A Model of Marketing Oriented Corporate Culture Influences on Information Technology Adoption

Kofi Poku

Richard Vlosky

Louisiana Forest Products Development Center
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1 Kofi Poku, PhD., Corporate Audit Department, Eastman Kodak Company, Rochester, New York, (585) 781-9792; kofi.poku@kodak.com
2 Richard P. Vlosky, Ph.D, Professor, Forest Products Marketing and Director, Louisiana Forest Products Development Center, School of Renewable Natural Resources, LSU AgCenter, Room 227 RNR Building, Louisiana State University, Baton Rouge, Louisiana 70803, Phone: (225) 578-4527, Fax: (225) 578-4251, Email: vlosky@lsu.edu; http://www.rnr.lsu.edu/lfpdc
Abstract

In 2002, we developed a model to investigate the influence of corporate orientation (marketing orientation) on Internet adoption effectiveness. Five constructs for independent variables and one construct for marketing orientation, the moderating variable, were developed. Hypotheses, stated as independent variables, “will be positive for high marketing orientation and negative for low marketing orientation” are suggested to result in stronger correlations and steeper regression slopes with a higher marketing orientation. The overarching proposition is that a strong marketing orientation has a positive effect effectiveness of Information Technology adoption.

Corporate Culture

For many years, scholars in organizational behavior have attempted to demonstrate the link between an organization’s culture and its performance. It has been argued that the success of an organization’s strategy depends, to a significant extent, on the culture of the organization (Yip 1995).

One common thread that greatly affects many of the organizational aspects that enhance performance and increase productivity is the widely shared and strongly held values that underlie and define an organization’s culture. Deshpande and Webster (1989) reviewed several studies and defined organizational (or corporate) culture as “the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with the norms for behavior in the organization”. Schneider and Rentsch (1988) describe culture as “why things happen the way they do”, and organizational climate as “what happens around here”. Cultures can be determined by the values, assumptions and interpretations of organization members (Hales 1998). These factors can be organized by a common set of dimensions on both psychological and organizational levels to derive a model of culture types to describe organizations (Cameron and Freeman 1991). Corporate culture is an important predictor of organizational capabilities and outcomes such as customer orientation (Deshpande et al. 1993) and new product development (Moorman 1995).

Harrison (1975) reported four types of cultural orientations of employees as derived from organizational ideologies. These include power orientation where there is the intention of complete dominance of the environment, elementary competition and, in most cases, with ruthless disregard for employee welfare. Others are role orientation, which tends to have a preoccupation with legitimacy, legality and responsibility. Task oriented culture places the highest priority on task achievement whereas Person (self) oriented culture serves the needs of employees through organizational learning as a result of individual influence on one another.

According to Jaworski and Kohli (1993), depending on the theoretical approach taken, organizational culture could be viewed as a property of the group or the organization itself, or as something that resides within each individual as a function of the cognitive and learning process (Krefting and Frost 1985), or as both a process and outcome because it shapes human interactions and is also an outcome of the interactions (Jelinek et al. 1983). In considering culture in the light of a strategic management paradigm, Barney (1986) argued that, “for an organization’s culture to provide sustained competitive advantages, it must add value. It must be rare or unique and be difficult to imitate by competitors”. This could be sustained through the formulation of strategies that encourage a non-passive employee socialization in the form of formal indoctrination into organizational activities and processes, remedial training in areas related to enhancing personal productivity within a group context, and formally sanctioned encouragement to interact with socially oriented as well as production oriented work groups (Hopkins and Hopkins 1991).
Marketing and Production Cultures

Marketing orientation and production orientation can also be considered corporate cultures. In marketing orientation, organizations develop and maintain a viable fit between the organizations’ objectives, skills and resources to the changing market opportunities (Jaworski and Kohli 1993). In effect, marketing-oriented organizations design their products and service offerings to meet customer needs with a profit. Business success depends on effective analysis of marketing opportunities, researching and selecting target markets, designing marketing strategies, planning marketing programs and organizing, implementing and controlling the marketing effort (Kotler 2000). Production orientation, on the other hand, concentrates on achieving high production efficiency, low costs and mass distribution (Kotler 1988). Under such culture, organizations operate on the assumption that consumers prefer products that are widely available and inexpensive. Success is based on technological efficiency through cost cutting.

