

# **A FRAMEWORK FOR IDENTIFYING CONSTRUCTION COMPANIES BEST PRACTICE: A PANACEA FOR CORPORATE PERFORMANCE FAILURE**

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## **ABSTRACT**

This paper is a review of literature on measurements of corporate performance of construction companies in the South African construction industry and the need for improvement in performance measurements. Despite the accrued benefits of performance measurement as an effective performance improvement tool capable of helping construction companies identify performance gap and compare their performance with the best in class, yet performance measurement and its benchmarking are not being given the required attention. Where performance measurements are carried out they are not properly implemented or are being used only to benchmark performance for informal comparisons sake, such as, competitor rates and bid prices. For construction companies to identify best practice, the performance measurement models as a management improvement tool has to be devised with respect to construction companies' characteristics and used in bringing out desired improvements in performance. This may not be a reality without a comprehensive and methodical framework to achieve the desired result in identifying performance gaps and best practice that can lead to high performance. This paper examines the strengths and weaknesses of existing frameworks and identifies the key requirements suitable for developing a framework for construction companies taking into consideration both financial and non-financial measures. Literature has it that 'one-size-fit-all' approach is not in existence in performance measurement, and that non-recognition of existing features of companies environment is a process for probable operational failure of the models. The development of a 'generic' and 'internationalised' approach to the performance of firm's as seen in South African construction industry is almost impossible to achieve. Therefore, there is a need to align company's performance measures to their strategic objectives to identify best practices and promote continuous improvement.

**Keywords:** best practice, construction industry, performance measurement, performance measures, frameworks

## **Introduction**

In the South African construction industry, performance of construction companies has been reported to be below optimal level which many authors argued accounted for its low productivity, decline in the industry contributions to Gross Domestic Product (GDP) and as well as operational failures and liquidation (Dlungwana, Nxumalo, Huysteen, Rwelamila and

Noyana 2002; Martin and Root, 2012). Though, to a certain level, many of these reports are based on sketchy evidence as there are no much empirical studies to drive home most of these perceptions. Thus performance measures through which organisations assesses their level of performance and compare with others within or outside the industry is required. Construction companies must measure their performance on a regular basis and draw comparison with their previous performance in order to identify performance gap and identify best practice (Gupta, 2004; Dansoh, 2005). Unfortunately, where performances measurements are being carried out by construction companies they are rather not properly implemented or being used only to benchmark performance for informal comparisons sake, such as, assessing their performance level against competitor rates and bid prices. For example, the South African construction industry has not been given the required attention beyond academic and industry sponsored research (Construction Industry Development Board (cidb), 2012).

The performance of the construction industry both in the developed and developing countries has been a source of concern for both industry practitioners and the academia. Several and recent studies focus on performance improvement within the construction industry ((Kagioglou, Cooper and Aouad, 2001; Beatham, 2003; Bassioni, Price and Hassan, 2005). It is made clear that construction companies lack effective and efficient methods for measuring their performance and identifying best practices (Luu, Kim, Cao and Park, 2008). There seems to be incongruence between cross-cultural features and managerial differences which depict inapplicability of many of the identified performance models in different countries (Luu et al., 2008; Horta, Camanho and Costa, 2010; Yang, Yeung, Chan, Chiang and Chan, 2010; Wang, El\_Gafy and Zha 2010; Ali, Ibrahim And Al-Gahtani, 2012)

In this paper, the needs for performance measurements are examined and existing performance measurement models are explored to identify their strengths and weakness. The key requirements for developing a framework for construction companies taking into consideration their characteristic features, financial and non-financial performance measures is also determined. With respect to these, a conceptual model is proposed that could assist with identifying best practices by construction companies operating in the South African construction industry.

## **Performance measurement in construction industry**

Yang et al. (2010) posit that performance measurement in the context of construction centres on three different levels namely; project, company and stakeholders' levels. Further, the perspectives of performance measurement has expanded beyond project performance measurement which focus on cost, time and quality to company performance measurement which is usually evaluated using traditional accounting system. Though, traditional accounting systems have been criticised and considered inappropriate, short term, lag indicators, static metrics, backward looking measures, reactive, descriptive and lagging indicators in assessing organisations performance. Consequent upon the criticism, the soft measures of performance that focus on non-financial performance are being considered (Bourne, Mills, Wilcox, Neely and Platts, 2000; Kaplan and Norton, 2001).

