An Application Of Strategic Planning Within The Construction Industry

F. T. Edum-Fotwe[a], A. D. F. Price[b], & A. Thorpe[b]

[a]Research Student, [b]Senior Lecturer, Department of Civil & Building Engineering, University of Technology, Loughborough, Leicestershire, England, LE11 3TU.

Keywords: Strategic Planning, Strategic Plan, Strategies, Construction Company, Planning Process

1. Introduction

Elements of strategic planning have always formed an important part of the business process in the construction industry. Evidence of such strategic activity within the industry can be found in the business orientation of construction contracting companies, which is often reflected in their bidding behaviour, and the resulting combinations and variations in the types, sizes, and locations of projects that an individual company undertakes [Lord 1993].

Historically, the focus of formal planning in the industry has been on forecasting and operational planning, usually undertaken by a planning department and often in isolation from top management. Internal considerations have normally formed the heart of the planning, while the external business environment have not always received the same attention. This approach to planning in the construction industry is reflected in the focus of research and publications associated with the industry: a general orientation towards projects. Hillebrandt [1987] supports this view by noting that 'many of the books in construction management concentrate their attention on the management of the project, rather than the management of the firm', a view equally shared by Winch [1989].

This approach to planning the future of an organisation may be considered suitable in a relatively stable industry environment, where the need to conduct systematic long-term planning exercises for company survival is not immediately apparent. Lansley [1987] identified the UK construction environment of the 1960's as being characterised by such

stability. However, in recent times, many factors have altered the environment in which construction companies have to operate. These include changing markets, intensified domestic and international competition, and changes in competitive structures. Top managers in the construction industry are currently having to address increasing uncertainty in the economy, technology, social, political and ecological dimensions of the global business environment, often with such uncertainties obscuring the traditional construction business horizon. The changes that take place, in these dimensions of the general environment, cause the construction company and its immediate environment to be constantly changing, as they evolve towards new forms that are not predictable by simple and 'linear' analyses. An emphasis on tactical and operational planning, to the neglect of a formal approach to planning for long term survival, can therefore be quite detrimental. Such effects are clearly seen from the impact of the economic recession which started in 1989, with record high insolvency in the construction industry, [Langford et al 1993]. This has highlighted the need for a greater attention to the external environment of the company. The nature and rate of change of the business environment, therefore requires construction companies to be more forward looking and to adapt to unstable conditions to ensure their continued survival [Betts & Ofori 1992]. This is particularly the case for large construction companies, whose organisations have grown so complex that only a systematic and formal planning approach will ensure coherence in defining an overall strategy for the company.

An extensive review of literature and other related material has revealed that there is little information available on how contracting organisations plan their long term future survival, and where such planning is undertaken, there appears to be no systematic approach for its application.

This paper presents a general background to strategic planning, and focuses on how one large British Contractor has implemented strategic planning within its organisation. It outlines the development of the strategic planning approach adopted by the company, and discusses the process, the participants, the information sources, and the output of their planning exercises.

As a case study, it provides useful lessons on the application of strategic planning in practice, and thus offers guidance to other construction companies who may be considering similar approaches.

2. British Construction Industry :- A Brief Description

The construction industry in Britain has been described as being probably the most developed in Europe [Chapman & Grandjean 1991]. It plays a very important role in the general economy by significantly contributing to the Gross Domestic Product (GDP), as shown in Table 1, and by serving as one of the main economic indicators.

Table 1 Output of the British Construction Industry

(£ millions 1985 prices)

YEAR	CONTRIBUTION TO GDP [%]	OUTPUT OF THE INDUSTRY	OUTPUT OF CONTRACTORS
1986	5.47	30,610	27,638
1987	6.11	33,746	30,834
1988	6.65	36,959	34,111
1989	7.03	39,472	36,733
1990	7.20	40,200	37,368
1991	6.63	37,372	34,758
1992	6.26	35,535	33,019

Source: ***Housing and Construction Statistics, 1982-1992, Great Britain***

The construction industry includes all the developments affecting the built environment, from the planning stage, through the design, production, and maintenance activities, bringing together teams of different interest such as the client or employer, designers or consultants, contractors, and other regulatory bodies. The activities of the industry can be classified into three principal areas, namely:

- Building : the provision of all classes of buildings, such as houses, factories, hotels;
- Civil Engineering : the provision of infrastructure such as roads, sewerage works, railways, and underground work; and

- Industrial Engineering : the provision of mechanical, electrical and chemical process plants, in the petrochemical and nuclear industries.

