



Strategies for managing environmental issues in construction organizations

Strategies for environmental issues

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Abstract

Purpose – The purpose of this research is to study the strategies used by construction organizations in dealing with environmental issues. It identifies the factors which govern a firm's performance in respect of environmental management and explores the management strategies which are used to generate good environmental performance. The paper also seeks to consider the techniques adopted in pursuit of these strategies and to compare their effectiveness.

Design/methodology/approach – The research reviews the strategic management and environmental management and then proceeds to a case study investigation of six construction organizations. The case studies seek to uncover the variables that influence strategies for managing environmental issues. A cross-case analysis provides an indication of the characteristics of those companies that demonstrate a higher environmental concern.

Findings – As environmental strategies are developed, the competencies in managing environmental issues will grow and lead to improved business performance. The growth in an organization's environmental competence provides the opportunity for increased competitive advantage.

Originality/value – A model is developed which illustrates the relationship between environmental management, business strategy and competitive advantage.

Keywords Environmental management, Strategic management, Competitive advantage, Construction industry, United Kingdom

Paper type Research paper

Introduction

The focus of the research is a study of the strategies used by construction organizations in dealing with environmental issues. Increasing public concern for the environment is influencing the way the business enterprise functions. The construction industry is facing new environmental legislation and is expected to demonstrate compliance with rising standards of stewardship. Construction organizations can resist, or can embrace the changes as a business opportunity. Previous research has indicated that an environmental management system is an increasingly important tool, which to date has had little impact in the UK construction industry (Fergusson, 1996). However, that research also indicates an increasing demand for improved environmental performance and a ground swell of interest, in environmental management systems. The model illustrated in Figure 1 describes the role and future impact, of environmental management systems for construction organizations.

There is some indication that construction companies are considering environmental issues at board level. This research identifies the environmental



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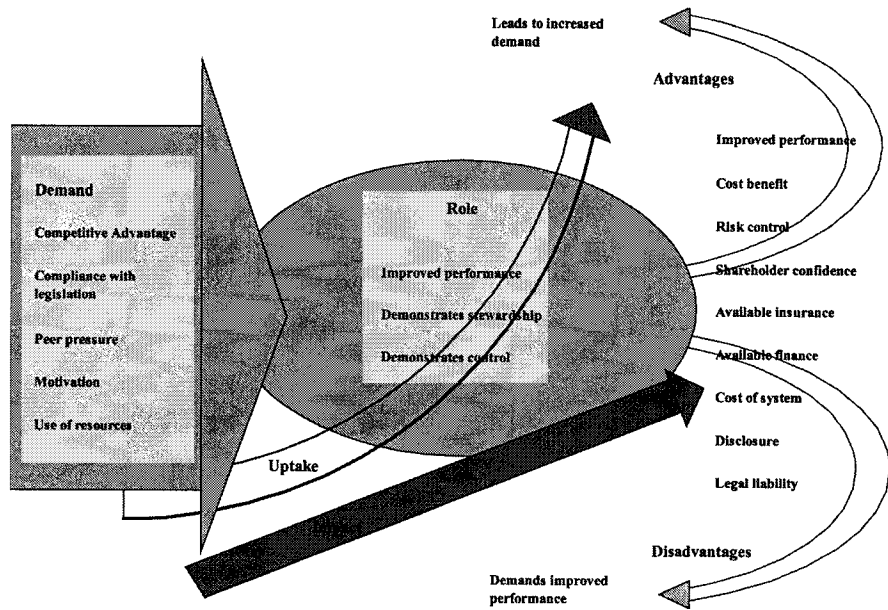


Figure 1.
Figure 1 Model of the role and impact of environmental management systems

Source: Fergusson (1996)

issues, which impact on the UK construction industry and investigates the management strategies used to deal with these issues. The research also considers the various techniques adopted in pursuit of these strategies and compares these strategies and techniques.

