

ISSUES FACING SMALL AND MEDIUM CONSTRUCTION ENTERPRISES IN INDUSTRIAL SOUTH WALES: CAN THEY SURVIVE BEYOND THE YEAR 2000?

Christopher Miller¹, Trefor Williams¹ and Lyn Daunton²

¹ School of the Built Environment, University of Glamorgan, Pontypridd. CF37 1DL, UK

² Business School, University of Glamorgan, Pontypridd. CF37 1DL, UK

Strategic management theory within the construction industry implies that decisions made inside the firm are determined mainly by the flow of information and knowledge from the environment. Best Practices are instruments that purport to provide firms with strategic capabilities but it is argued that research is required to understand the diverse nature of firms operating within a particular region. It is also recognised that the way knowledge and information is used within the firm is essentially determined by the internal capabilities of the firm together with the values and aspirations of the entrepreneur. Skills are enhanced through the continuous co-ordination of production and the integration of differing technologies. It is recognised that the construction industry in the United Kingdom trails foreign competition in terms of training and development. It is argued that industrial South Wales should be the focus of further research due to the sectoral differences that exist together with the heterogeneity of the firms within the region.

This paper aims to determine the link between small business theory and small and medium sized construction enterprises offering an understanding of how such firms operate strategically within their environments.

Keywords: Industrial South Wales, small and medium sized construction enterprise, strategy and planning.

INTRODUCTION

The construction industry's academic arena focuses much of its research on the needs of the larger contractors. Small business theory suggests that there are significant differences between large and small firms, and that these differences must be understood if the academic arena within construction is to progress. Much of the work within Small and Medium sized Enterprises (SMEs) began after the Bolton Report (1971). The construction industry has not been the principal focus of such research, but can benefit from many of the conclusions. The small business sector (to include construction) is viewed as responsive, flexible and adaptable. But barriers to training, the dependence on a few customers, lack of strategic planning, inefficient management, marketing and bad financial planning, are all findings of small business research. It is interesting to note that the construction industry is aiming to assess the take-up of new technologies and practices by construction firms. The focus of such initiatives, if they mirror that of initiatives to assist the small business sector in general, will fail because the differences between small, medium and large firms are not satisfactorily understood.

The Small and Medium sized Construction Enterprise (SMCE), and the industry as a whole, has been criticised by many with regard to the take-up of new technologies, processes, organisational issues and reversing the adversarial culture (Simon Report 1944, Emmerson Report 1962, Banwell Report 1964, Building Britain 2001 1988, Latham Report 1994, European Observatory for SMEs Report 1996, Labour Market Assessment for Industrial South Wales Report 1996). The construction industry does not differ from the body of empirical evidence pertaining to the general problems faced by (SMEs), if viewed as one homogenous group. Woo *et al.* (1988) identified that craftspeople and independent entrepreneurs had less experience in marketing and sales. The Cambridge Study (Storey 1994, Stokes 1995) suggests that SMEs are not adept at marketing, financial control, or management and often possess little motivation. It is therefore surprising that very little research exists in regard to the opportunities and threats that exist for SMCEs.

This paper attempts to link the theory pertaining to the small business area to SMCEs offering an understanding of how these firms operate strategically within their environment. Many theorists have offered arguments as to the requirements of small and medium firms but have failed to suitably recognise the differences in existence. It is generally accepted that a firm's operating environment has a significant affect upon external performance and the internal organisation.

DEFINING A SMALL AND MEDIUM SIZED CONSTRUCTION FIRM

The Bolton Report (1971) described a small business as having a small share of its market or alternatively a large share of a very small market (Storey 1982). The firm must be managed in a personalised way, and not through the medium of a formalised management structure by the owners or part owners and should be independent in that it does not form part of a larger organisation. Management should be free from outside control in taking principal decisions (Burns 1989).

The definition of SMEs has been a contentious issue for many years. It is necessary to offer an industry-wide definition as to the precise nature of a small and medium-sized enterprise, and not treat the entire sector as one homogenous group. The Bolton Report attempted to offer an industry type definition using employment and turnover to offer a workable solution. Examination of Figure 1 provides an example of this:

Table 1

Small Firm Type	Definition Used
Construction	25 employees or less
Manufacturing	200 employees or less
Road Transport	5 vehicles or less
Retailing	£50,000 pa t/over or less
Services	£50,000 pa t/over or less
Miscellaneous	£50,000 pa t/over or less

The European Commission (EC) have offered a definition of SME to replace the many criteria in the Bolton Report. Bolton's definitions in regard to certain industries using turnover as a base, or any measure of size expressed in financial terms, become problematic in times of inflation. The Bolton Report was criticised in regard to the low market share it suggested SMEs attained in general. It has been argued that this is not always characteristic, as small firms can operate in highly specialised niche markets, or in a limited geographical area, but still command a high share of available

business. The second criticism is that of independence, e.g. Bolton's definition does not include franchises, which do form part of a large organisation, but included sub-contractors very dependent on one customer. Finally the most important criticism is that of comparison.