The review provided in this paper looks at the corporate performance of organisations within the construction industry. It presents some integrated approaches and multifaceted corporate performance measurement, developed since the late 1980s that combine both financial and non-financial measures Ghalayin and Nobble, 1996; Neely, 1999). Wongrassmee, Gardiner and Simmons (2003) categorised the models into groups. For instance, there are models that lay emphasis on self-assessment such as the Deming Prize (Japan and Asia), Baldrige Award (USA), and European Foundation for Quality Management Award using Business Excellence Models (Europe). Other models were designed to assist leaders/managers measure and improve business such as Capability Maturity Matrices, Performance Pyramid, Effective Progress and Performance Measurement (EP<sup>2</sup>M) and the Balance Scorecard (BSC). However, some of the most frequently used frameworks in construction industry are discussed briefly in the following sub-headings.

## **The balance scorecard**

The balance scorecard was introduced by Kaplan and Norton (1992) as a management tool to assist companies to identify and clarify their vision and strategy and put them into actions (BSC Institute, 2006). The tool incorporates four main measurement perspectives and with a wide range of potential sub-measures (Kagioglou et al., 2001). The four perspectives in BSC (Andersen, Lawrie and Shulver, 2000; Parker, 2000; Kagioglou et al., 2001) include:-

- (i) financial: if companies succeed, how should they look at their shareholders?
- (ii) Customer: to achieve company vision, how must the company look at their customers?
- (iii) Internal business process: to satisfy customers, what management process must the company excel at?
- (iv) Innovation, learning and improvement: to achieve company vision, how must the organisation learn and improve?

Amaratungal, Baldry and Sarshar (2001) posit that the BSC provide a balance between economic and operating performance. Accordingly, the strength of BSC is identified by Kagioglou et al. (2001) as follows:

- (i) Guarding against sub-optimisation by forcing senior managers to consider all important operational issues
- (ii) Communicating objectives and vision to the organisation
- (iii) If implemented properly, focusing organisational efforts on a relatively small number of measures with relatively low costs.

The model integrates all the key stakeholders (owner, employees and customers) and strike balance between financial and non-financial measures with adequate attention on short and long term strategic objectives as well as lagging and leading indicators (Phusavat, 2007; Chiang and Lin, 2009). BSC provides a management team the means to unite and focus a common strategic agenda, alignment and build consensus. It also provides an obvious strategic link between business / operational units' strategy and 'corporate' to create strategic continuity. BSC provides a way by which individuals and teams can evaluate their

contribution to the success of the strategy, ultimately linking reward and compensation to performance and develop the bottom line by making better resource allocation and investment trade-offs. However, BSC has been criticised to be top-down approach only that do not offer interaction between top executive and the firms employees and thus not a useful tool for benchmarking activities as a way of promoting best practices (Kanji and Moura, 2001; Andersen et al., 2001; Chiang and Lin, 2009).

## **European Foundation for Quality Management Excellence Model**

European Foundation for Quality Management (EFQM) is an organisation established by 14 European companies in 1988 to help organisation achieve improved performance. EFQM introduced a business excellence model in 1991, as a framework that could be used by organisations to measure and improve their entire performance. The model is developed on eight basic concepts of excellence: leadership, customer and stakeholders' focus, result orientation, management by process and fact, people development and involvement, continuous learning, innovation and improvement, partnership development and corporate social responsibility (Wu, 2009). Bassioni et al. (2005) developed the construction EFQM excellence model for adaptation in the construction industry and listed its enabling criteria to include: leadership; customers and stakeholder focus; strategic management; information and analysis; people, partnerships, suppliers, physical resources, intellectual capital, and risk work culture; and process management. Business Excellence Model such as EFQM achieve business excellence as continuous improvement model through being a useful framework capable of performing regular health checks of all business processes. The model identifies best practice and performance gap by allowing both internal and external benchmarking of firms business processes, but without proffering solutions (Andersen et al., 2001). The model also increases decision making efficiency and leadership capabilities assessment of a firm. However, it has complex underlying criteria scoring system which make benchmarking become difficult without it being carried out by trained and experienced personnel. It also requires the use of external assessors Therefore, its efficiency and effectiveness as a viable strategic management tool is in doubt.

