

**EMERGING CHALLENGES IN THE SOFTWARE
LOCALIZATION INDUSTRY**

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Introduction

Since the mid-1990s the e-commerce industry experienced dramatic growth that was only the start of a business revolution. With the rapid expansion of Internet related infrastructure equipment and services that allowed low-cost global communications, the beginnings of a truly global economy started to take shape. Riding on the coat tails of this wave were software and content localization services that were a necessary component in selling products and services to different countries and across many cultures.

Operating in a diverse multicultural market filled with cultural subtleties can be a minefield for the uninformed. DNA Media, based in Vancouver Canada, is a software localization company specializing in language translation and multilingual Web content solutions. The company localizes rapidly changing Web content into various languages, with a specialization in Asian languages. Software applications and content consulting (using Web-based technologies, application design, CD-ROM, DVD and multi-media versioning) further enable localization to meet client shorter release schedules, applications of new technologies, and rapid product changes.

DNA Media enjoyed strong growth in its services and by the year 2000 was in a position to expand rapidly. Then in April 2000 the high technology sector halted with a resounding thud, and spiraled downward for the remainder to the year and into 2002. This paper provides an example of how managers of a small information technology company tried to manage growth, establish its market, and deal with industry downturns. Lessons

learned are critical for any high tech company seeking expansion in competitive technology oriented environments.

Localization Defined

Localization refers to content adaptation to accommodate various cultures and cultural preferences. This includes language translation and adjusting content to capture the meaning of the message, as well as consideration of various web design features such as the use of appropriate colors, navigation tool preferences etcetera. For instance, the use of certain colors may be offensive in one culture and perfectly acceptable in another. In Asia, white is associated with death, while purple is associated with death and funeral parlors by the French. On a more technical note, the practice of using “cookies” to track Internet users is well-established in North America for Internet marketing, but the use of this technology is illegal under France’s privacy laws.

The business of localization is strongly driven by marketing, and the globalization of trade. If a customer is choosing between two comparably priced printers with similar functionality and capabilities being sold in Lebanon, for example, which one will he or she choose? Even though many people looking to buy a computer in Lebanon are able to read English, localization affects buyer’s preferences. Marketing studies have shown that the consumer will more likely purchase the printer that comes with an Arabic manual despite the fact that he or she is able to read English fluently. The person makes the

¹ The authors sincerely appreciate the participation of Steven Forth, Jim Eagles, Mick McCallister and Andrew Wilson at DNA Media for their insights and time contributed to this project. Financial support for this project was provided by the Technical University of British Columbia.

buying choice based on localized marketing. The return on investment for localization services is immediate and can be substantial if done properly

Businesses involved in the software localization industry, including translation only companies, are strongly affected by globalization and the shake up in the high tech arena. Many of DNA's valued clients are high technology companies, and no one knows how long this downturn will last. Further, small companies like DNA Media with limited financial resources are under increasing price and service pressures from larger competitors. How should DNA Media respond in light of these recent developments, and will it change the company's four-year strategic plan?

An Early Profile of DNA Media

DNA Media is a small-to-medium sized software localization firm employing approximately 60 people (45 in Vancouver and 15 in Japan). They are experts in providing localization services (including translation of scripts and on-screen text, cultural adaptations, testing) in software application development, multimedia technologies (CD-ROM, DVD), versioning for broadcasters and recording studios, and in software design and engineering services. The company specializes in Asian languages and computer / multimedia applications which play to the strengths of DNA Media's location, the background of its founders, and the skills of its employees. To attract and retain valued clients, the company aims to provide integrated services including project management.

For North Americans, almost all modes of communication are done in English and localization services are not well appreciated as in non-English speaking countries.

Whenever one reads information, whether from a computer, television or written manual, information is forwarded and subsequently interpreted by the reader. Communication is a key element in performing global business, and DNA Media provides a valued service that ensures the intended audience receives the “right” message. This task is achieved by taking advantage of specific knowledge about cultures and languages, and then applying this know-how in various electronic-based media. Andrew Wilson, the VP of Business Development at DNA, described the company as a “professional localization services company specializing in a smaller number of languages, internationalization and engineering. We are not the lowest priced firm, but we are price competitive.”

DNA Media was founded by Steven Forth and two partners in 1989. Within a decade Steven grew the business from a home-based operation into one of the leading and most respected localization companies in Canada. Steven attributes the early success of the company to the early adoption of advanced computer and telecommunication equipment like faxes to manage projects and to coordinate workflow for clients. All DNA’s executives are fully bilingual, and English only became the official language at work after the company had grown to over 10 employees. The unique multicultural environment makes the company distinct from most North American companies. But there have also been significant challenges, and even with the company’s growth, market pressures have forced the company to re-invent itself on a number of occasions. Appendix 1 outlines a full chronology of the development of the company, while Appendix 2 profiles the DNA’s structure.

When Steven first started the company he did not have a business plan. Eventually DNA Media had a mission to be one of the world leaders in providing

multilingual production and content management. Senior management have targeted revenues to increase from \$1.7 million (1998) to \$10.4 million (2003), and net profit to increase from a modest loss (1998) to 10 percent (2001). DNA Media is more than mid-way through the revenue growth plan, but with the meltdown in the Internet industry revenues are falling behind targets. A major constraint for the company is the lack of financial resources, which affects the number and quality of workers needed for the business.

