December 2001

The Effect of International Strategy on Localization of Web Site Design: A Theoretical Framework

Anna Sidrova
Washington State University

Follow this and additional works at: http://aisel.aisnet.org/amcis2001

Recommended Citation
http://aisel.aisnet.org/amcis2001/184

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2001 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
THE EFFECT OF INTERNATIONAL STRATEGY ON LOCALIZATION OF WEB SITE DESIGN: A THEORETICAL FRAMEWORK

Anna Sidorova
Washington State University
sidorova@wsunix.wsu.edu

Abstract

With the proliferation of the Internet use worldwide, the issue of customization of Web sites to local needs (Web site localization) gained considerable importance. This paper seeks to address an issue of localization of Web sites of local subsidiaries of multinational corporations. A model presented here draws on research on international business strategy and IT governance arrangements, and identifies a number of factors that are likely to determine the degree of localization and integration of Web sites of local subsidiaries. These factors include international strategy followed by the multinational corporation, degree of centralization and standardization in the corporate structure, as well as the availability of slack resources to local subsidiaries.

Keywords: Electronic commerce, globalization of IS, organizational structure, IS development

Introduction

According to experts, electronic markets are predicted to account for 5% of the total global sales by 2003 (Chatterjee and Sambamurthy 1999), with two thirds of Internet users outside of the US (Ulfelder 2000). And while studies show that foreign users are more likely to purchase goods and services from the sites that support their native language and are otherwise customized to local needs, recent reports show that fewer than half of the US companies have done anything to customize their Web sites to foreign users (Ulfelder 2000).

While multiple calls for customization of Web sites to the needs of local customers (also referred to as Web site localization) appear in the press (Alexander 2001; Engler 1999, DiSabatino 2000, Cunningham 1998, etc.), along with numerous technical solutions aimed at Web site localization (Bruijn 2000, Livingston 2000, etc.), little research related to Web site localization has been conducted. A number of research questions remain unanswered, including such questions as what degree of Web site localization is appropriate, what factors lead to a higher or lower degree of Web site localization, what dimensions of Web site localization are the most important, how should Web site localization be managed, and many others. Because it is reasonable to expect that answers to the above questions will be different for different companies, this paper focuses on companies that rely heavily on international customers and/or have significant operations abroad, i.e. multinational corporations. In particular, this paper seeks to address the following research question:

What factors determine the degree of localization of Web sites of local subsidiaries of multinational corporations, as well as the degree of integration between the subsidiary’s and the corporate Web site?

In order to address the posed research question, a theoretical model is proposed which draws on research on international business strategy, strategy-structure relationship in international corporations, innovation diffusions in multinational corporations, and on IT governance structure. The rest of the paper is structured as follows. In the following sections, literature on strategy and structure of multinational corporations, as well as research on governance arrangements of IS organizations is reviewed, followed by the development of the theoretical model and research propositions. The paper is concluded with a brief discussion of theoretical and practical implication of the paper and suggestions for future research.
Theoretical Foundations

This research draws on a number of research streams that are briefly overviewed below: integration-responsiveness framework, strategy-structure fit literature, literature on IS-governance arrangements, and literature on creation and adoption of innovations by foreign subsidiaries.

One of the most widely used frameworks for studying strategic choices of multinational corporations is the integration-responsiveness framework proposed by Prahalad (1975) and expanded by Doz (1980, 1987). According to this framework, multinational corporations experience two conflicting pressures from the environment: the pressure for global integration, which is necessary if a firm wants to take advantage of economies of scale and scope, and to achieve global efficiencies (Ghostal 1997), and the pressure for local responsiveness, which is necessary to respond to demands imposed by local governments and market forces (Roth and Morrison 1991). Integration and responsiveness pressures (or their perceptions by managers) were shown to vary across industries (Barlett 1985), across companies within a single industry and across different functional divisions within a single company (Ghostal 1986). And depending on how strong each of the aforementioned pressures (or their perceptions by company managers) is, companies were found to develop strategic postures (or strategies) that can be characterized by a certain degree of integration and responsiveness.