Other definitions exist within the UK, but tend to attempt to distinguish large from small in terms of how the company operates. Wynarczyk *et al.* have identified three key criteria that distinguish large companies from that of SMEs, being uncertainty, innovation and evolution (Stokes 1995). Others have proposed arguments against the homogenous grouping of SMEs due to the very wide range of activities embraced by this diverse sector. The idea that the small firm, owner-managed sector is heterogeneous was made explicit by the Bolton Commission of Inquiry,

When we come to look at the human and social factors affecting (small firms) we can see that firms are, in fact, as varied and individual as the men who founded them (Bolton 1971: 22)

The Commission of the European Communities (1997) instigated a new set of definitions for the SME sector, these being

Table 2

Small Firm Type	No. Of Employees	Turnover in ECU
Micro	0 to 9	----
Small	10 to 49	Less than 7 million
Medium	50 to 250	Less than 40 million

The EU defines an SME as having less than 500 employees. As approximately 99% of firms fall into this category the definition is unsatisfactory. Therefore, it is necessary to amend the definition to allow differing sectors to be analysed, ensuring that comparative studies use the same definition.

The definition of an SME within the construction arena for the purposes of this paper will be firms that have between 10-250 employees, as per the European Commission (1997). The firms will be independent of a parent company and turnover between £5 million and £28 million per annum.

OVERVIEW OF THE CONSTRUCTION INDUSTRY IN THE UNITED KINGDOM

The construction industry in the UK has experienced exceptional change over the last decade, from a major boom to an extremely deep recession. In the 1990s the UK construction industry suffered its most severe recession this century, with many large quality contractors and design firms making substantial losses. Many smaller firms, and not always the worst, have also gone out of business, indicating other possible causes (Baden Hellard 1995). The sector did not begin to grow again until 1994, but "turbulence" still exists within the market. There are large differences within the industry itself. The housing market was the first to be affected by the recession, but was the first sector to recover. As would be expected from a sector that is so diverse, the recession affected each business type differently (Construction Forecasting and Research Limited 1996).

The products of the industry have a life expectancy of approximately 60 to 100 years, which poses significant difficulties in terms of providing work that can be attained with any degree of certainty in the short term. This said, the industry continues to be one of the largest sectors within the UK economy in terms of volume. Construction is

a diverse industry, and therefore must be researched and developed with this firmly in mind. To treat the industry as one homogenous group would be to fail to recognise and understand the diversity and scale of the industry (South Glamorgan TEC 1996). The report by The Business Round Table (1994) states that the industry is passing through a period of technological and managerial change. Construction Forecasting and Research Limited (1996) forecast that significant changes within the industry will mean that larger firms will become more focused, and retrench into core business. This will probably mean that resources will be directed essentially in one major area. Some construction groups will become heavily reliant on housing, with others towards contracting. The recent changes within Wimpey and Tarmac are good examples of this. Therefore, it is fair to say that the larger firms will win the bulk of contracts with smaller firms acting as subcontractors.

The UK government has recognised that the construction industry is important in terms of employment and its contribution to Gross Domestic Product (GDP). The government and the major players within the industry have identified that if the construction industry is to survive and prosper within a global market place, significant changes are necessary in terms of growth, efficiency, and in many cases survival. It is recognised by the government, that many of the issues that need to be addressed are complex in nature.

The Small and Medium Sized Construction Enterprise (SMCE) plays a significant part in terms of offering employment to individuals, labour to the industry and specialist skills. One-person construction operations increased from 40% to 48% between 1983 and 1993. The self-employed within the construction industry account for 24% of all self employed workers in the UK. Many of these employees work for the same employer and are, in all but name, employees. Such people are known as quasi-employees. The self-employed currently represent 13% of the total labour force within the UK, and account for 43% of the total construction workforce (Druker and Macallan 1996).