In the past DNA has either been debt financed or financed out of the owners' pockets. There are advantages to this strategy. As Jim Eagles at DNA explains, "equity capital, as opposed to debt financing, allows companies to operate with losses with the promise of future growth and profits." In effect, debt financing requires interest payments, thereby reducing cash flow that might otherwise be used to grow the company. However, choosing to avoid equity financing during 1996 to 1999 hurt the company's growth. Spreading its resources too thinly and providing too many types of services has also worked against the company in attracting equity financing. Since the early years, DNA Media has tried to improve its attractiveness to local venture capitalists by restructuring the company, by being very focused on its most profitable core businesses, and by closing its unprofitable multi-media (CD-ROM) productions division in 2000.

Growing the company has been an expensive proposition. Money was invested into upgrading software tools, and internal accounting and project management systems. Effective marketing is a critical factor, and historically has been done by Steven attracting business through word-of-mouth, cold calling, and networking – rather than by advertising. Located in Vancouver and Japan limited the company's access to most of its

larger clients in Eastern Canada and in the U.S., often requiring expensive and time-consuming flights across the country to meet with clients face-to-face. To balance these costs, a modestly valued Canadian dollar makes services more economical to American firms. Additionally, by paying employees in Canadian funds, DNA Media has an advantage over American based operations offering comparable services.

Steven firmly believes DNA Media's business strength relates to five key factors, and he does not think this will change in the foreseeable future. These include: capabilities such as expertise and resources to localize in the desired culture and language; quality of interaction and relationship between developer and vendor and ability to facilitate partnerships; vendor reputation; project management expertise; and rapid turnaround time which is especially important for software services.

Opportunities through Localization

Localization services are growing all over the world at a very fast pace, especially with the widening demand for advanced communications driven by the globalization of information and business. Demographics and business globalization has forced the rest of world to adopt new technologies like the Internet, wireless networks, global communications and computers. According to eMarketer², even though over 61 percent of world users of the Internet are from the USA in 1998, this will decline to 37 percent by 2002. Demand for globalization and localization services will increase. How localization will be performed and in which language will be another issue. According to Sapient Globalization Report there are over 6,700 living languages in the world; the

² Emarketer (1998). *The eOverview Report*, San Francisco.

fifteen most popular languages are spoken by 49.5 percent of the world's population, while the other 51.5 percent of the world's population speak 6,600 languages.³ Yet, only about 6 percent of the world's population speak English.⁴

As reliance on communications increases as part of the information lifestyle via the Internet (including wireless devices and pagers), localization needs and service demand will increase. The adoption by the general population of increasingly higher levels of communication and database technology means that the user interfaces must become easier to use and more highly adapted to local conditions. This is a vital market and recently completed work by DNA Media with Nikon on user interfaces for consumer devices confirms this.

Media versioning is also an important market for localization services. The explosive growth of DVD and interactive-media like the Internet and WebTV all require some level of localization for global markets. For many years DNA Media has been involved in media versioning of movie productions and the Internet, and has the expertise to grow in this market.

The actual size of the localization market is debatable, and at times, quotes from industry leaders are contradictory. The CEO of Bowne Global Services recently stated that the market is "growing at approximately 30 percent annually".⁵ Mark Homnack, the CEO of SimulTrans, does not believe the market is as big as many reports suggest, and

³ LISA Newsletter, (2000). The Post-Localization Era: The Best is Yet to Come! Keynote speech by Roger Jeantry, 9(4).

⁴ Richards De Wit, S. (2001). Going Global with Your Online Presence Requires More than Just Quick Translation. *Business in Vancouver*, January, 23-29.

⁵ Pinkus, C.A. (1998). Speech at the Bowne Annual General Meeting, March 27.

that growth projections are being promoted to hype up stock prices.⁶ Table 1 illustrates the generally held market sales expectation.

	<i>1995</i>	<i>1997</i>	<i>2000 (projected)</i>
<i>Globalization</i>	\$1,700,000,000	\$2,800,000,000	\$6,260,000,000
<i>Software localization</i>	\$561,000	\$1,100,000,000	\$2,380,000,000
<i>Japanese localization</i>	\$101,000	\$322,000	\$737,000

Table 1 Revenues from Localization Services (in US dollars) ⁵

Threats to the Localization Industry

Technology has the potential to disrupt the industry. Translation software and technology developments will affect how the localization process takes place in the future. "Open" standards are an increasingly critical factor that can move the industry away from proprietary translation technologies that some industry insiders have suggested are hurting the growth of the industry. DNA Media is a strong supporter of open standards. By moving toward open-standards translation costs may be reduced by decreasing reliance on expensive proprietary software solutions, making services more affordable and growing a localization market for small-to-medium sized enterprises.

Further, the power of the buyer is very strong. The top ten industry leaders like IBM, Microsoft, Hewlett Packard and Oracle make up about 50 percent of the market for localization services. Although revenues from services appear significant, large clients have the power to squeeze the margins of localization service companies. Some companies have not been able to make any profit upon completion of projects for these

⁶ LISA Newsletter (2000). The Future of Globalization Technology: Is it the Graveyard? Interview with Mark Homnack, 9(4).

large clients. This revelation has significant implications for DNA Media that not only faces the same business problems as the larger players, but must also have a survival plan as a small fish in what now appears to be a smaller pond.