Strategic management

To be able to reduce, to a minimum, the impact of the organization's activities on the environment, construction managers must develop management strategies, which allow the matching of the activities of the organization, to the environment in which it operates (Johnson and Scholes, 1993). A significant volume of literature is available on both strategic and corporate management, (Ansoff, 1987; Argenti, 1980; Chaffee, 1985; Chandler, 1997; Hofer, 1977; Mintzberg and Waters, 1985; Porter, 1980; Quinn, 1980; Steiner, 1979). Corporate environmental management is the subject of a smaller collection of published work, (Doggart, 1992; Hart, 1997; Howes *et al.*, 1997; Margretta, 1997; Peattie, 1995; Welford, 1996; Wheatley, 1993). Relatively little has been written on environmental management strategies in construction.

The extensive research on strategic management within corporations, from the early work of Keynes (1931), to contemporary writers such as Porter (1996), has produced a diverse theoretical knowledge base. Writers on strategic management have each proposed a unique, or analogous, approach to corporate strategic management. However, these theories may be linked by common themes. A number of the writers have derived broad categories from the generic models of strategic management theory. For example, Chaffee (1985) found that the models can be categorized as linear,

adaptive or interpretive. This categorization may be useful in the study of strategies for the management of environmental issues, in construction. Thomas and McGee(1986) note that Andrews and Chandler's definitions refer to strategy in terms of intentions, "intended strategy", whereas Mintzberg and Waters (1985) argue that strategy in general and "realized strategy", be defined as "a pattern in a stream of decisions (actions)".

"Corporate strategy is a matter of deciding which business the corporation as a whole should be in and determining the overall scope and mission of the entire organization", (Bowman and Asch, 1996). Argenti (1968) defines the purpose of corporate planning as "to determine the goals of a company and to generate plans designed to achieve these". But strategy is not restricted to decision making by the firms' owners. Strategy within organizations is formulated at two levels, corporate and business (or division). Corporate strategy is concerned with decisions about the type of business to be in, whereas business strategy is concerned with competing within the chosen business, (Chaffee, 1985). Ansoff (1987) notes that two related types of strategy categorize strategic development within the firm. These are "portfolio strategy", which is concerned with the type of business to be in and "competitive strategy", which deals with development and survival of the firm within its chosen field.

Kempner (1971) provides an additional distinction, when he divides decision making into three levels – policy, strategic and tactical; "policy decisions are wider than strategic which in turn are wider than tactical decisions". He is of the view that strategic decisions must do more than simply overcoming the difficulties that confront the organization. Overcoming obstacles can prevent profits from falling, but will not increase them. Strategic decisions must facilitate the exploitation of new opportunities, as this will lead to increased profits. Kempner makes the further point that advantage may be gained, when corporate strategy directs the firm's resources, such that the combined return is greater than the sum of its parts. This is known as the $2 + 2 = 5$ effect or synergy.

The success of strategic management decisions may be measured in financial terms. However, sustained competitive advantage is not derived from short-term profit alone. Sustained competitive advantage requires the organization to recognize, that its stakeholders have other values. Environmental issues play an increasing part in the values imposed by shareholders, clients, the public and employees.

Research indicates that strategic management in construction allows for adaptability and sufficient flexibility, to take advantage of opportunities that become available (Walker, 1996). Competitive strategies, which focus on core business and internal expansion, typify U.K. construction organizations. However, competitive edge can be gained, when an organization takes cognizance of all the stakeholders of the firm and pays attention to the external influences that may affect the firms' activities (Moodley and Preece, 1996).

Environmental issues

Concern for the environment will influence those who are involved with the activities of the construction industry. Concern for the environment ultimately becomes a political issue and legislation follows. However, environmental issues may impact construction in other ways. Their importance may be considered in terms of business risk. Legislation in the environmental area may place major burdens on industry and

business. The high compensation payments, associated with accidents and environmental damage, may be insured against, but this has a high financial burden in the form of insurance premiums. This is an incentive to companies and developers to take account of good environmental practices, particularly where the cost of preventing and eliminating nuisances is to be borne by the polluter, (McEldowney and McEldowney, 1996). People determine whether buildings are produced, where they are located, what they look like and how they are constructed. Newcombe *et al.* (1990) point out that housing developers may own land-banks with planning permission. However, they remain at considerable financial risk if the demand for housing in the area of the site restricts profitability. Action needs to be taken to mitigate the potentially damaging effect of these risks.

