AN ANALYSIS
OF COMPANY X'S PROPOSED STRATEGY
FOR ENTERING THE M-LEARNING INDUSTRY

by

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PROJECT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

In the
Faculty
of
Business Administration

Management of Technology

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SIMON FRASER UNIVERSITY

Fall 2005

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ABSTRACT

This is an analysis of an e-learning services company's proposed strategy for entering the m-learning industry. The company, referred to as Company X, is aiming to create generic courses that are deliverable via cellular phones. It plans to license these courses to telecommunications providers who will then make the courses available to corporate customers on a subscription basis.

The analysis concludes that Company X should not pursue the proposed strategy. The m-learning industry is not yet commercially active, nor has a dominant design emerged. Company X has neither the financial nor the human resources necessary to develop commercially viable m-learning at this time. The combination of industry uncertainty and company instability renders the proposed strategy inappropriate.

In order to meet its goals, the company should instead aim to be a holistic training solutions provider within its existing industry. This strategy would exploit the company's current strengths and leverage its reputation.

Keywords: m-learning, e-learning, strategic analysis, emerging industry.

DEDICATION

I offer my earnest gratitude to my loved ones for their support,

both expressed and implied.

Among them, I must extend particular thanks

to my mother, for providing me with the space to reflect;

to my father, for helping me to seal the proverbial deal with 'Company X';

to my sister, for delighting me with her precocious insights;

and especially

to Alireza, for boosting my fortitude

through his unwavering faith in me.

ACKNOWLEDGEMENTS

I am deeply grateful for my supervisors' assistance throughout this project. I derived the framework for this project from Dr. Aidan Vining's work in strategic analysis. In addition, his pithy and swift feedback was of great help to me. Dr. Michael Parent graciously shepherded me from the day I applied to pursue this Master's degree through to the completion of this project. His dedication to students' success is evident.

I am thankful for Dr. Giancarlo Bo's help. He candidly shared his extensive research on the m-learning industry. Through reviewing his work, I was able to grasp the major forces at play in this emerging industry.

I am also appreciative of the time and energy that Company X's former CEO afforded me. Although he was unable to see this project through until its fruition, he was quick to give me the mandate to conduct this analysis. The m-learning industry will become commercially active through the entrepreneurial zeal of persons like him.

Finally, I must extend my thanks to the faculty and staff in the Management of Technology program. Amongst the staff, Anne Laird, Francine Mayrand, and Gord Rein have been particularly generous with their time and attention. Amongst the faculty, Dr. Ian McCarthy and Dr. Elicia Maine were especially intellectually energizing for me. That said, my accomplishments during the pursuit of this degree were as a result of the collective assistance of everyone involved in the program - my thanks to one and all.

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1 PURPOSE OF THIS ANALYSIS

An e-learning[1] services company (hereinafter referred to as 'Company X')

requested an analysis of their proposed strategy for entering the emergent m-learning[2]

industry. Company X is a public company. Therefore, it must demonstrate the feasibility

of this proposed strategy to its shareholders.

Company X currently specializes in developing customized computer-delivered

training for large companies. The company's principals believe that the company would

enjoy greater success if it were to offer potential customers a choice from a suite of

generic courses. The principals realize that there are many companies currently offering

generic computer-delivered courses. They envision offering their generic courses via

mobile devices in order to differentiate themselves from their competitors.

The company's principals plan to make their new products available to customers

through distribution channels in the telecommunications industry. They intend to sell

generic courses delivered via cellular phones to wireless carriers, such as Rogers

Communications. Wireless carriers would bundle these courses and sell them to their

corporate clients as part of an overall mobile telecommunications package.

The purpose of this report is to provide the company's principals with an analysis

of the feasibility of their proposed strategy. The report will include analyses of the

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[1] 'E-learning' refers to instruction delivered via electronic means.
[2] 'M-learning' refers to instruction delivered via mobile devices.

current m-learning industry as well as Company X's internal attributes. An in-depth

examination of the company's finances is beyond the scope of this analysis. The analysis

will conclude with a recommendation of an appropriate strategic direction for

Company X, and an associated six-month implementation outline.

2 INTRODUCTION TO COMPANY X

2.1 Purpose of this Section

The purpose of this section is to familiarize the reader with Company X's current situation. The reader may then take into account the company's vantage point when considering the analysis of the m-learning industry. The m-learning industry analysis is included in Section 3. The reader will find further analyses of Company X's attributes in Section 4.

In order to provide the reader with a general understanding of Company X, this section includes three descriptive sub-sections. The first sub-section consists of a brief outline of Company X's history up until and including November 2005. The second sub-section includes descriptions of Company X's products and target customers. The third sub-section presents Company X in the context of the educational services industry.

2.2 The History of Company X

A father and his 24-year-old son (hereinafter referred to as Mr. X Sr. and Mr. X Jr.) founded Company Y in 1994. The two used CAN$5000 in personal savings to start a company that provided computer-based training, or instruction delivered via desktop computers, to corporate customers. Company Y's products and services were targeted towards Fortune 1000 companies installing customer relationship management (CRM) software.

The company was able to secure sufficient financing for it to continue operating at a loss for 11 years. Three key elements made this possible. First, Mr. X Sr. had a network of financing contacts through his previous positions in other small and medium-sized technology companies. Secondly, Company Y is located in a city that subsidizes the salaries of technology workers. Thirdly, Company Y is located in a province that has extensive government-sponsored programs for technology start-ups founded by residents.

In 2001, Company Y renamed itself Company X. This event occurred following a failed attempt to become a public company through a reverse takeover. In the fall of 1999, Company Y signed a letter of intent with Company Z, a public firm whose core business was gold mining. Company Z was to create a subsidiary, named Company X, which Company Y would acquire. Company Y would then become a public company under the name 'Company X'. Company Z was to have shares in Company X. Company Y reneged on the initial plan following 15 months of negotiations. By law, Company Z had to suspend transactions of its shares during the negotiations. Company Y paid Company Z CAN$100 000 in compensation in the spring of 2001. Company Y obtained the rights to the name 'Company X' from Company Z at that time.

In 2002, Company X acquired Company W from a national telecommunications provider. Company W was, and continues to be, a provider of instructor-led classroom-based training to corporate clients. The company specializes in delivering software instruction. Company W was founded in 1982 under a different name. In 1998, a regional telecommunications provider bought the company. The telecommunications provider merged the company with its existing training subsidiaries. It named the resulting business 'Company W'. A national telecommunications provider acquired the regional

telecommunications provider in 2001. Six months later, Company X bought Company W from the national telecommunications provider. Company W retained its name. It continues to be profitable.

Mr. X. Jr., Company X's CEO, hired Mr. A in February of 2005. Mr. A replaced Mr. X Sr. as President. Mr. X Sr. continued to serve as Executive Counsel. Mr. A had previously served as VP of Global Operations for an international telecommunications provider. He had no prior experience in either the e-learning or the educational services industries. Mr. A advised Mr. X Jr. that, due to the increasing convergence of devices, cellular phones would soon function as wearable computers. He recommended that Mr. X Jr. strongly consider developing e-learning content that could be delivered via cellular phones (a.k.a. m-learning). Mr. X. Jr. was enthusiastic about Mr. A's concept. The other executives at Company X asserted that they required more substantiation of the project's viability before allocating any funds to it.

On June 22nd of 2005, Company X shares began trading on the Toronto Stock Exchange through a deal with Company V. Company X announced its intention to amalgamate with Company V in February of the same year. Company V was a public company established in October of 2004 by, amongst others, Company X's financial advisor. Company V had never conducted any commercial transactions and had no assets, other than cash. The amalgamation obtained regulatory approval in April. Company V executed the Qualifying Transaction on June 21st.

There were several changes in management at Company X during the fall of 2005. Two administrators resigned on September 2nd. Both persons had joined the company during its founding year. On September 12th, Mr. X Sr. and Mr. X Jr. resigned. Mr. A assumed the role of interim President/CEO. On September 28th, Mr. A and the COO resigned. Mr. X Sr. rejoined the company as interim President/CEO. Mr. X Sr. resigned on November 4th, citing health reasons. The company's financial advisor assumed the role of interim President/CEO. A new CEO took office on November 17th.

As of November 7th, the company is continuing to follow the restructuring plan initiated during Mr. X Sr.'s term as President/CEO. This plan includes revamping production processes and altering project management practices. As part of the plan, it is expected that Company W will be sold during the winter of 2006.

2.3 Company X's Products and Customers

2.3.1 Overview of Company X's Products

Company X specializes in providing e-learning solutions. This includes custom e-learning course design, generic course delivery, and hosting services. Company W's products, which are courses delivered via classroom instruction, shall not be included in this analysis.

2.3.1.1 Custom E-Learning Course Design

Company X derives the majority of its revenues from the sales of custom-made e-learning modules. Modules are usually based on a narrative in which the end-user is the protagonist. Company X generally references the client company's brand or logo when

selecting the colours for in the graphic user interfaces (GUIs). Most GUIs have elements not directly related to the instructional content.

Modules typically include original animation, video, and audio components. There are frequent opportunities for the end-user to alter the rate and method by which content is delivered. Educational theorists use terms such as 'highly interactive' and 'learner-centred' to describe this type of e-learning module. Both terms are considered laudatory amongst instructional designers.

Custom e-learning modules address the content prescribed by the customer. Company X representatives consult with customer representatives to determine what type of content should be delivered to whom and how. For example, Company X has created customized web-based 'teasers', which may be considered similar to movie 'trailers'. Teasers encourage end-users to become interested in content that customer company trainers will teach through a classroom-based session. Other e-learning modules are self-contained, including all instruction and evaluation. There are no templates for custom e-learning modules.

2.3.1.2 Generic Courses

Company X has not sold any generic courses to date. Its portfolio is comprised of custom modules that the company has modified to suit a wider audience. None of the generic courses fit into an over-arching curriculum.

For instance, Company X had developed a customer service module for tellers at a major Canadian bank. The module used case studies to prepare end-users for

subsequent classroom role-playing games. In the original version, all of the case studies

related to banking. The generic version presents scenarios that might apply to any person

who must provide service to the public in a face-to-face manner. The generic module

does not include online versions of the role-playing games.

2.3.1.3 Hosting Services

Company X provides e-learning hosting services for companies that do not own

their own learning management system (LMS). Figure 1 provides a graphical

representation of the model upon which those services are based.

Figure 1   Company X's learning management system model.
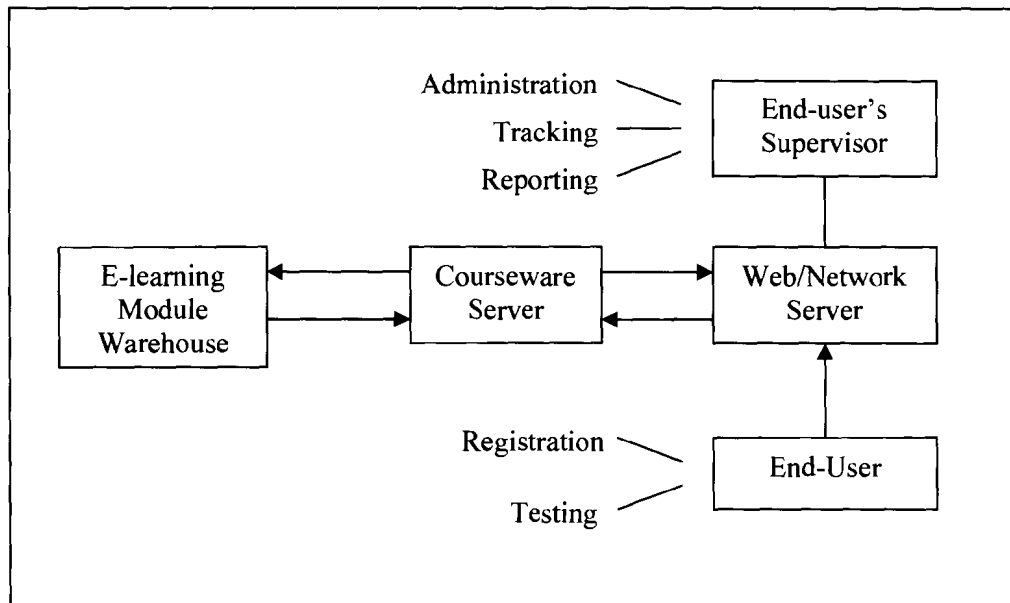
Based upon data in Company X's internal documents.

Company X has the infrastructure to house all of a customer company's online

training programs. Authorized end-users may use any web-browser to access those

courses through a secure and customized virtual space. Company X then provides

customer companies with reports on end-user activity. These reports may include test results, length of time spent completing a course, and number of attempts required to pass a course, amongst other options. Company X offers this product on a monthly subscription basis.

2.3.2 Overview of Company X's Customers

Company X's target customers are Fortune 500 and Global 1000 companies. The majority of its customers are pharmaceutical companies and financial institutions with headquarters in the Americas. Of these, most have contracted Company X to create training that supplements the installation of a CRM system.

Company X's products are typically one-time only purchases that are not part of an over-arching corporate education strategy. Company X's customers usually do not have a centralized training department. The decision to purchase Company X's products is routinely made at the divisional VP level of the company. The decision-maker usually has no hands-on experience in delivering training. Moreover, he or she is typically unfamiliar with e-learning products. The purpose the products serve is to underscore the importance of an initiative the decision-maker is implementing.

Company X has had a few contracts with major international non-governmental organizations. In the fall of 2004, the World Bank selected Company X to create an anti-sexual harassment e-learning program for its employees. Due to the success of that program, the U.N. has invited Company X to compete for similar contracts with several of its agencies.