As the world increases its use of computers for consumer and business, the demand for industry-specific productivity software for particular industries (e.g. medical, training, etc.) will also increase. Augmented software product complexity means localization becomes increasingly complicated; forms higher barriers to entry; and increases demand on localization firms. In addition, the ability to attract and retain talented people is becoming more competitive. Not only is it becoming more difficult to attract talent, but also more talented people will be needed to perform increasingly complicated localization projects. As such, the growth of the localization industry will be limited by the supply of skilled people. Andrew Wilson at DNA Media notes that, “unlike computer programmers that can be mass produced in schools, skilled localization people are very difficult to find and the necessary quality and range of skills needed by companies in the industry takes years to develop.”

The Consolidation Enigma

Consolidation was a strategy to increase the profitability of a fragmented industry. The first wave of consolidation (starting in 1996) involved Silicon Valley computer translation companies – merging localization services with technical communications. These large, consolidated IT-based localization companies initially tried to offer translation services as a commodity through computerized translation. The complexity and dynamic nature of language has limited the overall success of this strategy. In 1999,

some of the large consolidated companies shifted gears and began a more focused full-service marketing strategy.⁷ Consolidators attempted to develop worldwide networks to service global software developers. Basically, the consolidators took one of two approaches:

- "One Stop Shopping". Localization companies target international "global" software developers like Microsoft, Lotus, Oracle, SAP, and IBM that require translations in 20 or more languages. These localization companies became known as Multiple Language Vendors (MLV) with offices around the world. Even though small localization shops can promise better expertise and higher quality of work, large client companies will have a difficult time managing the project if work is contracted to over 20 different independent language vendors. The key added-value component of the MLV's is project management.
- Services for specific software applications. One localization firm Lionbridge targets Financial Applications, Operating Systems and Web Technologies. Lionbridge recognized the need to improve content and project management of localization services, and focused on developing and selling tools for managing client and vendor workflow. This technology has helped smaller firms win contracts with large companies willing to outsource to more than one vendor.

As the industry matures, consolidation continued during 2001, as well-financed larger companies targeted the buyout of financially troubled smaller companies with valuable assets and skilled workers. The partnering of translation technology (globalization) with

⁷ Appendix 3 profiles the evolution and challenges of the localization industry.

content management companies will be a natural fit. It is expected these types of alliances and mergers will drive the localization industry during the new millennium.

Although DNA Media competes with the large consolidators for contracts, the consolidators are also DNA's clients. Larger companies have outsourced jobs to DNA Media where the smaller company can perform more efficiently or has special language or technical expertise. The large consolidated companies do not see DNA Media as an immediate threat, but this may change in the future if DNA Media grows. DNA Media's direct small-medium sized competitors are facing the same challenges in growing their businesses. DNA Media, however, has a good reputation with SE Asian languages and has expertise in multi-media and software engineering technologies. This expertise serves well to maintain, and extend, customer relationships with the larger players over time.

Traditional translation companies who invested too heavily in technologies like computerized translations without clearly thinking about their business needs would be hard hit by the downturn in the stock market. Even though DNA Media has invested heavily over the last few years to increase its technological capabilities and to improve its profit margin, the investments were on project management and content management tools designed to complement and improve the operational efficiency of DNA's staff. From this point of view, DNA Media has the internal technical infrastructure for its next growth period.

Five large companies arose primarily from consolidation in the mid-1990s and dominate the industry. Appendix 4 summarizes the general characteristics for the software localization industry, and Appendix 5 profiles the key players. Companies such as Bowne Global Service, Alpnet or Lionbridge offer a wider range of languages and

technology services, and are better able to invest in new technologies than smaller companies.

In the mid 1990's Steven felt his company was uniquely positioned in the market, was growing quite well on its own, and that not much would be gained from consolidation. In hindsight, Steven wondered whether he might have at least tried to raise equity capital to finance his company's growth when the market was hot, instead of relying on debt financing. As a result, DNA is a much smaller player than companies that decided to consolidate. Table 2 compares the major consolidated companies with DNA Media.

<i>Company</i>	<i>Number of Countries</i>	<i>Staff Level</i>	<i>Languages offered</i>	<i>1997 Revenues attributed to software localization</i>	<i>Market Capitalization (1997)</i>
<i>Alpnet</i>	14	475	40	US \$40,800,000	\$95 m
<i>Berlitz</i>	35	N/A	200	US \$80,500,000	\$265 m
<i>BGS</i>	>7	>700	N/A	US \$71,000,000	\$768 m
<i>L&H Mendez</i>	25	N/A	>20	US \$31,600,000	\$2,629 m
<i>Lionbridge</i>	7	350	N/A	N/A	N/A
<i>DNA</i>	2	50	8	CDN 1,700,000	N/A

Table 2 Comparison of Large Consolidators and DNA Media in 1997
Source: Edward Person, August 1998⁸

To date competitive rivalry amongst industry players is only moderate, and has facilitated the general expansion of the industry since there is currently enough work for everyone. However, if consolidation increases or when the industry matures further, competition will increase. This will place pressure on smaller companies such as DNA

⁸ Person, E. (1998). A Strategic Analysis of a Software Localization Company”, Unpublished MBA thesis, Simon Fraser University.