Ofori and Chan (1999) argue that contractual agreements, between clients and contractors on environmental issues, could help to achieve sustainable construction. The role of the client in "greening" construction is vital. The benefits from implementation and certification of environmental management systems based on BSEN ISO 14001 can be summarized as: protection of the environment; reduced operating costs; increased access to markets; demonstrated compliance with regulations; improved environmental performance; improved customer trust and satisfaction; enhanced corporate image and credibility; employee involvement and education; and potential impact on world trade to allow competition on an equal basis. Ofori and Chan's (1999) research results showed, that contractors rated highly the economic (costs and benefits) and commercial (such as client support) aspects, as well as practical constraints such as adequacy of personnel.

The literature indicates that although the true environmental impact of the construction industry has not been accurately quantified, measures aimed at environmental protection are being implemented. Legislative and fiscal measures, designed to reduce environmental degradation, place an increasing responsibility on construction organizations. More importantly, public demand for improved environmental performance influences the values imposed by stakeholders in the construction firm. Construction professionals must be aware of the impact their daily activities have on the health of the natural world. Many opportunities are available to not only reduce negative environmental impact but also to increase competitive advantage. However, continued improvement in environmental performance becomes increasingly difficult and costly. The risk to the construction organization, in failing in its environmental duty, is considerable. Direct and indirect costs associated with energy inefficiencies, waste, pollution and negative publicity will seriously affect competitive advantage.

So, as part of a drive to improve reputation and acquire internal efficiencies, strategic management of environmental issues will become part of the firms long term strategic planning. It is recognized that not all strategic planning is driven by achieving competitive advantage but that this aspect will be a likely thrust of the strategic planning process. To achieve competitive advantage strategic decisions must match the organization's capabilities, with opportunities and threats in the business environment, (Newcombe *et al.*, 1990). However, it is only by relating core business objectives to its environmental aims, can an organization claim to be taking its environmental obligations seriously, (Fryer, 1985). Roome (1992) has proposed five environmental strategies namely, non-compliance, compliance, compliance-plus,

commercial excellence and leading edge. The strategy adopted depends on the firm's perceived position in society and is reflected in its corporate identity. The potential exists for firms to provide added value for clients, by offering skills and a reputation for good environmental stewardship. Proactive business policies, with long term environmental objectives, will provide improved "environmental efficiency", (Welford, 1996).

Methodology – research methods and constraints

To provide a framework for the collection and testing of primary data, three propositions are made:

- (1) UK construction companies do not include environmental issues within their strategic management;
- (2) improved environmental performance is increasingly included within the strategic management plans of UK construction organizations; and
- (3) UK construction organizations manage their environmental responsibility at strategic level to gain competitive advantage.

These three statements are proposed in an effort to conceptualize the strategic management of environmental issues, in the contemporary UK construction organization. They are tested by using grounded theory to investigate strategic management of environmental issues. Grounded theory was selected since it enables the research to identify patterns and relationships, which lead to theory building (Fellows and Liu, 1997). Such theory enables a description of strategic management of environmental issues in UK construction organizations to be provided. It also allows the development of a theory indicating the relationship between that strategic management and competitive advantage. "...The grounded approach is flexible and is good at providing both explanations and new insights", Easterby-Smith *et al.* (1991).

