# On-line HRD: A Leadership Decision Making Case Study

**Ross Humby**

Dubai Women's College, Dubai, United Arab Emirates

Correspondence should be addressed to:;

## Abstract

This case study was conducted to determine what factors are important to decision making that led leaders in a national nongovernmental organization (NGO)to select a technology-enhanced distance education solution for staff and volunteer training. The Bates ACTIONS technology choice model (2000) and the curriculum-centred strategic planning model (Dolence, 2004) form the conceptual framework for the data collected from the case study interviews.

The factors that influenced the decision makers to choose a technology-enhanced distance education system include factors external as well as internal to the organization. External factors are the market and economic situation, competitive and partnership considerations and the cost of technology for training. Internal factors are learner- centred or organization- centred. Learner-centred factors are the ability of learners to access the learning, the necessity to understand the learners' needs including their geographic distribution, a need for interactivity in the learning design and an understanding of the impact of the technological choice on teachers and learners. Internal organizational factors include the understanding of organizational impacts, plus a need to incorporate technology decisions into the strategic planning and operational analysis processes. A measure of organizational effectiveness (i.e., key performance indicators) and the importance of individual skills complete the organizational factor influences.

**Keywords**: Information Technology, Decision Making, Nongovernment Organization, Case Study.

## Introduction

Organizations face a constantly changing macroeconomic environment. Increasing global competition and quickly advancing technology are creating an economy requiring organizations to build flexible and highly skilled workforces (Long & Smith, 2004). Organizational change drivers, including globalization, economic rationalization and information technology (IT), are creating a future of constant change for public and private organizations (Bates, 1999; Farrell, 2001; Van Schoor, 2003; Wang, 2002). IT is both a driver of change and a facilitator of change, particularly in the area of distance education and training (Mitchell, 2003; Russell, Vanclay&Aslin 2010; Wang, 2002).Educational organizations and others in the NGO sector have been caught in this transition, which has affected decisions with respect to training.

Increased financial pressure and increasingly technical job requirements occur as the result of these changes in the macroeconomic environment of the nongovernmental organization (NGO) sector. Non-profit organizations have historically been short on financial and human resources. The resource shortage has been exacerbated in recent years with cutbacks in federal government support (Faircloth, 2005; Hall et al., 2003). A drop in donor giving and competition for the same human and financial resources with the for-profit sector has created serious resource challenges (Faircloth, 2005).

These circumstances have created an organization environment in which frequent training and retraining for employees is necessary. Researchers may not agree on the optimal role of technology-enhanced learning in organizational learning compared with traditional learning, but there has been strong consensus that technology-enhanced learning is reshaping training and education (Bates, 1999; Tu, 2005). Human resource training for technical skills and operational process skills has been identified as a critical operational challenge facing the non-profit sector (Hall et al., 2003).

The macroeconomic environment has changed significantly on many dimensions. The result has been that the critical factors for firm and organization success now include information-based skills and the effective use of knowledge management (Mitchell, 2003; Tu, 2005).

Relationships matter more today for organizations. Legal relationships among the education, government and business sectors are more varied. Strategic alliances, partnerships, flexible business networks and project-based cooperation are manifestations of the merging or converging of organizational structures among education, business, industry and government (van der Wende, 2003). Within these new structures, some have assumed that current human-resources models and policies can be universally transferred into the new structure of the online environment. A number of virtual education or e-learning initiatives may have failed because these assumptions may not have held true (Farrell, 2001, p. 9).

This series of changes in the business environment is accompanied by a change in how managers make training decisions.

## Decision Making for Technology-Enhanced Training

Distance learning is a separation, traditionally physical, of learner and instruction. In the current mode of technology-enhanced learning, distance learning can be a separation of learner and instruction in time or space (Simonson, Smaldino, Albright, &Zvacek, 2003).

In helping organizations with the question of how and why to consider technology-enhanced training, Murray and Bloom (2000) summarized the possible benefits of the use of information technologies for learning. Murray and Bloom link learning technologies with defined benefits for employers and employees. They identify additional challenges or barriers common in utilizing

learning technologies. The benefits of learning technologies from the employer perspective included (a) cost savings, (b) flexibility, (c) learning linked with work, (d) interaction and collaboration, (e) decentralized learning, (f) alignment of training with specific job-related needs, (g) motivate employees and (h) improved retention of learning. The benefits from the employees' perspectives were (a) greater control over learning, (b) focused learning, (c) value increases to employer, (d) self-confidence, (e) job satisfaction, (f) job performance, (g) recognition of achievement, (h) safer work environment and (i) improved e-literacy.

The benefits to learners of flexibility, interactivity and accessibility were cited by other researchers exploring technology-enhanced solutions (Bates, 1999; Mitchell, 2003; Newton, Hase, & Ellis, 2002; Tu, 2005).