2.4 Company X's Position within the Educational Services Industry

The educational services industry (NAICS[3] 61) within Canada represented 4.5% of GDP in 2003 (Industry Canada, 2003). In 1997 dollars, this represented CAN$45.3 million of value added by this sector of the economy. The industry includes schools, universities, colleges, and training centres.

Company X is part of the 'Professional and Management Development Training' sub-sector (NAICS 61143). Although Company X does create e-learning designed to instruct end-users to operate CRM software, the majority of its products address issues surrounding larger business objectives. Therefore, Company X is not part of the 'Computer Training' sub-sector. Figure 2 is a graphical representation of the relationship between Company X and NAICS 61.

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[3] 'NAICS' is the acronym for the North American Industry Classification System. The system was jointly adopted by Canada, the United States, and Mexico in 1997. It is intended to provide a common statistical framework, which facilitates analysis of the three economies.
(See http://strategis.ic.gc.ca/sc_ecnmy/sio/about_naics_eng.html for more information).

Figure 2 Company X in relation to NAICS 61.
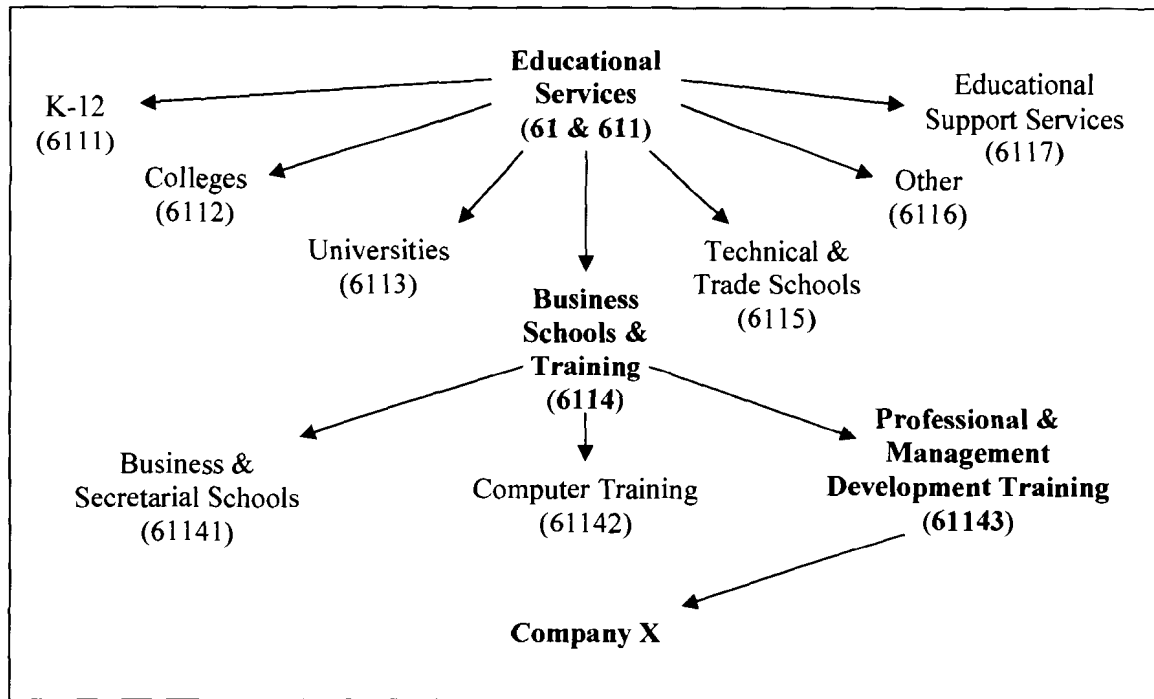
Based on Industry Canada (2003).

According to the U.S. Census Bureau (2004), NAICS 61143 firms differ from the average NAICS 61 firm in several regards. Nearly 12% of revenues in NAICS 61 are generated by NAICS 61143 companies, though the sub-sector includes less than 8% of the total number of firms in the industry. The average employee in this sub-sector earns US$34 687 per annum, compared to an industry-wide average of US$19 827. NAICS 61143 companies have an average of 27% less employees on staff than the average firm in the industry. There is no data available to confirm that the same is true in Canada; Industry Canada does not publish statistics on any NAICS 61 sub-sector.

Company X differs from the average U.S. NAICS 61143 firm in terms of the ratio of its revenues to its number of employees. Company X reported CAN$811 970 in revenues for the fiscal year ending on June 30th, 2005. Using an exchange rate of 0.84,

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this translates into US$611 926. Company X employs in excess of 25 persons. The average NAICS 61143 firm generated revenues of US$1 053 381 with 7.56 employees. According to the U.S. Census Bureau (2005), a firm generating Company X's revenues typically employs 6.59 persons.

2.5 Summary: Company is in Flux

This section presented a broad overview of Company X. The company's primary business is the creation of custom e-learning modules for Fortune 500/Global 1000 companies implementing CRM software. It has been operating at a net loss since its inception. Moreover, its employee to revenue ratio is unusually high for a firm of its type. The company is now in a volatile period. It went public 5 months ago. Its founders have resigned in the last 3 months.

Prior to his resignation, one of the founders proposed entering the m-learning industry. He reasoned that this shift in strategic direction would permit the company to exploit a first mover advantage in an emerging industry. The following section will include an analysis of the attributes of the m-learning industry.

3 THE M-LEARNING INDUSTRY

3.1 Purpose of this Section

The purpose of this section is to define the m-learning industry and its customer segments. A clear understanding of both the industry and its customer segments will permit an evaluation of Company X's ability to prosper through its proposed strategy. The reader will find that evaluation in Section 5 of this report.

This section is organized in three sub-sections. The first sub-section presents the context within which the overarching m-learning industry arose. The second sub-section contains an analysis of the current state of affairs within the m-learning industry. The final sub-section provides an overview of the various customer segments within the m-learning industry, including the segment Company X is proposing to target.

The industry analysis will be based upon Porter's 'Five Forces' model (1980). It will therefore include an analysis of the intensity of competitive rivalry within the m-learning industry. Four influences affect competitive rivalry. These influences are the bargaining power of customers[4], the bargaining power of suppliers, the threat of new entrants, and the threat of substitute products. The sub-section will include analyses of each of these influences.

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[4] Porter (1980) uses the term 'buyers' when referring to those who purchase the end products/services in a given industry. For the purposes of clarity, this analysis shall employ the term 'customers' when referring to this group.

3.2 The History and Present of M-Learning

3.2.1 The Roots of M-Learning

M-learning is an offshoot of e-learning. E-learning, in turn, is a branch of standardized instruction. Standardized instruction is a relatively new field in the discipline of education.

Academics in the field of Instructional Systems Design have chosen to accept the U.S.A.'s entry into World War 2 as the arbitrary founding period of standardized instruction (Reiser, 2001). During that period, the U.S. Armed Forces trained over two hundred thousand would-be soldiers in a matter of weeks. The Forces hired educational psychologists to develop efficient methods of consistently delivering effective training. The methodologies they developed made use of procedural manuals and instructional films. Those educational psychologists went on to develop the field of Instructional Systems Design.

Figure 3 M-learning: an offshoot of standardized instruction.
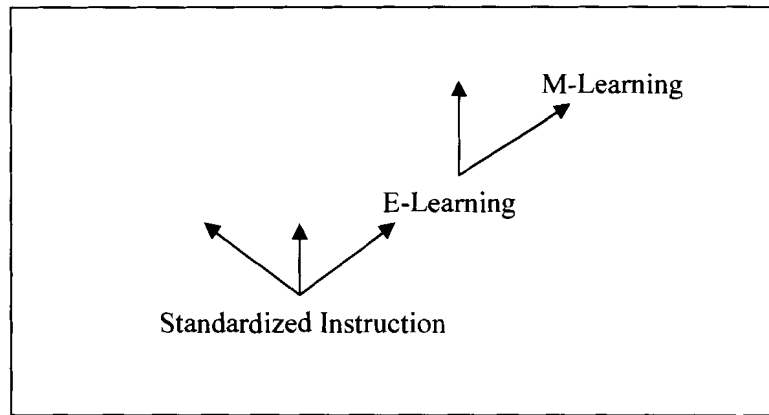
Based on Reiser (2001).

3.2.2 Pre-1990s

Several versions of standardized instruction emerged in the decades subsequent to WWII. Programmed Instruction (PI), or learning through a series of short lessons where each is a prerequisite for the next, was popular in the 1960s. Educators studied and implemented other forms of behavioural-modification oriented instruction, related to PI, throughout the 60s and 70s. These included 'The Theory of Behavioral Learning Objectives' (Mager, 1961) and 'The Keller Plan' (Keller, 1968).

Educational researchers developed the first constructivist learning theories during the late 1960s. Constructivist learning theories are based on the notion that learners must actively construct their own knowledge rather than absorb information through repetition. These theories remain popular in academic circles. However, they are not commonly applied in developing standardized instruction.

The media for delivering instruction evolved exponentially compared to the development of standardized instruction theories. Instructional films and workbooks were widely used until the advent of the personal computer, in the 1980s. Computer-aided

instruction, or instructional programs loaded onto PCs via CDs or floppy discs, permitted the stimulation of a broader array of senses at any given time. Moreover, computer-aided instruction permitted learners to receive instant feedback on their performance - a key tenet in behaviourist instruction.

3.2.3 1990s to 2000

By the mid 1990s, computer-aided instruction was beginning to give way to what is now termed 'e-learning'. Server-client technology permitted easy and instantaneous updates to educational content. Furthermore, instruction became highly scaleable at little or no variable cost. Despite the apparent benefits, both companies and educational institutions have been slow to adopt e-learning. Representatives of these organizations cite their concern over realizing a measurable return on investment (ROI) as their primary reason for hesitation (Sugrue & Kim, 2004).

3.2.4 Post-2000

There was a geographical split in the focus of instructional systems design research around 2000. E-learning software, service, and platform providers were endeavouring to make e-learning commonplace in North America. Educational researchers in North America were focusing on how best to use computers in K-16 educational environments. Meanwhile, mobile device manufacturers and educational researchers on other continents began exploring the possibilities of m-learning.

The following sub-sections outline three major m-learning research projects. All took or are still taking place outside of North America. These include the MOBilearn

Project (see http://www.mobilearn.org), the M-learning Project (see http://www.m-learning.org), and the Shanghai Jiaotong University E-learning Lab (see http://www.dlc.sjtu.edu.cn). Each project had a slightly different set of objectives. However, all three revealed the potential for m-learning to leapfrog e-learning in terms of widespread adoption.

3.2.4.1 The MOBilearn Project

The MOBilearn Project was a 30 month, €8 million undertaking funded by the European Commission's Information Society Technologies (IST) program within the Fifth Framework (see http://www.cordis.lu/fp5/). The 24-member project consortium included universities, mobile operators, software companies, learning content providers, and hardware manufacturers.

The objectives of the project, as listed on the project website (see http://www.mobilearn.org/objectives/objectives.htm), were as follows:

1. The definition of theoretically-supported and empirically-validated models for:
   a. Effective learning/teaching/tutoring in a mobile environment;
   b. Instructional design and eLearning content development for mobile learning.

2. The development of a reference mobile learning architecture that is attractive to key actors in Europe and beyond, and that supports:
   a. Human interfaces adaptive to the mobile device in use and the nature (e.g. bandwidth, cost) of the ambient intelligence that is available in a given location;
   b. Context-awareness tools for exploiting context and capturing learning experience;
   c. Integration of mobile media delivery and learning content management systems;
   d. Collaborative learning applications for mobile environments.

3. The development of a business model and associated implementation strategies for successful EU-wide deployment of mobile learning, starting from:
   a. A study of existing business models and market trends;
   b. An appraisal of the external environment.

4. Large-scale use of project results by all interested parties in Europe.

While the project concluded in March of 2005, the results have yet to be made widely available. However, one of the researchers noted in the final newsletter published by the project that "the rapid spread of Wi-Fi technology (...) will lead to rapidly falling telecommunications costs, eliminating the last major technological obstacle to the uptake of mobile learning services" (Brugnoli, 2005). Moreover, she observed that consumer demand for converged devices (i.e. devices that perform multiple functions, from serving as a mobile telephone to playing streaming television to sending and receiving email) could impel device manufacturers to assist in promoting m-learning services.

3.2.4.2 The M-Learning Project

The M-Learning Project was as a 36 month, €4.5 million endeavour also sponsored by the European Commission's IST program within the Fifth Framework. The U.K.-based Learning and Skills Development Agency (see http://www.lsda.org.uk) coordinated the project. Partner institutions included universities and commercial firms in Britain, Italy, and Sweden.

The objectives of the project, as alluded to on the project website (see http://www.m-learning.org/background.shtml), were to explore the possibilities of helping young adults most at risk of social exclusion in Europe through mobile learning. More specifically, it targeted 16-24 year-olds who were under-educated and under-

employed. The project aimed to improve their literacy and numeracy skills through short lessons delivered via mobile phones.

The M-Learning Project concluded in October of 2004. Published results indicate that learners normally disinterested in education are more enthusiastic about learning when doing so via mobile devices (Attewell, 2005). The researchers also noted that learners who normally did not have access to computers adopted m-learning easily, thereby giving evidence of a steep learning curve. Spin-off projects, including 'Skills for Life' (see http://www.ioe.ac.uk/hgm/ research/SkillsforLife), are ongoing.

3.2.4.3 The Shanghai Jiaotong University E-Learning Lab

The Shanghai Jiaotong University (SJTU) E-Learning Lab was founded in 1995. It was originally termed 'The Distance Education Research Laboratory of the China Education Science and Research Network'. The Lab has developed applications for synchronizing classroom-based learning with mobile phone use through partnerships with companies such as IBM, Intel, and AT&T. Currently, SJTU students may view real-time streaming video of their lectures via their mobile phones. Lab researchers are endeavouring to enable students to interact with their professors using their mobile phones while in class.