Case studies are considered to be the research method most suited to the investigation and analysis of the complex issues involved. Yin(1994) is of the view that case studies can be exploratory, descriptive or explanatory. They can be single or multiple case studies. The number of case studies is related to the number of environmental variables that influence strategic management, in a variety of different construction organizations. These variables include the sphere of operation, the size/turnover, the ownership and the length of time in existence (age of business). Case study research can be based on single or multiple case designs, (Yin, 1994). Multiple case studies are used to allow an investigation of the different approaches used, by organizations of differing size and field of operation and to determine the variables that influence strategic decisions. The case study method has three distinct stages, design, collection and analysis. The final stage is an analysis of the individual case studies, allowing "cross-case" reports to be written, (Yin, 1994). Qualitative analysis software is used in the individual and cross case analysis.

Individual case study analyses

The analysis of each case study allows the identification of the true variables that have influenced strategic decisions within the organization. The analysis gives some indication of the extent, to which the strategies have been influenced by the variables. The analysis also identifies themes that are important to the strategic management of

environmental issues in construction. Themes are aspects of an organization dynamic that support the management of environmental issues and facilitate improved environmental performance. They can be described as coping strategies allowing the company to manage, or exploit, environmental issues in the construction industry.

In the analysis, the individual case study data are coded to a set of nodes within the software, which represent the identified independent, intervening or dependent variables and themes for each case study. Coding requires qualitative analysis of the data, to identify the evidence of the influence of a variable on the company and evidence of the coping strategies (themes), which are used to manage environmental issues. The evidence collected at a particular node can vary significantly, depending on the importance of the variable or theme to each company. The evidence collected at a particular node supports the variable or theme and a weighting is allocated to each. The individual analyses identify the true variables and explain the importance of each variable, to the development of environmental management in each of the case study organizations.

Cross-case analysis of the variables and themes

The cross case analysis of the variables provides an indication, of the extent to which each variable featured, in the development of environmental management strategy and systems within the case study organizations. Similarly each theme is examined in turn and a score is calculated, based on the weighting allocated in the individual case study analysis. The scores are taken forward in the cross case analysis to provide an indication of the importance of the emerging themes used in the strategic environmental management of the 6 case study companies.

Summary of the individual case study data

Each case study is independently reported prior to analysis. The reports are in a format that is common to all the case studies and designed to allow independent analysis by others interested in this research. The individual case study reports for six organizations indicate that environmental management systems, accredited to BS EN ISO 14001, are a well-established part of the management of the large and medium sized construction organizations. Environmental management is integrated into the management process at strategic and at project level.

Company 1 has operated as a Strategic Business Unit of a much larger organization, since spring 2001 and has a well-established management system. The system is approved and certified to the Environmental and Quality Management Standards BSEN ISO 9002 and BSEN ISO 14001. Strategic decisions are made annually, in the Management Review and quarterly, in Senior Management Meetings. Environmental responsibilities are not managed separately, but are included within the operational decision-making at senior management and at project management level. The management of environmental issues is governed, by the Environmental Policy Statement and is controlled through target setting and non-conformance based reporting.

Company 2 was bought over in August 2000 and is now part of a restructured group of companies. They have an environmental management system that has been certified to meet the requirements of ISO 14001. Initial registration was in July 1999 however, the organization has been involved in environmental issues for a number of years prior

to certification. The Group management system is now approved and certified to the Environmental and Quality Management Standards BSEN ISO 9002 and BSEN ISO 14001. The contents of the Manual are also compatible with Group Policy. An environmental report is published annually and the environmental achievements, of the organization, are set out on the web site.

In January 2003, Company 3's operations were structured into three businesses. Where not already obtained the business units will continue to progress towards achieving BSEN ISO 14001 and OHSAS 18001 certification. This case study reflects the approach to environmental issues, of a major building and civil engineering contractor, with a well-established management system.

Company 4 is one of the world's leading property companies. The Group operates in 43 countries on six continents and they provide property-related services to clients across all major markets and sectors. The Code of Conduct sets out specific standards of conduct that requires awareness of conflicts between the personal interests of staff and those of its customers. It requires action to be taken to remove or manage the conflict. Company 4 are committed to fostering environmental sustainability in their activities and developments. They have an environmental management system, which is an integral part of the business management system and is certified by the British Standards Institution to BSEN ISO 14001 standards. With in-house environmental specialists staff are offered a range of environmental training. They are investing in systems that will ensure sustained knowledge-share, collaboration and client focus.