The production side of the industry comprises over two hundred thousand (200,000) contractors, whose output constitutes about ninety per cent of the total work volume in the industry. The contractors comprise numerous small and medium companies and a relatively fewer large companies as shown in Table 2. The industry's activities on the production side are dominated by the large companies, who execute all the large-scale projects, and who between them hold a greater than proportionate share of the total market volume. Their presence and influence on the industry is considerable, particularly as innovators, and also as providers of work orders for the smaller companies through the process of sub-letting.

Table 2 Structure of the Construction Contracting Sector

(£ millions 1985 prices)

Size of company [No. of employees]	1986		1989		1992	
	Number of Firms	Volume of Work	Number of Firms	Volume of Work	Number of Firms	Volume of Work
1-13	162691	2180.4	192260	2909.5	198573	3052.9
14-79	7819	1612.8	7598	2158.0	6229	2016.9
80-299	870	981.2	951	1663.5	704	1278.5
300-1199	201	949.0	219	1570.7	162	1398.8
1200-	34	803.0	48	1532.0	36	1172.5

Source: Housing and Construction Statistics, 1982-1992, Great Britain

British contractors have shown an adeptness at moving from one industry specialisation to another. Many general construction contractors moved into speculative property development in the boom years of the 1980's as a way of utilising efficiently, the cash surplus from their traditional contracting business. The industry employs many common skills across its various sectors both in its management and operation.

3. Strategic Planning - The Concept

Strategic planning derives from the word strategy, which lies in the military art of setting a very broad and rather imprecisely defined large scale campaign for application against an enemy, to ensure eventually, overall victory. This is often contrasted to decisions that are considered to be tactical, which is a specific scheme for employing allocated resources. The distinction between issues that will be considered strategic or tactical, is often made in terms of time horizons [Rue & Holland 1989]. In practice, however, it is seldom that simple, and issues that appear strategic to one person may viewed as tactical by another. This suggests that the distinction is relative, rather than absolute. It can be said therefore that:

- the longer the effect or horizon of a plan, the more difficult it is to reverse it when implemented, and so the more strategic it is; and equally,
- the broader in scope a plan is, or the more functional areas are affected by a plan, the more strategic it is.

Strategic planning is described as being concerned with establishing objectives and goals for an organisation, and defining relationships between the external and internal environments of the organisation. The overall aim being to enable the pursuit of the set objectives, ensure consistency with the organisation's capabilities, and secure a continued responsiveness to the demands of its general and specific business environment. It addresses the potential for future fulfilment of the organisation's present objectives, by focusing on long term issues whose impact have the potential to be of far-reaching and enduring significance [Ansoff 1972, Waalewijn & Segaar 1993]. These issues are often the major concern of top-management. As a consequence, strategic planning is more oriented towards top-management. Its effectiveness as a planning tool is associated with the level of organisational participation.

Construction contractors have always had to plan their survival by using economic, technological and social forecasts as a basis for making decisions that shape the company's future. However, such planning often involves simple extrapolations of information from past results, as part of informal exercises performed by top management, and the strategies resulting therefrom are often formulated in a similarly informal and ad hoc manner. The

historical basis for such an approach probably relates to the type of construction company ownership prevalent in the past, predominantly 'family businesses'. Strategy and its formulation reflected what the 'owner' wished to achieve with the company, and how this was arrived at was a matter only for the owner's concern. The 'owner' often assumed future performance to be better than the past, and so previous results were simply extrapolated to establish 'what' and 'how much' the company should undertake in the future [Ansoff & McDonnell 1990].

Strategic planning can be distinguished from this informal approach to formulating strategy, by its formalised and rigorous focus on the essential entrepreneurial problem of defining and appraising the role for an organisation. The future, is not necessarily expected to be an improvement over the past, nor is it assumed to be extrapolable. The purpose of the whole planning exercise is to provide a means by which a company gives itself the will to create its own future. Thus, the value of the strategic planning exercise is not just the written document produced at the end, but more importantly, the experience of going through a systematic and orderly planning cycle as a logical problem solving process. The planning exercise is conducted along several dimensions of the organisation, and covers such issues as:

- setting the company's objectives;
- planning the structure of the organisation;
- determining policies for functional aspects like personnel, finance, marketing, and research;
- choosing new markets; and
- undertaking acquisitions, mergers and other large and long-term investments.