According to Sinclair (1992), a major portion of the forest products industry for years operated under the culture of production orientation, whereas over the years, the changing needs of the customer, competition and other changes in marketplace dynamics, have caused many businesses to migrate from production orientation culture to marketing orientation (Blois 1983), even though some may argue that the marketing concept is not always the best strategic planning philosophy for business, especially in product innovation and as a guide to choosing business strategy (Bennett and Cooper 1979). A technology or production orientation has been suggested to be more beneficial because, in most cases, marketing-oriented companies tend to base their strategic planning on defining their markets and forget about the product dimension, which is also very important. Thus, where a company relies heavily on technology or production, Bennett and Cooper (1979) recommends that the business strategy must also consider the product's use, its production, its customers, and technology.

In such an environment, corporate culture provides the operating instructions that drive organizational behavior. It is no wonder that Waldera (2000) credits corporate culture as “the single most important determinant of a company’s ability to adapt to market forces”. Corporate culture within an organization will answer questions concerning the markers of a new economy leader, the attributes that enable an organization to extract economic value from its human capital and the building blocks that allow companies to compete successfully in a knowledge-based technology-powered economy. Given that 25 percent to 50 percent of an employee’s behavior on the job is culturally determined (Gannon 1994), it is important to understand the cultural values driving this employee. There is, therefore, the need for the development and articulation of specific cultural characteristics to maximize performance in an organization.

There has been a growing appreciation that for firms with a substantial investment in manufacturing capabilities, profitability and competitive advantage could be better achieved through satisfactory integration of manufacturing and marketing activities (Blois 1980). However, the need to develop such an orientation becomes clearly evident only when certain types of information are available in order to enhance effective and prompt response.

IT benefits are commonly based on enhanced decision-making or improved business performance. The use of information in decision-making involves integrating information sources and selecting among alternative strategies (Bettman et al. 1990), whereas information use in decision implementation concerns how decisions should be carried out (Nutt 1986). Information use in evaluation, on the other hand, refers to the determination of positive and negative performance outcomes and the reasons for the outcomes (Zaltman and Moorman 1989).

The development of IT comes with a significant risk of whether the end-users will actually use it or not. To ensure continued use, external variables (such as technical features and organizational
environment), internal psychological variables (such as past education and attitude to system use) and past usage (prior experience) must be considered (Bajaj and Nidumoli 1998, Taylor and Todd 1995).

Past research has found inconsistent associations between usage and other measures of system success. There still remains a significant gap in establishing the relevance of the way of measuring usage to the task or study (Szajna, 1993). According to the theory of reasoned action, the perceived usefulness of the system and its impacts on valued skills affect attitudes toward use of IT (Liker and Sindi 1997). This means that for users of IT to realize the full potential of the technology, they must be willing to use the technology and become effective users. Unfortunately, many IT applications are misused, underutilized or abandoned (Martinsons and Chong 1999, McDermott 1987).

It is with this background that a model of how a marketing orientation influences IT adoption in the forest products industry within the United States was developed.

A Model of Marketing Orientation Influences on IT Adoption

Figure 1 provides our model for the measurement of constructs related to Information Technology (IT) adoption and corporate orientation. In this model, corporate orientation plays a moderating role in systematically modifying either the form and/or strength of the relationship between the predictor variables (“perceived company effectiveness of IT adoption”) and the criterion variables that influence IT adoption (such as “extent of IT application”, “user participation”, “perceived ease of use by user”, “perceived usefulness by user” and “adoption diffusion by company”) (Sharma et al. 1981).

There are various orientations that organizations can adopt. However, for the purpose of this study, organizational orientation is defined in terms of marketing orientation. Nevertheless, this study does not infer that a company can acquire only one orientation at any one time. Instead, companies could have a blend of other orientations including production orientation, technology orientation, research and development orientation, etc. The United States forest products industry has traditionally been production oriented. Marketing orientation is a relatively new phenomenon that is gradually seeping into the way the industry does business as a result of competition, technology, and the changing needs of customers and it is worthwhile investigating how this new phenomenon impacts IT adoption.