Company 5 are one of the largest construction organizations in the UK, providing a wide range of services from road, rail and building construction through to facilities management. The key elements of the environmental policy are to demonstrate that sustainability is for the business and that it should be integrated within the company's strategy and values. The policy was developed so that it reflected not only impacts, but also current capabilities and future aspirations. Sustainability targets are based on the policy and are linked to the Group's business strategy and objectives. In addition to corporate targets the business groups have individual targets, which are linked to their environmental management systems.

To ensure that all staff are aware of their commitments, training is provided throughout the group. Suppliers and subcontractors are required to comply with the requirements of BSEN ISO 9000 and BSEN ISO 14001 schemes and this is a key feature of the company's management of the supply and construction process. In the case of one major project, Company 5 saw sustainability as an opportunity and for them it became a unique selling proposition.

Company 6 is based in Scotland and is involved in building quality homes. The organization has no formal environmental system. There had been little interest in environmental performance or energy management from the home-buying customers. The need for environmental management has arisen from a need for compliance with legislation in terms of waste and landfill. Planning and community issues, local to development sites, are also an important influence. The company has systems in place to control risks, some of which are related to the environment. The management of quality is also a reason to minimize environmental impact to enhance the product. The proposed environmental management system will involve a process of development starting with an environmental policy that will allow the setting of objectives and

targets. It is likely that the advice of an accreditation body will be procured to develop a system based on BSEN ISO 14001.

The variables and themes that are important to the management of environmental responsibilities in construction

Variables

As explained above, in the cross case analysis each variable is examined in turn and a score is calculated, based on the weighting allocated in the individual case study analysis. The weighting for each individual variable is brought together, with the weightings from the 5 other case studies. The cumulative figure is then given a cross case score, to indicate the significance of each variable to environmental strategic decisions in construction. Where a variable has featured extensively in the data from the case study companies, then it has a high score. This provides an indication, of the variables that are significant to the development of the environmental management strategy and systems, within these organizations. Figure 2 provides a summary of the variable scores resulting from the cross case analysis.

The highest scoring variable is the Style of Management, with 29 out of a possible maximum of 30. An organization that has a style of management, which is receptive to ideas and proposals from its staff and which is willing to promote its environmental and social agenda, will tend to have ambitious environmental strategies. Where employees are able to influence the management of their duties, they are more likely to have a sense of ownership, of the environmental impact and reputation of their company.

There are four other variables with scores above 25, these are; Strategic Management Procedures and Time-Scale, Environmental Impact, Size of Company and Environmental Reputation. The strategic management procedures and timescale will affect the way in which environmental strategies are formulated and the speed at which they are developed and integrated, within the management procedures. Monthly management reports and 6 monthly management reviews are commonly used by the case study organizations. In one or two cases, the procedures are flexible enough to allow more frequent reviews and meetings could be set to deal with specific environmental issues. The size of an organization will influence decisions, on the approach it takes to environmental management. Large organizations are more likely to be in a position to set up, resource and effectively run, environmental protection programmes. However, the large organizations will require sophisticated systems, which are capable of ensuring that each part of the business is able to contribute, to the strategic environmental objectives. Flexibility in the systems provided to achieve the environmental objectives, will be required.