3.2.5 The Impact of the Past on the Present

As noted, m-learning is the most recent manifestation of standardized instruction. Despite extensive research contesting their effectiveness, behaviourist theories continue to be widely used in K-16, corporate, and personal development education. The educating

institutions within each of these groups typically also use some degree of standardized instruction. As a result, the current providers of m-learning structure the content according to behaviourist theories. This practice occurs notwithstanding the fact that m-learning is well-suited to supporting other, more effective, pedagogical theories (Bo, 2005; Naismith et al., 2004).

As revealed in the examples of previous and ongoing m-learning research endeavours, learners can easily adopt m-learning. However, m-learning has inherited e-learning's reputation for technological glitches, unfounded hype, and learner isolation (Sugrue & Kim, 2004). Industry experts predict that this will compel m-learning providers to market m-learning as 'electronic performance support' designed to meet specific objectives, rather than an education delivery mechanism (Kaplan-Leiserson, 2005).

The m-learning industry is therefore subject to a paradox. In one sense, education is expected to take the form of a behaviourist model. Much of e-learning did adopt this model, and much of it was met with learner dissatisfaction. Conversely, m-learning is a viable way of delivering education that follows other, more effectual but less accepted, pedagogical theories. Moreover, most research as to the adoptability and appropriateness of m-learning has been conducted outside of North America. This is despite the fact that most e-learning takes place in North America.

3.3 Analysis of the M-Learning Industry

3.3.1 Rivalry amongst Existing Firms

The m-learning industry is in a period of pseudo-cooperation between, rather than competition amongst, m-learning providers. It is common for m-learning providers to share information. The lack of competition is confirmed in the MOBilearn Final Report, which states that "[there is no] significant commercial activity in mobile learning content and/or services production and management" (Bo, 2005, p50).

Providers' current intentions are to create demand amongst potential customers. At this stage, they must build customer awareness of m-learning. In addition, they must seek to demonstrate the general ROI for m-learning initiatives, versus other modes of instruction. Some providers, such as IBM, are re-branding m-learning as 'mobile performance support systems' in an effort to enhance the value proposition.

3.3.2 Customer Bargaining Power

At this point in the industry's development, customers' bargaining power is lesser than m-learning providers' power. The m-learning industry is as of yet emergent. It therefore faces the typical hurdles of any new industry. However, the e-learning industry has set customers' expectations such they favour m-learning providers' position.

The factors weakening customers' bargaining power are substantial. The most compelling factor is the lack of information available to buyers. This disparity results in customers being dependent upon m-learning providers to educate them as to their needs.

In addition, m-learning is a non-consumable created by a small pool of human capital. This results in a low likelihood of backwards integration by customers.

While the factors that strengthen customers' bargaining power are few, they are notable. Buyer introduction costs, or 'switching costs', are high as the majority of customers do not yet have the technological infrastructure to support m-learning. This infrastructure includes WiFi-enabled workspaces, ubiquity of handheld devices which can deliver m-learning (e.g. smartphones, web-browsing capable PDAs), and learning content management systems which can house and transmit m-learning content. Customer price sensitivity in the e-learning industry is low (Sugrue & DeViney, 2005; Sugrue and Kim, 2004), and may thus be true as well in the m-learning industry. However, the total price of purchase is high when one considers the necessary infrastructure upgrade. Therefore, customers are more prone to implementing pilot m-learning projects for the time being.

3.3.3 Supplier Bargaining Power

Suppliers to m-learning providers have low bargaining power. As firms whose raw materials are intangibles, m-learning providers' suppliers are its labour force. Business critical employee functional areas include digital graphic design, instructional design, and programming. These employable groups have minimal collective bargaining power for two reasons. First, there is a surplus of qualified labour. Secondly, there is a low degree of organization within those groups.

There is a particular abundance of graphic designers and programmers in the available labour force. According to the U.S. Bureau of Labor Statistics (2005), 136 000 professionals specialized in computer and mathematical applications and 157 000 art, design, and media professionals were unemployed in 2004. Moreover, degree-granting institutions in the U.S.A. report conferring 46 089 Associate degrees and 57 439 Bachelor's degrees in Computer Science in 2003 (National Center for Education Statistics, 2004).

Trained instructional designers are less available. The relative scarcity of trained instructional designers is due to the small number of post-secondary institutions offering courses in that field. Those that do offer such courses usually make them available only to Master's students. However, due to the youth of the field of e/m-learning, self-styled instructional designers have emerged from the general education and training fields. The U.S. Bureau of Labor Statistics (2005) reports that over 207 000 education and training professionals were unemployed in 2004. Though trained instructional designers might be critical of their output, m-learning firms could draw from this pool to fill their instructional design personnel needs.

None of these three labour groups is unionized. Some instructional designers (both trained and self-styled) are members of professional associations, such as the American Society for Training and Development (see http://www.astd.org) and the International Society for Performance Improvement (see http://www.ispi.org). However, these associations are not empowered to represent their members in negotiations with employers. Therefore, the available labour force is not organized enough to have any collective bargaining power.

3.3.4 Threat of New Entrants

There is a high threat of new entrants in the m-learning industry. The reason for this is twofold. First, the industry is not yet commercially active, despite apparent end-user readiness (Bo, 2005). There is thus room for e-learning firms to enter the industry as m-learning providers. Secondly, typical barriers to entry are either not significant or not present in the industry. The reasons for this are outlined in the following sub-sections.

3.3.4.1 Economies of Scale

As an m-learning firm may or may not realize economies of scale, this is not a substantial barrier to entry. M-learning products may take a wide variety of forms, from custom modules created to a specific customer's subject matter needs to generic asynchronous discussion tools. Therefore, one cannot generalize as to whether firms will realize declining unit costs as volume increases or not.

3.3.4.2 Product Differentiation

Product differentiation is not a barrier to entry. Trained instructional designers might posit that brand name should be important to an m-learning firm, as quality instruction transcends particular content. Indeed, many would argue that extensive experience in a customers' industry is not necessary for, and sometimes can even impede, the production of excellent instruction in that subject matter area. However, customers think differently.

Firms select their e-learning provider according to that provider's experience with their particular industry, rather than by brand name (Sugrue & DeViney, 2005). One may extend this finding to apply to m-learning providers. As such, consulting companies that specialize in a particular industry could choose to offer m-learning products to their customers. Similarly, someone who has extensive experience working in a particular industry could start an m-learning firm and sell to their former employer(s). In short, anyone with experience in an industry will be considered a credible producer of m-learning for that industry.

3.3.4.3 Financing

The procurement of financing is not a barrier to entry, as establishing an m-learning firm does not require a large capital investment. The most significant costs associated with launching an m-learning firm would be the purchase of computing power, development software, and the payment of employee salaries. Arguably, an individual could start an m-learning company in his/her living room, and have a product to market for less than USD$10 000.

3.3.4.4 Switching Costs

Customers' costs associated with switching between m-learning providers will likely be low. These costs therefore do not present a barrier to entry. Consumers are now demanding that e-learning modules meet industry standards for inter-operability with each other and learning content management systems. M-learning, as an offshoot of e-learning, will likely have to conform to these same standards. As such, customers may purchase m-learning content from many different providers at once or in the future.

3.3.4.5 Distribution Channels

Finally, given that distribution channels for m-learning have yet to be cemented, access may not be considered a barrier to entry. Most issues related to m-learning are either new or are publicly available (e.g. research related to m-learning). Therefore, the industry at large appears to be an open and level playing field for all interested parties.

3.3.5 Threat of Substitutes

The most viable substitute for m-learning is its predecessor - e-learning. While e-learning is fundamentally different, in that end-users may only partake of it at fixed locations, the two are considered comparable. Both differ considerably from traditional classroom instruction because they are delivered via electronic devices. As such, consumers must be educated as to the difference(s) between them. Once those differences are clear, then m-learning providers can illustrate m-learning's superiority for certain instructional needs.

Customers would have to invest in costly technology upgrades in order to implement an m-learning initiative. This necessity strengthens the threat of substitutes. Potential customers would be more prone to purchasing electronically delivered learning for which they already have the appropriate technology. E-learning requires only a PC and an internet connection, both of which are commonplace in corporate environments. Many potential customers would logically choose e-learning over m-learning.

3.4 Customer Segments in the M-Learning Industry

3.4.1 Rationale for using E-Learning Industry Customer Segments

The emerging m-learning industry shares several of the characteristics that the e-learning industry had when it was nascent (Block & Dobbell, 1999; Hoppe & Breitner, 2003). The following is a summary of those shared characteristics:

- The **technological infrastructure** required for m-learning (i.e. m-learning ready mobile devices, m-learning ready learning content management systems, and WiFi or WLAN connectivity) is not widespread.

- **Standards of quality** in m-learning, in terms of both content and instructional design, have yet to be determined.

- **Social acceptance** of m-learning as equivalent or superior to traditional classroom instruction is not prevalent.

Because of these similarities, it is reasonable to transpose the existing e-learning customer segments onto the emergent m-learning industry. Both the economic buyers and the expected end-users of m-learning products define those customer segments. The customer segments include K-12 institutions, post-secondary educational institutions, non-profit para-educational institutions, personal and professional development institutions, and corporations. The sub-sections that follow provide brief descriptions of each of the segments.

3.4.2 Customer Segment 1: K-12 Institutions

K-12 institutions include schools offering kindergarten through grade 12 educations, or any portion thereof. The expected end-user of m-learning products would therefore be the students attending these institutions. These students differ from students attending post-secondary educational institutions in many regards, including that students who are up to and including the age of 16 are required to receive K-12 schooling.

Increasingly, K-12 institutions are establishing instructional technology service departments. These departments coordinate the distribution of and assist teachers in using technology to enhance their instruction. According to a recent survey of over 8000 K-12 school districts in the U.S.A. (Quality Education Data, 2005), 47% of schools plan on mounting a major technological initiative within the next 24 months. A major initiative would include the purchase of desktops, laptops, and/or handheld devices, and educational software.

K-12 institutions will not be on the forefront of widespread m-learning adoption. This is despite the fact that much research into the effectiveness of m/e-learning took place within K-12 environments. Two factors justify this prediction. First, K-12 schools are slow to receive sufficient funding to support new technology-related initiatives. Secondly, teachers are generally hesitant to alter their teaching practices in order to take advantage of technological tools. M-learning providers can therefore expect a lengthy sales cycle and an extended adoption curve.

3.4.3 Customer Segment 2: Post-Secondary Educational Institutions

Post-secondary educational institutions refer to 2 and 4 year accredited colleges and universities, as well as trade and technical schools. The majority of these institutions have minimum entrance requirements, such as a secondary school diploma or a portfolio evidencing a particular talent. Learners at these institutions enrol on a voluntary basis. Learners also pay for the education they receive.

Instructional technology is more common within post-secondary institutions than in K-12 institutions. A survey that targeted 5400 accredited two and four-year post-secondary institutions in the U.S.A. (Market Data Research, 2005) indicated that computerized course management systems are ubiquitous in this segment. This figure is up from 83% of institutions using such systems in 2002. The survey indicated that wireless networks are now available in 80% of respondents' institutions. Respondents forecasted a 4% decrease in technology spending in 2005 over 2004, down to an average of US$1.2 million per institution. Historical data indicates that this likely decrease is part of the typical ebbs and flows in funding within this customer segment.

As within K-12 institutions, much of the ongoing research regarding best practices in e-learning is being hosted by and conducted within post-secondary institutions. Two out of three universities now offer distance learning programs (Market Data Research, 2005). The growing popularity of online universities, such as University of Phoenix (see http://www.uopxonline.com) and Athabasca University (see http://www.athabascau.ca), indicates that end-users in this customer segment value education delivered via electronic means.

Post-secondary institutions would appear to be a fertile customer segment for m-learning providers. The reasons for this are fourfold. First, there is an availability of infrastructure to support m-learning. Secondly, there are personnel resources available to support further development. Third, there is evidence of acceptance of e-learning, which is closely related to m-learning. Finally, there are sizeable budgets available for educationally related technology purchases.

3.4.4 Customer Segment 3: Non-Profit Para-Educational Institutions

For the purposes of this report, non-profit para-educational institutions refer to organizations for which a portion of their mandate is to inform the public with the aim of civic or environmental improvement. Such organizations would include museums, zoos, libraries, botanical gardens, and aquariums. These organizations serve as stewards or guardians for some non-human entity (e.g. artwork, animals, books, plants), but invite the greater public to interact with their wards for a fee. Aside from said fee and occasionally a dress code, there is generally no prerequisite for gaining admission to these institutions.

Para-educational institutions represent a customer segment that is likely to adopt m-learning. The National Museum of the American Indian, a branch of the Smithsonian which opened in Washington D.C. in September of 2004, includes an Interactive Learning Center. The museum had a government-funded instructional technology budget of USD$4 million budget (Chourey, 2004). In 2005, that budget was USD$1.5 million. This museum evidences a trend towards government-sponsored implementation of instructional technology within this customer segment. Moreover, para-educational institutions have long served as enthusiastic sites for m-learning research (Bo, 2005; vom

Lehn et al., 2001; Abowd et al., 1997). Therefore, m-learning providers may expect a lengthy sales cycle but a compressed adoption curve.

3.4.5 Customer Segment 4: Personal and Professional Development Institutions

Personal and professional development institutions include organizations whose primary purpose is to provide education, but not necessarily certification. This customer segment includes language schools, informal art schools, and software education schools. Students at these institutions have not been obligated to enrol, nor are there usually admittance prerequisites, but each student's education is self-funded.