The rationale of the planning exercise is to ensure that all the various functions of the organisation both relate to and support each other and make sense as an integrated whole for the long term.

4. The Planning Process

Although a large body of literature describing the major strategic planning concepts and techniques has proliferated [Porter 1985; Ansoff 1969,1972; Mintzberg 1989; Quinn

1989], there is a dearth of information on the means and process for implementing the concepts in the construction industry.

In general, the process of planning can be described as the integration of independent anticipatory decisions into a consistent and coherent system. This is performed by following a set of defined steps evolving from general guidelines to objectives. Options for achieving the objectives are outlined, and a detailed course of action adopted. The procedure combines activities comprising: information search and analysis; development and design of alternatives; analysis and evaluation of the alternatives; leading on to the selection of the optimum alternative [Mintzberg 1994]. The whole process is formally documented with its outcome being presented as ***plans*** [Laufer et al 1994]. The process is rather mechanical and this is given life by the organic input of management, through strategic decision making. Such decisions are based on intuitive knowledge [Halal 1984], and is continually updated by gathering opinions, data, and new ideas from respected sources. Information considered to be most useful is noted mentally. This is constantly updated until an appropriate solution emerges.

A strategic approach requires that the planning exercises should address a relatively long term and company-wide perspectives. The strategic planning process is concerned with how effectively a strategic plan is derived, and implemented within an organisation [Chakravarthy & Doz 1992]. The process does not follow a simple 'linear' problem-solving sequence, but is instead an iterative procedure of repeated passes through different stages in a systematic and an analytical approach.

5. Strategic Planning by a British Contractor

The following example presents strategic planning as practised by one large British construction contractor. The company was selected from a list of respondents to an initial questionnaire survey of thirty large and medium contracting organisations, randomly selected from a database, on strategic planning as a formalised procedure within their organisation. The response of the selected company indicated that strategic planning had already been installed. Subsequent to the preliminary questionnaire, further information was obtained through personal interviews with executives of the organisation. The

interviews were performed as structured discussions in order to ensure that as much relevant information as possible was obtained. In order to maintain confidentiality, the case company is referred by the pseudonym FTEF Construction.

5.1 Background Of FTEF Construction

FTEF Construction is a division of a group of companies which lie within the wider definition of the construction industry. The division of FTEF Construction is one of the leading building and civil engineering contractors as measured by turnover, with a diversified portfolio of projects spanning from the very big to the very small in size, with regard to their value, and from new works to refurbishment. It provides design, management, and consultancy services, and has operations in the Britain and mainland Europe. The division is structured as several business units, as illustrated in Figure 1.