The Environmental Impact of an Organization is a variable that can have an influence on strategic decisions at two levels. Where an impact leads to prosecution, or other adverse public reaction, then the strategic response will be aimed at prevention of recurrence and limitation of cost. Where the organization has strategies and procedures that prevent such prosecution, or other adverse public reaction, then the continued reduction of environmental impact can be included, as an integral part of a well thought out strategy. Where environmental strategy is ambitious and continual environmental improvement is a part of the long-term objectives, then the reduction in environmental impact is likely to contribute in a positive way, to the environmental

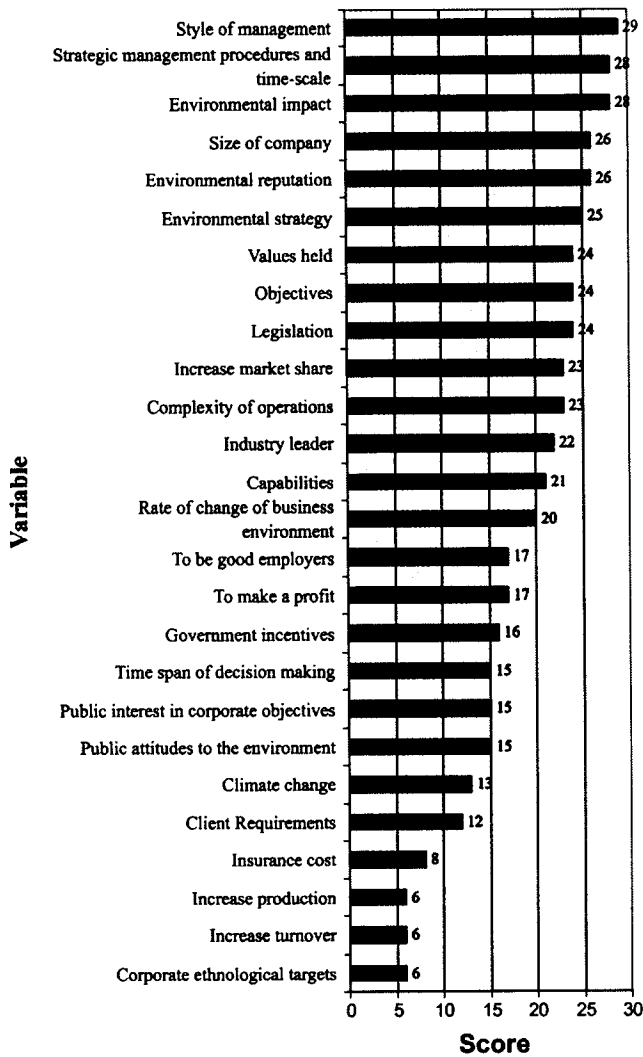


Figure 2.
Summary of variable scores from the cross case analysis

reputation of the organization. To some extent, the environmental reputation of an organization depends on the environmental impact of its day-to-day operations. Environmental reputation may however be improved, through promotion of other sustainable development successes, such as involvement in community projects and wildlife relocation initiatives. There is a range of developments, in the general and specific construction business environment, which have resulted in actions being taken by the case study companies. The case study data indicates the evolution of general strategic approaches that have been developed to cope with the variables. Environmental management has become necessary for construction firms.



Themes

The analysis of the data has provided evidence that seven themes represent the characteristics adopted by the case study organizations, in their strategic approach to the management of environmental issues. Each theme is examined in turn and a score is calculated, based on the weighting allocated in the individual case study analysis. The scores are taken forward in the cross case analysis to provide an indication of the importance of the emerging themes used in the strategic environmental management of the six case study companies. The resulting matrix provides a measure from the research of the emerging themes, or strategic approaches, across the construction sector. The second part of the cross case analysis, compares each of the companies in relation to each of the themes. This provides an indication, of the characteristics of the companies that demonstrate a higher environmental concern.

The total comparison weightings, as set out in Table I, give an indication of the position of each company, in terms of its development of environmental strategies and systems.

Five of the six case study companies already have an environmental policy document. Their environmental management system is well established and there is evidence, of integration within the overall company strategies and objectives and some integration with other management systems. All five companies monitor their performance and are involved in research, to improve their measurement and reporting methods. The sixth company is actively formulating its environmental strategy and is already involved in environmental initiatives, including training, marketing and sharing environmental skills.

The data collected from case study 5, demonstrates that they have well-established environmental policies and procedures and are actively involved in initiatives related to all of the themes. They have the most developed environmental strategies and are well ahead of the others, in relation to the extent to which environmental management is a part of their business. The data collected from case study 6 on the other hand, demonstrates that they are involved in environmental management to some extent, but do not have policies and procedures fully established.