Media that have limited resources and a narrower range of services. Again, talented personnel are one of those scarce resources. Mick McCallister at DNA Media and a localization practitioner for almost 20 years adds, “Localization assets are highly intangible; they are people expertise. People are not assets that can be bought and sold. Clients don’t have to do business with you just because you bought the company. After a merger, you can’t buy people or the clients, and hardware is a depreciating asset. The localization industry sells potential; revenues are not a promise that can be reached every year.”

Smaller companies may be unable to compete with larger players based on price and range of services. Jim Eagles, the COO of DNA Media, observes that a unique characteristic about this industry is that “it acts like a mature industry yet has no economies of scale.” Andrew Wilson further observes consolidation was in principle a “good idea” for the industry. “It allowed companies to gain skilled assets that otherwise will take years to develop in-house. This was one way for companies to consolidate a fragmented industry and to gain resources to scale-up and grow.” In general this strategy has worked for numerous capital-intensive industries, but the localization industry is a knowledge-based service that depends heavily on its human capital. Refer to Appendix 6 for an overview of medium-sized companies as they compare with DNA Media.

Products and Markets

In 1999, DNA Media provided localization services to five major market segments: (1) software application developers, (2) government and general, (3) multimedia publishers and developers (CD-ROM, DVD), (4) versioning for broadcasters and recording studios, and (5) firms requiring software design and engineering services.

The most profitable services are software application development and government and general localization contracts. A breakdown of the five market segments in which DNA Media participates appears in Table 3.

	<i>Software Application Developers</i>	<i>Multimedia publishers and developers</i>	<i>Broadcaster and recording studios (versioning)</i>	<i>Software design and engineer services</i>	<i>Government and General</i>
<i>Projected Revenue for 1999 Cdn</i>	\$750,000	\$400,000	\$300,000	\$300,000	\$600,000
<i>Percentage contribution</i>	32 %	17 %	13 %	13 %	25 %
<i>Number of Key Customers</i>	10-12	5-6	4-5	10	20
<i>Sample Customers</i>	Cognos Seagate Red Brick	Dorling - Kindersley Radical	NHK	Nikon cameras	
<i>Sector attractiveness</i>	Key to future growth.	Important for future growth	Considerable potential in DVD segment.	Area of high untapped potential.	Government cutbacks negatively affect growth; limited profitability
<i>Price Sensitivity</i>	Moderate	Least sensitive to price; may be due to complexity of projects	Moderate		Very sensitive to price; highly competitive segment

Table 3 DNA Media Market Breakdown.

The financial breakdown of the company can be found in Appendix 7. The company experienced 2 years of consecutive sale revenue growth of 22 percent and 28 percent in 1999 and 2000, respectively. The growth in services, particularly in Web-related applications and content services, prompted Steven to hire additional management, and increased the budget for marketing and R&D in preparation for

anticipated growth in the E-commerce industry for the coming year. With gross profits growing during this period, Steven was particularly concerned about the rise in production costs and the additional managerial expenses on the company's earnings.

In 1998, the majority of DNA Media's customers were located in Canada (50 percent), particularly in Eastern Canada. The market share is further broken down to Japan (25 percent), the USA (15 percent) and Europe (10 percent). Given the strong Asian language expertise and history of the company, it is not surprising that Japan was the second largest contributor to the company's revenues.

Asian languages are DNA Media's area of expertise and contributed to over 60 percent (50-60 percent Japanese and 10 percent Chinese) of the company's revenues in 1998. Additionally, Asian languages like Japanese and Chinese require "double-byte encoding" which is technically more complicated than the systems used for European languages. Although European languages contributed 30-40 percent of revenues (1998), it is not a high margin service due to the high availability of expertise and conventional level of computer programming difficulty.

The "core" localization business has a lot of potential growth with the expansion of the Internet, communications and global trade, although profits are very narrow. Each job is a customized job, consuming the time of skilled personnel and thereby constraining the ability to increase both profits and revenues. The challenge facing DNA Media will be to find ways to squeeze profits from business operations, and to accommodate development of new products and services.

Andrew and Mick at DNA Media both agree with Jim's points and add, "the language translation component is the least profitable part of the localization business. It

is also most subject to error, most subjective to evaluate, is normally outsourced at commodity prices, and is the “least-liked” part of the business. A client may read the result and not like it because it does not “feel” right. According to Jim, translation gross margins are typically 25 to 35 percent, but the net margin can quickly disappear with unexpected revisions. The best margins are in consulting, engineering, testing, content management, and design of systems for managing content.”

Key Options and Challenges for DNA Media

The main goals of the business plan are to achieve (1) improved profitability, (2) long-term competitive advantage, (3) strong revenue growth, and (4) control of the company while seeking new financial backing. DNA’s CEO sees three key areas of focus for his company in the short to medium term.

1. Improved Profitability - Limited growth rates are likely due to cash flow restrictions, even though DNA Media is ideally positioned for the convergence of digital media. The company has relied on debt financing to grow the company. Corporate revenues have risen from \$1.7 million (1997) to \$2.3 million (1998), but the profit margin has declined during this period. Steps were taken in 1998 to implement a comprehensive project management system to control costs, improve use of resources and to match capacity with growth. But there is significant competition from consolidation in the industry, as well as competition from aggressive companies that are expanding both geographic reach and market share. DNA Media must be concerned about retaining its customers and winning clients away from other companies.

