything other than financial performance'.

This quote illustrates that the financial aspect is the most important to be measured by industry. Nowadays, it has been changed to align with the changes in the economy, trends and needs in the industry. People were interested not only in the financial aspects but also non-financial.

Performance measurement tools and models

All respondents agreed that performance measurement tools and models are needed to measure performance. Table 2 shows the performance measurement tools and models used by each respondent.

Table 2: Performance measurement tools and models used by respondents

	COMPANY 1	COMPANY 2	COMPANY 3	COMPANY 4	COMPANY 5
TYPES					
KPIs			√		√
Balanced Scorecard	√	√		√	
Business Excellence		√		√	
ISO 9001 (Standard for Quality Management System)	√		√		√
ISO 14001 (Standard for Environmental Management System)		√			
OHSAS 18001 (Occupational Health and Safety System)		√			
Others (Bespoke)					

What type of tools and models is not important as long as they can measure things that need to be measured correctly. It also depends on what organisations need to see in the results of performance measurement. One respondent stressed that the most critical things are what action can be taken after measurement and delivering the right choice for the organisation to improve business.

Three respondents justified the best and appropriate tools and models to measure performance must be best suited to the organisation's business, the simplicity of the tools and models and the action to put in place for the measurement element.

'In term of what tools and models we want to use, I guess it will be looking at what is out there, what benefit different things give us and then how they fit with what works for us and how easy they are'.

It is not only about measurement, it is about what you do with the information and how to improve it.

Relationship between performance measurement and strategy development

The interviews revealed that there are direct relationships between performance measurement and strategy development. Four respondents believe that there is a direct relationship between performance measurement and strategy development. They all shared similar thoughts that performance measurement influences strategy development at all levels of the process. It involves everything from the planning stage or where their project should go and what the organisation needs to do, the implementation stage and the evaluation stage.

Organisations need to measure their performance based on the specific criteria or areas for getting the results for improvement (if needed) and identify what will be the next target to be achieved for the next year and beyond. The involvement of performance measurement is at the implementation stage and monthly evaluation of projects. All respondents were aware that organisation's strategy needs to be revised annually, even though some of the respondents have made a long-term strategic plan for more than three years. One respondent expressed the belief that performance measurement does not have any relationship with strategy development. The respondent understood that performance measurement is needed for getting information on what needs to be improved by the organisation. Added to that, the respondent does not see that performance measurement has been involved directly in the process of developing strategy. Even though all respondents have different points of views on the relationship between these two, all agreed that performance measurement is one of the key successes for organisations to achieve objectives or targets and strategy.

CONCLUSIONS

Current literature has argued that performance measurement is an important way of improving and sustaining business in the long-term as well as creating and developing organisations' strategies. The selection of the most appropriate criteria to be measured is very important since these could have a massive impact on whether an organisation achieves its aims, objectives and strategy for continuing success. These criteria selected should include both; Financial and non-financial aspects because these provide a more holistic assessment of the organisation. Also, the appropriate use of tools and models to measure performance simplifies the performance measurement process.

Interviews have been conducted with the intention of giving a clear understanding about current approaches of performance measurement in industry. The data gained from the interviews show that the organisations have an understanding of the purpose of performance measurement in organisations. They are also aware of its importance to an organisation, particularly as a mechanism to identifying potential areas for improvement and to support the process of developing the organisation's strategy. Performance measurement influences strategy development at all levels of the process. There are various tools and models used by organisations for measuring performance. KPIs, Balanced Scorecard, Business Excellence Model and

Management of Quality System (ISO) are currently used. These tools and models are known as established and good examples of performance measures. Apart from the established tools and models, some organisations have created their own tools. Criteria to be considered when choosing the most appropriate tools and models to measure performance are based on capability to measure things correctly, what organisations need to see from the results of performance measurement and ability to propose the right options for the organisations to improve business.

However, whilst organisations are undertaking performance measurement, further work required to investigate the relationship between performance measurement and strategy development. Also, the selection of criteria to be measured and the tools and models used need to be explored to investigate the impact on organisation performance. A detailed study will look at the established tools and models such as Balanced Scorecard and the Excellence Model. This will lead to ways of helping organisations target relevant performance measures, based on their maturity level and propose mechanisms for embedding these within their organisation strategy.

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