Against this background of change, decision makers in the organization were faced with the challenge of determining which training solutions best fit the training needs and how to plan best for this training. One of the major challenges facing managers and executives remained that of information assimilation (Tu, 2005).

Decision makers were ready to use technology as a training solution, but the leaders hesitated because they were not sure how to proceed with the selection of specific applications from among the different technologies (Maltz&DeBlois, 2005).

Evidence-based management is a term utilized to describe a decision process more at the positivist end of the spectrum. It has been utilized extensively in Western medical research and practice. Evidence-based management requires that decision makers set aside "sacred cows" embedded in beliefs and conventional wisdom and gather facts and information for decision making (Pfeffer& Sutton, 2006). E-learning initiatives and the assumptions related to cost and access may well fall into the "sacred cow" category.

In contrast, the garbage can model of organizational choice (Cohen, March, & Olsen, 1972) was built on the general principles of organized anarchies characterized by three general properties (p. 1). First, the organization operates in an inconsistent fashion with ill-defined preferences. Second, the process by which the organization functions is not understood by the individuals within the organization. Third, participation in decision making is fluid, with the consequence that decision-making boundaries for individuals are uncertain. Cohen et al. used the context of organized anarchy to model decision making. Various problems and solutions are placed into the "garbage can." The decision choice involves four variables: problems, solutions, participants and choice opportunities. In the case of training decisions related to the introduction of technology- enhanced training, a growing body of research has argued that e-learning is valued as much on political as on pedagogic grounds (Oliver &Conole, 2003; Russell, Vanclay&Aslin 2010).

When scholars have needed to characterize the rationale of decision makers for choosing from among e-learning technologies for an organization, they have cited Bates's (1995, 2000) ACTIONS model (Murphy, Harvell, & O'Donnell, 1998; Murray & Bloom, 2000; Newton et al., 2002). Bates (2000) provides a review of the most common reasons for the educational use of IT-based learning: (a) improving access, (b) improving the quality of learning, (c) reducing the costs of education and (d) improving the cost effectiveness of education.

Bates (2000) first proposed the ACTIONS (Access and flexibility, Costs, Teaching and learning, Interactivity, Organizational issues, Novelty, Speed) model in 1995 as a decision tool when choosing among different educational technologies. Bates used the term technology in the broadest sense of information and communications technologies. Bates' model was created to help decision makers determine which of the available educational technology methods is the most suitable for introduction into a particular situation. The ACTIONS model was built on the premise that the decision to utilize a technology-based training solution has already been made and in the process of managing the change, the next decision was to determine which of the alternative technologies might fit the best.

This ACTIONS model has been referenced by other researchers, including Dolence (2004), Gaytan and Slate (2003), and McAlpin and Jackson (2000). In the application of the model, decision makers must consider the impact of the proposed learning technology on either the student (access, novelty, speed, interactivity); the institution (cost, organizational issues, teaching functions, interactivity); or in some cases, both. The ACTIONS model was used as one part of the conceptual framework in this research because the seven factors in the ACTIONS model were sufficient to allow for the determination of decision criteriafrom interview data. The basic assumption of a "needs assessment" prior

to training and the identified trend to a more learner-centred approach to strategic planning for technology-enhanced distance education means that this research had to span the likely range of factors linking needs assessment to the strategic planning process and to the decision to utilize technology-enhanced

distance education for staff training.
E-Learning Planning Models

Bates (2000), Cavalier (2002), Murray (2001), Murray and Bloom (2000), Wild et al. (2002), and other researchers have developed models to assist leaders in making difficult choices when planning for e-learning. Distance education is an option for addressing organizational needs, but it is not necessarily the best or the most appropriate response. The best way to avoid the pitfalls of costly investment and limited return to the organization is to incorporate a needs assessment into the planning process before selecting a method to address the performance gap.

Bates (2000), Cavalier (2002), Murray (2001), Murray and Bloom (2000), and Wild et al. (2002) either directly or implicitly have acknowledged the necessity for a needs assessment and a planned strategic approach to determine the suitability of e-learning as a method for closing identified performance gaps. Dublin (2004) linked e-learning, when implemented correctly, to improved workforce performance and improved organizational performance. These links were more an afterthought than the conscious decision to improve performance through a technological learning solution.

The effective use of technology for teaching and learning requires a revolution in thinking about teaching and learning, namely, the development of a learner-centred view (Liberman-Yaconi, Hooper & Hutchings 2010; Tu, 2005). It is sometimes difficult for decision makers to separate the market-driven rationales from the scientific, the popular from the necessary, and the myth from the reality in technology-enhanced distance training. The growth rate of distance learning, for example, is an indication of both demand and supply willingness to utilize this method of training.

In the rush to adopt technology-enhanced distance training methods, trainers may have little experience, or they may even ignore the many possible variables that affect the introduction and maintenance of these methods (Gladieux, 2000). A certain determinism is informing much of their decision making (Kowch, 2005b), and a lack of planning in the decision-making process means that there needs to be much more research on this to assist administration.