The degree to which personal and professional development institutions have adopted instructional technology is largely dependent upon each institution's subject matter of specialty. For instance, language schools have implemented e-learning initiatives at a rapid pace (Wong & Hu, 2003). CleverLearn (see http://www.cleverlearn.com) is an example of a language school that is currently offering its courses via m-learning. However, institutions that impart a more physical education, such as dance or sculpting schools, have been slower to adopt instructional technology. This is likely owing to the limited ability to which current technology can mimic tactile sensations. As such, m-learning providers may expect a wider variety of customer acceptance levels in this segment.

3.4.6 Customer Segment 5: Corporations and Government

For the purposes of this report, corporations and government include either for-profit or non-profit organizations whose primary business is not education, but which do train their own employees. Therefore, the American Red Cross would be included within this segment, as would Wal-Mart and the British Columbia Ministry of Transportation. End-users, or learners, within this customer segment have had to meet organization-specific and pre-determined minimum requirements in order to be employed by these organizations. These minimum requirements usually include some level of literacy and numeracy. Although organization-hosted education is not always mandatory, the organization, rather than the individual learner, usually funds it.

According to the American Society for Training and Development, which publishes the well-respected 'State of the [e-learning] Industry Report' every year, corporations are increasingly using instructional technology to enhance their training functions. In 2002, 15% of all training was primarily delivered using instructional technologies (Sugrue & Kim, 2004). In 2004, 29% of all training was delivered via electronic means. However, the average annual expenditure per employee for training has remained roughly the same since 2002, at approximately USD$820. This would seem to indicate that corporations are not adopting e-learning as a cost-cutting measure, but as the increasingly preferred media for training delivery.

The apparent commitment to innovation in learning in corporations is misleading. Another study indicates that concerns over ROI are inhibiting the adoption of instructional technology (Sugrue & DeViney, 2005). That study showed that innovation in training ranks amongst the least important concerns for corporations. The fact that

training initiatives do not typically directly drive corporations' revenue streams may explain this ranking. M-learning industry experts therefore recommend that m-learning providers tightly link m-learning with revenue-generating business objectives when selling to corporations (Kaplan-Leiserson, 2005).

3.4.7 Summary of Customer Segment End-User Characteristics

In order to clarify further the differences between the five customer segments, it may be useful for the reader to refer to Table 1.

Table 1 Comparison of end-user characteristics by m-learning industry customer segment.

End-user characteristic	Customer Segment				
	K-12	Post-Secondary	Non-Profit	Pers. & Prof. Dev.	Corp. & Gov.
Children	✓		✓		
Adults		✓	✓	✓	✓
Self-funded		✓	✓	✓	
Self-directed		✓	✓	✓	∼
Source of revenue	✓	✓	✓	✓	∼
Met non-financial entrance requirements		✓			✓
In a pro-learning technology environment	∼	✓	✓	✓	∼
Require standardized content	✓	✓		∼	∼

Legend: ✓ = Always ∼ = Not Always (blank) = Rarely, if ever

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The following is a brief description of each characteristic, as well as an explanation as to why each characteristic is important to m-learning providers:

- **Children**

  Description: end-users under the age of 18 years old.

  Importance: educators contend that children learn differently from adults, as they have fewer life experiences and less desire to control their own learning.

- **Adults**

  Description: end-users over the age of 18 years old.

  Importance: educators assert that adults learn differently from children, as they have more extensive life experiences and a greater desire to control the pace and content of their learning,

- **Self-funded**

  Description: end-users who pay for the instruction they receive.

  Importance: end-users who pay for their own instruction will be more motivated to both partake in and complete it.

- **Self-directed**

  Description: end-users who receive instruction on a voluntary basis.

  Importance: end-users who receive instruction of their own volition will experience higher satisfaction and have higher retention rates.

- **Source of revenue**

  Description: end-users who are a source of revenue for the organization from whom they are receiving instruction.

  Importance: the stronger the link between the end-user and revenue for the organization, the more likely the organization is to invest profits in said end-user.

- **Met non-financial entrance requirements**

  Description: end-users who had to fulfil some prerequisite(s), other than paying a fee, in order to receive instruction from the organization.

  Importance: end-users have some common denominator of knowledge or skill.

- **In a pro-learning technology environment**

  Description: end-users are receiving instruction within a social atmosphere that appreciates the inherent value of instructional technology.

  Importance: end-users who are in a supportive environment will experience higher satisfaction and have higher retention rates.

- **Require standardized content**

  Description: end-users require instruction that enables them to meet minimum performance standards.

  Importance: end-users who are aware of their post-instruction performance requirements will experience higher satisfaction and have higher retention rates.

M-learning providers should consider 'End-user satisfaction' and 'retention rate' to be of particular importance. This is because three of the five customer segments collect this data. All post-secondary schools and 74% of corporations measure end-user satisfaction as a key indicator of the quality of instruction(Sugrue & Kim, 2004). All K-12 and post-secondary institutions measure retention, as do 31% (ibid.) of corporations. It follows that those m-learning providers that target customer segments whose end-users possess characteristics that pre-dispose them to appreciating m-learning would experience the most customer acceptance. In turn, such m-learning providers would likely also face greater competition.

3.4.8 Inter-Relationships between Customer Segments

The m-learning industry, as is true of other emergent capitalistic environments, encompasses many inter-dependencies and conflicts of interest within relationships. In addition to being potential customer segments for m-learning providers, the groups described in Sub-Sections 3.4.2-3.4.6 may also serve as m-learning providers to each other. Figure 4 provides a graphical representation of those relationships.

Figure 4   Inter-relationships between customers across m-learning sub-industries.
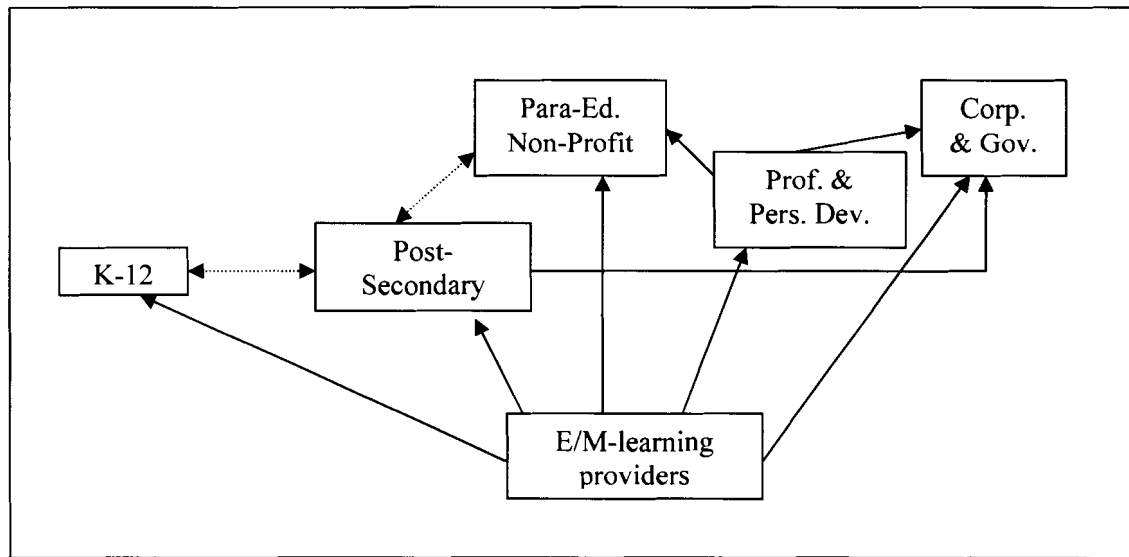
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The following is a brief explanation of these inter-relationships:

- **K-12:** these institutions usually purchase software, as opposed to pre-fashioned lessons, from instructional technology providers. This enables them to construct e/m-learning modules in an ad hoc fashion.

- **Post-secondary:** like K-12 institutions, these organizations usually purchase software from instructional technology providers. They then create their own e/m-learning modules in-house. In addition, post-secondary institutions co-develop e/m-learning modules with K-12 and para-education institutions as part of research grants. On a more opportunistic front, some post-secondary institutions, such as Simon Fraser University (see http://www.learningstrategies.ca), sell their e/m-learning modules to corporations/government.

- **Para-education non-profit:** these organizations also purchase instructional technology software with a view to developing e/m-learning in house. Occasionally, their budgets allow them to purchase pre-packaged e/m-learning courses. As mentioned earlier, they are often on the receiving end of charitable relationships with post-secondary institutions.

- **Personal and Professional Development (PPD):** like the three previously described customer segments, PPDs typically purchase software from instructional technology providers. They then create and sell their courses to other institutions and/or individuals. Some PPDs purchase very basic authoring software (e.g. Macromedia Flash), in order to minimize upfront costs and increase internal instructional design flexibility.

- **Corporations and Government:** these organizations are most functionally able to outsource instructional technology development if it is cost-effective. As such, they will purchase courses from e/m-learning providers, post-secondary institutions, and/or PPDs. Their purchase decision is most dependent upon the value proposition.

3.5 Summary: Industry is Undeveloped

This section revealed the attributes of the m-learning industry. It is an emerging industry that is highly comparable to its predecessor, the e-learning industry. At this stage, competitors within the industry are cooperating in an effort to create demand.

M-learning is well-suited for little-used, but more effective, instructional models. The corporate customer segment is most likely to purchase m-learning content, rather than create it in-house. However, this segment is least likely to accept unconventional instructional models. This segment is most critical of m-learning's value proposition.

The corporate market segment of this industry is suitable for companies with certain attributes. Customers are most likely to employ m-learning providers with extensive experience in the customer's area of business. Of those, the m-learning providers that can demonstrate ROI are most likely to succeed. The following section provides an analysis of Company X's attributes.

4 THE INTERNAL CHARACTERISTICS OF COMPANY X

4.1 Purpose of this Section

The purpose of this section is to provide the reader with a summary of Company X's attributes. This section expands upon the introduction to Company X provided in Section 2. This further description of Company X's activities facilitates an understanding of the firm's current performance. Section 5 includes an evaluation of the proposed future activity of targeting the corporate m-learning customer segment. The information presented in this section forms part of the basis of that evaluation.

In order to facilitate the reader's understanding of Company X's attributes, this section contains three sub-sections. The first sub-section includes descriptions of the company's resources. The second sub-section outlines Company X's organizational structure. The third sub-section provides a summary of how Company X adds value (i.e. generates revenue) through its internal processes.

4.2 Company X's Resources

This analysis examines Company X's resources according to their functional types. These types include financial resources, fixed assets, human resources, intangible resources, and technological resources. Descriptions of each of these as they relate to Company X follow.

4.2.1 Financial Resources

On June 30th, 2005, Company X's financial statements showed a positive cash position of CAN$137 939. The company has access to CAN$1 150 000 in lines of credit. It also has access to $78 027 of a CAN$300 000 demand loan, as it has already incurred $221 973 of debt through that resource.

Company X's capital assets consist of fixed assets only. It has furniture, computer equipment, leasehold improvements, equipment under capital lease, software, and licenses. The net book value for these is CAN$ 659 785. This amount is less that the June 30th, 2004, figure of $773 588 due to accumulated amortization.

Company X is facing potential financial difficulties. The company is in default in the following ratios: working capital, debt service, and debt/equity. Accordingly, the company's accountants classified long term-debt as current debt. The company reports that there is reason for concern that it may not meet its commitments and liabilities as they come due.

Management aims to sell the classroom instruction company that Company X owns, previously introduced to the reader as Company W. They hope that this sale, in combination with revenue generated from operations, will reduce the likelihood of the company needing to seek protection from its creditors in the next fiscal year.

4.2.2 Fixed Assets

Company X's fixed assets consist of physical assets and equipment. The company has recorded these assets at a cost of CAN$1 647 598 with CAN$987 813 in accumulated amortization. Fixed assets therefore now have a book value of CAN$659 785.

The company amortizes each type of fixed asset at a different rate. It amortizes furniture and office equipment at 20% annually, on a declining balance basis. It amortizes the computers and related equipment at 30% annually, on a declining balance basis. It amortizes leasehold improvements on a straight-line basis over the term of the 5-year lease. It amortizes equipment under capital lease on a straight-line basis over the terms of each lease. It amortizes computer software on a straight-line basis over a period of 3 years. It amortizes licenses on a straight-line basis over the terms of each license.

Company X records deferred development costs at cost. The rate of amortization provided for deferred development is 33.3% on a straight-line basis.

4.2.3 Human Resources

Company X has experienced numerous challenges in most of its human resource areas. The adversities occurred primarily in the areas of management, instructional design, and sales. The graphic design and programming areas have remained successful and stable in comparison to the aforementioned three areas.

4.2.3.1 Management

Company X's management team has undergone significant changes during the fall of 2005. Both founders, Mr. X Sr. and Mr. X Jr., have departed. Mr. X Jr., the former CEO, was the driving force behind the company's growth. Mr. X Sr., the former Executive Counsel, tempered Mr X Jr.'s ambitions with his 40 years of experience in the technology sector. After several interim CEOs, including Mr. X Sr. filling the position for a few weeks, the company has hired Mr. B.

Mr. B has 20 years experience in the technology sector in Company X's city. Most recently, he was CEO of a now successful public company. That company shall be termed Company B for the purposes of this analysis. Company B specializes in software business solutions, information technology, and systems integration consulting. There is no indication to date that he has resigned from his position as CEO of Company B.

Company B's press releases credit Mr. B with being largely responsible for reviving Company B from near bankruptcy in March of 2003. Mr. B orchestrated Company B's acquisition of three local companies, the disposition of two subsidiaries, and a workforce reduction of 40%. Company B's revenue model is now based upon software licenses, recurring revenues, and strategic projects with key customers. Company X's bases its revenue model on different attributes. Sub-section 4.4 outlines Company X's model for adding value.