Most empirical studies identify three distinct strategic groups that can be placed along the integration-responsiveness dimensions (Johnson 1995, Roth and Morrison 1991): global, multifocal and local strategic groups. Companies belonging to the global strategic group are characterized by high perceived integration pressures, and low pressures for local responsiveness. These companies give priorities to extensive use of conservative cost controls, breadth of the product line and integration of all value chain activities (Martinez and Jarillo 1991, Roth and Morrison 1991).

Companies following multifocal strategy are moderately high on both integration and responsiveness dimensions, they adopt conservative cost controls, and exhibit moderately high levels of integration of business functions, as well as moderately high levels of product and marketing adaptation to local conditions. Companies in the multifocal group are shown to put a strong emphasis on innovation, and to allocate a large portion of their R&D to local subsidiaries (Martinez and Jarillo 1991, Roth and Morrison 1991). Companies in local strategic group are characterized by low integration and high responsiveness, corporate cost controls are usually low, and the emphasis is on product and process adaptation to local conditions. These companies are characterized by a large percentage of products that are produced by a subsidiary, high percentage of products specially created or substantially adapted to the domestic market by a subsidiary, etc. (Martinez and Jarillo 1991).

International strategy has been shown to affect corporate structure of multinational corporations, including departmentalization of organizational units, centralization of decision making, formalization, standardization, use of budgets and other planning mechanisms, interdepartmental communication, and other dimensions (Martinez and Jarillo 1989). In particularly, Martinez and Jarillo (1991) found that the focus in integration in the international strategy is strongly negatively correlated with the autonomy in decision making, and strongly positively correlated with the formalization and standardization, planning, output and personal control. The emphasis of local responsiveness was found to be strongly positively correlated with the use of socialization as coordination mechanism, and the use of coordination mechanisms was found to decrease from global, to multifocal, to local strategic groups.

While corporate strategy was found to affect corporate structure, various dimensions of corporate structure were found to be related to creation and adoption of innovations by subsidiaries. In particular, Ghostal and Barlett (1988) found a positive relationship between such variables as the amount of slack resources available to subsidiaries and local autonomy and innovation creation. Also, a negative relation was found between local autonomy and innovation adoption (that is, subsidiaries of companies with a centralized corporate structure are more likely to adopt corporate innovations). HQ-subsidiary and inter-subsidiary communications were found to be positively related to adoption and diffusion of innovations. The relationship between corporate strategy and structure and innovation creation and diffusion by local subsidiaries is especially interesting, because independent Web site development by a local subsidiary can be considered as innovation creation, whereas supporting a local Web site developed by the corporate staff can be viewed as innovation adoption. This point will be further expanded later in the paper.

Because development of Web sites is most often performed by IT departments, it is logical to expect that structural arrangements and resources available to IT organization will affect Web site development and, consequently, the design of local Web sites. Corporate structure and strategy, along with other dimensions were shown to affect IT structure in organizations (Sambamurthy and Zmud 1999; Brown and Magill 1994). In particular, IT function of organizations with centralized corporate structure was found to be more centralized, and diversification strategy was found to lead to a more de-centralized IT function.
Theoretical Model and Research Propositions

Drawing on the research reviewed above, a theoretical model is proposed that links corporate strategy, corporate structure, structure of the IT function and the design of Web sites of local subsidiaries. And before the theoretical model is presented, let us define some of the constructs to be used in the model.

**Strategy**

Strategy is a complex, multidimensional construct; however, for the purpose of this model we are interested in two dimensions of strategy: emphasis on integration and emphasis on local responsiveness. Therefore, a particular strategy will be defined through a position of a company on these two dimensions. Following the prior research, three distinct strategic groups are defined: local (low integration, high responsiveness), multifocal (moderately high integration, moderately high responsiveness), and simple global (high integration, low responsiveness), and strategy is defined as a company’s membership in a particular strategic group.

