

NATIONAL AND GLOBAL MULTI-SITE PROJECTS

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National and Global multiple site projects are emerging as variants which differ in certain aspects to those of traditional construction projects. Traditional single-site construction projects have been well researched. However, projects which typically involve numerous similar or identical structures being constructed nationally or globally, as a single project, on a fast-track roll-out programme have not been investigated in any significant depth. Examples of such projects include the mass construction of a retail network, the corporate re-imaging of newly acquired businesses or the upgrading of similar retail outlets on a national or global scale. The continued expansion of markets, for all forms of organisations, will necessitate the mass development of new facilities and renovation of existing. As these situations arise, progressive organisations will seek to exploit market opportunities by rapidly expanding their network of outlets to displace their competition. This has major implications for organisations tendering and undertaking these projects for 'global' clients.

This research is seeking to identify strategic success factors, at top managerial level, of organisations and alliances undertaking these projects. In addition, it will seek to distinguish the practices that most effectively attain these factors. Various methodologies for researching these features are discussed.

Keywords: Global, multi-site, strategy, success factors

GLOBAL SETTING

Organisations, from all sectors of the world's economies, are seeing an increase in their potential markets. Markets are no longer seen as regional or national - but global. This trend is not new, however it appears that with time the inclination for further removal of barriers to global markets will increase. The continued expansion of markets, for all forms of organisations, will necessitate the mass development of new facilities. As these situations arise, progressive organisations will seek to exploit market opportunities by rapidly expanding their network of outlets or facilities to gain advantage over or displace their competitors. Likewise, construction and project management organisations will need to follow the global expansion of their clients, in order that competitors do not capture foreign markets as well as erode client positions at home (Schirmer 1996). This has major implications for both construction companies tendering and undertaking these projects but also for 'global' clients formulating and implementing such projects.

The European Union is the most recent and possibly most significant of these trends in recent history. However, the removal of economic and political barriers between the West and the former Soviet Bloc and Communist Far East has further expanded the

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global market. The single European market has spurred the leading retail competitors to make moves in order to obtain a leading market share on the continent (Dupuis and Prime 1996).

Treaties such as: the General Agreement on Trade and Tariffs (GATT) and the General Agreement on Trade and Services (GATS) are indicators of the strong globalisation of markets. Political developments in Asia and Africa have also indicated that the potential for market expansion in these regions is increasing. For developed countries the intense competition and saturation of domestic markets makes the prospect of expanding into potentially massive yet underexploited markets very attractive.

These trends will have direct impact on the construction industry in these regions. Spencer Chapman and Grandjean (1991) stated that 40% of the UK's output in the construction industry was on repair and maintenance, while Spain, a developing country, was busy installing new infrastructure and growing strongly. Bauml (1997) offers a similar scenario for the construction industry involved in power generation and petro-chemical segments, where North America and Western Europe is limited primarily to repair and retrofit, while growth is foreseen in the Asian markets which should convert to sustainable business growth to global engineering/construction companies for some years.

The globalisation trend, particularly upon retail networks, has given rise to a variant on the traditional construction project, that of the multi-site construction project.

WHAT ARE MULTI-SITE PROJECTS?

Traditional construction projects typically involve a relatively independent unique structure constructed on a single site. Construction organisations generally manage a number of these simultaneously on a largely independent basis. National and global multi-site projects however, are characterised by large numbers (between 50 and 1000+) of similar sub-projects being undertaken regionally, nationally or globally as part of a single medium to long-term project. Fast site turnover, rigid specifications, geographical disparity, cultural diversity and variable third party influences, are some further characteristics of these projects.

Examples of such projects include the mass construction of a retail network, the corporate re-imaging of newly acquired businesses or the upgrading of similar retail outlets on a national or global scale.

FEATURES OF THESE PROJECTS

Some distinguishing features are discussed below to provide an overview of the diversity of factors likely to influence the ultimate success of such projects.

Independent or unitary

One of the main problems of multi-site projects is that they exist in a condition that vacillates between independence and central control. They share goals and focus yet have individual problems. They all draw some resources from a central source and obtain most planning details from a central point. Payne (1995) encountered a similar problem in multiple simultaneous projects (totally independent projects managed by one organisation).

Culture in global contracting

Yates (1994) found that a major concern of contractors in international construction was a need to understand and appreciate the ethics and cultures of other countries, and adopt appropriate new methods. Following the findings of Yates (1994) and numerous others, Hall and Jagger (1997) commenced a study of whether construction organisations working in the global arena should take serious account of the differences between cultures. The typical multi-site project spans several regions or nations. This presents challenges to working effectively across international boundaries whilst still managing a single project in a standardised manner.