4.2.3.2 Instructional Design

Company X has experienced difficulty in sourcing qualified instructional design personnel. Although one of the local universities has a Master's program in Instructional

Design, which outputs approximately 20 graduates per year, the company has no full-time instructional designers on staff. Mr. X Jr. reported (personal conversation, June 23rd, 2005) that this is because instructional designers do not have sufficient business acumen to manage instructional design projects.

To address this issue, Company X assigns instructional designers very limited roles. It hires them on a short-term contract basis to design the concept of the e-learning module. This occurs through consultations with the salesperson who secured the project. The salesperson then continues to manage the project until its completion.

It is rare for an instructional designer to be contracted more than twice by Company X. Mr. X Jr. stated (personal conversation, June 23rd, 2005) that this reluctance to re-hire is as a result of instructional designers' habit of re-using instructional models. Mr. X Jr. explained that he prefers to contract instructional designers who can contribute new ideas.

4.2.3.3 Sales

On average, Company X's salespeople secure and manage one contract before the company dismisses them. Mr. X Jr. stated (personal conversation, June 23rd, 2005) that every salesperson Company X has hired to date has only been able to generate three or four leads during their term of employment. The salesperson secures a contract with one of those leads, manages it to completion, and typically cannot find any other viable leads. Salespeople's remunerations are entirely commission-based, payable in instalments once they secure a contract. No salesperson has remained with Company X beyond 15 months.

4.2.3.4 Graphic Design and Programming

The majority of Company X's employees are graphic designers and programmers. Company X houses them in a location separate from management, instructional designers, and sales personnel. Customers are welcome to contact them directly in order to suggest alterations to e-learning modules they are developing. Client testimonials indicate that customers are very pleased with their professionalism and dedication to excellent customer service. According to Mr. X Jr. (personal conversation, June 23rd, 2005) most of Company X's graphic designers and programmers have been with Company X for more than 2 years. The provincial government subsidizes these employees' salaries.

4.2.4 Intangible Resources

Company X's sole intangible resource is its company name. That name is increasingly being associated with customized e-learning solutions developed to facilitate Siebel[5] CRM solutions. As mentioned in Sub-Section 2.3.2, Company X's name is also becoming well known amongst international non-governmental organizations for soft skills-oriented e-learning.

4.2.5 Technological Resources

Company X has limited technological assets. It does not own any patents. In general, patents do not provide e-learning/software developers with sufficient protection to justify the cost. Company X does have intellectual property. Its 'BigK LMS Portal' offers online access to a proprietary learning content management system.

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[5] 'Siebel' is a registered product trademark of Oracle Corp.

4.3 Company X's Organizational Structure

As mentioned in Sub-Sections 2.2 and 4.2.3.1, Company X's has significantly

changed its organizational structure during the fall of 2005. Figure 5 provides a graphical

representation of the company's structure prior to September 12th, 2005, when the first

publicly known reorganizations began.

Figure 5   Company X's organizational structure pre-September 12th, 2005.
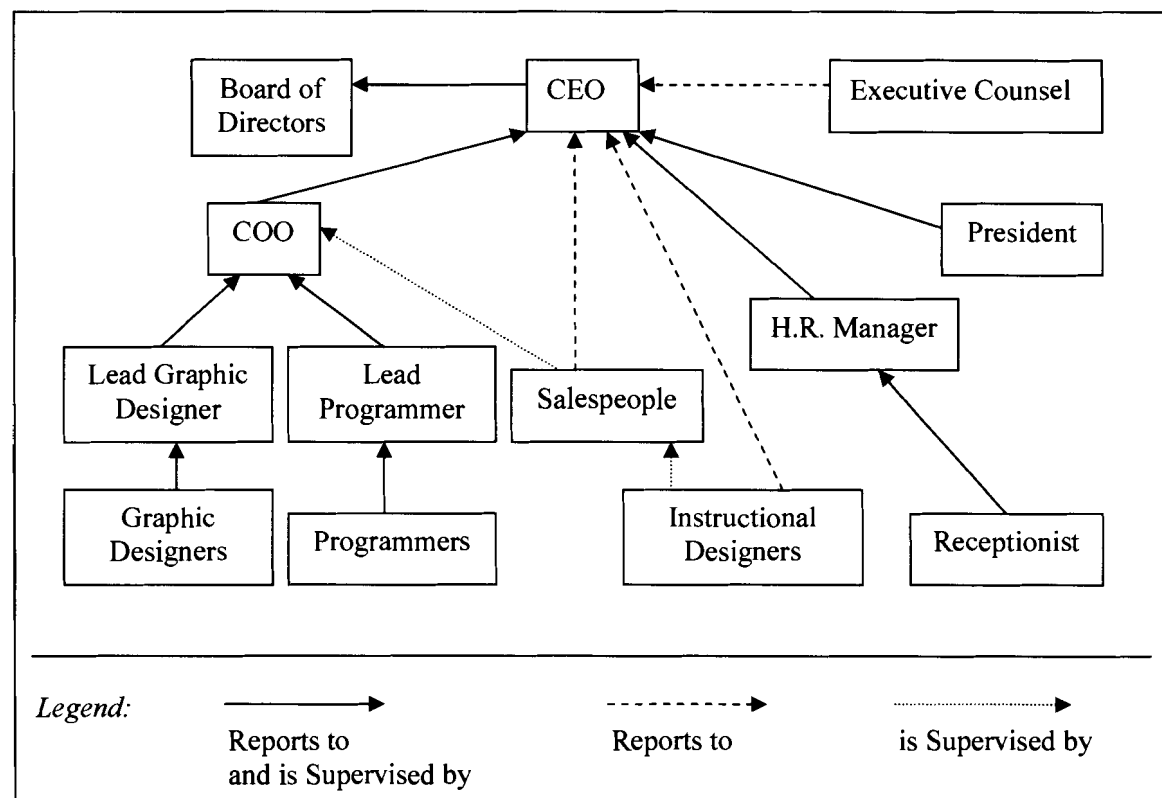
Based upon a personal conversation with Mr. X Jr., June 23rd, 2005.

Before the reorganizations, there were several layers to Company X's hierarchy.

The CEO, then Mr. X Jr., had a number of people reporting to him. The Executive

Counsel, his father, advised him, but he did not supervise his father per se. The President

reported to and was supervised by Mr. X Jr. . The President's chief responsibility was to

formulate the company's strategy. The H.R. Manager reported to and was supervised by the CEO. She handled recruiting and payroll and managed the receptionist. The CEO reported to and was supervised by the Board of Directors. The Board included an accountant who advised the CEO on how to direct the COO to manage the company's finances.

The remaining personnel had relationships with the CEO that are more complex. The COO supervised the salespeople, each of whom supervised an instructional designer during a given project. However, all salespeople and instructional designers had to account for their performance directly to the CEO. The COO was entirely responsible for the activities of the Lead Graphic Designer and the Lead Programmer. Each Lead was in charge of a group of personnel in their functional area.

In practice, salespeople acted as project managers. They reported to the CEO, managed an instructional designer, and made requests of the COO to have graphic design and programming resources allocated to them. The COO then placed requests with the Leads for the appropriate resources. The Leads, in turn, balanced their talent pools' time amongst the projects and performed quality assurance testing on their team's outputs.

Between September 12th and November 17th, 2005, numerous personnel resigned. First, the two Leads took their leave. Then, the CEO and the Executive Counsel left. The President assumed the role of CEO. Then the President and the COO resigned. The Executive Counsel subsequently returned in the capacity of CEO. When he departed, the accountant on the Board of Directors took over as CEO. The current CEO, who brought along the CFO from his previous employer, replaced him. As was noted in Sub-Section

4.2.3.1, it is unclear as to whether the current CEO and CFO are now in the employ of

both Company X as well as the firm from which they were recruited.

Figure 6   Company X's likely structure post-November 17th, 2005.
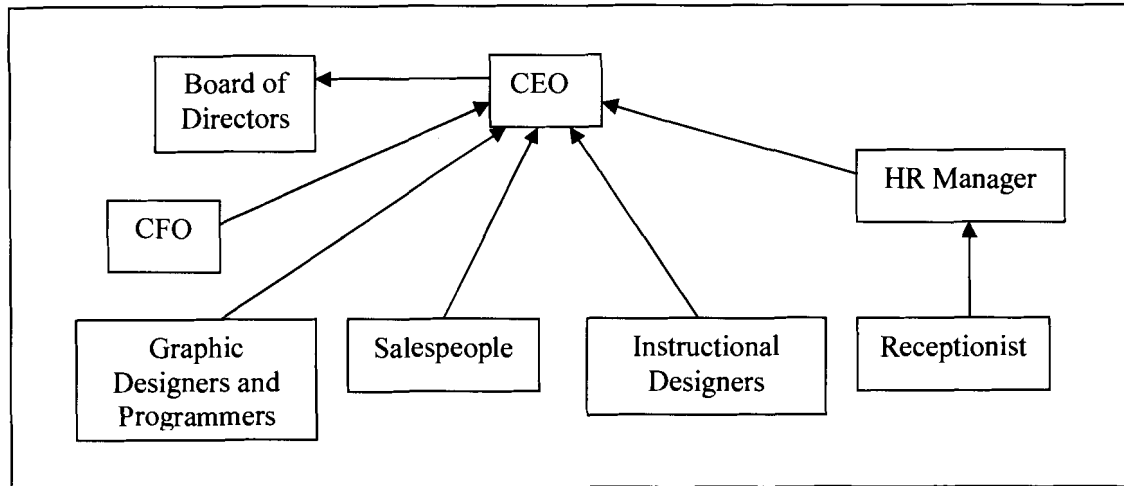
Based upon Company X September- November 2005 press releases.

Figure 6 provides a graphical representation of the company's likely structure

post November 17th, 2005, when the most current CEO took office. Company X now has

a flatter organizational hierarchy. All personnel report directly to and are supervised by

the CEO, with the exception of the receptionist. The H.R. Manager continues to direct

her. It is likely that this structure is an interim measure while the CEO establishes a more

efficient hierarchy than was in place pre-September 12th, 2005.

4.4 How Company X Adds Value

Company X's adds value through its ability to transform. It reformats a body of

data into engaging online instruction that is tailored to the end user's educational needs.

This process of adding value consists of both primary and support activities. Figure 7

provides a graphical representation of the flow of these activities at Company X. The

figure is based upon Porter's Value Chain Analysis (1985, p. 38-50), which examines the

sequence and nature of activities required for a company to add value and thereby

generate revenue.

Figure 7   Company X's current value chain.

Support Activities	**Firm Infrastructure**	Maintaining a flat and flexible hierarchy
	Human Resources	Nurturing an environment that rewards creativity
	Technology and Development	Building and maintaining the LMS
	Procurement	Sourcing new development software

Identify end-user needs	Receive data to reformat	Design & develop e-learning module(s)	Upload to LMS	Tech support
				Service

Marketing and Sales	Inbound Logistics	Operations	Outbound Logistics

Primary Activities

Adapted from Porter (1985), using data collected from Mr. X. Jr. (personal conversation, June 23rd, 2005).

Company X's primary activities in the value chain begin with marketing and

sales. This is contrary to many organizations, which typically market and sell their

product after they have produced it. Instead, Company X seeks out potential customer

companies that have training needs. It convinces the company that it can meet those

needs. Sales personnel usually team up with an instructional designer at this stage in

order to clarify end-user needs further.

The company's inbound logistics are the data instructional designers collect. The instructional designers reformat the data to suit the end-user needs they identified during the marketing and sales activity. They collect the data from subject matter experts who the company sources on a project-by-project basis.

The company's operational activities involve designing and developing the e-learning module. Instructional designers design the educational model that forms the basis of the module. They also plot out which data should be delivered at which stage in the model. Graphic designers then draft the propose user interface. The instructional designer, the salesperson, and the customer company representative must approve the interface. The programmers construct the functionality of the module, insert the data the instructional designer specified, and overlay the user interface.

The second to last stage in Company X's primary activities is uploading the module(s) to an LMS. This may be Company X's LMS or the customer company's system. The final activity in the chain is providing post-delivery service. If the programmers upload the module(s) uploaded to Company X's LMS, then Company X will provide the customer company with reports on end-user performance. If the customer company houses the module(s) on their own LMS, then they generate their own reports. In either case, Company X provides technical support for its module(s).

Company X's four primary support activities facilitate the revenue-generating primary activities. Two of these activities address technology-related issues. The first activity is the firm's procurement of advanced development software. This allows graphic designers and programmers to create superior e-learning modules. The second activity is

the construction and maintenance of Company X's LMS. This provides an outbound logistics option that sales people can use to induce potential customers who do not have an LMS of their own to purchase an e-learning module from Company X rather than a competitor.

The remaining two support activities address personnel-related issues. The first is human resource management. Company X retains its graphic design and programming personnel, whom it considers key to its success, by nurturing an environment that rewards creativity and customer service. The second activity involves the maintenance of the firm's infrastructure. This permits the timely execution of the firm's primary activities. By remaining flat and flexible, the company can respond quickly to changes in the competitive environment.

4.5 Summary: Company's Strength is Creating High-Production Value E-Learning

This section presented an analysis of Company X's internal characteristics. The firm's strong suit is developing high production value e-learning. Its customers value that it creates its products through a consultative, rather than a prescriptive, process.

Company X is in a period of transformation. It is in the process of overhauling its organizational structure. It is streamlining its production processes. As evidenced by one of its founders' request to investigate the possibility of entering the m-learning industry, its strategic direction is also in question. The following section contains an analysis of whether the company should switch from the current strategy to the proposed strategy.