**Corporate Structure and Structure of the IT Function**

As discussed in the literature review section, a number of dimensions of corporate structure have been shown to be affected by international strategy, and to affect other variables such as adoption and diffusion of innovations by subsidiaries. In the proposed model, the focus is on three variables that describe corporate centralization of decision-making, standardization, and the amount of slack resources available to subsidiaries. Corresponding variables will be used to describe the structure of the IT function: centralization of decision-making within the IT function, standardization within the IT function, and the amount of slack resources available to the IT function of a local subsidiary.

**Web Site Design**

With regard to the Web site design, two variables are of interest: the degree of customization of a Web site to local needs (localization), and the degree of integration between the corporate Web site and the Web site of a subsidiary (integration). Here we define the degree of customization as the extent to which the format and the content of a subsidiary’s Web site is tailored to the local needs, and the degree of integration between a parent’s and a subsidiary’s Web sites as the extent to which the two Web sites are inter-connected (linked, etc).

**Theoretical Model and Research Hypotheses**

The proposed model suggests a relationship between corporate strategy of multinational corporations and Web site design of the company, with the corporate structure and IT structure serving as partial mediators. The proposed relationships are discussed below in greater details, with the overall model shown in Figure 1 below.

**Strategy Structure Relationship**

Research on strategy and structure suggests that strategy of a multinational company will affect such structural variables as centralization, standardization, and availability of slack resources. Centralized corporate structure allows for easier integration of activities across different countries because of less opportunity for conflict, and lower costs associated with decision-making. Also, if activities have to be highly integrated, corporate managers, having considerable knowledge of about all of these activities, are in a better position to make decisions than local managers who are aware only of the business issues pertinent to their division. In support of this argument, Martinez and Jarillo (1991) have found that the degree of autonomy (opposite to the degree of centralization) is negatively related to the integration dimension.

As responsiveness to local needs becomes a more important issue in corporate strategy, needs of local customers have to be taken into account when important decisions are made. Because local management usually has a better knowledge of local needs than corporate management, the need for participation of local managers in the decision-making process increases as the emphasis on local responsiveness increases. In support of this argument, Martinez and Jarillo (1991) have found that the degree of autonomy (opposite to the degree of centralization) is positively related to the localization dimension. Research on IT structure suggests
that IT structure tends to mirror corporate structure, therefore the degree of centralization in a multinational corporation will be positively related to the degree of centralization in the IT function, which leads us to the first two propositions:

Proposition 1: Focus on integration in the international strategy leads to a higher degree of centralization of decision-making in a multinational corporation, and consequently to higher centralization of decision-making within IT function.

Proposition 2: Focus on local responsiveness in the international strategy leads to a higher degree of centralization of decision-making in a multinational corporation, and consequently to higher centralization of decision-making within IT function.

Use of common standards allows for a smoother integration of activities of different subsidiaries. For example, two items manufactured in two different countries according to a common standard can be shipped to a common distribution center, and then each of these items can be sold in a third country where customers expect a product to adhere to the same common standard. Therefore, it is expected that a stronger emphasis on integration will call for higher reliance on standards, i.e. will lead to a higher degree of standardization. In support of this argument, Martinez and Jarillo (1991) have found that the integration dimension of strategy is strongly positively related to the degree of standardization within an organization. As companies seek to respond to unique needs of local customers (emphasis on local responsiveness), the use of common standards becomes an obstacle to successful business operations, because a common standard, by definition, cannot accommodate unique local needs. Therefore, higher emphasis on local responsiveness is likely lead to a lower degree of standardization. The use of standards in IT is expected to reflect the use of standards in the corporation in general, which leads us to the following propositions:

Proposition 3: Focus on integration in the international strategy leads to a higher degree of standardization in a multinational corporation, and consequently to a higher degree of standardization within an IT function.