## **Key Performance Indicators**

The generally held view is that the construction industry is complex and fragmented and these characteristics impair its performance. According to Anumba and Evbuomwan (1995) the fragmentation of the construction industry creates management problems that render it ineffective and efficient relative to other industries. Recognising these inadequacies, the UK Government instituted a Construction Task Force to confront the industry to commit itself to change, so that it reaps the benefits of fundamental improvements in design, quality, sustainability and customer satisfaction (Beatham, 2003). The Construction Best Practice Programme (CBPP) and the Movement for Innovation (M4i) were set up by the Task Force and their terms of reference was to clearly define the requirements needed to deliver targeted improvements (Beatham, 2003). CBPP and M4i came up with key performance measures tagged Key Performance Indicators for the industry. The indicators include; client satisfaction (product & service); defects, predictability (cost & time); profitability; productivity; safety; construction cost; and construction time. According to Bassioni (2004) the main

target of these initiatives was to give a clear indication of overall construction industry performance using the performance measures of projects and organisation. KPIs track long-term trends in performance, and specifically, to demonstrate whether the construction industry was achieving the industry improvement targets. It provides companies with a simple method of establishing a performance measurement system in an organisation. It improves organisation management decision making. However, KPIs are regarded as lagging measures that barely provide opportunity for change and as such it is lowly rated in the areas of improvement, innovation and in identifying best practices in construction organisations. KPIs lack a holistic viewpoint on the relationship among different indicators.

## **The South African Construction Excellence Model (SACEM)**

The South African Excellence Model (SAEM) is an internationally recognised model for business performance evaluation developed by the South African Excellence Foundation (SAEF). The model was launched in 1997 and became operational in 1998. The South African Construction Excellence Model (SACEM) is an adaption of SAEM which enables business self-assessment in the construction industry. The SACEM is a comprehensive tool developed to promote the concept of TQM in the construction industry at all levels (Dlungwana et al., 2002). There are eleven criteria to evaluate organisation performance. The criteria include; leadership; policy and strategy; customer and market focus; people management; resources and information management; process; impact on society; customer satisfaction; people satisfaction; supplier and partnership performance and business result (Dlungwana et al., 2002). Basically, the criteria were developed using the EFQM and Malcom Balridge National Quality Award criteria as points of departure (South African Excellence Foundation, 2004). The model's strength lies in its ability to serve as a risk management tool for construction clients Construction company's risk profiles will be easily identifiable and managed appropriately, the model also promote the concept of 'total quality management' at both the corporate level as well as the construction site level. The model can serve as a useful performance benchmarking tool for contractors. The model is complex and measure many criteria, it is requires rigorous self-assessment application for it to be effective. Therefore, the shortcomings of BEM are apparent in the model and as such cannot precipitate best practices in isolation.

## **Best practice**

Zairi (1992) views practice as the characteristics that describes both the internal and external business behaviour of an organisation. Organisational practice if flawed, could lead to performance gaps. Zairi (1992) that an identified gap could be related to business process, structure of the firm, its management system, human factors or the firm's strategic approaches. Best practice therefore, is that which is exhibited by organisations that produce superior results, determined through a systematic process, and judged as exemplary, good or successfully demonstrated (Business Performance Improvement Resource, n.d). White and Plotnick (2010) view best practice as a method, process, activity, incentive or reward that is believed to be more effective at delivering a particular outcome than any other technique, method, process, etc. White and Plotnick (2010) contend that the underlying idea is that with proper processes, checks, and testing, a desired outcome can be delivered with

fewer problems and unforeseen complications in any organisation where best practice is to be adapted. In other words, best practice is the most efficient (least amount of effort) and effective (best results) way of accomplishing tasks, based on repeatable procedures that have proven themselves over time for large numbers of organisations (White and Plotnick, 2010). Therefore, it is quite difficult to have or provide a limit to representation of 'best practice' as there is no consensus on how best practice could be identified or what constitute a best practice. Thus, the working definition of best practice in this review is as defined by Prax (2000) cited in Maire, Bronet and Pillet (2005, p. 52) as every practical, knowledge or know-how which showed its effectiveness or its value in company or part of the company and which is applicable to another company or part of the company". According to Zahorsky (2003) best practice involves finding and using ideas and strategies from outside a company and/or industry to improve performance in any given area.

The Business Performance Improvement Resource (n.d) identifies various difficulties involved in the process of improving by learning from best practice, key among these are:

- (i) Having sufficient knowledge of systems and processes to be able to compare against others
- (ii) Knowing where to find best practices
- (iii) Knowing whether a particular practice is suitable for situation
- (iv) Adapting the practice to organisation
- (v) Finding the time and other resources for the above

Fundamental tacit assumption of Business Best Practice was stated by Wareham and Gerrit (1999) who identify the underlying tacit assumptions of best practice to include: homogeneity; universal yardstick; transferability; alienability and stickiness; and validation.