5 COMPANY X'S PROPOSED STRATEGIC DIRECTION

5.1 Purpose of this Section

The purpose of this section is to determine if Company X's proposed strategy is appropriate. The analysis presented will take into account information presented in Sections 2, 3, and 4. Sections 2 and 4 addressed the internal characteristics of Company X. Section 3 defined the m-learning industry Company X is proposing to target. Therefore, this section presents an evaluation of Company X's proposed strategy in light of both the company's internal characteristics and the nature of the m-learning industry.

In order to present this evaluation cogently, this section has three sub-sections. The first sub-section provides a brief description of Company X's current strategy. The second sub-section presents a summary of Company X's proposed strategy. The last sub-section offers a comparison between Company X's current, desired and expected performance.

5.2 Summary of Company X's Current Strategy

Company X's current strategy is to offer a unique product to a narrow customer segment. The product is by definition unique because the company makes each e-learning module to order. The company's customer segment is narrow in that it includes Fortune 500 companies and/or Global 1000 companies that are pharmaceutical firms or financial

institutions. Figure 8 presents a graphical representation of the current strategy in context of Porter's (1980) generic strategies.

Figure 8   Company X's current strategy.

Target Scope	Advantage	
	Low Cost	Product Uniqueness
Broad	*Cost Leadership Strategy*	*Differentiation Strategy*
Narrow	*Focus Strategy* *(Company X)*	

Based on Porter (1980, p. 34-39).

Company X has had moderate success through pursuing this strategy. Customer testimonials indicate a high level of satisfaction with both the products and the level of service provided by Company X personnel. The graphic designers and programmers received particular credit for their efforts. Despite the apparently positive image customers hold of the company, it has been operating at a net loss since its inception.

5.3 Summary of Company X's Proposed Strategy

Company X's proposed strategy is to offer a low-cost product to a broad customer base. In addition, it no longer intends to sell its products directly to its customers. It plans to license its products to telecommunications service providers. These firms would then bundle Company X's products as part of a package of services they sell to corporate customers. The telecommunications service providers would market Company X's

products as a low-cost alternative to classroom-based company-specific training. Figure 9 presents a graphical representation of the current strategy in context of Porter's (1980) generic strategies.

Figure 9   Company X's proposed strategy.

Target Scope	Advantage	
	Low Cost	Product Uniqueness
Broad	*Cost Leadership Strategy (Company X)*	*Differentiation Strategy*
Narrow	*Focus Strategy*	

Based on Porter (1980, p. 34-39).

As depicted in Figures 8 and 9, the proposed strategy is in complete opposition to the current strategy. Therefore, the company would have to overhaul its existing value chain in order to implement the proposed strategy. Figure 10 provides a graphical representation of the value chain that would be necessary to support the proposed strategy.

Figure 10 Value chain necessary to support the proposed strategy.

Support Activities	**Firm Infrastructure**	Enforcing quality controls	
	Human Resources	Maintaining a stable working environment	
	Technology and Development	Maintaining the LMS	
	Procurement	Sourcing subject matter experts	

Receive data to reformat	Develop m-learning modules	Upload to LMS	Aim for ubiquity	Tech support

Service

Inbound Logistics	Operations	Outbound Logistics	Marketing and Sales

Primary Activities

Adapted from Porter (1985, p. 38-50).

Under the proposed strategy, Company X would add value through its ability to provide low-cost education. It would begin this process through collecting the data that it would reformat into m-learning modules. It would then develop the modules based upon a generic template. It would upload these to its own LMS, as it would no longer have the option of uploading it to the customer company's LMS. The sales and marketing function would be to establish distribution channels such that Company X's products become virtually ubiquitous. After-sales service would likely continue to involve providing technical support for Company X products.

The support activities necessary to facilitate the primary activities would also

change. It would become important to allocate resources to locating reliable subject

matter experts from whom to collect the data that presented in the m-learning modules.

This is not necessary under the current strategy as customer companies provide their own

subject matter experts. Programmers could simply maintain, rather than continue to build,

the LMS. This would be sufficient to support the primary activities, as differentiation

would no longer be of importance to Company X. Finally, the purpose of the company's

infrastructure and human resource policies would be to maintain a stable work

environment that enforces quality controls. This would be most appropriate because

consistency would take priority over creativity.

The company would execute the proposed strategy in phases. At this point,

Company X personnel do not have the technical skills to be able to produce m-learning

modules. The company would have to invest in research and development to create the

initial m-learning module template as well as an LMS that would support m-learning. Mr.

X Jr. stated that he expected to establish a strategic partnership with a

telecommunications service provider in order to fund that preparatory period (personal

conversation, June 23rd, 2005).

5.4 Company X's Expected Performance using the Proposed Strategy

Company X's expected performance using the proposed strategy would likely be

only a modest improvement over its performance under the current strategy. Figure 11

provides a graphical representation of Company X's current, desired, and expected

performance within the Basic Performance Assessment Model (Boardman & Vining, 1999). In the model, 'Competitive Position' refers to a firm's ability to prosper relative to its competitors. 'Industry Attractiveness' is gauged by the degree to which that industry is attractive to a particular firm. By assigning values to each of the degrees along the axes, it is evident that Company X will not improve its lot substantially by adopting the proposed strategy.

Figure 11 Company X's performance within the Basic Performance Assessment Model.
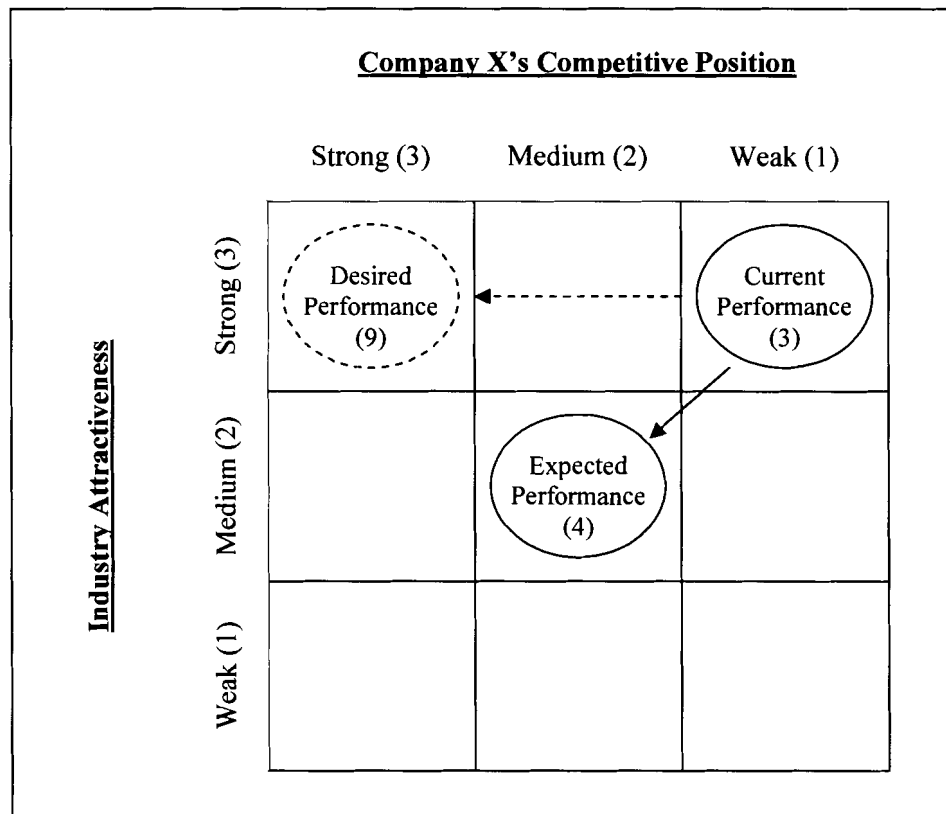
Based upon Boardman & Vining (1999, p. 18).

Company X's current performance is due to its weak competitive position in an otherwise highly attractive industry. The company places an emphasis upon creating innovative and high production value e-learning, yet its target customers do not value

these attributes (Sugrue & Kim, 2004). Moreover, Company X has not had any repeat customers. This is despite the evidence that companies are increasingly outsourcing their training (Sugrue & DeViney, 2005). The e-learning industry is particularly attractive for Company X because it favours firms with the experience and deep subject matter knowledge that Company X possesses. Company X could improve its competitive position by placing value on what its target customers consider important - demonstrable return on their investment in training.

Company X's desired performance is unremarkable in that any firm would seek to be strongly competitive in a highly attractive industry. Company X's former President and Chief Strategist, Mr. A, asserted that the m-learning industry would outstrip the e-learning industry in a matter of 18-24 months (personal conversation, July 29th, 2005). He maintained that Company X was in a position to monopolize the industry through being the first company to distribute its products through telecommunications service providers. Mr. X Jr. concurred with Mr. A.

Company X's expected performance would result from it establishing a stronger competitive position, yet in a less attractive industry. Although Company X has no experience in producing modules for mobile devices, its reputation in the e-learning industry would enhance its products' appeal. Moreover, Company X would shield itself from its competitors by contracting access to customers through an established distribution channel (Teese, 1986).

However, the m-learning industry is still emerging. There is no a dominant design[6] for m-learning products. The scarcity of competitors in the m-learning industry coupled with the limited product offerings available would seem to indicate that a dominant design is not on the 18-24 month horizon. Entering the industry at this stage in its development increases the likelihood that Company X will incur irrecoverable costs in developing products that will ultimately prove to be non-dominant design compatible (Christensen, Suárez, & Utterback, 1998). Furthermore, Company X's cash position does not favour investing in the research and development necessary to enter this industry.

5.5 Summary: Proposed Strategy would not yield Significant Performance Improvement

This section provided an analysis of the appropriateness of Company X's proposed strategy. The firm's current strategy is to provide a customized premium product to a narrow customer segment. Its proposed strategy is to provide a generic and low-cost product to a broad customer base. The proposed strategy involves a major change to Company X's value chain. The pursuit of the proposed strategy would not result in a significant improvement in Company X's performance. Moreover, Company X would hinder its ability to exploit its competencies if it adopted the proposed strategy.

The changes in management at Company X's indicate that its principals are contemplating the company's strategic direction. The following section provides an analysis of four strategic alternatives available to Company X. It includes the recommendation of a strategy that would meet Company X's goals.

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[6] 'Dominant design' refers to a standard that producers in a given industry follow. For example, all PCs come with a QWERTY keyboard. The term 'dominant design' was first coined by Utterback and Abernathy (1975).

6 STRATEGIC OPPORTUNITIES FOR COMPANY X

6.1 Purpose of this Section

The purpose of this section is to provide a recommendation as to which strategic direction Company X should pursue. The recommendation will be based upon information presented in all previous sections of the analysis. Consequently, the recommendation will apply only to Company X.

In order to facilitate the reader's understanding of the logical progression towards the recommendation, this section contains eight sub-sections. The first sub-section contains outlines of four strategic alternatives available to Company X. The second sub-section summarizes possible contexts within which Company X might exercise those alternatives. The third sub-section provides the evaluation criteria. The fourth sub-section comprises analyses of each of the alternatives, in light of those criteria. The fifth sub-section presents the likelihood of the strategic alternatives meeting the criteria. In the sixth sub-section, these probabilities are mapped to the importance of each criterion. The seventh sub-section contains an analysis of the effect alternate scenarios might have upon the selection of a strategic alternative. The last sub-section includes the recommendation as to which alternative would be most appropriate for Company X.

6.2 Strategic Alternatives for Company X

6.2.1 Option 1: Maintain the Status Quo

Company X could choose to continue as it is currently operating. It could persist in developing custom e-learning modules for Fortune 500 and/or Global 1000 customers in the financial services and pharmaceuticals sectors. The long-term plan would be to dominate the market for CRM implementation training in any sector. The status quo strategy includes modifying Company X's project management practices such that cost of sales does not exceed revenues. Company X would accomplish this by creating a module template that its instructional designers could customize on a project-by-project basis.

6.2.2 Option 2: Develop Generic E-Learning

A second alternative available to Company X involves expanding its target market though offering e-learning that meets the needs of many companies. This option would also necessitate adopting a business model based upon recurring revenues. Company X could build software education e-learning modules. It could provide these modules to software producers on a subscription basis. Software producers would include online software education as part of their product bundles. The long-term plan would be to become the e-learning provider of choice for software producers.

6.2.3 Option 3: Provide Holistic Training Solutions

Company X could become a whole solution provider. It could become a 'one stop shop' for training for its customers. Customers would no longer need an in-house training department, as Company X would provide for all of their needs. Company X could make

its training available on any platform (i.e. PC, laptop, PDA, or cell phone). The long-term plan would be for Company X to act as an ongoing workforce development consultant for its customers. It would proactively identify, diagnose, and solve strategic human resource development issues for its customer base on a recurrent basis.

6.2.4 Option 4: Pursue a Version of the Proposed Strategy

A fourth alternative for Company X is to pursue a modified version of the proposed strategy. Company X could develop generic m-learning modules and license these to telecommunications service providers. The service providers could make these modules available to any of their customers. For example, Company X could develop language courses that could be accessible via web-enabled cell phones. End-users could purchase access to these courses as part of their telecommunications service package.

6.3 Possible Future Scenarios

6.3.1 Best-Case Scenario

The best-case scenario for Company X would be as a consequence of an industry-wide preference for creative high-production value e-learning. Rivalry between e-learning providers would escalate as each endeavoured to secure the greatest economic rents. However, Company X would be well positioned to capitalize on the trend as it has consistently delivered creative and high-production value e-learning. Moreover, the company's reputation would enable it to attract both the most qualified personnel and customers would are the most willing to pay a premium for quality. This scenario could

occur if it became commonly accepted that aesthetically appealing instruction ultimately translated into higher productivity.