Different construction models

Closely linked with the issue of cultural diversity are the different construction models, which dominate the different regions of the world. For example, Spencer Chapman and Grandjean (1991) identified four main models, which described similarities between member states of the EC in terms of general characteristics and procurement methods. The four models, namely the UK model, Northern model, French model and Mediterranean models, differ in some fundamental aspects from the manner in which the industries function (names of models as modified by Edum-Fotwe 1995). With the Mediterranean model for instance, a network of personal and corporate relations that do not permit intrusion by outsiders governs the private sector. Another example is given in the French Model where viewed from the British perspective, the combination of politics, regulation and business appears corrupt. These factors all add to the complexity of planning and managing such a project.

That there are major differences between the member states of the EC is obvious from this modelling exercise. However this can be extrapolated to infer that the diversity is possibly more profound when one considers Asia, North and South America, Africa and Eastern Europe. Within these territories there will possibly be strong remnants of some of the models presented above having endured from the days of colonisation. Particularly in the former British and French colonies where many of these models are to be found, some in archetype forms having undergone minimal change when compared with modern models.

Specifications, standards and third party influences

Another feature, particularly in trans-national projects, is that of third party influence. This category includes all project contributors not directly contracted to the sponsor or main contractors; examples are local authorities, government institutions and retail outlet dealers. Standards, specifications and general local/governmental authority requirements differ vastly between states. This is particularly apparent when a project involves constructing identical facilities in different regions. The variation for approvals can range from months to years in certain Mediterranean countries (Blismas 1998). The inconsistency of standards and specifications, as well as variability in approval times results in planning and programming difficulties, particularly when global procurement programmes are employed.

In addition, each facility usually has a further stakeholder, such as a dealer who further imposes restrictions on the sub-project. Each sub-project, regardless of similarity to any other, must nevertheless be negotiated individually with the third party.

Company Knowledge and Learning across cultures

Another interesting aspect that warrants further study, not covered in this research in any depth, is that of company knowledge and learning across cultures. Knowledge retention and definition within construction organisations and the acquisition of knowledge between branches of the same organisation, undertaking similar work, can be profound. Due to the fast-track nature of multi-site projects the ability to learn and monitor progress is greater. The effects of implementing knowledge gained from previous experiences will be more apparent than in traditional building projects.

High cultural diversity will also add impetus to the reasons for harvesting, storing and disseminating knowledge. Teams from different parts of the world will undertake the same task in a different manner, and quite obviously some will be more efficient than others. How then can this better method be recorded accurately, and effectively used across the organisation in order to afford benefits to all the regions?

Procurement

The standard specifications and large numbers of sites encountered with these projects necessitates a centrally developed procurement strategy in order to ensure all sites are delivered timeously and to avoid any conflict between sites. In addition, the geographic and national boundaries across which materials and components are manufactured and moved accentuate the need for a sound strategy.

Strategic Alliancing/partnering

Yates' (1994) workshop surveys generated several issues from US engineering and construction organisations, which pointed strongly to the notion that in order for US firms to remain globally competitive, partnering with foreign organisations would be necessary.

In this type of project a close working relationship between sponsor and contractor/consultant is essential due to the volatility of the programme and the impact that third parties can inflict. The vast geographical regions also strongly suggest that close links between sponsor and contractor are required for project success.

Management Information Systems

Project scale and geographic diversity pose problems of effective communication of data and information between central and regional divisions of project teams.

Scheduling and logistics

Control over elements such as material supplies, labour, working conditions is highly variable therefore it is not possible to treat these projects as purely repetitive projects for programming purposes. The problems of geographical disparity, variance in scope between different sites although the same type of work, cultural variations and dispersed managerial points make it difficult to find a satisfactory programming tool for these projects. The techniques available were reviewed and found to be insufficient in fully addressing all the peculiarities of these projects. Although this research will not address issues at the operational level, a brief overview of the available tools was conducted. One particular model developed by Skibniewski and Molinski (1989) for multifacility projects contained elements that could be developed for application to these types of projects.