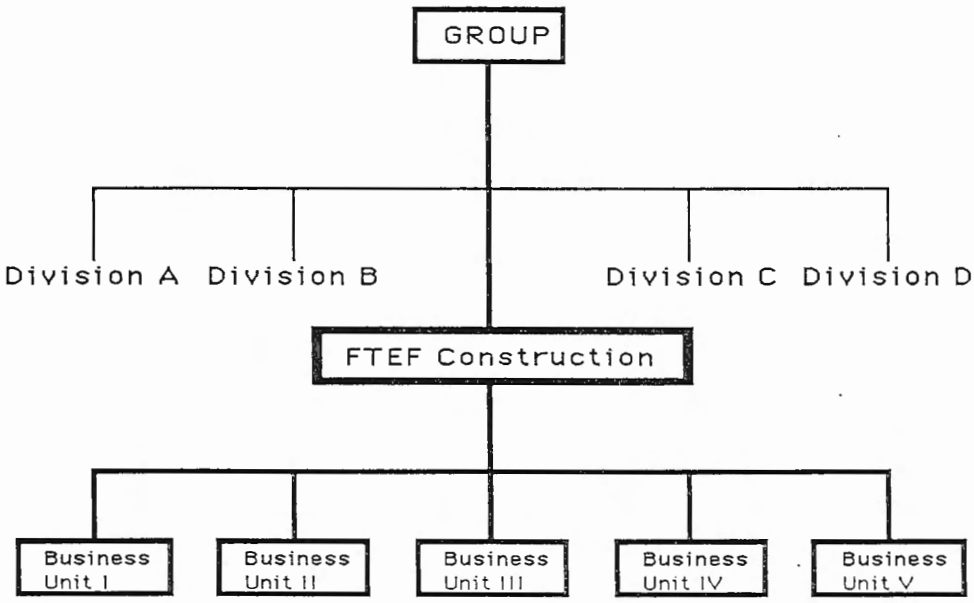

Figure 1 Structure of FTEF Construction

The company has, for a considerable period of time, held a dominant position in its market sectors of the industry. The performance of the company shows a consistent positive growth between 1986 and 1990 in turnover, operating profit and size (using *number of employees* as proxy for size). However between 1990 and 1992, the performance of FTEF Construction declined. The company's performance has been indexed and presented in Figure 2.

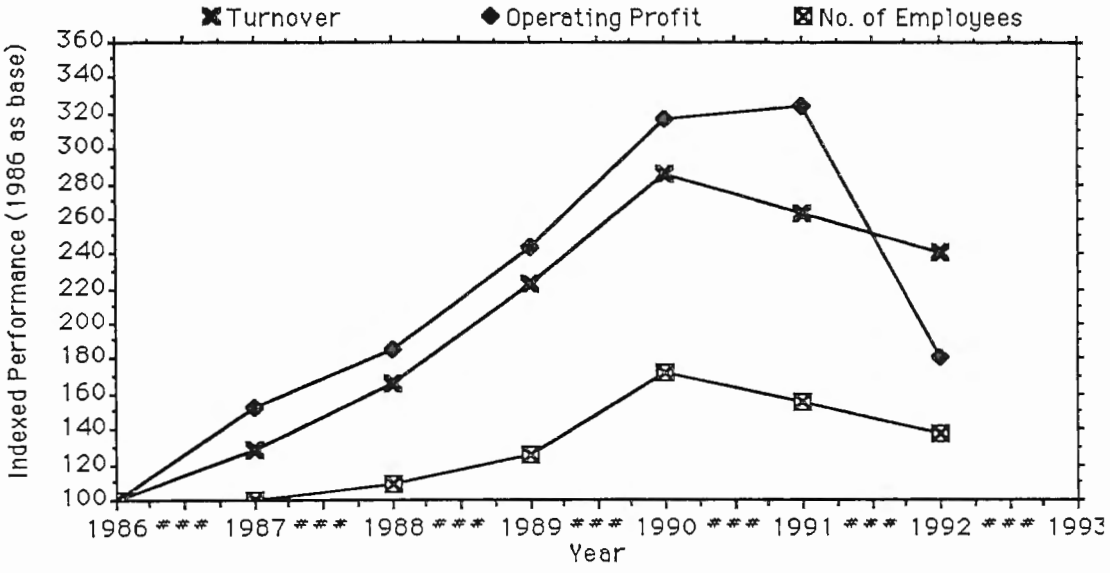

Figure 2 Performance of FTEF Construction

5.2 Review Of Long Term Planning Techniques By FTEF Construction

Table 3 presents a profile of the different planning techniques employed by the company from 1970. FTEF Construction pursued a manually conducted five-year rolling financial plan in the period leading up to 1975, which was computerised from 1975. The planning exercise was effected via a bottom-up approach, where the exercise started with ideas and plans generated by lower and middle management, and co-ordinated within a corporate planning department. There was effectively no rationalisation of the individual plans. The five-year corporate plan then served as the basis for drawing up the annual budget.

A change in Chief Executive in the early 1980's resulted in the replacement of the five-year plan with a simple annual budgeting exercise. This was considered sufficient for dealing with the long-term future so far as FTEF Construction was concerned. This method of planning was pursued until 1990. The impact of the recession on prompted a rationalisation of the various activities of all the divisions within the Group. This was performed with the object of creating a balance between units that generate, and those that consume cash, in order to efficiently address the strategic purpose of the Group.

Table 3 Profile of Planning Techniques Employed by FTEF Construction

Period	Planning Technique
Up to 1975	Manual 5-year rolling financial plan
1975 - 1980	Computerised 5-year rolling financial plan
1980 - 1990	Annual Budget
1990 -	Strategic Planning

As part of the rationalisation exercise, a number of measures were introduced. These included the drawing up of a strategic plan by all the divisions. Consequently, a Business Development Unit (BDU) was established in each division to co-ordinate the planning exercise. The BDU was also charged with responsibility for analysing and identifying new and innovative business opportunities, as well as acquisitions as strategic options for the management's consideration.