Business and organizational theorists have applied various strategic and operational planning models to the organization in an attempt to minimize risks. The rapid development of IT applications has paradoxically made this planning process redundant and critically necessary (Boettcher, Doyle, & Jensen, 2000; Ringle&Updegrove, 1998). This apparent contradiction occurs if one attempts to apply old models to this new environment by isolating the departments and planning incrementally. There is an awareness of the need not only to integrate the planning of training into organizational goals but also to see the application of IT as facilitating organizational goals.

In education, much of the IT debate has emphasized the technical detail (Cavalier, 2002). When the focus is directed at that level, there is a tendency to miss consideration of several more strategic issues or questions including what is proving to be an all-important consideration, namely, the alignment of IT strategies with overall organizational goals (Bates, 2001; Dolence, 2004; Gaytan& Slate, 2003; Kowch, 2005a; Ringle&Updegrove, 1998; Sellers, 2005). Also noted in the literature reviewed is a difference between the tactical level of technologically oriented development and the strategic goal of enhanced organizational performance (Wagner, 1994, p. 2). This distinction is important because it recognizes the goals of the organization as the priority and the technology as the tool or path to the goal.

Carroll (2000, p. 127) created a learner-centred model that effectively describes the changing roles of learners and instructors in the complex learning environment of today that is facilitated by the use of IT. In his model, the problem, or topic of learning, is the central point, with learners and expert learners (teachers in the old model) interacting in a nonlinear fashion. IT are disruptive technologies somewhat akin to the development of the steam engines and aircraft. Carroll called this state of change constructive transformation. "Most of what we are doing with computers is comparable to putting steam engines in wooden ships" (p. 132) is Carroll's descriptive method of explaining the current utilization of IT in the world of training and education. The education industry (i.e., extended to all forms of education and training) will reap the full benefits of IT only when learning systems are redesigned with IT at the foundation (Carroll, 2000; Russell, Vanclay&Aslin 2010; Sellers, 2005). Carroll's comment is evident in the revised program planning models for technology-enhanced training

discusszin detail in this segment.

Strategic planning is essential for organizations, particularly those training adults in an increasingly technology-embedded, performance-oriented world (Boettcher et al., 2000). Strategic planning "focuses on what needs to be done now in order to be properly positioned for the future" (Cavalier, 2002, p. 7). The purpose of strategic planning is to provide direction, concentration of effort, consistency of purpose and flexibility across the organization (Cavalier, 2002).

The CCSPM (Dolence, 2004) is one of the planning theory frameworks utilized in research. Dolence proposed an evolutionary model of strategic planning for the context of technology in educational settings based on the learner at the centre of the                                                                                                                                                 development.

The model incorporates continuous environmental scanning (macro external environment), measurement of key performance indicators (organizationally defined as KPIs), self-study (interpreted as organizational learning) and the action planning and implementation process. The resulting model was Dolence's (2004) attempt to blend the evolution of strategic planning in the business context with the specific environment of higher education. This iterative model incorporates the assessment of the internal organizational environment and the external macroenvironment into a continuous cycle of planning, evaluation and adjustment. The researcher found evidence in the cases that the IT planning is linked to the organization's strategic planning and that there is both support from and involvement at the board level and with top management in the decision to utilize technology-enhanced distance education.

The CCSPM (Dolence, 2004) was chosen as the second part of this study's conceptual framework because the model facilitates the identification of separate strategic planning factors and elements, and relates the findings to technology choice. The model draws together the central idea of a learner-centredness view, incorporates changing conditions in the external environment and links organizational performance with the strategic planning process in the organization. Bryson's (2004) strategy change cycle model provided additional detail to the Dolence CCSPM and was used to provide clarification for coding purposes in the environmental scanning factor.

## A Conceptual Framework of Technology-Enhanced Training Decision Making in NGOs

The framework for understanding the decision-making process is Bates's (2000) ACTIONS technology choice model. The framework for understanding and interpreting the planning process relative to technology-enhanced training is Dolence's (2004) CCSPM. This research provides a new and deeper understanding of the factors that influence an NGO to go online for training. The study does not attempt to evaluate technology choice options, or address if online learning was the most appropriate choice, rather it focuses on the factors that influenced the decision makers to choose a technology enhanced solution.

## Research Methods

This research is a qualitative study of decision making in an organizational context. Because little research has been done on charitable, non-profit NGO decision making about technology-enhanced distance learning, the research created new knowledge and understanding about this complex process. The nature of the world of the NGO decision maker is best described by researchers who believe that "reality can only be created by investigation of the phenomenon from the view of the participants through the inquirer's understanding of the participants" (Schwandt, 1994, p. 120).

