

Sustainable construction in smes | research proposal



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Introduction

The construction industry is a significantly important sector in the UK and has profound economical, social and environmental impacts. The UK construction industry contributes 10% of UK GDP and provides employments to 1.5 million people. Unfortunately, the environmental impacts caused by the construction activities are appalling: annually 70 million tones of waste are produced and 50% of all energy generated is used by the industry (Addis, B & Talbot, R, 2001: 21).

Worldwide, there has been a growing concern on the environmental impacts caused by the construction industry. Since the Earth Summit in Rio de Janeiro in 1992, Sustainability and Sustainable Development have captured the attention of all the industries in the world especially the construction industry. As a result of this concern, the concept of Sustainable Construction emerged. It is proposed that sustainable construction is the way forward to improve the performance of the construction industry, making it more sustainable, and subsequently helps to minimise the environmental impacts caused by its activities.

The development and progress of sustainable construction in the UK is improving, although it lags behind other countries in Europe. Within the construction industry itself, there is a gap of performance and progress between large construction companies (LE) and small construction companies (SME) in implementing sustainable construction. Interestingly, much of the available literature on the UK sustainable construction focuses

more on the large companies, while studies on small construction companies are still under researched.

Thus, this research aims to investigate to actual level of understanding and implementation of sustainable construction among construction SMEs, with further intention to identify the barriers to these companies in implementing sustainable construction practices. It is impossible to conduct this research based on all disciplines within the construction team hence, a scope is determined. The research focuses only on contractors' firms which fall under the category of SMEs (general contractors with less than 50 employees) and therefore, the scope of the construction phase is limited to the production or on-site activities.

Justification/Rational of the Research

The contribution of small companies towards any changes and innovations proposed by the construction industry is very significant. This is because the largest part of the construction industry is made up of small firms. In 2004, Department of Trade and Industry (DTI) has registered more than 170, 000 private construction contractors working in the UK and 93% of these companies employed less than 8 people (DTI, 2004). Interestingly, previous studies on construction innovations and initiatives by the construction SMEs indicate that this group is often ignored and hence, they are under-performed compared to large construction companies (Sexton, M. G. & Barrett, P. S., 2003a).

With regards to sustainable construction in the UK, there as been a rapid development since the publications of the Egan Report (1998) and `Building

A Better Quality of Life` (2000), which promote and encourage sustainable construction practices. Despite the rapid development, in the construction industry:

“... take up of sustainability principles varies significantly, with some leading firms following recognised practice, but others still making little effort”.

(Environment Agency, 2006)

“ There are continuing problems, reaching small and medium sized enterprises, and the entirety of supply chains”.

The author is intrigued by this matter which seems to suggest that the construction SMEs is lagging behind in implementing sustainable construction practices when compared to large construction companies. Consequently, the question arises as to `what are the barriers to the construction SMEs in implementing sustainable construction”?

At present, it is widely felt that investigate into barriers faced by construction SMEs in implementing sustainable construction is under researched.

Therefore, the author would like to undertake a research on this area in order to explore the level of understanding and implementation of sustainable construction SMEs, and consequently identify the barriers involved. It is hoped that the finding, from this research will help the construction industry to encourage more construction SMEs to implement sustainable construction principles and techniques, as recommended by the UK Government in Building a Better Quality of Life.

The scope of the research is limited to contractors' companies that employ less than 50 people. The area of research investigation is also limited to the activities on construction site, or known as the production phase.

The diagram below demonstrates the deductive approach taken for this research in order to narrow down the research area to specific issues and activities during construction site operation. Eventually, the research scope will be limited to five making practices in implementing environmental sustainable construction, which include waste management, energy efficiency, water conservation materials efficiency and protection of biodiversity.