It is unlikely that this scenario will occur. The current drivers of e-learning adoption are cost reduction (Sugrue & Kim, 2004). Only 29% of companies who outsource some portion of their learning function consider a firm's ability to innovate when selecting a training provider (Sugrue & DeViney, 2005). Therefore, this scenario will not be used to frame the analysis of the strategic alternatives.

6.3.2 Worst-Case Scenario

The worst-case scenario for Company X would result from an industry-wide trend towards developing e-learning in-house. Rivalry between e-learning providers would escalate as firms competed for a shrinking customer base. Customers would have increased bargaining power due to their scarcity. E-learning providers' former customers would hire instructional designers, graphic designers, and programmers. Qualified personnel would have higher bargaining power with e-learning providers as there would be less of them available. This scenario could occur if e-learning providers, as a group, collected excessive economic rents.

It is unlikely that this scenario will occur. Companies are increasingly outsourcing their training. Currently, 56% of organizations outsource at least one main element of their learning function (Sugrue & DeViney, 2005). Industry analysts expect that number to increase to 75% in the next 5 years (ibid.). Therefore, this scenario will not be used to frame the analysis of the strategic alternatives.

6.3.3 Most Likely Scenario

The most likely scenario for Company X would be a product of gradually increasing demand for e-learning supplied by external providers. Customers would continue to have low bargaining power as they neither have the capabilities in-house to produce e-learning, nor are they interested in developing those capabilities. There would continue to be a large pool of qualified labour. Customers would continue to increasingly perceive substitutes for e-learning, namely classroom instruction, as prohibitively expensive. Firms with experience in the industry, such as Company X, would continue to be favoured over new entrants.

The likelihood of this scenario persisting has been confirmed by industry analysts (Bo, 2005; Bersin and Associates, 2004, Sugrue & DeViney, 2005; Sugrue & Kim, 2004). Therefore, the evaluation of the strategic alternatives occurs within the context of this scenario.

6.4 Evaluation Criteria based on Company X's Goals

The strategic alternatives identified in Sub-Section 6.2 will be evaluated using criteria derived from Company X's goals. The company goals used in this analysis are those specified by the Company X's former CEO and President, Mr. X Jr. and Mr. A. The current CEO was unavailable to comment on these goals. However, the goals are broad enough to be reasonably typical of any company.

Company X's goals and definitions of each are as follows:

1. **Short-run profitability:** revenues exceeding costs over the next fiscal year.

2. **Long-run profitability:** revenues exceeding costs over the next 5 years.

3. **Synergies:** tangible benefits derived from co-related activities.

4. **Risk reduction:** decreasing exposure to market fluctuations.

5. **Improved investor relations:** increase in stock price.

6. **Low sunk costs:** high recoverability of investments.

7. **Market share:** increase in the proportion of the market that is attainable.

Table 2 presents the value, or relative weight, of each goal. As Company X has both short-term and long-term aims, each goal is valued according to its importance in both instances. The subsequent evaluation of the strategic alternatives uses the average of the two weights.

Mr. X Jr. and Mr. A. specified the relative weights identified in Table 2. The current CEO was unavailable for comment. Company X press releases indicate that Mr. X Jr. and Mr. A differed with the Board of Directors over the strategic direction the company should pursue. The press releases also indicated that these parties were in agreement with regard to the company's goals. This analysis assumes that the current CEO is also in agreement with the Board of Directors on the issue of the company's goals. Therefore, these figures are appropriate for use in this analysis.

Table 2   Company X's weighted goals.

Goal	Short Term	Long Term	Average
Short-run profitability	20%	10%	15%
Long-run profitability	10%	20%	15%
Synergies	25%	25%	25%
Risk reduction	10%	0%	5%
Improved investor relations	5%	15%	10%
Low sunk costs	30%	10%	20%
Market share	0%	20%	10%
	100%	100%	100%

Data sources: Mr. X. Jr. (personal conversation, June 23rd, 2005) and Mr. A (personal conversation, July 29th, 2005).

Table 2 demonstrates that Company X's primary goal is to profit from synergies. Management ranked 'deriving tangible benefits from co-related activities' at 25% in both the short and long term. The second most important goal is the minimization of sunk costs. It ranks highest in the short term, at 30%, but amongst the lowest in the long term, at 10%. The average weighting is 20%. Short-run and long-run profitability tie for the third most important goal, at 15% each. Each type of profitability is important in their respective time frames.

6.5 Analysis of the Strategic Alternatives

6.5.1 Analysis of Option 1: Maintain the Status Quo

Company X could address a number of its goals through continuing with an amended version of its current strategy. By reducing product development costs, short-term profitability should improve, thereby improving investor relations. However, the

company may compromise its ability to generate long-term profits by focusing on CRM training. This is due, in part, to the fact that the company must incur significant costs in order to generate the leads necessary to allow specialization in offering one-time purchases. Although industry analysts expect CRM spending to increase steadily (Sinha & Eisenfeld, 2002), the company is increasing its exposure to market volatility by limiting itself to one type of product. Conversely, specialization improves the likelihood that Company X will increase its share of the CRM training market. The company would also realize synergies between contracts, as each contract would be largely similar, thereby decreasing sunk costs.

6.5.2 Analysis of Option 2: Develop Generic E-Learning

Company X could meet several of its goals by developing generic e-learning for software providers to sell to their customers. The company would increase its likelihood of achieving long-run profitability by adopting a recurrent revenue model. However, as this is a new market for Company X, it is unlikely that it would realize short-term profits. Company X's inexperience in this market increases its vulnerability to market volatility and decreases its likelihood of garnering significant market share. These two factors would likely strain the company's relations with its investors. If Company X succeeded in this industry, it would realize synergies between its products, as all software training modules would be relatively similar. If it did not succeed, the company's sunk costs would be minimal.

6.5.3 Analysis of Option 3: Provide Holistic Training Solutions

Company X could meet most of its goals by providing holistic training solutions. Short-term profitability would likely be high, as Company X would produce its current products at lower costs. This would improve investor relations. Long-term profitability would also likely be high, as the company would establish recurring purchasing relationships with its customers. This would serve to reduce risk. The company would realize synergies and reduce the likelihood of incurring sunk costs by producing content that is deliverable via a variety of platforms. However, due to the magnitude of the business process outsourcing market, it is unlikely that Company X would increase its market share from that which it has in its current market.

6.5.4 Analysis of Option 4: Pursue a Version of the Proposed Strategy

Company X could meet a few of its goals by pursuing a version of the proposed. As the company would be entering a new industry, there is little likelihood of it realizing short-term profits. Moreover, there is questionable likelihood of realizing profits in the next 5 years, due to the fact that the industry is emergent. Although there is great likelihood of deriving synergies from creating each product, as all would be quite similar, there is a high probability of the company incurring significant sunk costs. This is due to the lack of a dominant design in the industry. As a result, Company X would have to take a sizeable risk in creating a new and unproven product. The extent to which the company would realize gains in market share is in question due to the emergent nature of the industry. While Company X might please some investors by seeking to reap the benefits of being a first mover in this industry, the high level of uncertainty associated with the industry would more likely deter major investors.

6.6 Multi-Goal Prediction Matrix for Company X

This sub-section contains a matrix, Table 3. It catalogues the likelihood that the pursuit of each strategic alternative will meet each of Company X's goals. Vining and Meredith (2000) developed this type of matrix. They designed it to facilitate a high-level understanding of the probabilities associated with each alternative as they relate to the company's goals. The expected outcome is measured using a low-medium-high ranking.

Table 3   **Multi-goal prediction matrix for Company X.**

		Strategic Alternatives			
		Status Quo	Generic E-Learning	Holistic Solutions	Proposed Strategy
Goals	Short-run profitability	High	Low	High	Low
	Long-run profitability	Low	High	High	Medium
	Synergies	High	High	High	High
	Risk reduction	Medium	Medium	High	Low
	Investor relations	High	Medium	High	Medium
	Low sunk costs	High	High	High	Low
	Market share	High	Medium	Low	Medium

Based upon Vining & Meredith (2000).

The matrix highlights that providing holistic training solutions would most likely enable the company to meet six of its seven goals. The company would most likely meet five of its goals if it pursued an amended version of the status quo. Each strategy would likely fail to meet different goals. This matrix does not indicate the degree of value attached to each goal. As such, it cannot be used to assess which strategy Company X should pursue.

6.7 Multi-Goal Valuation Matrix for Company X

This sub-section contains a matrix, Table 4. This matrix maps the probabilities listed in Table 3 to the relative importance of each goal, which Table 2 presented. Vining and Meredith (2000) also developed this type of matrix. They designed it to support the selection of a strategic alternative which best suits an individual company's aims.

Table 4   Multi-goal valuation matrix for Company X.

		Strategic Alternatives							
		Status Quo		Generic E-Learning		Holistic Solutions		Proposed Strategy	Weight
Goals	Short-run profitability	High	15%	Low	5%	High	15%	Low	5%	15%
	Long-run profitability	Low	5%	High	15%	High	15%	Med	10%	15%
	Synergies	High	25%	High	25%	High	25%	High	25%	25%
	Risk reduction	Med	3%	Med	3%	High	5%	Low	2%	5%
	Improved investor relations	High	10%	Med	7%	High	10%	Med	7%	10%
	Low sunk costs	High	20%	High	20%	High	20%	Low	6%	20%
	Market share	High	10%	Med	7%	Low	3%	Med	7%	10%
	Sum of the Utilities		**88%**		**82%**		**93%**		**62%**	**100%**

Based on Vining & Meredith (2000).

According to the matrix, the strategy that best meets Company X's evaluation criteria is to provide holistic training solutions. This strategy meets Company X's goals to a degree of 93%. The second best alternative, maintaining the status quo, meets the company's needs to a degree of 88%.

The matrix makes it apparent that achieving long-term profitability is important enough to Company X to merit foregoing an increase in market share. By maintaining the status quo, there is a strong likelihood that Company X would increase its market share, but not its long-term profitability. Conversely, providing holistic training solutions would likely result long-term profitability, though not in increased market share. This type of insight may permit Company X to explain its actions to its stakeholders as a function of its goals.

6.8 The Effect of Alternate Scenarios on the Choice of Strategic Direction

6.8.1 Effect of the Best-Case Scenario

Should the best-case scenario occur, Company X's would best meet its goals through the pursuit of an amended version of its current strategy. If all corporate customers preferred high-production value e-learning, then Company X could justify allocating its resources to exploiting this competency. Moreover, its reputation would afford it a significant advantage over its competitors.

There is a low likelihood of this scenario occurring in the foreseeable future. Corporate customers would only prefer high-production value, and therefore more expensive, e-learning if it could be justified through a rigorous cost-benefit analysis. This

is unlikely because justifying any investment in corporate education is currently a challenge, much less an investment in aesthetically elaborate instruction (Frangos, 2004). Therefore, Company X should not stake its success on this improbable change in the competitive landscape.

6.8.2 Effect of the Worst-Case Scenario

Should the worst-case scenario occur, Company X's would best meet its goals through the adoption of an amended version of the proposed strategy. If most corporate customers began creating their own e-learning, then Company X would face increasing competition amongst e-learning providers. Company X does not have the internal resources to withstand increased competition. It would be in the firm's best interest to target an alternate customer segment. Company X could leverage its competencies in developing visually pleasing instruction to target the digital media savvy demographic of the cell phone market.

It is unlikely that this scenario will transpire in the foreseeable future. Companies are increasingly outsourcing core business processes to third party specialists (Craig & Willmott, 2005). The training function, in particular, is a target for outsourcing (Sugrue & DeViney, 2005). Company X would be ill-advised to target a different customer segment in a new industry based on the dubious possibility of a reverse trend in the outsourcing of training.

6.9 Recommendation: Provide Holistic Training Solutions

6.9.1 Over-Arching Conclusion and Recommendation

Company X has persevered through a challenging 11 years, and must improve its practices if it is to survive further. The company has been operating at a net loss since its inception. It has experienced a high turnover rate amongst its instructional design and sales staff. Most recently, its management team has been overhauled. Its latest CEO is in the process of revamping its organizational structure.

The Board of Directors has determined that the strategic direction the founding management team intended to pursue was not appropriate for the company. This analysis confirms that determination. The proposed strategy is unlikely to lead to success, as both the company and the industry are unstable. The company has neither the risk tolerance nor the internal resources necessary to support the actions required to enter the m-learning industry at this stage.

This analysis has concluded that Company X should aim to become a holistic training solutions provider. This alternative best meets the company's goals, given the likely future of the e-learning industry. Becoming a 'one-stop-shop' for customer companies will enable Company X to achieve synergies in its processes and reduce its cost of sales. In order to fulfil this aim, Company X must develop a standardized method for developing training. In addition, it must create training that is deliverable across a variety of platforms, including but not limited to mobile devices.

6.9.2 Suggested Six-Month Implementation Outline

If Company X chooses to pursue the recommended strategy, to provide holistic

training solutions, then it must develop a comprehensive implementation plan. To set this

process in motion, the following is a list of tasks that the company could execute in the

next six months. This is not an exhaustive list, but rather a set of general guidelines.

Figure 12 presents a graphical representation of the tasks and associated timelines.