The choice to use a qualitative method of research comes from a keen sensitivity to the nature of the inquiries planned. There is a need to explore deeply the decision-making process of individuals in a complex, national context where people who lead are, to varying degrees, aware of technology, leadership or some of the theoretical complexities of their practice. This research is exploratory, descriptive and speculative. The decision to use the qualitative approach is appropriate for complex studies where unexpected processes and facts may emerge (Marshall &Rossman, 1999).

The research explores the complexities in both content and process of decision making made at the individual level within an organization. Case study was used for this research to describe and analyze the research findings and interpretations. The case study "is both the process of learning about the case and the product of our learning" (Stake, 2000, p. 443). As such, this research is a look-back study on how individuals in an NGO decided to make the distance learning

commitment in a multiple case study (Stake, 2000, p. 446).

Within the qualitative approach, case study is recommended by research methodology experts as appropriate for the study of groups, processes and events (Creswell, 2003, p. 183). In case study, case(s) can be created so that they are bounded by time and activity and researchers can collect.

detailed information using a variety of data collection procedures over a sustained period of time (Crotty, 2003, p. 15). The data collected in case study can be based on observation, interviews or documents (Wolcott, 1990). The case approach is well suited for natural, holistic, culture or organization studies (Stake, 2000), such as the investigation that is carried out in this study.

The Canadian Health Centre – a pseudonym to protect confidentiality - (CHC) is an established national NGO that has multiple locations and an administrative structure with defined lines of authority. It is a charitable, non-profit, incorporated entity with an elected board of directors. Through its programs and services, the CHC offers education, information and advocacy for organizations, groups and individuals connected to the mental health service sector. The CHC has a documented history of operations, including annual reports, project reports and meeting minutes, that has provided a rich documentary source of information.

Data collection is a combination of semi-structured interview and documentary evidence. Data were analyzed from interview transcripts and a frequency count was constructed based on occurrences of the factors in the Bates (2000) and Dolence (2004) models. Documentary evidence was used to verify interview data.

## Findings

Fourteen interviews were completed with the participants, who were from a variety of positions and work responsibilities inside and outside of the organization. Four respondents represented the board of directors; 2 represented executive or national-level positions; 4 represented managerial levels in the organization; 2 were consultants; 1 was a non-managerial employee; and the final participant was retired at the time of the interview. Eight cases were separated from the pool of participants based on the identification as a decision maker in the context of this research into technology-enhanced distance education decisions. This determination was based on the actions and activities as reported during the interviews, and triangulated with supporting documentary evidence. Four operational cases and 4 cases at the board of director level counted as the decision                                                                                                                                                 makers.

There is a strong focus on the cost of any chosen option, including the cost of not doing anything dominating the decision makers' thinking. The decision makers also realize the need to be attentive to the learners in providing access for the learners, and in recognizing the impact of any changes in delivery on teachers and learners currently in the system. These decision makers also recognize the need for interactivity in the design and delivery of training for the learners.

## Decision Making in the CHC

At the CHC, there has beenan interest in the application of online technology for learning and communication as far back as 1996. There were communication and discussion processes at the board level years before they were explored at the executive level in or around 2002. There did not exist the experience or expertise (individual skills) within the organization to really begin to explore the details, the intricacies, of what might be possible with information and communications technologies beyond the Internet for e-mail and an organizational web presence. The evolution of distance education and training at the CHC includes the use of the Internet as a communication tool, e-mail and limited web conferencing. This experience with the Internet and the client training expertise then became the foundation for the specific software selection.

The key factors influencing the participants' decision to adopt a technology-enhanced distance education system for staff and volunteer training are listed in Table 1.1.

## Table 1.1. Ranking of Relevant Decision Factors

| Factor | Frequency ranking |
|--------|-------------------|
| Costs | 1 |
| Teachers/Learners | 2 |
| Interactivity | 3 |
| Geography | 4 |
| Organizational | 5 |
| Access | 6 |
| Individual skills | 7 |

Cost, including economic conditions, the availability of financial resources, and the costs of doing training traditionally or via technology and distance, is the most important factor. The participants clearly identify various aspects of the cost of technology decisions. The findings most frequently include comments with respect to the lack of availability of financial resources to the organization and to the broader NGO sector. The availability of resources is linked to a lack of staff to perform basic functions; the initial cost of the technological investment; the lack of funds for any training; or even the mandated necessity to offer and deliver services to members all across Canada and, by extension, to have trained staff at each facility to serve clients.

The impact on teachers and learners is the next most important factor for the decision makers, who realize that there is a need for interactivity in the learning. The findings for Teaching and Learning include activities that are staff, volunteer, board and participant related. Because the CHC does not have a specific training program, the elements associated with Teaching and Learning reflect those issues impacting the consideration to utilize technology for training strategically as well as operationally. Two themes emerge in this factor.