THE STRUCTURE OF THE CONSTRUCTION INDUSTRY

A main characteristic of the construction industry is that demand is variable (Hillebrandt and Cannon 1990, Shutt 1988, Morton and Jagger 1995), or from an economic perspective the demand for the product is derived (Anderton 1991). That is to say that the product is only in demand because it is required for the production of other goods. Therefore it could be argued that the industry is shaped by this variability in demand, together with the firms and individuals that operate within it. The industry is shaped by the structure of demand, which poses threats and opportunities.

The industry can be divided into four areas (Langford and Male 1991); building, civil engineering, repair and maintenance, materials and manufacture. The industry can be further sub-divided within these external boundaries. The firms and individuals that operate within the construction industry supply chain do so within the system illustrated by Figure 3.

It can be seen that the industry is segmented into several markets, offering opportunities and threats to the firms that operate within the market place. If we accept that the construction market for many small companies is constrained geographically, and that they do not have the economies of scale to undertake large projects, then it could be argued that some degree of knowledge must exist pertaining

to the opportunities that particular market offers (Malmberg, Solvell and Zander 1996). This is further supported within the same paper, indicating that firms benefit from the development of general labour markets and specialised skills; enhanced interaction between local suppliers and customers; shared infrastructure, and other localised externalities.

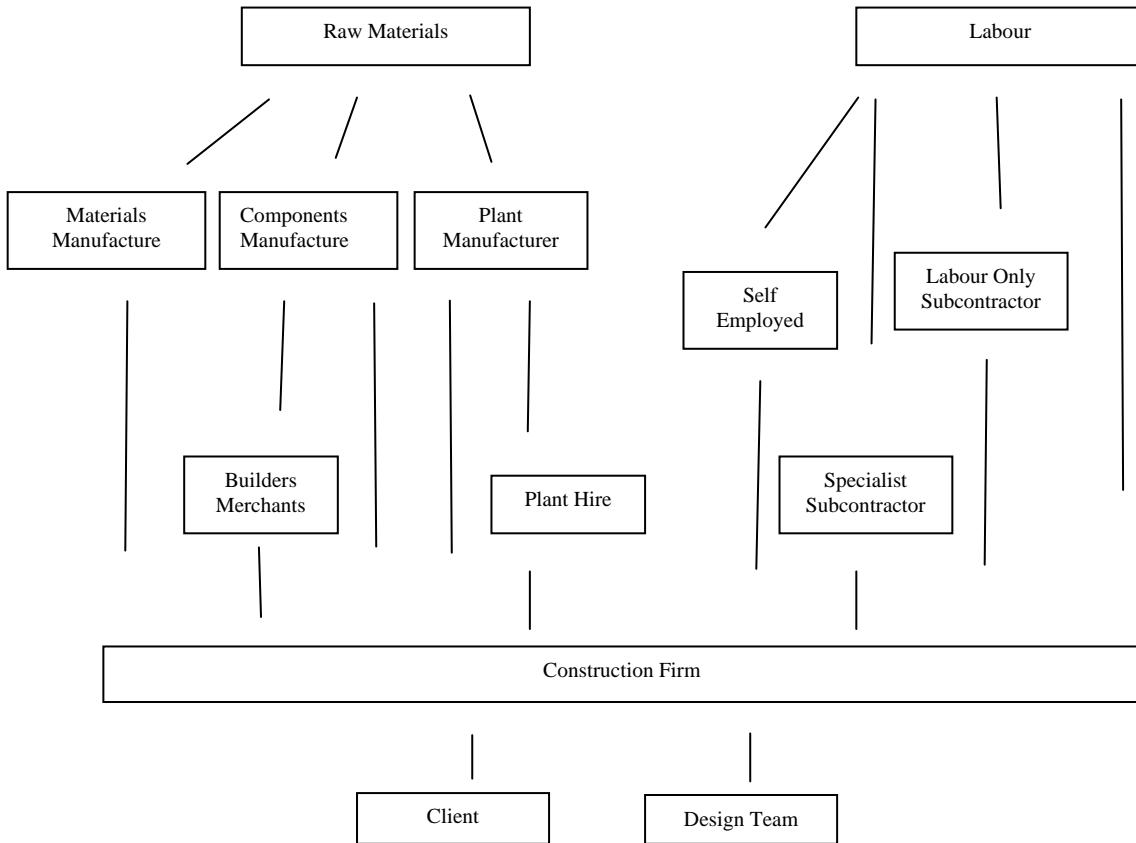


Figure 3: Simplified structure of the construction industry (from Lavender 1990).

