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Improving Productivity in the Business of Construction

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Abstract

The objective of the study was to determine construction organisations' perceptions and practices relative to the productivity of their organisations, as opposed to the productivity of construction activities. The study was conducted among general contracting organisations in the Nelson Mandela Bay metropole in South Africa. Findings include, inter alia, that construction organisations are not fully productive due to the fact that there is a lack of strategic thinking, new technology and construction methods are not being fully utilised, and there is a lack of innovation and efficiency.

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Keywords: business; capital; construction; productivity; profitability

1. Introduction

AbouRizk and Leonard [1] describe productivity as "a ratio of output over input that indicates the efficiency of a productive system". Furthermore, they argue that the success of a business does not only depend on a quality product, but the continual increase in productivity in order to remain competitive. It is for this reason that construction organisations are continuously reviewing their methods and skills with the objective of finding ways in which to increase their value-added outputs with fewer resources.

Construction plays a significant part of the total economy; in 2010, construction contributed 7% of the UK Gross Domestic Product (GDP), in comparison to manufacturing that produced 16% of GDP, whereas agriculture only contributed 1%. In countries that are newly developing, it is said that the construction sector is able to contribute as much as 15-20% of GDP due to the fact that it accounts for a significant amount of investment during a country's

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development [2]. Therefore the productivity of construction organisations has a substantial impact on national economies.

The profit margins that organisations recognise are directly related to their capability of achieving productivity improvements ahead of the competition. Greater growth is often experienced by those organisations that encourage competition, and for those that fail to keep pace, will fail, and it will be the stakeholders that are directly affected [3].

Given the aforementioned a study was conducted to determine construction organisations' perceptions and practices relative to the productivity of their organisations, as opposed to the productivity of construction activities, and related issues such as profitability, budgeting, resource allocation, financial analysis, and technology interventions.

2. Review of the literature

2.1. Overview of productivity in the construction industry

According to Myers [2], equity, efficiency and environment have become increasingly significant. Mutual consideration of the business situation, the varied community and the natural environment must be involved in order to form the basis of any sustainable development plan. Productive efficiency means making use of production modus operandi that do not waste inputs; increasing growth rates while decreasing the use of resources.

By improving productivity, an organisation can benefit from cost and quality advantages in comparison to its competitors. This takes place when output increases faster than input; when there is more output from the same input; when more output can be achieved whilst realising a reduction in the input; when the same output is achieved with less input or when the output and input decrease, but the input decreases more in proportion to the output [4].

Despite the significance of the concept of productivity, productivity improvement in construction has been overlooked for decades, thus leaving the construction industry lagging due to insufficient research in the area of productivity [5]. Recognising barriers to productivity improvement and developing solutions are restricted when assisting managers with methods for improving construction productivity regardless of the fact that productivity benefits the stakeholders in several ways, such as: projects being completed more quickly; the cost of projects are lowered; more competitive bids can be submitted by the contractor, and projects are more profitable [5].

Hereafter, profitability, recovery of overheads, securing of projects, return on capital employed, and cash flow are discussed. Profitability, recovery of overheads, and return on capital employed are essentially measures of productivity i.e. outputs relative to inputs. Securing of projects is essential in terms of recovery of overheads, and cash flow, and a pre-requisite for profitability.

2.2. Profitability

According to Peterson [6], instead of an organisation focusing on its profitability, they tend to be more focused on increasing their volume of work. When an organisation focuses more on increasing the amount of work it takes on without considering the profits, often the organisation will settle for smaller profit margins or secure work that is not profitable with the purpose of increasing its volume of work. The issue with increasing the volume of work that an organisation takes on is that it is accompanied by the need to increase its main office support which in turn means that there will be in increase in their general overheads. It is not uncommon to see that profits minimally improve or actually decline for organisations that pursue the strategy of increasing the size of their organisation and the volume of work that it performs. Many organisations have argued that being more selective as to which jobs they bid for and specialising in certain areas of the construction market have found that their profits could be increased. In the same vein, according to Netscher [7], when there is a surplus of work available, construction organisations take on larger projects, some of which may be too big for the organisation, and therefore they may be "out of their depth", and the organisation is forced to stretch its cash flow and resources, which can often result in the organisation failing or ruining its reputation. According to Netscher [7], during a time when construction work is readily available, profit margins on construction projects tend to be greater which result in employees becoming complacent as it may appear as though it is easy to realise a profit. On the other hand, Netscher [7] also states that once an organisation has undertaken