The first is related to the range of options that existed when the participants decided how best to deliver any required training. The second theme, which was clearly related to the first, is related to the consequences of the choice of technology adopted as a result of decisions. This set of responses revealed the concern for the learners and the trainers/teachers when moving forward with technology solutions. Also, very important to the decision makers is a concern for the nature of the learning and the nature of the learners.

The participants included in this interactivity factor those experiences directly involved with the online learning decisions for the program clients. There were references to the need of the organization to facilitate communication by enhancing connectivity between locations and employees of the organization. The interview participants saw the need for the chosen platform to offer an interesting and enriched learning environment. There also were comments that indicated that even though interactivity is an important aspect, there could still be some technical difficulties and obstacles in the execution of training activities over this medium.

The dispersed geographic locations of the learners has made providing access to the learning an important factor. The decision makers recognized the impact on the organization, or at least the potential impact of changes to a technology-enhanced distance learning system.

There is the recognition of the impact on the organization of the adoption of specialized software and distance education and training. The realization is that there were planned changes as well as unanticipated changes. The decision makers at the CHC really did not know what to expect or ultimately how the chosen technologies would impact the organization, but there has been the recognition that there would be an impact.

The respondents with the organization identified several issues related to the access factor targeted at program participants, board members, employees and volunteers. The geographic distribution of project sites (discussed previously as the decision factor of geography), the national nature of the organization and the regional representation on the board of directors were all considerations when decision makers looked at access to the learning via technology.

The nature and necessity of having individuals with technical (information technology) skills within or accessible to the organization is the final decision factor. This meant looking at the organization from the perspective of what capacities and capabilities existed in the employees or volunteers, and what capacities are necessary to move forward with a technology-enhanced distance program. This availability of technical skills also is linked in the mindset of several participants to specific individuals. A senior manager's skill set, technologically, managerially and from a leadership perspective, is seen as a pivotal occurrence in organizational technology-enhanced development.

**Decision Factors When Planning for Technology (CCSPM)**

This study found conclusively that two planning factors are prevalent across all participants making technology and training decisions in this NGO: Environmental Scanning and Learner-Centred Curriculum. These two factors account for more than half of the total number of responses by the planners of technology-enhanced distance education based on Dolence's (2004) model.

In the more detailed findings by element, the relative importance of the Market/Economic element of the Environmental Scanning factor became apparent.

The responses for Market/Economic conditions were found to be the highest ranked element of (see Figure 1.2 and Table 1.2). The second and third most frequent elements are elements of the factor group Learner-Centred Curriculum Framework, which is an evidence of the important connection with the learning population. The figure clearly displays the importance of the elements within the factors for planning as found in this study.

**Table 1.2. CCSPM Cross-Case Aggregate Response by Factor**

| Factors | Occurrences |
|---------|-------------|
| Environmental scanning | 83 |
| Learner-centred curriculum | 82 |
| Action planning | 43 |
| Continuous self-study | 40 |
| KPI | 28 |

The Environmental Scanning factor consists of the conditions, circumstances and situations that define and shape the external (i.e., outside the organization's immediate control) environment in which the organization operates. In the context of Dolence's (2004) model and the work by Gaytan and Slate (2003), as well as Bryson (2004), this environmental analysis includes the market conditions (the service group, funding agencies, general economic conditions); the competitive and partnership opportunities; the regulatory environment; and social and technical trends. As the opening quote from one of the consultants to the CHC indicated, the sector faces challenges with the allocation of sufficient resources to service the client groups adequately. One of the constant challenges is determining how to manage the service with very limited resources.

Market and Economic conditions, which include general economic conditions and the availability of funding or markets to pursue for funding, is the single most common element noted. This element is the single most frequently cited element across all planning elements in the CCSPM.
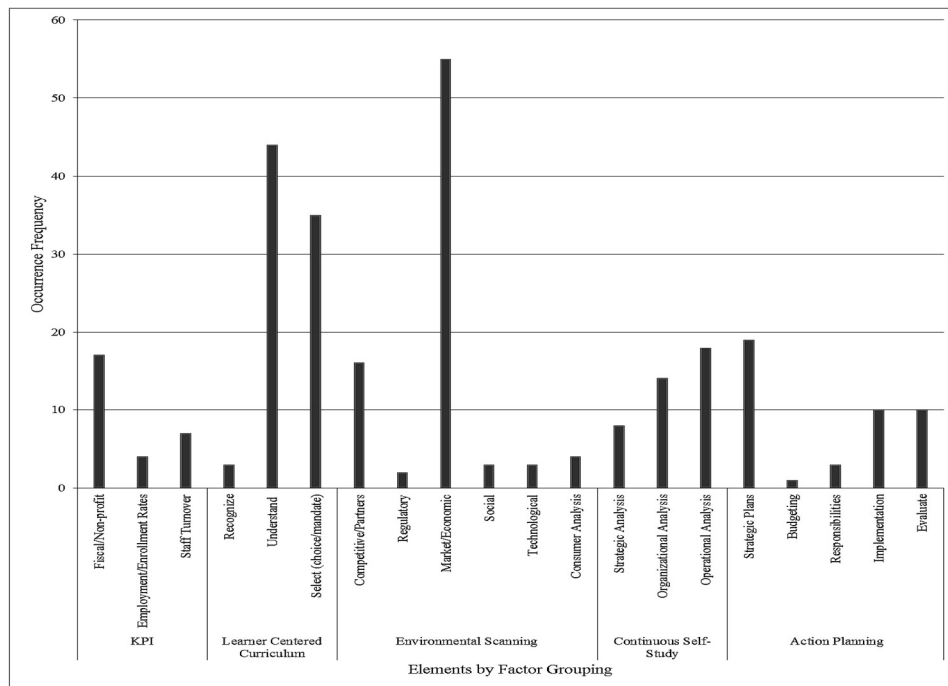
**Figure 1. CCSPM Cross-Case Aggregate Element and Factor Totals**