Figure 12 Suggested short-term tasks and timelines.
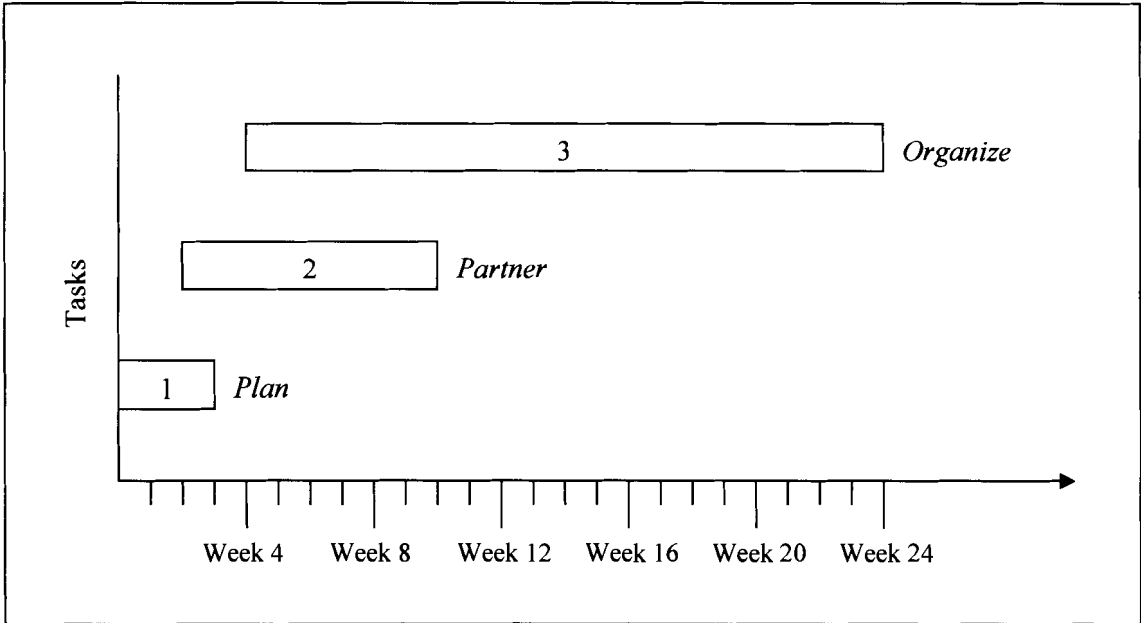
© L. Bock, 2005

6.9.2.1 Task 1: Develop an 18-month Implementation Plan
Timeline: Weeks 1-3

In order for Company X to realize the new strategy, it must undergo changes to its

existing practices. Before engaging in any such change, the company's principals must

develop a longer-term implementation plan. This plan would include forecasted financing

and human resource requirements. The principals should develop this plan in a

participatory manner as step three in Kotter's 'Eight Change Phases Model' (1990). The steps in the model, as they relate to Company X, are as follows:

1. **Establish a sense of urgency:** all company personnel must be convinced that change is not only critical to the company's survival, but that this change must occur as soon as possible.

2. **Create a coalition:** the company's principals must assemble a team of enthusiastic supporters of change. This group will serve as evangelists for the change. Ideally, the group should include employees from various functional positions, but must include at least one member of senior management.

3. **Develop a clear vision:** the coalition must establish and document a shared vision of what the change should be and how it will progress. Based on the results of this analysis, the key changes should be threefold. First, the company should retain Company W, its subsidiary that specializes in classroom-based training. Company W is both profitable and a provider of a key component to holistic training solutions. Secondly, Company X should partner with a firm that provides business process consulting services. Company X does not have the financial resources to develop that expertise in-house. Thirdly, the company must rearrange its organizational structure to support the new strategy.

4. **Share the vision:** the coalition must share the vision with all company personnel. It would likely not be prudent to announce the plan to external investors until negotiations with a partner firm are complete.

5. **Empower people to clear obstacles:** the coalition must assign responsibility for aspects of the change to various personnel. It is imperative that everyone directly impacted by the change have both an influence on its implementation and can immediately see benefits to enabling a successful change.

6. **Secure short-term wins:** the coalition must implement change incrementally and celebrate each successful mini-initiative.

7. **Consolidate and keep moving:** the coalition must actively integrate each short-term win into the overall change initiative. It must be sure to keep the momentum going through continual progress, and resist being satisfied until the company has implemented the complete plan.

8. **Anchor the change:** the coalition must institutionalize the new practices in the company's culture through establishing supporting performance incentive and reward systems.

6.9.2.2 Task 2: Identify a Partner Firm and Negotiate an Alliance
Timeline: Weeks 2-10

As mentioned in the previous sub-section, Company X should partner with a firm that provides business process consulting services. The partner firm could market Company X's products to its customers as training prior to implementing recommended

changes in business processes, thereby expanding Company X's customer base at minimal cost. Company X, in turn, could immediately offer holistic training solutions to its potential customers, as it would have access to expertise on diagnosing and remedying business process issues. Company B, of which Company X's latest CEO may still be the CEO, could be an appropriate partner firm.

6.9.2.3 Task 3: Establish an Appropriate Organizational Structure
Timeline: Weeks 4-24

Company X must alter its organizational structure in order to put into effect the recommended strategy. The company's current flat and fluid structure is appropriate in highly competitive industries that require constant innovation (Mintzberg, 1991, 1981). Company X's industry is neither highly competitive, nor does it require constant innovation. Instead, companies that succeed provide reliable and cost-effective solutions to customers in whose industry they are highly experienced. The recommended strategy is well suited to this environment.

The company should strongly consider adding several functional areas and altering others. First, it should employ a full-time instructional design team. This team should focus on consistently developing instructional curricula that meet a customer's business objectives. Secondly, it should reduce the number of graphic designers it employs. Customer companies do not place value on aesthetics. Thirdly, its programmers should focus on both establishing templates for e-learning modules and creating methods for converting e-learning content for delivery via m-learning mechanisms. Finally, it should separate the sales and project management functions. Sales personnel should secure a contract, and then pass it on to a project manager. The project manager should

then coordinate activities between Company X functional areas, Company W functional areas, and the partner firm's teams, as needed.

There are numerous resources to assist the company's principals in establishing an appropriate organizational structure. These include Bock's website "Moving your e-learning company forward: ways of thinking about improving your business operations design" (2005) and Galbraith's book "Designing organizations: an executive guide to strategy structure and process" (2002). Company principals should expect this task to extend over several months, as hasty execution could hinder the company's ability to deliver on existing e-learning contracts.

6.9.3 Caveats

Company X must not consider the recommended strategy to be its ultimate strategy. The recommended strategy emerged from an analysis of the company's existing goals and competencies, as well as the current state of affairs in the industry in which it competes. Should any of these factors change significantly, then the recommended strategy would no longer be appropriate.

The company should take several steps to mitigate the risk of the recommended strategy becoming obsolete without it having an alternate strategy. First, the company should actively monitor the state of competitive rivalry in the e-learning industry. Secondly, the company should continually evaluate which of its activities yield the greatest value, thereby identifying its competencies. Thirdly, the company should regularly revisit its goals and the relative weights it assigns to each, and then evaluate its strategy in light of these goals. Through these steps, the company would collect the

information necessary to determine if its strategy were appropriate and, if not, to develop another one.

Company X must also recognize that its decision-making process must now be strictly data-driven. As a public company, it must make decisions that it can readily explain to external investors. Therefore, the company must continue to research its options carefully before choosing one. The framework of this analysis may serve the company well when it engages in strategy-related research in the future.

REFERENCE LIST

Abowd, G.D., Atkeson, C.G., Hong, J., Long, S., Kooper, R. and Pinkerton, M. (1997). Cyberguide: a mobile context-aware tour guide. *Wireless Networks, 3*(5), 421-433.

Attewell, J. (2005). *Mobile technologies and learning: a technology update and m-learning project summary.* Learning and Skill Development Agency: London. Retrieved October 8th, 2005 from the M-Learning Project website at http://www.m-learning.org/reports.shtml

Bersin and Associates (2004). *Learning management systems 2004: industry study.* Retrieved November 4th, 2005, from the Bersin & Assoc. website at http://store.bersinassociates.com/lms-2004.html

Block, H., & Dobell, B. (1999). The e-bang theory. *Report prepared for Banc of America Securities.* Retrieved July 18, 2005, from the Masie Center website at http://www.masie.com

Bo, G. (2005). *MOBilearn: project final report.* GIUNTI Interactive Labs: Sestri Levante, Italy.

Bock, L. (2005). *Moving your e-learning company forward: ways of thinking about improving your business operations design.* Unpublished Master's paper. Simon Fraser University. Retrieved December 7th, 2005, from the SFU server at http://www.sfu.ca/%7Elbock/BUS759/index.htm

Boardman, A. E., & Vining, A. R. (1999). *A framework for written comprehensive strategic analysis.* Retrieved November 15th, 2005, from http://www.frank-clifford.com/Researches_files/framework.pdf

Brugnoli, M.C. (2005, January). Mobility, mobile learning, and future markets. *The Newsletter of the MOBilearn Project, 6,* 1-2.

Chourey, S. (2004). Technology anchors American Indian museum. *Federal Computer Weekly.* Retrieved October 12th, 2005, from the FCW website at http://www.fcw.com/article84196

Christensen, C. M., Suárez, F.F., & Utterback, J. M. (1998). Strategies for survival in fast-changing industries. *Management Science, 44*(12), 207-220.

Craig, D., & Willmott, P. (2005). Outsourcing grows up. *McKinsey Quarterly - web exclusive*. Retrieved November 28th, 2005, from the McKinsey & Company website at http://www.mckinseyquarterly.com/article_page.aspx?ar=1582&L2=5&L3=4

Frangos, C. S. (2004). Aligning learning with strategy. *Chief Learning Officer, 3*(3), 26-30.

Galbraith, J. R. (2002). *Designing organizations: an executive guide to strategy, structure, and process*. Jossey-Bass: San Francisco.

Hoppe, G, & Breitner, M. H. (2003). *Discussion paper 287: business models for e-learning*. Retrieved October 20th, 2005 from the University of Hannover website at http://www.wiwi.uni-hannover.de/Forschung/Diskussionspapiere.php#year2003

Industry Canada (2003). *Canadian industry statistics: educational services (NAICS 61)*. Retrieved November 5th, 2005, from the Industry Canada website at http://strategis.ic.gc.ca/canadian_industry_statistics/cis.nsf/IDE/cis61defe.html

Kaplan-Leiserson, E. (2005, April). Trend: mobile reality (a tale of two experts). *Learning Circuits*. Retrieved on October 10th, 2005 from the ASTD Learning Circuits website at http://www.learningcircuits.org/trends.html

Keller, F. S. (1968). Goodbye, teacher... *Journal of Applied Behavioral Analysis, 1*(1), 79-89.

Kotter, J. (1990). *A force for change: how leadership differs from management*. Simon & Shuster: New York.

Mager, R.F. (1961). *Preparing objectives for programmed instruction*. Fearon Publishers: San Francisco.

Market Data Research (2005). *The College Technology Review 2004-2005*. Retrieved October 12th, 2004, from the MDR website at http://www.schooldata.com/mdrreports.asp

Minztberg, H. (1991). The effective organization: forces and forms. *Sloan Management Review, 23*(2), 54-67.

Mintzberg, H. (1981). Organization design: fashion or fit? *Harvard Business Review, 59*(1), 103-116.

Naismith, L., Lonsdale, P., Vavoula, G., & Sharples, M. (2004). *Report 11: literature review in mobile technologies and learning*. NESTA Futurelab: Bristol, U.K.. Retrieved October 15th, 2005 from the NESTA Futurelab website at http://www.nestafuturelab.org/research/lit_reviews.htm

National Center for Education Statistics (2004). *Digest of Education Statistics, 2004*. Retrieved November 5th, 2005, from the NCES website at http://nces.ed.gov/programs/digest/d04/index.asp

Porter, M.E. (1985). *Competitive advantage: creating and sustaining superior performance*. Simon & Shuster: New York.

Porter, M.E. (1980). *Competitive strategy: techniques for analyzing industries and competitors*. Simon & Shuster: New York.

Quality Education Data (2005). *2005-2006 National Technology Assessment*. Retrieved October 12th, 2005 from the QED website at http://www.qeddata.com/MarketKno/ResearchReports/ResearchReports.aspx

Reiser, R. (2001). A history of instructional design and technology. *Educational Technology Research and Development, 49*(2), 57-67.

Sinha, D., & Eisenfeld, B. L. (2002). *CRM services market size and forecast, 2001-2006*. Retrieved November 1st, 2005, from the Gartner Group website at http://www.gartner.com/it/products/research/asset_129491_2395.jsp

Sugrue, B., & DeViney, N. (2005). *Learning outsourcing research report*. American Society for Training and Development in partnership with IBM. Retrieved from the ASTD website October 18th, 2005, at http://www.astd.org/astd/research/research_reports

Sugrue, B., & Kim, K.H. (2004). *2004 state of the industry report*. American Society for Training and Development: Alexandria, VA.

Teese, D. J. (1986). Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. *Research Policy, 15*(6), 285-305.

U.S. Bureau of Labor Statistics (2005). *Current population survey*. Retrieved November 5th, 2005, from the U.S. Department of Labor website at http://www.bls.gov/cps/home.htm

U.S. Census Bureau (2005). *Report EC02-61SS-SZ: educational services*. Retrieved November 5th, 2005, from the U.S. Census Bureau website at http://www.census.gov/econ/census02/guide/SUBSUMM.HTM

U.S. Census Bureau (2004). *Report EC02-611-01: educational services*. Retrieved November 5th. 2005, from the U.S. Census Bureau website at http://www.census.gov/econ/census02/guide/INDRPT61.HTM

Utterback, J. M., & Abernathy, W.J. (1975). A dynamic model of process and product innovation. *Omega, 33*(6), 639-656.

Vining, A. R., & Meredith, L. (2000). Metachoice for strategic analysis. *European Management Journal, 18*(6), 605-618.

vom Lehn, D., Heath, C. and Hindmarsh, J. (2001). Exhibiting interaction: conduct and collaboration in museums and galleries. *Symbolic Interaction, 24* (2), 189-216.

Wong, S.Y.T., & Hu, R.X. (2003). *Strategic analysis of e-learning for New Town College*. Master's Thesis. Simon Fraser University, Burnaby, BC.