THE CONSTRUCTION INDUSTRY IN INDUSTRIAL SOUTH WALES (ISW)

The construction industry within the ISW region has enjoyed significant activity, but showed a greater degree of fluctuation than the rest of the UK. In 1995 the region had 2600 SMCEs. The overall change in numbers of VAT registered SMCEs within the region has decreased by 16% from 1991-1995, resulting in a 15% decrease in the number of persons employed (Nomis 1997). South Glamorgan TEC (1996) indicated that contractors and professional firms within the ISW region expect growth within the locality to fall slightly, or at best remain stable

South Glamorgan TEC (1996) recorded that almost 50% of firms indicated that 50% of the workforce was involved in a complex system of sub-contracting. Of significant importance to the ISW region is the availability of appropriately skilled people. The structure of the construction industry has changed from being dominated by contractors, to a highly flexible system that uses sub-contractors for a large percentage of the work. Such methods have enabled organisations to pull through recessionary periods, but have failed to retain the skills and knowledge required to take the industry

into the next century (South Glamorgan TEC 1997). This should be of concern to policy makers and large contractors, if the local skills and knowledge inherent within SMCEs is required and retained into the foreseeable future. However, the industry is transient in nature and employees are transferable. What should be of concern, is that the ISW region can offer the required labour, skills and knowledge but lacks the support mechanism and arguably the motivation to succeed and often survive within this complex environment. The South Wales TEC report (1996) indicates that contractors and professionals do not expect the industry to grow within the ISW region in the next five years. This is of significance in terms of the survival of firms within the region. The low barriers to entry within the construction arena could lead to specialists becoming self employed, but this in itself poses many problems. The ease of entry into the construction industry, and to markets could amplify the problems faced by those operating within the environment. The industry is unstable and the players limited to exploiting existing markets. It is argued that the construction industry, to be successful will require small firms to attain new skills and knowledge to facilitate the change that the industry requires.

SUPPORT FOR INDUSTRIAL SOUTH WALES

The trend for inward investment within the ISW region continues to offer construction firms with many sizeable projects. Many of the projects undertaken are led by large contractors with smaller firms acting as sub-contractors. If ISW follows the norm within construction for obtaining and completing work, the labour and specialised sub-contractors will be hired locally to reduce transaction costs. The development of the infrastructure within the region is deemed to be adequate for many firms wishing to operate and/or trade. The region has benefited from a series of improvements, which will strengthen construction activity and the competitive position of the area. It is also interesting to indicate the level of support for the Welsh regions, such as the recently launched Regional Technology Plan (RTP). Wales is the only region of the UK to benefit from this initiative. The initial findings indicate that the Welsh economy is suffering whereby weaknesses far outweigh strengths. The findings are that the region is failing in terms of its innovative capacity.

Overall, ISW is seeing changes within the environment that have never before been experienced. It could be argued that because SMCEs within the area are experiencing such changes, they are failing to address many important issues. Furthermore, the interdependency of the small, medium, and large firms should be better understood, to reduce the possibility of further insolvencies.

THE SMALL AND MEDIUM SIZED CONSTRUCTION ENTERPRISE (SMCE)

SMCEs are important due to the fact that they possess local knowledge and can assist in the reduction of costs. Many larger contractors choose to utilise the services of smaller firms to assist in the completion of projects who, in the main, act as subcontractors within the supply chain. Small firms differ significantly from large firms in many ways. For example, Stokes (1996) suggests that in terms of innovation, the management structure of a small firm offers a strategic advantage over a large organisation. The entrepreneurial nature of the small firm enables it to take risks, whereas large firms are essentially risk averse. It is well documented that small firms are not adept at managing growth, and are unable to cope with increased complexity. The management of complexity is becoming increasingly important to SMCEs.

Small business theory recognises that small and medium-sized firms would benefit from increased awareness in management skills, financial planning and control, marketing, and possess the necessary motivation to be, for want of a better term, entrepreneurial in nature. The plethora of reports in regard to the construction industry concludes that the industry must adopt new technologies and processes. The work of Hall (1991, 1995) indicates that sub-contracting poses severe problems, especially if SMCEs (who are mainly but not always sub-contracting) perceive adding value of no benefit. This is because clients and contractors are so distant from the sub-contractors that the SMCEs can attain no benefit by the provision of quality work. Hall (1991, 1995) also places great emphasis on the small construction firm's ability to manage finance effectively, and that the firm must possess a skilled workforce. It is interesting that from these studies that the education of the owner may be positively correlated with the survival of the firm.