The CHC was founded as membership-driven grassroots organization to advocate and represent those in its service mandate. With that grassroots focus at creation, the organization had maintained this client centeredness as a principle in operational and strategic planning, as evidenced by 82 occurrences, nearly the same as the 83 occurrences for the Environmental Scanning factor. A measure of learner centeredness is a reported factor in the replies for all of the participants. The national nature of the organization and its growth across the six provinces was reflected in the comments with respect to the importance of access and the consistent information flow between the operational locations, and between operations and the head office locations. The comments reflect the national mandate of the organization, the need to provide training for staff and the rationale for technology-enhanced distance education in the organizational context.

**Conclusion**

The decision makers within the organization utilize factors from the external environment, including the costs of technologies, competitive and partner activities, market and economic considerations, most frequently followed by concerns related to the organizational or internal environment. There is a demonstrated concern for the learners and teachers, and a recognition that there would be an impact on the organization's operations. Organizational change is further necessitated by the expansion of employment program sites to new and different geographic areas of the country. Finally, the role of the individual skill sets is a critical characteristic in the decision and planning of a technology-enhanced training solution at the CHC.

**Table 1.3. Characteristics Important to Decision Making and Planning at the**

| External environment | Internal environment | |
|---|---|---|
| | Learner concerns | Organizational concerns |
| Market/Economic | Understand | Organizational (B) |
| Costs | Select | Strategic planning |
| Competitive/Partnerships | Teachers and learners | Fiscal/non-profit |
| | Interactivity | Organizational analysis (D) |
| | Access | Individual Skills |
| | Geography | |

**CHC**

Table 1.3 represents the separation and reorganization of the decision and planning findings in this research. This resulted in characteristics in the external environment (i.e., beyond the immediate control of the organization) and those characteristics in the internal environment over which the organization could exert control or influence through decision making and planning. These characteristics internal to the organization were further subdivided into ones that impacted the learners and those that were organizationally based. This distinction between internal and external characteristics has been seen in the work of other researchers (Cavalier, 2002; Dolence, 2004; Gaytan& Slate, 2003; Liberman-Yaconi, Hooper & Hutchings 2010; Sellers, 2005; Xue, Liang &Boulton 2008). There also has been additional case-based research supporting this set of findings and analysis with technology-enhanced learning (Andreu&Jauregui, 2005; Garrett & Vogt, 2003; Newton et al., 2002).

Decision making and planning for technology-enhanced training is a complex subject for a resource-poor NGO in the non-profit sector. This study presents descriptive and explanatory multiple case analyses demonstrating factors important for decision makers and how planning was done for technology-enhanced education in a non-profit NGO. A new framework for leadership considering technology-enhanced education in such a context is offered for future decision makers, leaders, scholars and planners who engage in technology-involved training solutions in an NGO similar to the one in this study (Table 1.3).

The decision makers used information about the external operating environment, including cost, economic and market conditions. They also consider internal organizational factors, including both learner-centred and organizational-centred factors.

**References**

Andreu, R. & Jauregui, K. (2005). "Key Factors of E-Learning: a Case Study at a Spanish Bank," Journal of Information Technology Education, 4, 1-31. Publisher - Google Scholar - British Library Direct

Bates, A. W. (1999). "Impact of New Media on Academic Knowledge," Conference paper presented at Envisioning Knowledge – From Information to Knowledge, November 1999, Munich, Germany. Publisher - Google Scholar

Bates, A. W. (2000). Managing Technological Change: Strategies for College and University Leaders, San Francisco: Jossey-Bass. Publisher - Google Scholar

Bates, A. W. (2001). "The Continuing Evolution of ICT Capacity: The Implications for Education," In G Farrell (Ed.), The changing faces of virtual education (pp. 29-46). Vancouver, BC: Commonwealth of Learning. Publisher - Google Scholar