6. Details of the Strategic Planning of FTEF Construction

6.1 Source of Strategy

Within FTEF Construction, strategy originated from the Chief Executive, whose views, visions, and preferences dictate its shape.

6.2 Strategic Goals

FTEF Construction viewed itself as a *cash cow*: a description given to companies with high market share, and which frequently generates large amounts of cash; with the objective of maintaining good levels of liquidity and profitability through the application of negative working capital being employed for projects. Growth is a key strategic goal. Also, the ability to accommodate cyclic workloads and ensure stability was of equal importance.

6.3 Strategic Options of FTEF Construction

FTEF Construction divided its markets into four principal areas, namely:

- UK;
- Europe;
- US; and

- The rest of the world.

The operations of the company are concentrated in the UK, which is considered as its traditional business market. Growth in this market of their existing core business was not envisaged as the market was viewed as already being saturated. The last market category was considered the most prone to risk, and only entered into selectively on a project by project basis. Growth by acquisition, and expanding the business operations outside the UK were considered as their major options.

6.4 Information

Developments in the company's markets were considered very important to the continued success of FTEF Construction. Information on the market and the general economy formed the background to FTEF Construction's strategies. Such information was obtained from:

- officially published sources :- such as government departments (for example Department of Trade and Industry), industry specific research organisation (for example Joint Forecasting Committee of NEDO, Central Statistics Office of Her Majesty's Stationary Office), and Professional Institutions (for example Royal Institution of Chartered Surveyors, Chartered Institute of Building, and Institution of Civil Engineers);
- within the company; and
- other informal sources.

6.5 Time-Scale

FTEF Construction considered two years as the maximum realistic period for any long term planning.

6.6 Participants

Participants of the planning process comprise the Chief Executive, all the unit managers, and the Business Development Unit

6.7 The Planning Exercise

The exercise was achieved by requesting each business unit to propose their strategies along with resource requirements for the next two years. The separate unit strategies were

then rationalised at the Division's Strategic Planning Board. Failure to rationalise the strategies, results in the process being taken back to the unit level, with the new framework that emerges, to re-appraise their separate strategies.