JUSTIFICATION FOR THE RESEARCH

Mainstream construction research is heavily focused on single site projects. In light of global developments, the unifying global community has produced a retail culture that is globally focussed. Brands, corporate image and identity are universal. Advertising, service, products and visual identity are increasingly uniform. The need for sponsor organisations to expand, maintain and develop their facilities at an ever-increasing rate suggests these projects will become increasingly frequent. Evidence of increased activity in this area is given by the recent corporate re-imaging and expansion projects undertaken by most major fuel retail organisations. This type of project is encountered whenever large retail groups wish to execute some form of change or expansion to their entire network, ordinarily in excess of 1000 sites. Further examples not in the retail sector include the erection of mobile phone receiver masts across massive regions such as sub-tropical southern Africa.

Literature searched in the area of national and global multi-site projects, as described above, yielded no investigation of any significant depth or relevance. Payne (1995) stated that the vast majority of published knowledge concerned the management of large unitary projects. Eskerod (1996) concurs with Payne in concluding that most of the existing literature is about co-ordinating, scheduling and managing single projects.

The points discussed above and the need to better understand these projects are the main motives for this research.

FOCUS OF RESEARCH

Effective strategies can only be ascertained after implementation, however the various factors which shape such strategy can be determined by examining executive perceptions on what constitutes their long-term business drivers (Edum-Fotwe *et al* 1995). This research is seeking to identify strategic success factors, at top managerial level, of organisations and alliances undertaking these projects. In addition, it will seek to distinguish the practices that most effectively attain these factors.

Aim

To identify strategic factors and practices for multi-site projects that significantly contribute to successful project delivery to the project sponsor. The resulting practices and factors will enable organisations and alliances to formulate strategies leading to successful delivery of multi-site projects.

Objectives

The aim is to be achieved through the following objectives:

- Establishment of Critical Success Objectives (CSO) of both project sponsors and contractors.
- Determine how these Critical Success Objectives are achieved - the Enablers.
- Determine what is required to achieve these CSO - the Drivers.
- Synthesise CSO, enablers and drivers into 'Successful Practice'.

METHODOLOGIES

The main restriction immediately imposed upon the research is that of sample size. The frequency of multi-site projects, relative to traditional construction projects, is

low. This situation precludes any meaningful industry-wide quantitative analyses. Quantitative approaches by their very nature rely on the frequency of a phenomenon under observation as an indication of importance (Edum-Fotwe 1995). The popular methodology for establishing Critical Success Factors and Best Practice through questionnaires is therefore questionable in this context. For this reason, a case study approach was adopted as the main research strategy. However in an endeavour to minimise the disadvantages of any one data capture and analysis approach, a multiple approach was sought. The employment of triangulated studies have the two-fold effect of reducing the disadvantages of any single technique, while simultaneously gaining the advantages of each, or of the combination (Fellows and Liu 1997). To this end the large volumes of qualitative data accumulated will be analysed both quantitatively and qualitatively. Triangulation is not limited to supporting qualitative data with quantitative, but equally valid within a purely qualitative or quantitative approach.

Case Study as a research strategy is well suited to the research question being addressed. Case studies are best suited to answering “how” and “why” questions behind decisions (Yin 1994). This strategy should not be confused with qualitative evidence, instead it can be based on any mix of both quantitative and qualitative evidence (Yin 1994). It is this triangulated mix of data collection that will form the principal methodology of the research. The research consists of three cases of multi-site projects. Each case has approached multi-site projects in a different manner. Although a case study approach can consist of one case and yet still be valid, the three case approach allows comparisons of strategy to be drawn and incorporated into the study.

The initial segment of the research focuses on obtaining an insight into the objectives and expectations of project sponsors embarking on multi-site projects. Why sponsors implement such a project, how they plan to achieve it and what ultimately constitutes successful fulfilment of its objectives, will be sought.

The following data gathering techniques are utilised within each case:

- Review of relevant literature.
- Semi-structured interviews with sponsor and contractor/consultant executives and senior personnel.
- Evaluation of current project documentation, which records some of the indicators of success.
- Evaluation of historical data on a completed project; particularly minutes, correspondence, project costs and schedules passed between contractor/consultant and sponsor corresponding sponsor success rating with recorded project data.

Questionnaires to personnel of these organisations who function at the operational levels, ensuring the product is physically delivered, may be undertaken.

Currently, the research is in the formative stages concentrating mainly on previous work completed in similar areas. Various methods of specific data collection and analysis within the methods offered above are being studied for further clarification. Initial data collection is planned for late 1998.

CONCLUSION

This paper has served to introduce multi-site projects, the context in which they operate and some of the features characterising them. The aim of establishing the

Critical Success Objectives, Enablers and Drivers was outlined. A case study approach is proposed as the main method for achieving this aim.

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