Boettcher, J. V., Doyle, M. M.& Jensen, R. W. (2000). "Technology Driven Planning: Principles to Practice," Ann Arbor, MI: Society for University Colleges and Planning. Publisher - Google Scholar

Bryson, J. M. (2004). Strategic Planning for Public and Nonprofit Organizations (3rd Ed.), San Francisco: Wiley. Publisher - Google Scholar

Carroll, T. G. (2000). "If We Didn't Have The Schools We Have Today, Would We Createthe Schools We Have Today?,"Contemporary Issues in Technology and Teacher Education, 1(1), 117-140. Publisher - Google Scholar

Cavalier, J. C. (2002). "The Forgotten Question in Information Technology Strategic Planning," Planning for Higher Education, 31(1), 5-14. Publisher - Google Scholar - British Library Direct

Cohen, M. D., March, J. G. & Olsen, J. P. (1972). "A Garbage Can Model of Organizational Choice," Administrative Science Quarterly, 17, 1-17. Publisher - Google Scholar

Creswell, J. W. (2003). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, (2nd ed.). Thousand Oaks, CA: Sage. Publisher - Google Scholar

Crotty, M. (2003). The Foundations Of Social Research: Meaning and Perspective

in the Research Process, Thousand Oaks, CA: Sage. Publisher

Dolence, M. G. (2004). "The Curriculum-Centered Strategic Planning Model," Research Bulletin, 10, 1-11. Publisher - Google Scholar

Dublin, L. (2004). "The Nine Myths of E-Learning Implementation: Ensuring the Real Return on Your E-Learning Investment," Industrial and Commercial Training, 36(6/7), 291-294. Publisher - Google Scholar - British Library Direct

Faircloth, J. B. (2005). "Factors Influencing Non-Profit Resource Provider Support Decisions: Applying the Brand Equity Concept To Non-Profit," Journal of Marketing Theory and Practice, 13(3), 1-14. Publisher

Farrell, G. (Ed.) (2001). The Changing Faces Of Virtual Education, Vancouver, BC: Commonwealth of Learning. Publisher - Google Scholar

Garrett, L. A. & Vogt, C. L. (2003). "Meeting The Needs Of Consumers: Lessons From Business and Industry," New Directions for Adult and Continuing Education, 100, 89-101. Publisher - Google Scholar - British Library Direct

Gaytan, J. A., & Slate, J. R. (2003). 'Multimedia and the College of Business: a Literature Review' Journal of Research on Technology in Education, 35(2), 186-205. Google Scholar - British Library Direct

Gladieux, L. (2000). "Global On-Line Learning: Hope or Hype?," Higher Education in Europe, 25(3), 351-353. Publisher - Google Scholar

Hall, M., rukow, A., Barr, C., Brock, K., de Wit, M. & Embuldeniya, D., et al. (2003). 'The Capacity To Serve: a Qualitative Study of the Challenges Facing Canada's Nonprofit and Voluntary Organizations,' Canadian Centre for Philanthropy, (Statistics Canada- Catalogue No. 61-533-SPB) Google Scholar

Kowch, E. G. (2005a). "Do We Plan the Journey or Read the Compass? an Argument for Preparing Educational Technologists to Lead Organizational Change," British Journal of Educational Technology, 5(6), 1067-1075. Publisher - Google Scholar - British Library Direct

Kowch, E. G. (2005b). "Hargreave's Call for Social Ingenuity in the Knowledge Society – Future Imperatives for Educational Technology and Teaching?," Canadian Journal of Learning and Technology, 31(1), 61-66. Publisher - Google Scholar

Liberman-Yaconi, L., Hooper, T. & Hutchings, K. (2010). "Toward a Model of Understanding Strategic Decision-Making in Micro-Firms: Exploring the Australian Information Technology Sector," Journal of Small Business Management 48(1),70–95. Publisher - Google Scholar

Long, L. K. & Smith, R. D. (2004). "The Role of Web-Based Distance Learning in HR Development," Journal of Management Development, 23(3/4), 270-284. Publisher - Google Scholar - British Library Direct

Maltz, L., & DeBlois, P. D. (2005). "Top-Ten IT Issues 2005," 15-28. Boulder, CO. EDUCAUSE Centre For Applied Research, Current Issues Committee. Publisher - Google Scholar

Marshall, C. & Rossman, G. B. (1999). Designing Qualitative Research, (3rd ed.). Thousand Oaks, CA: Sage. Publisher - Google Scholar

McAlpin, A. & Jackson, J. (2000). 'Change Management Plan Implementing on-Line Delivery: A Study of Change Management,' Brisbane, Australia: Australian National Training Authority.

