

A Web-enabled hybrid approach to strategic marketing planning: Group Delphi + a Web-based expert system

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Abstract

A Web-enabled hybrid approach to strategic marketing planning is established in this paper. The proposed approach combines the group Delphi technique with a Web-based expert system, called WebStra (developed by the author), to support some key stages of the strategic marketing planning process. The Web-enabled approach is based upon client–server architecture that enables the sharing and delivery of computerised planning models and knowledge via the Internet, intranets or extranets, which allows widespread access by authorised users around the clock, across the world or throughout the company. In order to assess the overall value of the proposed approach, case-based evaluation work has been undertaken. Evaluation findings indicate that the approach is effective and efficient in terms of overcoming time and geographical barriers, saving decision-making time, coupling analysis with human judgment, helping improve decision-making quality, etc.

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1. Introduction

The globalisation, the complexity and the dynamics of the business environments present real challenges to strategic marketing planners in the 21st century. The needs for appropriate techniques and technologies in support of strategic marketing planning have never been so great. Over the past years, attempts have been made by researchers to develop computer-based systems to support the process of strategic marketing planning. Some related typical work in this field may be found in Belardo, Duchessi, and Coleman (1994), Carlsson, Walden, and Kokkonen (1996), Cavusgil and Evirgen (1997), Levy and Yoon (1995) and McDonald and Wilson (1990), Mitri et al. (1999), Li (2000), and Li and Davies (2001), etc. The relevant systems developed in the past, however, are mainly restricted to assist with individual users using standalone PC-based programs, which may limit users' access to computerised models and support systems. Moreover, program distribution is a serious problem for many types

of expert systems, because most knowledge bases must be updated regularly (Eriksson, 1996). In addition, the critical importance of capturing and combining managerial judgment, especially groups of decision-makers' judgment and intuition, with computer-based support has not been highlighted adequately in previous research in this field.

The World Wide Web is emerging as an increasingly important platform that can reduce the technological barriers and make it easier for users in different geographical locations to access the decision support models and tools (Shim et al., 2002). The widespread use of World Wide Web and the Internet provide an opportunity for enabling computer-based decision support widely available.

It is also argued that the Internet can complement traditional ways of competing (Porter, 2001). Appropriate Internet applications can improve communications with actual and potential customers, suppliers and collaborators; and can be a powerful promotion and sales tool (Hamill, 1997). Internet technologies and e-commerce applications can be used strategically for creating competitive advantage in the global markets. Devising Internet marketing strategies and associated e-commerce strategies as an organic part of business strategies is something that strategic marketing plans today should not neglect.

The purpose of this study is to establish a Web-enabled approach that combines the advantages of a Web-based

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expert system with the benefits of the group Delphi technique and links strategic marketing planning with Internet and e-commerce strategy formulation. The paper is structured as follows. The opening section outlines the logical process, the main functional components and judgmental ingredients of the Web-enabled approach. This is followed by discussions on the evaluation of the overall value of the approach. The final section offers some general conclusions and discussions.

2. A Web-enabled hybrid approach to strategic marketing planning

Strategic marketing planning presents challenges to the experience, knowledge, judgment and intuition of individual managers. A group of managers from different functional departments can bring a variety of perspectives, knowledge, judgement and intuition to the planning process (Bass, 1983; Minkes, 1987). Eden (1990) points out that those who have the power to act must be integrally involved in the process of strategy development. Porter (1987) argues that strategic planning should employ multifunctional planning teams. Beveridge, Gear, and Minkes (1997) note that strategic decisions usually require consensus and commitment to a course of actions among groups of individuals because of differing perspectives, interests, and functional biases. This type of group decision-making can involve the resolution of conflict. Turban and Aronson (2001) note that decision-making in groups has the following benefits: groups are better than individuals at catching errors; groups are better than individuals at understanding problems; a group has more information or knowledge; and synergy may be produced.

The group Delphi technique (Webler, Levine, Rakel, & Renn, 1991) provides a structured communication process in which a group of participants input, discuss and defend their judgment and intuition concerning existing knowledge and information. Firstly, views are discussed openly in the group Delphi. There is direct and immediate feedback. Any ambiguities are clarified immediately. Secondly, discussions or debate provides an internal check for consistency in accepted points of view (Webler et al., 1991). The group Delphi technique can be applied to resolve conflicting views and build consensus. It can also be used as a technique for reducing uncertainty surrounding the managerial inputs to the decision-making process.

It is evident that the appropriate use of computer-based support systems can improve the process of marketing planning (Li, 2000; Wilson & McDonald, 1994). Keen and Scott Morton (1978) point out that computer-based decision support implies the use of computers to: assist decision-makers in their decision processes; support, rather than replace, managerial judgment. Computerised models are

consistent and unbiased, but rigid, while managers are inconsistent and often lack analytical skills but are flexible in adapting to changing environments (Blattberg & Hoch, 1990; Li, Kinman, Duan, & Edwards, 2000) and have knowledge about their products and markets (Mintzberg, 1994a–c). It is argued that “the capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objective rational behaviour in the real world—or even for a reasonable approximation to such objective rationality” (Simon, 1957). The key ingredient is, therefore, the integration of the decision-makers into the model (McIntyre, 1982). It is also found that marketing planning is typically the shared collective responsibility of managers in many large companies (Li et al., 2000). Thus, combining computerised models with a group of decision-makers’ judgment and intuition would lead to better strategic decisions

The World Wide Web provides a useful platform for developing, sharing and delivering decision support tools. The primary Web tools are Web servers using Hypertext Transfer Protocol (HTTP) containing Web pages created with Hypertext Markup Language (HTML), JavaScript, etc. accessed by client PCs running client software known as a Web browser (Shim et al., 2002).

The driving forces for developing a Web-enabled hybrid approach towards strategic planning are: to publish marketing strategy expertise and guidelines on the Web; to transport the decision support models and tools over the Internet, extranets or intranets; to provide intelligent support round the clock, around the world or throughout the company; to link the formulation of marketing strategies with the development of e-commerce strategies; and to combine Web-based intelligent support with group judgment and intuition. In particular, the Web-enabled approach aims at supporting the following three key stages of the strategic marketing planning process:

- Assessing marketing environments and performing strategic analysis;
- Producing strategic portfolio summary and generating strategic recommendations/options;
- Selecting marketing strategies and related Internet/e-commerce strategies.

The proposed approach is illustrated in Fig. 1.

The Web-enabled approach is based on client–server architecture that allows the sharing and delivery of computerised intelligent decision support models via the Internet, intranets or extranets, which enables widespread access by any authorised user. The client can be an Internet-connected computer with a suitable Web browser such as Microsoft Internet Explorer. Users interact with the system using the normal Web access techniques of

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