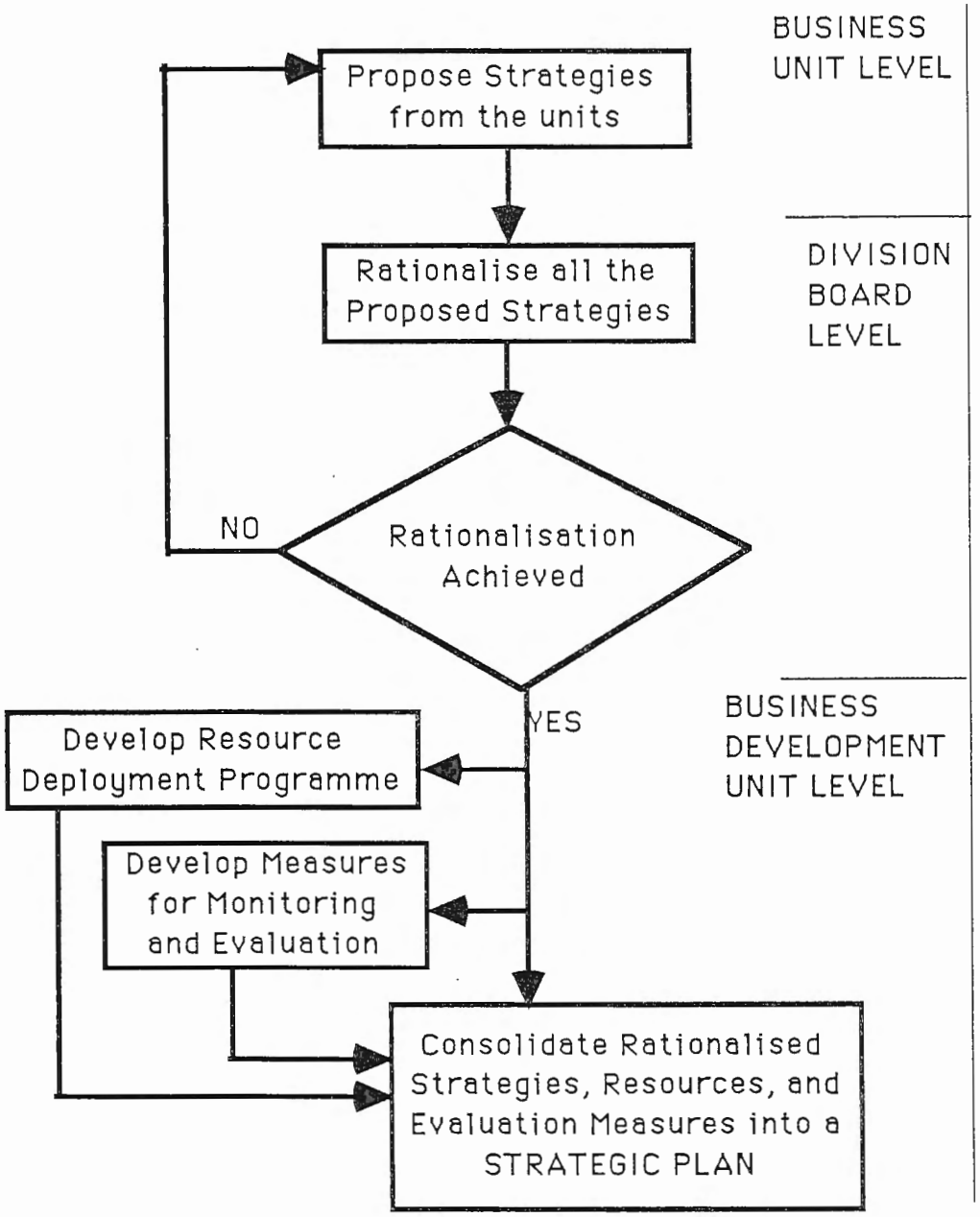

Figure 3 Process Diagram of Strategic Planning in FTEF Construction

In practice, the effective co-ordination of the Business Development Unit minimised the number of iterations of this stage of the exercise.
From the rationalised strategies, a resource requirement and a financial plan for each unit was prepared. The financial plan was prepared with a spreadsheet package, and returned only single values. This is simplistic considering the nature of their business environment. Several ratio measures were extracted for evaluation and control of the plan. The approved strategies of the various units, along with the resource and financial plan were consolidated into the Strategic Plan of the Division. The various activities involved in the exercise are illustrated in a process diagram in Figure 2.

6.8 Detail of the FTEF Construction Strategic Plan

The strategic planning exercise within FTEF Construction resulted in two basic outputs, namely, the Strategic Plan, and the Market Analysis Report. The Strategic Plan contained simple, and general statements of what was perceived as the future workload and resource requirements, by the various unit managers and where the business's operations should be directed. This was supported by the financial forecast prepared for each unit, and consolidated into the Division's Financial Plan. An outline of the report of the Strategic Plan for FTEF Construction is presented below.

- **Introduction** - this dealt with general matters relating to the Division, including the structure, activities.
- **Market Analysis** - this presented information on economic and industry trends pertinent to the company's business operations.
- **Strategic Issues** - this provided analysis of the historical performance of the Division, and served as a basis for future strategy.
- **Unit Strategies** - this presented the strategies of the various units within the Division on a unit by unit basis.
- **Financial Forecast**- this was based on the analysis of the following factors associated with the activities of the Division:
  - size of market;
  - market share;
  - mark-ups;
  - issues raised in the Market Analysis Report; and
  - any other issues that were deemed significant.

The output of the forecast was presented as accounting figures covering expected turnover, profitability and ratio measures.

- **Risk Analysis-** this section addressed other company issues with potential for profitability.

7. Comment

To ensure that the resulting plan is effective for implementation, the planning exercise of FTEF involved the intuition and creativity of its managers, and active participation by the Chief Executive, with the planning department supplying only the formal analyses and hard data that a strategic planning approach demands. Developing the financial plan did not involve any sensitivity analysis. Equally, analyses employing sophisticated and rigorous statistical and probabilistic methods were considered to be of little use to their business operations. Strategic Planning within FTEF follows the approach of synchronising what each unit plans to achieve, in a bottom-up exercise for a two year period.