## **The need for a framework**

Different definitions of framework exist in literature, Yusof (2000) cited in Deros Yusof and Salleh (2006) defines framework as a set of theory or knowledge used by an individual as a basis for his judgement or decisions. Deros et al. (2006) assert that failure or poor implementation approach of new approaches to improving quality and performances of organisations necessitate the design of frameworks. Put succinctly, Aalbrecht, Hejka and McNeley (1991) reiterate the reasons for having frameworks:

- i. Illustrating an overview and communicating a new vision to organisations;
- ii. Forcing management to address a substantial list of key issues which otherwise might not be addressed;
- iii. Giving valuable insights into organisation's strengths and weaknesses, and its overall strategic position in the market-place; and
- iv. Supporting implementation and to improving the chance of success because this will provide not only overview but also more detailed information describing the content of each framework element and its relationship to other elements.

Framework is a systematic identification of process or procedure that will guide the thinking and implementation of change efforts or where failure requires adequate attention. As a result, Medori and Steeple (2000) itemise the required steps to be followed or put into consideration in developing a framework and these include the following:

- i. Procedures for selecting and implementing measures;
- ii. Ability to identify whether existing measurement system is up to date and measuring critical issues (i.e. audit capability);
- iii. Selected measures should be congruent with company strategy and have strong relationship with six core competitive priorities (quality, cost, flexibility, time, delivery and future growth), and
- iv. Facilitates rapid selection of measures from a data bank; and workbook approach (step-by-step methodology).

## **Performance measurement frameworks in construction**

The revolution in performance measurement systems in the business environment has made a myriad of frameworks and models available from diverse backgrounds for measuring corporate performance (Neely and Bourne, 2000). The revolution that led to the development of these frameworks was as a result of inability of the conventional metrics to give a complete picture of organisational performance in the ever changing market that characterises business environments (Stone and Banks, 1997). Many of these archetypes or models evolved for adoption in business come with significant diversity both in design and implementation. Brown and Devlin (1997) define performance measurement framework as a complete set of performance measures and indicators derived in a manner that is consistent to set of rules and guidelines stated in performance measurement systems. The most frequently adopted frameworks in construction identified by Robinson, Anumba, Carrillo and Al-Ghassani (2005), are analysed to assess their strength, weaknesses or criticisms, typical application and their key success factors. The comparison is summarised in table1 to provide sound basis for understanding and implementation of the conceptual framework proposed in this paper.