The data collected from the case studies two, three and four demonstrates that they have well-established environmental policies and procedures and are involved in initiatives related to the majority of the themes. Case study Companies 3 and 4 have similar total weightings but are more than 10 points behind case study Company 5. Case study Company 2 is slightly behind Case study Companies 3 and 4. This is in the main due to the extent of integration of environmental management with other systems and to some extent related to the amount of monitoring progress against targets.

The data collected from case study Company 1 demonstrates that they have well-established environmental policies and procedures, but tend to internalize their environmental management, as a management tool to support their business. They have a low total weighting overall and this can be attributed to the limited status that environmental management has, in comparison to other business objectives. Case study Company 6 has the lowest total comparison weighting. This is largely due to the lack of an environmental policy and formalized environmental management system.

There is evidence, that the case study companies are beginning to recognize that competitive advantage can be achieved, by correct management of environmental responsibilities. They have for some time, paid attention to compliance with legislation

Company	Environmental management			Monitoring progress against targets		Extent of training/competence	Marketing of environmental performance	Sharing environmental skills	Total comparison weighting	Position
	policy	status	integration	Environmental management	progress					
Company 1	2	2	2	3	0	0	0	0	9	5
Company 2	4	8	4	3	3	5	1	1	28	4
Company 3	4	8	4	7	3	5	1	1	32	2
Company 4	4	2	8	3	3	1	9	9	30	3
Company 5	9	8	8	7	3	1	9	9	45	1
Company 6	0	0	0	0	1	1	1	1	3	6

Table I.
Summary of the
comparison of companies
in relation to each theme

and are aware of the adverse effects that non-compliance can have on their image. They are all using their environmental performance record, to support prequalification submissions to clients in promoting their development capabilities. The four higher scoring companies are also using their environmental record, to promote their image to a wider audience, including shareholders, the financial community and the public. Competitive advantage cannot be measured in terms of profit alone. Sustained competitive advantage requires strategies that consider stakeholder values other than short-term profit. The top three companies, in terms of demonstrating higher environmental concern, enjoy a strong market position with a high turnover.

Summary of the findings and a postulation of a conceptual model

As environmental strategies are developed, the competencies in managing environmental issues will grow and lead to improved business performance. However, the growth in the organization's environmental competence provides the opportunity, for increased competitive advantage. This competitive advantage is not verified in the profit to turnover ratio; however the companies that demonstrate higher environmental concern do command a strong market position. They have progressed well beyond merely complying with legislation and the requirements of clients. They are using their environmental competencies to maximize tendering opportunities. Two of the companies are using their environmental strategy to provide business differentiation and they are among the industry leaders in terms of their market position. They continue to seek ways in which they can increase their competitive advantage, through involvement in cross industry improvement initiatives and research into key environmental performance indicators. This relationship between developing strategies, performance improvement and competitive advantage is illustrated in Figure 3.

In Figure 3 the shape of the curves will vary depending on the size of the company, the complexity of the company's operations and on the rate of change that exists in the business environment.

The research proposition revisited

The literature provides little evidence to suggest that construction companies use any one strategic management technique predominantly, or that the environment forms a part of their strategic planning. The literature indicates that management must take both legislation and social aspects of environmental management into account. Strategic management needs to consider the attitudes, which all stakeholders in the firm may have toward environmental issues. Brooks and Weatherston, (2000) define stakeholders as "groups of individuals who have a stake in or an expectation of the organization's performance." A sustained approach is necessary and this may require sustainable procedures and technologies. This research provides evidence that these concepts typify the strategic approach to environmental management being pursued by modern construction organizations.

In an effort to conceptualize the strategic management of environmental issues, in the contemporary UK construction organization and to provide a framework for the collection and testing of primary data, three propositions were developed from the literature review. Some conclusions, derived from the research, can be made on the validity of each of the statements.