2. Growth Strategies – DNA has a variety of choices in order to expand the company. First, there is growth by acquisition. This may be the quickest way to expand DNA Media to \$10 million by 2003. However, the company does not have the resources for acquisitions and for integrating the organizations together. Second, strategic partnering may be the answer. DNA Media can partner with vendors, customers, and suppliers. This will involve financial transaction for services, and possible exchange of some ownership equity. Alliances may be formed with other mid-sized companies. This allows smaller players the opportunity to compete with bigger players for high profile projects. Third, there can be growth by geographic expansion. DNA Media lacks location diversity, and it has hurt the company’s growth internationally. DNA Media’s management had discussed opening satellite (one-person) offices in Eastern Canada, SE Asia and the USA to establish a presence and to test the market.
3. New Products and Services - DNA Media could introduce new high-value added services or business models like content management, development and distribution. As one solution, DNA Media can market itself as a full-service localization company, and move away from only language translation. Alternately, DNA Media can aim to differentiate from competitors, and concentrate on a focused market niche. Based on DNA Media’s strengths (available technology resources; skilled staff; Vancouver’s high technology environment), a likely target market would be multimedia software applications. DNA has experience and skilled resources with technology, visual materials and new media content. In this vein, Steven has considered the development of a new product in eTraining and eLearning. The business model is based on Application Service Provider (ASP) technology that allows centralized control and

content management. The object-based data architecture DNA Media plans to use will make the system extremely customizable and allows the system to track learning progress and users' competencies. Steven agrees with his management team that the eTraining/eLearning "transformation strategy" is a high-risk plan, but there is tremendous upside considering the recent strides in the development of Application Service Provider (ASP) technology. This can enable the company to move from a professional services firm to a technology platform vendor with a professional service component. Core assets for this new service will be knowledge management, client relationship management, and the multilingual platform technology that DNA Media will maintain and support.

The Future for DNA Media?

DNA Media is lagging in its four-year plan. The investment in management tools has helped control costs, but the company will not meet this quarter's profit targets due to an over-investment in new technology and staff. New growth strategies and value-added services could well be ideal ways for DNA Media to distinguish itself from its competitors.

Key questions remain unresolved. Can DNA continue to rely on debt financing? Or what other ways might there be to control costs while increasing revenues? How might various growth strategies figure into this option? Could alliances or acquisitions work, and how could this contribute to the revenue stream or to global expansion as a result? And what exactly should be the new products and services? Although a new ASP-based service has merit, the company's core competencies are in localization, SE Asian

language translation, consulting, testing, and the application of software and Web-based technologies for B2B and B2C.

Concerns are further fueled by a press release stating Lernout & Hauspie Mendez (L&H) Speech Products filed a Chapter 11 petition for reorganization protection under the U.S. bankruptcy code, and will file a request for a concordant reorganization under Belgian law. L&H was one of the leaders in the speech and translation technology niche in the industry. It now appears that high technology translation software solutions may not be the “silver-bullet, killer application” for the software localization industry.

To add to this negative momentum, an issue of The Localization Industry Standards Association (LISA) newsletter featured an interview with the CEO of SimulTrans, Mark Homnack, who predicted that the localization industry would be littered with bankrupted globalization technology companies.⁹ Would a more conservative approach be the right thing to do under this pessimistic economic outlook than an innovative expansion, or transformation in the product and service area?

A compelling challenge remains. What, if anything can be done at DNA Media to reposition the company to more closely approximate revenue and profit targets for 2003? Can the expansion strategies be viable given consolidation in the industry? And more generally, what will the future hold for the software localization industry? In an era of increased globalization, there will surely be more focus on this industry. DNA is one representative company, but how will others cope in this emerging market niche?

⁹ Ibid.

Appendix 1 – Chronology of DNA Media

The following chronology outlines the developmental steps of the company.

1989

- Steven Forth returns to Canada after 10 years in Japan as an analyst and computer consultant to raise his family.

1990

- Steven Forth and two partners founded Fact Media International (FMI). The business offered Japanese translation services for clients in North America and Japan.

1992

- FMI expands its service range by becoming the first company in Vancouver, Canada to offer Japanese desktop publishing services.

1993

- FMI expands into video versioning (i.e. dubbing) services for corporate and production companies.
- FMI also expands into software localization by initially focusing on modifying existing English graphics applications for use in Japanese.

1994

- FMI invests in DATT North America Multimedia Inc, a joint Canadian-Japanese venture in multimedia production. FMI creates Japanese versions of all DATT's productions including the acclaimed CD-ROM version of "The Silk Road".

1995

- Milestone year.
- FMI undergoes corporate re-engineering from a bicultural (Japanese and English) to a multicultural organization (expanding into Chinese and European languages).
- FMI reaches 10 employees.
- First bank financing received; prior to that the company was financed out of pocket.
- FMI expands into multiple languages, multimedia development and television product work (versioning). The company's growth is driven by demand for localization services in international markets, affordability of computer technology and growth of company's internal resources.

1996

- FMI does not participate in industry consolidation that led to the emergence of powerful companies like Alpnet, BGS, L&H and Lionbridge.

1997

- Milestone year.