The items to measure marketing orientation in this research have been adapted from McCarthy and Perreault (1987) and other marketing and management literature such as Kotler et al. (1997), Kotler (2000), Keegan et al. (1992), and Elliot (1990). Since IT adoption constructs could be perceived to be rather broad, a modified version of a similar instrument developed by the Computer Science and Telecommunications Board of the National Research Council in 1991 (Anonymous 1994) was adapted for IT adoption (as an example of IT application) as well as other items from the Technology Acceptance Model (TAM) by Davis (1989) and Davis et al. 1989).
Model Constructs

Extent of IT Application: The “extent of IT application” construct describes the extent to which an organization applies IT in making, implementing and evaluating organizational decisions.

User Participation: User participation facilitates organizational learning by bringing together all dispersed knowledge from the various units within the organization to one spot where employees can access information, learn from one another, and benefit from new knowledge developed by other units (Becker 2001). This provides opportunities for mutual learning and interunit cooperation that stimulate the creation of new knowledge and, at the same time, contribute to organizational units' abilities to innovate (Kogut and Zander 1993, Tsai and Ghoshal 1998, Huber 1991).

Perceived Ease of Use by User: Perceived ease of use has been established from previous research to be an important factor influencing user acceptance and usage behavior of information technologies (Igbaria...
et al. 1995). It describes the individual’s perception of how easy the innovation is to learn and use. This includes support, complexity and change.

Perceived Usefulness by User: Perceived usefulness describes the perceptions of the individual to the innovation and has been found to influence an individual’s adoption behaviors. Davis (1989) defines perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her performance”.

Adoption Diffusion by Company: The diffusion of IT, however, is a complex process that is influenced by numerous factors such as perceived characteristics of the innovation, subjective norms, stages of adoption, user competence, implementation processes, and organizational factors (Chiasson and Lovato 2001). Explanation of adopter attitudes on innovation adoption and diffusion has long converged on a core set of theoretical frameworks that stem from Diffusion of Innovations (Rogers 1983) and Technology Acceptance Model (Davis et al. 1989).

Corporate Orientation: Aligning corporate orientation with new strategic decisions is a complex phenomenon that requires management’s attention because corporate orientation may result from day-to-day operations of the organization because of patterns of shared beliefs, behaviors and assumptions, acquired over time by the members of the organization (Conner et al. 1987). There is a wide spectrum of orientations that organizations could adopt, some of which include technology orientation, research and development orientation, marketing orientation, and production orientation. However, for the purpose of this study, organizational orientation is defined in terms of marketing orientation. An organization may have high marketing orientation together with other orientations at any point in time.

Perceived Company Effectiveness of IT Adoption: Perceived effectiveness of IT adoption is the extent to which individuals believe that the adoption of the IT has been successful. Griffith et al. (1999) believe that technology implementation success could be improved with active top management support, clear implementation goals and user participation and training. Other success factors include a good understanding of the intended end-users, their tasks, and the interdependencies between the two, together with the appropriate business strategy (Martinsons and Chong 1999).

Miller and Doyle (1987) reported that IT success correlates with the perceived performance and importance of these factors in each firm. Though different firms have different levels of appreciation of performance factors, their overall attitude toward IT is strongly influenced by how well those factors are handled. The firms that concentrate their resources in the most important areas will achieve greater success than those that spread their resources too thinly. Performance factors include functioning of existing transaction/reporting systems, linkage to strategic processes of the firm, amount and quality of user participation, responsiveness to new systems needs, ability to respond to end-user computing needs, IT staff quality and reliability of services. Other factors include identity, significance, autonomy and feedback (Ryker and Nath 1995).

Propositions and Hypotheses
In the context of relationships between IT adoption factors (independent variables) and “perceived company effectiveness of IT adoption” (dependent variable) a set of propositions and hypotheses were developed.
We suggest that a marketing orientation can co-exist with other orientations such as a production orientation in an organization. The dominant orientation of the organization is usually what determines the organizational orientation (Desphandé and Webster 1989). Thus, when the dominant marketing orientation is high, the organization will be said to have high marketing orientation and vice versa.

The relationship between the factors of IT adoption and perceived effectiveness of IT adoption in the company may be moderated by the dominant orientation (marketing orientation) of the organization. A high marketing-oriented organization relies heavily on the knowledge about the customer and the marketplace in order for the organization to engage in activities that will reach out to meet the needs of customers at a profit (McCarthy and Perreault 1987). The following hypotheses were thus formulated:

Relationship between Extent of IT Application and Perceived Company Effectiveness of IT Adoption

**Proposition 1:** In order for an organization to target its products towards the needs of the customer (high marketing orientation), it needs to know what the needs of the customer are. This will require a more extensive use of the IT for information gathering about the market.