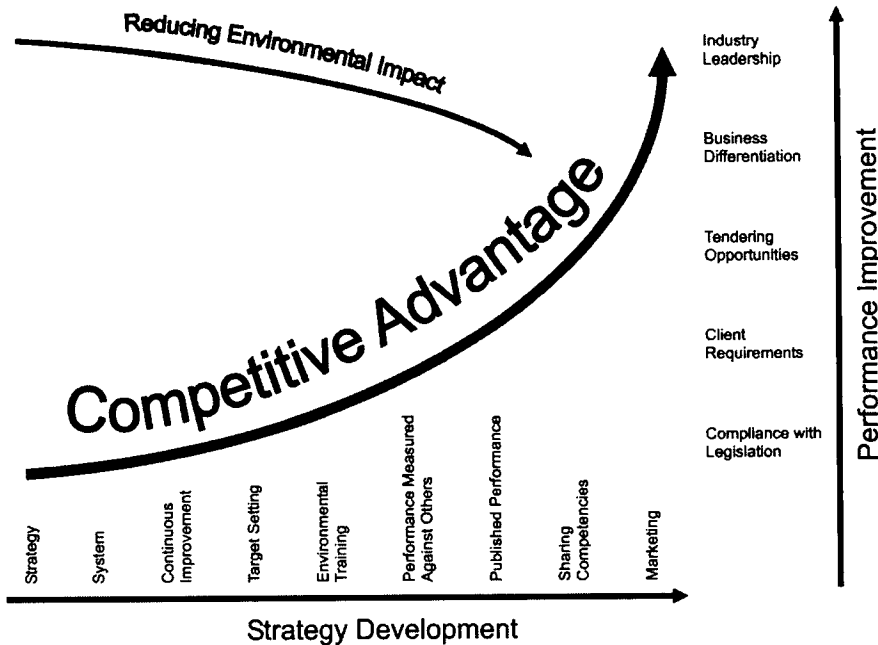


Figure 3. Increasing competitive advantage

UK construction companies do not include environmental issues within their strategic management. All construction companies use strategic management in some form. The extent, to which environmental issues are considered within that strategic management, is dependent on the stage of development of the organizations' environmental strategy. Within organizations with a formal environmental strategy and environmental management system, there is significant documentary evidence, which demonstrates that environmental issues are part of strategic decision making. There is also evidence that within organizations with no formal environmental management system, environmental management is necessary to ensure compliance with legislation and to comply with contractual obligations. It is likely, that these organizations will develop formal environmental strategies and environmental management systems in the near future, in order that they remain competitive.

In terms of environmental protection, this proposition would reflect badly on the environmental performance of the UK construction industry. However, the evidence from the case study analysis indicates that environmental issues are considered, within the strategic management of construction companies.

Improved environmental performance is increasingly included within the strategic management plans of UK construction organizations. The evidence, to support this second proposition, is found in the data for all the case study organizations. This includes the case study company with no formal environmental management system. The majority of the organizations studied have systems, which require the demonstration of continued improvement in environmental performance.

This statement best describes the current status, across all the case study organizations and reflects the likely situation, on an industry-wide basis.



Environmental issues are already part of their strategic management and this is providing improved environmental protection.

UK construction organizations manage their environmental responsibility at strategic level to gain competitive advantage. This proposition represents the best case for environmental protection. Competitive advantage is a strong incentive, for construction organizations to manage environmental issues at a strategic level.

The literature provides evidence that correct strategic management can lead to competitive advantage. It follows that, where environmental issues are managed at strategic level, they may contribute to that competitive advantage. The evidence from the analysis indicates that the case study organizations recognize the competitive advantage, associated with the correct environmental strategy. The case study evidence does suggest that, for the more proactive companies at least, the environmental strategies and systems provide positive outcomes, which are being used to underline the company ethos and provide better long-term opportunities for the firm. The model in Figure 3 illustrates the relationship between developing strategies, performance improvement and competitive advantage.

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