- In hindsight, a major mistake is not seeking equity financing as an alternative to bank financing which stifled the growth of the company. Steven feels the company was uniquely “packaged” (multilingual development package was more valuable than a straight localization package), has a distinct market position, and can grow independently.
- FMI has a 20 to 30 percent revenue growth rate. With equity financing, Steven feels, in hindsight, that they can have grown the business almost ten times faster.
- The Japanese market collapses, although it did not affect service contracts at the time.
- FMI makes significant progress in localizing software, Web site development, computer user interface designs, acquisitions and promotions. Contracts are landed with major players like Cognos, InMedia, Dorling Kindersley, Nikon, and Intel.
- FMI invests in IT infrastructure hardware: microwave link to the Internet, and servers for Web testing and hosting.
- FMI reorganizes its corporate structure (refer to the Figure below) and the holding company was called DNA Media Group.
- May 1997, DNA Media Group launches an Internet Division that assists companies to develop a multilingual online presence (Japanese, Chinese, Korean and English). Projects result with BC Tel, Ropak Inc and Tumlare Corporation.
- Short-lived investment in LA-based new media publishing startup, Masterworks Media Corp.
- Spring 1997, DNA Media Group acquires the production division of DATT North America Multimedia Inc. from DATT Japan and re-names it DNA Productions (DNA-P).
- The CD-ROM market collapses. Without a viable revenue model, this market segment for DNA Media Group was not sustainable without equity financing where several years of financial losses can be tolerated until the company establishes itself in the market.

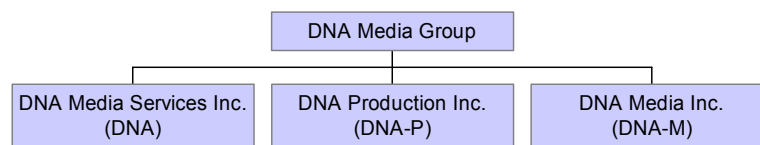


Figure 1. DNA Corporate Structure 1997

1999

- Milestone year.
- DNA Media Group tries to get equity financing from venture capitalists but they want a “pure play”. As a result, DNA Media Group re-organizes and spins off

- “ThoughtShare” as a separate company. This group contributed to about 10 percent of DNA Media’s revenues. Equity financing is received for ThoughtShare.
- The need for global networking to penetrate the global market is realized.

2000

- A new operating company is established in January 2000 called DNA Media Inc. All assets and people from DNA Media Services are transferred to DNA Media Inc.
- DNA Productions (DNA-P) is put into hibernation. CD-ROM products are unsuccessful in the market.
- DNA Media Inc. initiates a “transformation” from a “service provider” to a “technology vendor plus professional services provider”. This includes higher value services in client relationship building; technology platform in the general area of multilingual learning over the Internet (ASP model); training applications for channel partners; and content management. The reasons for these changes are to concentrate on core competency, established relationships, and in-house expertise.
- DNA Media Inc. invests heavily in technology and management, but this has resulted in a small loss for the company in fourth quarter of 2000.

Appendix 2 -DNA Organizational Structure – 1997

<i>1997</i>	<i>DNA Media Group (DMG)</i>	<i>DNA Media Services Inc. (DNA)</i>	<i>DNA Productions Inc. (DNA-P)</i>	<i>DNA Media Inc. (DNA-M)</i>
Main Corporate Function	Holding company owns all assets (intellectual property, financial assets, physical assets) and is responsible for financing, governance and overall group strategy	Provides design, engineering, production and localization services (the “core” capabilities of FMI)	Responsible for the development of products across key media.	Creates intellectual property (content?) and maximizes the long-term value and revenue generation.
Products	N/A	Media versioning and software localization. Experts in interface design, translation, graphic design, programming and cross-platform development.	CD-ROM, Internet based projects; in addition to books and short TV programs.	Publishing packaged media materials in North America, developing international content packaging and sale of rights.
Market Focus	Manages sales to corporate and institutional sector. Relies on word-of-mouth, cold-calling, and direct sales techniques; does not advertise. Has a Web site.	Main focus on East Asian languages. Market driven by out-sourcing of localization functions by large corporations, increase market growth in international version of software,	Sells its services to DNA-M and DNA. DNA-M handles sales of products and broadcast media while DNA handles sales to the corporate and institutional sector.	Education market. Progressive parents and empty-nesters with disposable income for travel. Secondary market is elementary, high school and post-secondary institutions.

		satellite TV (versioning services) and DVD.		
Long-Term Strategy	DMG to eventually moved to an Asset Management Model.	Expected growth in 1998; multi-media localization = 35% per year; DVD and video related localization = 45% per year. General Translation = 11% per year.	DNA-P will eventually develop its own content and sources of external revenue.	Develop inventory of content that can be re-used. Driving force behind development of new concepts and IP.

Adapted from: Edward Person, August 1998

Appendix 3 - Evolution of the Localization Industry

Pre-1996

Prior to 1996, localization was essentially a cottage industry. The largest companies earned \$US one million to \$US two million per year. Key success factors for business in this industry mainly revolved around language expertise, project management and resource management. The business model was based on charging rates for “dollars-per-word” translated.

1996 – 1999

The industry structure and climate changed significantly during the consolidation period that began in 1996. Consolidation resulted in the emergence of very large well-capitalized players like Berlitz, Lionbridge, L&H, Alpnet and Bowes Global Services (BGS) in a traditionally fragmented marketplace. Some drivers for consolidation were the growing equity financing market, rise of the Internet, low cost of computer technology, the trend towards outsourcing, and the growing use of non-English language on the Internet. Subsequently, the nature of the industry changed. Some of the consolidators tried to commoditize the business by reducing the business model to “pennies-per-word” through the use of translation software. At the same time some companies began marketing a one-stop high-value-added service. .