**Hypothesis 1:** Marketing orientation will moderate the relationship between “extent of IT application” and “perceived company effectiveness of IT adoption” such that the relationship between “extent of IT application” and “perceived company effectiveness of IT adoption” will be positive for high marketing orientation and negative for low marketing orientation.

Relationship between User Participation and Perceived Company Effectiveness of IT Adoption

**Proposition 2:** The opportunity to involve users in the adoption of the IT will enhance the perception of users on how effective the IT has been adopted in the company because users will have the opportunity to understand the technology and its effectiveness in meeting their needs at job delivery. A high marketing-oriented organization will create the environment that enhances employee participation.

**Hypothesis 2:** Marketing orientation will moderate the relationship between “user participation” and “perceived company effectiveness of IT adoption” such that the relationship between “user participation” and “perceived company effectiveness of IT adoption” will be positive for high marketing orientation and negative for low marketing orientation.

Relationship between Perceived Ease of Use by User and Perceived Company Effectiveness of IT Adoption

**Proposition 3:** An organization with a high marketing orientation thrives on information sharing about the market and the needs of the customer in order to be able to produce to meet the specific needs of the customer. This sharing process enhances organizational learning and provides greater opportunities for users to understand the IT applications in order to perceive its ease of use in performing their jobs. The more users of information technology perceive the IT use to be easy, the more they will be able to appreciate the effectiveness of the adopted IT in the company.

**Hypothesis 3:** Marketing orientation will moderate the relationship between “perceived ease of use by user” and “perceived company effectiveness of IT adoption” such that the relationship between
“perceived ease of use by user” and “perceived company effectiveness of IT adoption” will be positive for high marketing orientation and negative for low marketing orientation.

**Relationship between Perceived Usefulness by User and Perceived Company Effectiveness of IT Adoption**

**Proposition 4:** As users are given the opportunity to use an IT application in an organization where participation is encouraged (high marketing-orientation), they are able to better ascertain the extent of usefulness of the IT application in meeting their needs and hence, can determine the effectiveness of its adoption within the company.

**Hypothesis 4:** Marketing orientation will moderate the relationship between “perceived usefulness by user” and “perceived company effectiveness of IT adoption” such that the relationship between “perceived usefulness by user” and “perceived company effectiveness of IT adoption” will be positive for high marketing orientation and negative for low marketing orientation.

**Relationship between Adoption Diffusion by Company and Perceived Company Effectiveness of IT Adoption**

**Proposition 5:** Because a high marketing oriented organization provides the environment for information sharing and interaction among users’ employees and external customers, there is a quicker diffusion of the adoption of information technology within the organization. Hence, the faster the adoption diffusion of IT adoption in the organization, the greater the opportunities for users to perceive the adoption effectiveness within the organization.

**Hypothesis 5.** Marketing orientation will moderate the relationship between “adoption diffusion by company” and “perceived company effectiveness of IT adoption” such that the relationship between “adoption diffusion by company” and “perceived company effectiveness of IT adoption” will be positive for high marketing orientation and negative for low marketing orientation.

**Summary**

The model discussed in this article can provide a framework for empirical research. It will be important to research perspectives of both users and managers of IT within organizations. There is an opportunity to investigate IT adoption in forest industry sectors such as furniture, pulp and paper, building materials, etc., comparing the impact of marketing orientation vs. production orientation on IT adoption.

The model has taken a step toward addressing the gap that exists in determining the role an organization’s internal operations (corporate orientation) play in impacting IT adoption within the organization, an area which has hitherto not been widely explored (Harper and Utley 2001). An opportunity is opened for the study of how other orientation types could influence adoption of a number of IT adoption such as the Internet, extranets, intranets, customer relationship management systems, supply chain coordination systems, etc.

Research may explore the necessary conditions under which such relationships could prevail over time. Ultimately, empirical model testing can help top managers of organizations in the US forest
products industry to identify what to do in order to effectively adopt Information Technologies in their organizations in the context of their corporate orientation.
Literature Cited