Proposition 4: Focus on local responsiveness in the international strategy leads to a lower degree of standardization in a multinational corporation, and consequently to a lower degree of standardization within an IT function.
function of a local subsidiary is expected to be related to the overall slack resources available to the subsidiary. This leads us to the following propositions:

**Proposition 5:** Focus on integration in the international strategy leads to a smaller amount of slack resources available to a subsidiary, and consequently to a smaller amount of slack resources available to the IT function of the subsidiary.

**Proposition 6:** Focus on local responsiveness in the international strategy leads to a larger amount of slack resources available to a subsidiary, and consequently to a larger amount of slack resources available to the IT function of the subsidiary.

**Structure of IT-Web Design Relationship**

High reliance on standardization as a coordination mechanism will lead to the adherence to standards in IS development, use of standardized templates, systems development tools and technology. Thus, it is likely that companies that highly rely on standardization as a coordination mechanism will have little variation between the parent and subsidiary Web sites. This leads us to the following proposition:

**Proposition 7:** The standardization within IT organization leads to a lower degree of Web site localization.

The next two propositions are based on the research on creation and adoption of innovations by subsidiaries of multinational corporations. Specifically, this research suggests that the degree of centralization is positively related to adoption of innovation by subsidiaries, and is negatively related to creation of innovations. On the other hand, the amount of available slack resources is negatively related to adoption of innovation by subsidiaries, and is positively related to creation of innovations. Creation of a local Web site can be viewed as innovation creation if initiated by a subsidiary, and as innovation adoption if imposed by a corporate office. Therefore, considering the effect of centralization and availability of slack resources on innovation creation and adoption, in companies with high degree of centralization and little slack resources available to local IT groups, local subsidiaries are likely to develop Web sites as a part of a corporate initiative. On the other hand, in companies with low degree of centralization, and significant slack resources available to local subsidiaries, local Web sites are more likely to be developed as a result of initiative of local IT organization.

A Web site that is developed as a result of a local initiative (innovation creation) is likely to be more reflective of the local needs, and to be less integrated with parent company’s Web sites than subsidiary’s Web sites that are developed as a part of the corporate initiative, which leads us to the following propositions:

**Proposition 8:** Centralization of decision making in IT function leads to a higher degree of integration between Web sites of the local subsidiary and the corporate Web site, and a lower degree of localization of the Web site of the subsidiary.

And

**Proposition 9:** Availability of slack resources to the IT function of a local subsidiary leads to a lower degree of integration between Web sites of the local subsidiary and the corporate Web site, and a higher degree of localization of the Web site of the subsidiary.

Finally, we expect that the corporate strategy will have a direct effect on the localization of subsidiary’s Web sites: due to the numerous calls for the alignment of business and IT strategies, companies which emphasize local responsiveness in their corporate strategy are likely to stress the need for local responsiveness in the IT strategy as well, which includes Web site development. This will lead to stronger effort directed at Web site localization, and consequently to the higher degree of Web site localization. This leads us to the final proposition:

**Proposition 10:** Emphasis on local responsiveness will lead to Web site localization of subsidiary’s Web sites over and above an effect explained by the structural variables.
Conclusion and Directions for Future Research

With the worldwide proliferation of Internet-based services, multinational corporations face a challenge of developing their Web sites so that they can effectively reach their customers in different countries. The model presented in this paper attempts to link the degree of Web site localization and integration achieved by local subsidiaries of multinational corporations to the overall corporate strategy and structure, thus providing a theoretical basis for further research of Web site localization issues. As a next step, the proposed model should be tested empirically. In addition, future research should include extension of the model by incorporating various moderating factors such as the reliance of the corporation on the IT, and Web site in particular, for each of its value chain activities. It would also be interesting to examine the effect of fit (or lack thereof) between corporate strategy and Web site design on the success of the Web site. The proposed model has some practical implication: in particular it suggests that corporate strategy needs to be taken into account before a decision to spend considerable resources on Web site localization is made.

References

Barlett, C.A. “Global Competition and MNS managers” ICCH Note No. 0-385-287, Harvard Business School, Boston, 1985
Ulfelder, S “All the Web’s a stage” CIO, (14), 2000, p. 132.