8. Conclusion

The paper has presented the basic framework of strategic planning and described how it is being practised by one large construction contractor. FTEF Construction's approach to strategic planning relies on the direct involvement of management in the planning exercise, instead of entrusting the responsibility to a planning department. This helps to overcome the two major weaknesses associated with strategy formulation, namely:

- allowing the formal articulation of the entrepreneurial insights of its top management, a thing which is often expressed only informally; and
- avoiding the development of a programme by the planning department, which is considered by management as being unworkable and unrealistic.

Also the use of a comprehensive market analysis in formulating the plans, provides a scope for addressing the balance between focusing on the external and internal environments of the company. The FTEF Construction approach, however, suffers in respect of the time scale of the plan. A strategic plan should address a long term future, and a horizon of two

years does not sufficiently reflect this. Also, the use of analyses that returns optimistic and pessimistic forecasts in their financial plans, would better reflect the turbulent business environment of the industry. The involvement of middle level management in the process can widen the scope of management insight for strategy development.
Overall, the FTEF Construction approach to planning can be described as a systematic way for formulating strategic plans. It ensures that the strategy resulting from the process is shared company-wide. The approach of FTEF Construction can serve as a guide to construction companies considering implementing strategic planning to maintain their market position.

References

Ansoff, H.I., 1972. The concept of strategic management. *Journal of Business Policy*, **2**(4), pp. 2-8.

Ansoff, H.I., 1969. Toward a strategic theory of the firm. In: H.I. Ansoff, ed. *Business Strategy: Selected Readings* . England: Penguin, pp. 11-40.

Ansoff, I. and McDonnell, E., 1990. *Implanting Strategic Management.* Hemel Hempstead: Prentice Hall International Ltd.

Betts, M. and Ofori, G., 1992. Strategic planning for competitive advantage. *Construction Management and Economics*, **10**, pp. 511-532.

Chakravarthy, B.S. and Doz, Y., 1992. Strategy process research - focusing on corporate self-renewal. *Strategic Management Journal*, **13**, Special issue, summer, pp. 5-14.

Chapman, N.F.S. and Grandjean, C., 1991. *The Construction Industry and the European Community*. Oxford: BSP Professional Books.

Halal, W.E., 1984. Strategic management - the state-of-the-art and beyond. *Technological Forecasting and Social Change*, **25**, pp. 239-261.

Hillebrandt, P.M., 1987. The management of large UK contracting firms - theory and practice. In: P.R. Lansley and P.A. Harlow, eds. *Managing Construction World-wide: volume 2- Productivity and Human Factors in Construction. Proceedings of the 5th International Symposium on the organisation and management of construction.* London: CIB-W.65, 7-10 Sept. 1987, pp. 919-926.

Langford, D., Iyagba, R. and Komba, D. M., 1993. Prediction of solvency in construction companies. *Construction Management and Economics*, **11**, pp. 317-325.

Lansley, P.R., 1987. Corporate strategy and survival in the UK construction industry. *Construction Management and Economics*, **5**, pp. 141-155.

Laufer, A., Tucker, R.L., Shapira, A. and Shenhar, A.J., 1994. The multiplicity concept in construction project planning. *Construction Management and Economics*, **11**, pp. 53-65.

Lord, M.A., 1993. Implementing strategy through project management. *Long Range Planning*, **26**(1), pp. 76-85.

Mintzberg, H., 1989. *Mintzberg on Management - inside our strange world of organisations*. London: Free Press.

Mintzberg, H., 1994. The fall and rise of strategic planning. *Harvard Business Review*, January-February, pp. 107-114.

Porter, M.E., 1985. *Competitive Advantage: creating and sustaining superior performance.* London: Free Press.

Quinn, J.B., 1989. Managing strategic change. In: D. Asch and C. Bowman, eds. *Readings in Strategic Management* . London: Macmillan, pp. 20-36.

Rue, L.W. and Holland, P.G., 1989. *Strategic management - concepts and experiences.* New York: McGraw-Hill Inc., second edition.

Waalewijn, P. and Segaar, P., 1993. Strategic management - the key to profitability in small companies. *Long Range Planning*, **26**(2), pp. 24-30.

Winch, G., 1989. The construction firm and the construction project - a transaction cost approach. *Construction Management and Economics,* **7**, pp. 331-345.