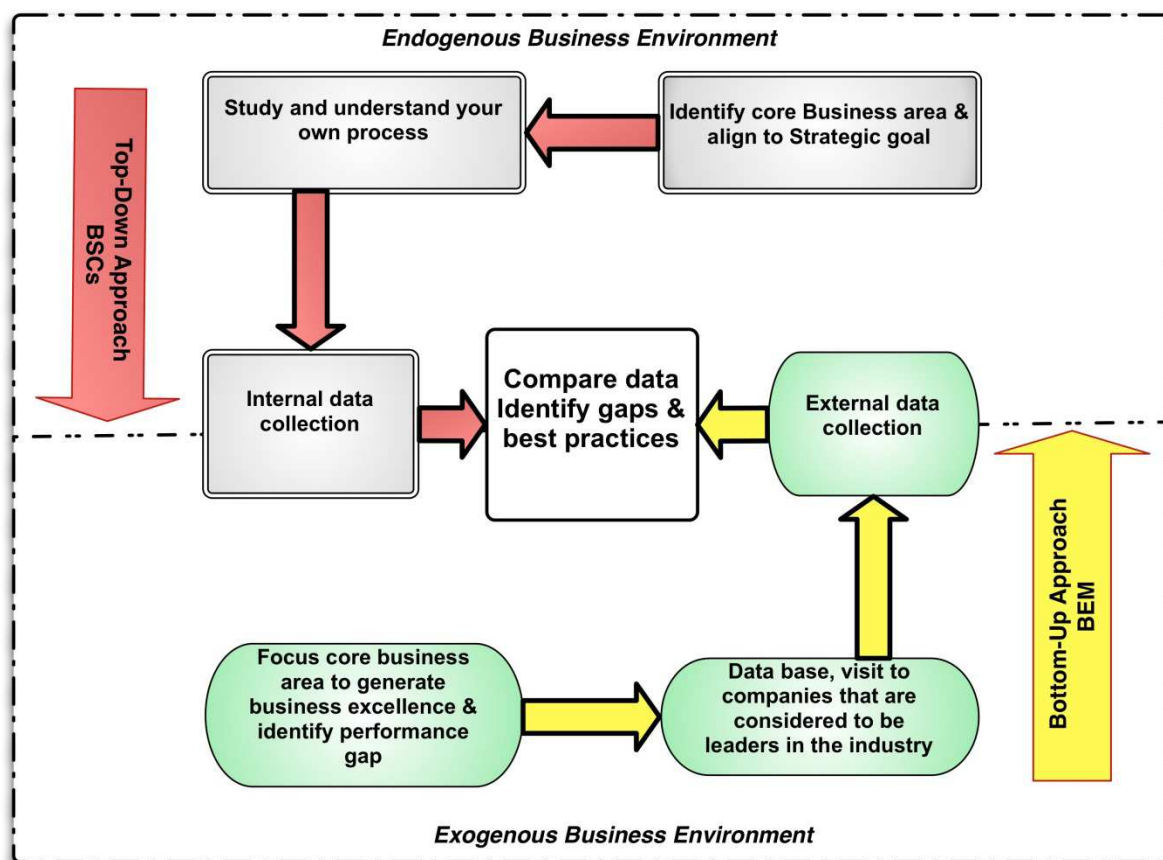
## **Proposed conceptual framework**

The conceptual framework proposed in this paper is shown in figure 1. The framework builds on the existing frameworks to engender useful understanding in identifying best practices that would enhance organisational performance. The approach suggested include gathering of performance data internally by studying and understanding own business processes with the use performance measurement systems tools. Simultaneously data is collected externally may be through databases and/or, visits to organisations considered to be industry leaders.

The comparison of both internal and external data helps in the identification of practice gaps between current and best practice, so that the development of a framework to improve the business process could commence. The next steps are employed to develop overall model of the process involved and to identify core business areas that require benchmarking (top-

down approach, BSCs) and focus on the core business process (bottom-up approach) using Business Excellence Model (BEM) to carry out self-assessment which is essential to develop metrics or measures of performance. These criteria are the basic and common features of the analysed models.

Consequently, it is imperative that organisations draw on the strengths of these two models (BSCs and BEM) which could be used to identify the core business and provide adequate attention to the core business areas to engender continuous improvement. This will enhance the deployment of corporate strategies that will lead to optimum or high performance in business environment. Price (2003) accordingly, recommends that measurement tools such as BSC and the BEM are better positioned to achieve the linkages between performance and strategy and should be modelled. Therefore, to attain and sustain continuous improvement in performance and bring about the required change in business sphere the conceptual framework proposed is a necessity. The conceptual framework has specific pertinence to the organisation as a strategic and diagnostic tool if adopted and capable of providing a healthy foundation upon which other business and management processes could be built. Though, the conceptual framework is still at formative stage and part of an on-going research which will be validated at a later stage through survey amongst industry practitioners and the academia. The framework will provide opportunities for firms to evaluate their performance, identify performance gaps and have better understanding of suitable 'best practices' by comparing their performances against best in class companies.



**Figure 1: A proposed conceptual framework for identifying best practices**



## Conclusion

It is universally acknowledged that the dynamism of the present construction market and the trends towards more sophisticated, specialised and customer-oriented services in the construction industry requires a more efficient, proactive and effective approach to performance measurement. Therefore, a 'one-size-fit-all' approach is inadequate in performance measurement, particularly for the dynamics nature of construction operations. Non-recognition of the external features of an organisation's environment is a recipe for operational failure of any performance model. Analyses of existing frameworks for measuring corporate performance in the construction industry make it clear that total commitment and sponsorship by the entire management team is required to attain optimal performance, irrespective of the framework applied. However, this paper argues that the rational starting point in any performance measurement is the identification of performance gaps and industry/organizational best practices. The conceptual framework developed demonstrates the needed combination of internal and external analyses and top-down/bottom-up approaches that could enable the achievement of optimal performance levels and improvement. The existing performance measurement models comprise of non-prescriptive pattern that tend to be difficult for organisation management to achieve a perfect complement between an organisation and available performance measurement models. Therefore, the conceptual framework proposed offers itself as a diagnostic and strategic management tool that could be used in implementing and identifying continuous improvement efficiently in particular organizational types for company to achieve optimal performance. Future research is required to test the feasibility of the framework and how it could be implemented as a strategic performance model effectively.

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