Mitchell, J. (2003). E-Business and Online Learning: Connections and Opportunities for Vocational Education and Training, Leabrook, Australia: Australian National Training Authority. Publisher - Google Scholar

Murphy, K. L., Harvell, T. J. & O'Donnell, T. J. (1998). "Choosing and Managing Web Tools on a Budget," [Retrieved May 2006] Http://Disted.Tamu.Edu/~Kmurphy Publisher - Google Scholar

Murray, D. (2001). "E-Learning for the Workplace: Creating Canada's Lifelong Learners," Ottawa, on: Conference Board Of Canada. Publisher - Google Scholar

Murray, D. & Bloom, M. (2000). 'Solutions for Employers: Knowledge Review Report,' Ottawa, on: Conference Board Of Canada. Google Scholar

Newton, D., Hase, S. & Ellis, A. (2002). "Effective Implementation of Online Learning: a Case Study of the Queensland Mining Industry," Journal of Workplace Learning, 14(4), 156-165. Publisher - Google Scholar - British Library Direct

Oliver, M. & Conole, G. (2003). "Evidence-Based Practice and E-Learning in Higher Education: Can We and Should We?," Research Papers in Education, 18(4), 385-397. Publisher - Google Scholar - British Library Direct

Pfeffer, J. & Sutton, R. I. (2006). "Profiting from Evidence-Based Management," Strategy and Leadership, 34(2), 35-42. Publisher - Google Scholar - British Library Direct

Ringle, M., & Updegrove, D. (1998). "Is Strategic Planning for Technology an Oxymoron?," Cause/Effect, 2(1), 18-23. Publisher - Google Scholar - British Library Direct

Russell, A. W., Vanclay, F. M. & Aslin, H. J. (2010). "Technology Assessment in Social Context: the Case for a New Framework for Assessing and Shaping Technological Developments," Impact Assessment and Project Appraisal, 28(2), 109-116. Publisher - Google Scholar

Schwandt, T. (1994). 'Constructivist, Interpretive Approaches to Human Inquiry,' In N. K. Denzinand Y. S. Lincoln (Eds.), Handbook of Qualitative Research (2nd Ed., Pp. 118-137). Thousand Oaks, CA: Sage.

Sellers, M. (2005)."Moogle, Google, and Garbage Cans: the Impact of Technology on Decision Making," International Journal of Leadership in Education, 8(4), 365-374. Publisher - Google Scholar - British Library Direct

Stake, R. (2000).'Case Studies,' in N. K. Denzinand Y. S. Lincoln (Eds.), Handbook of Qualitative Research (2nd Ed., Pp. 435-454). Thousand Oaks, CA: Sage.

Tanoglu, I., Basoglu, N. & Daim, T. (2010). "Exploring Technology Diffusion: Case of Information Technologies,"International Journal of Information Technology and Decision Making, 9(2), 195-222. Publisher - Google Scholar

Tu, C.- H. (2005). "From Presentation to Interaction: New Goals for Online Learning Technologies," Educational Media International, 42(3) 189–206. Publisher - Google Scholar - British Library Direct

Van Der Wende, M. C. (2003). "Globalisation and Access to Higher Education," Journal of Studies in International Education, 7(2), 193-205. Publisher - Google Scholar - British Library Direct

Van Schoor, A. (2003, July). "Learning to Overcome Resistance to Change in Higher Education: The Role of Transformational Intelligence in The Process," Proceedings Of HERDSA (Higher Education Research And Development Society Of Australasia Inc.), Christchurch, New Zealand. Publisher - Google Scholar

Wagner, E. D. (1994). "Technology Aside: Building a Strategic Plan to Strengthen Academic Progress," Cause/Effect, 17(1), 109-121. Publisher - Google Scholar - British Library Direct

Wang, F.- K. (2002). "Designing a Case-Based E-Learning System: What, How, and Why," Journal of Workplace Learning, 14(1/2), 29-42. Publisher - Google Scholar - British Library Direct

Ward, D. & Hawkins B. L. (2003, May/June). "Presidential Leadership for

Information         Technology" Educause        Review,      Xx,        37-47.
Publisher - Google           Scholar - British            Library            Direct

Watkins, R. (2003). "Determining If Distance Education is the Right Choice: Applied Strategic Thinking in Education,"Computers in the Schools, 20(2), 103-120.
Publisher - Google           Scholar - British           Library           Direct

Wild, R. H., Griggs, K. A. & Downing, T. (2002). "A Framework for E-Learning as a Tool for Knowledge Management,"Industrial Management and Data Systems, 102(7),                                                                  371-380.
Publisher - Google           Scholar - British           Library           Direct

Wolcott, H. F. (1990). Writing Up Qualitative Research. Newberry Park, CA: Sage.
Publisher - Google                                                                            Scholar

Xue, Y., Liang, H. & Boulton, W. R. (2008). "Information Technology Governance in Information Technology Investment Decision Processes," MIS Quarterly, 32(1), 67-96.

Publisher - Google Scholar - British Library Direct