1999 to present

In 1999, the big players in the industry drove the next evolution of localization services by moving towards “global solutions”. The large consolidated companies moved localization beyond the IT industry, and began focusing on content flows, hosted applications, databases and knowledge bases. Extensive use of tools like XML, content management and testing tools grew, allowing enterprises to leverage their translation investment by allowing content to be “re-used”. Localization services grew to include translation management (e.g. Internet portals, workflow, and connectivity), multiple language real-time content on the Web, global rendering and global testing. Globalization is expected to evolve towards an integrated value chain model from the fragmented piece-meal approach to services currently being used. The business model has shifted towards an added-value service model placing emphasis on time, quality, cost, availability, subscription, platform and retainer, all in an effort to increase profit margins. The days of large software projects with large companies will slow down due to the move towards an ASP model, and open up business opportunities with small-to-medium sized enterprises (SME’s).

Appendix 4 – Industry Profile for the Software Localization Industry

	<i>General Comments</i>
<i>Barrier to Entry / Exit</i>	<ul style="list-style-type: none"> • High barrier to entry due to expertise needed in language, engineering, and design. Capital costs moderate. • Shortage of specialized talent in localization. • Steep learning curve for new entrants. • Requires network of clients, and reputation to survive in service industry, and this will take time to develop. • As industry consolidates, barriers will increase with time as global networks strengthen.
<i>Dominant players</i>	<ul style="list-style-type: none"> • Consolidators: Alpnet, BGS, L&H Mendez, Lionbridge, Berlitz
<i>Breadth of Languages</i>	<ul style="list-style-type: none"> • SLV (single language vendors); small size, sharp focus, small players • MLV; large companies especially consolidators.
<i>Capital Costs</i>	<ul style="list-style-type: none"> • Moderate but climbing due to evolving hardware and software requirements and tools.
<i>Pace of Technology Change</i>	<ul style="list-style-type: none"> • Very high. Hardware and software tools are constantly changing. Software being localized has short life cycle. • Distribution channels expanding; DVD, WebTV, Internet.
<i>Economies of Scale</i>	<ul style="list-style-type: none"> • Low scalability. Each project is a customized product requiring significant input from skilled workers, and the product is not scalable as volume of work increases. • Modest scalability with marketing, advertising, infrastructure, and management expenditures.
<i>Learning Curve</i>	<ul style="list-style-type: none"> • Very steep. Costs decline once expertise is gained, but it takes time to gain experience and competency. • Translation management tools like Trados and source code management tools like Corel Catalyst enable improvement in efficiencies for repetitive jobs and content. Does not replace skilled personnel.
<i>Vendor – Client Loyalty</i>	<ul style="list-style-type: none"> • Generally, vendors who do initial localization jobs will do projects for the life of software package. There are significant pressures to win the first contract with vendors.
<i>Industry Profitability</i>	<ul style="list-style-type: none"> • Low to moderate.
<i>Industry Driving Forces</i>	<ul style="list-style-type: none"> • Competitive rivalry is moderate due to 30% annualized industry growth rate. However, consolidators will be more competitive and dominating as the industry matures. • Power of suppliers; shortage of skilled personnel – growth in demand outstrips supply of people available to do projects. • Power of buyers; top ten industry leaders like IBM, Microsoft and Oracle dominate 50% of the market.

Adapted from: Edward Person, August 1998

Appendix 5 - Top-Tiered Consolidated Companies

<i>Top Tiered Company</i>	<i>Characteristics</i>
Berlitz	<ul style="list-style-type: none"> - Worldwide market leader in language instruction and translation services. Only “brand name” in the industry. - 1997 Total Revenues of \$366m, and software localization contributing 22% or \$80.5m to total. - 3 divisions: Language Instruction, Translation Services (software localization, interactive media, translation, general interpretation) and Publishing. - Translation Services are focused on IT, automotive, medical technology and telecommunications market segments. - Strong in international scope of operations (325 training centres, 200 languages, brand name). - Weak in not foreseeing market growth for software localization, and has fallen behind competitors in this area.
BGS (Bowne Global Services)	<ul style="list-style-type: none"> - Became a major localization player in less than 2 years due to consolidation. Refocused business on “Empowering Information”; distributing client’s information to any audience, in any language, anywhere in the world. - View service as a standardized end product. Believes clients like consistent content across all locations. - Basis of competition is on quality of service, project management skills and breadth of languages offered. - In 1998, purchased Linguistix, a multi-language machine translation tool. - Strong: it is premier player in software localization. Provides quality and breadth of services. - No significant weaknesses.
Alpnet	<ul style="list-style-type: none"> - Views service as a standardized end product. Believes clients like consistent content across all locations. - Basis of competition is quality of service, project management skills and breadth of languages offered. - Founded in 1980 in Salt Lake City, Utah. - 3 product lines: localization (45% revenues), documentation (40% revenues) and translation (15% revenues). - Alpnet targets market niches in ERP, Computer-based training and the global automotive sector. - Strong in its size and global network that includes partnerships with Compaq, Intel, Dell, Baan Computer, Oracle, Lotus and Chrysler. - Weak in offering consistent quality and reliance on aging translation technology that was developed in-house and has not kept up with current technology offerings.
Lernout &	<ul style="list-style-type: none"> - L&H parent company is technology leader in advanced speech