STRATEGIC PLANNING AND LEARNING

SMCEs should understand the low barriers to entry in the industry. Substitutes, powerful customers, suppliers and competitors, are instrumental in maintaining a competitive position within the market. It is not suggested that SMCEs fail to undertake any form of strategic planning and/or consider the benefits of Best Practices that pertain to the construction industry. Instead it is suggested that they do not perceive the benefits of implementing such technologies in terms of offering a competitive advantage, and that the benefits of these strategies do not seem as relevant. Moreover, it is contended that some organisations are so deeply involved with planning that the firms themselves are no longer able to act in an entrepreneurial way (Mintzberg 1994). However, Thompson (1993) views strategy as essential for a firm operating in a turbulent environment. He also makes the point that firms need to know where they are, where they are going and how to manage such changes. Furthermore, it is argued that weak management skills and marketing capabilities have ensured that craft-based firms are unable to sustain a competitive edge (Small Business Research and Consultancy 1996).

RESEARCH METHOD FOR INDUSTRIAL SOUTH WALES

For research to reveal a true picture of SMCEs, it is necessary to conduct research that will capture the motivations and aspirations of owner-managers. To achieve this, a case study approach will be used. Very little grounded data has been captured within the small business or entrepreneurship arena (Curran and Barrows 1987). This form of research tends not to be utilised within the small business arena, due to the sample sizes. This is not to say that this method is not valid within this arena. This method is relevant in terms of offering the opportunity to interpret and translate the behaviour of operatives within the SMCE sample frame. This is imperative if research is to advance and break away from the traditional positivist, repetitive and risk averse methods currently adopted by researchers within the field (Stockport and Kakabadse 1992). Previous positivist approaches are indeed relevant but for research to advance in this field it is necessary to establish "what makes SMCEs tick." For harmony to exist between contractors and sub-contractors it is imperative to identify the differences between small and large firms and turn the threats and weaknesses for SMCEs into opportunities and strengths.

An initial survey will seek to ascertain if the current literature available can be transferred to SMCEs. The focus will be to determine the significant differences

between large and small firms operating in the region. This will focus on the take-up of new technologies and processes, firm governance, strategy and management. It is imperative to assess whether any regional peculiarities exist. From the survey a conceptual framework will be constructed for further testing. This will build upon the work of the Durham University Business School (DUBS) that offers the opportunity to assess the performance of small firms using a variety of different criteria.

The adapted DUBS model will offer a rich insight into the competence base of the sample together with an insight into the owner/manager. The model will be adapted to incorporate the model developed by Stanworth and Curran (1973) and revised by Westhead (1990) which identifies the typology of owner/managers. This categorisation is important to assess the motivational factors in existence within the firm. The DUBS model is divided into three areas:

1. Performance-past and present
2. Growth, survival and efficiency potential
3. Projected growth, survival and efficiency strategy

A pilot study will test the validity of the conceptual framework focussing upon particular processes and their affect upon profitability and value adding. A multiple case study approach will be undertaken to test the robustness of the conceptual framework through the medium of replication. The findings of multiple studies are often more thorough and considered to be more vigorous (Yin 1994).

A triangulation approach will be adopted to improve the validity of the data (Silverman 1985). This approach will assist the research in identifying previous important happenings within the sample that may be relevant to the strategies previously adopted. The method of triangulation to be adopted will be participant observation, interviewing and the study of non-sensitive company documentation. The sample frame will all fall into the category of Small and Medium sized Construction firms, and operate from and essentially within the ISW region. The sample will not be random, but firms that are known to various colleagues of the researcher.

The data will be recorded using the approach suggested by Schatzman and Strauss (1973). The data will be classed according to the perceived category, whether Observational Notes (ON), Methodological Notes (MN), or Theoretical Notes (TN). The logic behind organising data in this manner is to assist in the facilitation of its analysis. It is understood that this method will allow the researcher an opportunity to write-up methodological tactics as they occur further validating the research tool.

It is understood that this method of research can and is expected to be time consuming in terms of writing. The method was chosen as a way of understanding the differences between large and small firms, the way in which they operate, and why they do things the way they do. Once these questions have been answered it is argued that we may be a step closer to understanding how technology transfer can be diffused into the SMCE within ISW.

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