Hauspie Mendez	<p>technology and translation services.</p> <ul style="list-style-type: none"> - Founded in 1987 in Belgium. - 4 divisions: Core Speech Technologies / Dictation / Translation and Localization / Language Technologies. - The T&L group, known as L&H, is among the top tier localization vendors. - Customers include Microsoft, IBM, SAP, Exxon, Lucent, and Medtronic. - L&H Mendez contributed 32% or \$31.6m (1997) to parent company's revenues. - Strong presence in Latin America, part ownership by Microsoft, L&H translation technologies. - Weak: historical reliance on European languages, and lack exposure to SE Asia.
Lionbridge	<ul style="list-style-type: none"> - Founded in the 1980s in the Netherlands. - Focused on providing the technology and linguistic skills necessary for localization services. - Customers include Microsoft, Lotus, Baan, Sun, Parametric Technologies, and Trados. - Lionbridge targets Financial Applications, Operating Systems and Web Technologies. - Strong: management team with experience in Fortune 500 technology companies; employee ownership; value-added relationship with Trados. - About 50% of revenues came from Web-based activities and products, while the other 50% came from operating systems and desktop applications. - Weak: poor integration of recently acquired Japanese Language Services in 1997 resulted in inefficient operations and poor customer satisfaction.

Adapted from: Edward Person, August 1998

Appendix 6 - Medium Tiered Competitors

<i>Medium Tiered Company (less than 100 employees)</i>	<i>Characteristics</i>
DNA Media	<ul style="list-style-type: none"> - View service as customized. Consumers will demand software that is easy to use because it has been localized with sensitivity to local cultures. Requires localization service to account for cultural nuances. - Have always had a computer focus or component in the business. - Strong: wide range of services (traditional localization services / desktop publishing / software engineering / interface design) and flexibility; premier service in Asian Languages. - Weak: financial backing and flexibility
EnCompass Globalization	<ul style="list-style-type: none"> - 50-person company located in Seattle, Washington. - Specialized in Japanese, Chinese, Taiwanese and Korean markets. - Strong: software engineering, translation and testing services. - Formed EnCompass Ventures – responsible for providing turnkey services to software developers that includes localization, capital investment, distribution and marketing support.
Rubric	<ul style="list-style-type: none"> - Located in London, England - A software, documentation and Web site localization company. - Offices in North America, Europe and Asia, and offers localization services in 20 languages. - Focused on servicing the Information Technology industry, and not languages in particular.
Clockworks International	<ul style="list-style-type: none"> - Based in Dublin, Ireland. - Provides software localization services: project management, translation, desktop publishing and Web site localization. - Founded by engineers, not linguists. - Has distinct technical edge over competitors; pursue technically challenging, leading edge projects beyond scope of typical localization providers.
Arial Translations	<ul style="list-style-type: none"> - Located in Cody, Wyoming. - Provides Asian language translation and localization services including desktop publishing, double-byte output and Web site localization. - Clients include Nike, Intel, Adobe, Hewlett Packard and Polaroid. - Strong: heavy use of technology to improve efficiency of localization services like Internet servers, High speed network connections, backup systems and translation tools like Trados and S-Tagger.

Adapted from: Edward Person, August 1998

Appendix 7: Financial Statement

		1998	1999	2000
Revenues				
Linguistic	General	\$ 250,000	\$ 275,000	\$ 250,000
	Application	\$ 550,000	\$ 700,000	\$ 800,000
	Web Application	\$ -	\$ 50,000	\$ 120,000
	CD-ROM	\$ 200,000	\$ 150,000	\$ 75,000
	Web Content	\$ 100,000	\$ 175,000	\$ 200,000
Design	General	\$ 100,000	\$ 75,000	\$ 60,000
	Application	\$ 75,000	\$ 90,000	\$ 110,000
	Web Application	\$ 50,000	\$ 100,000	\$ 120,000
	CD-ROM	\$ 100,000	\$ 75,000	\$ 30,000
	Web Content	\$ 75,000	\$ 150,000	\$ 125,000
Engineering	General	\$ -	\$ -	\$ -
	Application	\$ 350,000	\$ 400,000	\$ 800,000
	Web Application	\$ -	\$ 200,000	\$ 425,000
	CD-ROM	\$ 200,000	\$ 100,000	\$ 30,000
	Web Content	\$ 50,000	\$ 100,000	\$ 250,000
Consulting		\$ 100,000	\$ 50,000	\$ 60,000
Other				
Total		\$ 2,200,000	\$ 2,690,000	\$ 3,455,000
Cost of Sales				
External Production		\$ 570,000	\$ 685,000	\$ 734,500
Internal Production		\$ 920,000	\$ 1,124,000	\$ 1,483,000
Sales		\$ 220,000	\$ 295,900	\$ 414,600
Gross Profit		\$ 490,000	\$ 585,100	\$ 822,900
Operating Costs				
Management		\$ 225,000	\$ 250,000	\$ 580,000
Marketing		\$ 10,000	\$ 75,000	\$ 150,000
Office		\$ 120,000	\$ 180,000	\$ 190,000
R&D		\$ 50,000	\$ 250,000	\$ 200,000
Total		\$ 405,000	\$ 755,000	\$ 1,120,000
EBITDA		\$ 85,000	\$ (169,900)	\$ (297,100)