Auto-Graphics, Inc.—Can It Survive Changing Technology?¹
INTRODUCTION

Paul R. Cope became president of Auto-Graphics (A-G) in 2005 after three decades in multiple roles in the company including his last role as Chief Technology Officer (CTO). For the past 18 months, Paul and his team of executives had been focusing on identifying the best strategic long-term plan for A-G. A-G operated in the U.S. library-automation-systems industry, a segment of the data processing and hosting services industry. It provided software services and products used to create, manage, publish, and access information content via the Internet. It provided resource management solutions to customers across multiple industries, including a range of library markets such as public, academic, school, special and consortia, as well as financial, publishing, aerospace and manufacturing. A-G experienced a 16 percent growth in profits between 2007 and 2008. However, the company suffered a 53 percent decline in profits between 2008 and 2009, with a 5-year average decline of 16.5 percent between 2005 and 2009. A-G was faced with declining revenues and slower profit growth. According to Paul Cope,

A major challenge facing A-G was how to grow in a mature market that is confronted with shrinking budgets: The library market is a very mature market. It is not going to grow. You are not seeing more libraries being built in the U.S. and the demand for library services is not growing. In the 1970s when everyone converted to online electronic catalogs there was a lot of growth in this industry. However, now everybody is electronic. So what we are really doing is taking business from one company to another; business is just moving back and forth.

Paul saw the maturing of A-G’s primary industry as an opportunity for A-G to identify a new strategic direction in order to increase its growth rate and profitability. Should A-G continue to make inroads into the U.S. Library-Automation-Systems industry? Should A-G expand outside the U.S. market? Should it diversify into other markets? Should it identify alternative markets
where it can apply its technologies? All of these questions had been the focus of Paul and A-G executives over the past 18 months.

THE U.S. LIBRARY-AUTOMATION-SYSTEMS INDUSTRY

The U.S. library-automation-systems industry was a segment of the U.S. data-processing-and-hosting-services industry. The data-processing-and-hosting-services industry (NAICS code: 518210) comprised primarily firms engaged in providing specialized hosting and data-processing activities. The majority of total industry revenues came from three areas: business-process management (BPM) and data processing (improving business efficiency through the use of technology), data-management services (storing and accessing data), and application-service provisioning (ASP, also called “software as a service” (SaaS)). IBISWorld estimated the industry size to be $68 million in 2010. Because of the great variety of services provided clients, the industry was highly fragmented with no single firm accounting for more than 5% of the industry’s revenues. The industry experienced strong revenue growth globally; however, U.S. sales were declining. Between 2005 and 2010, the industry in the U.S. contracted by an average of 0.7%/year as more and more of the larger players were forced to go offshore to reduce costs. Firms in low-wage countries such as India were increasingly able to provide the services at much lower costs than U.S. firms, thus intensifying competition. IBISWorld projects a five-year annualized decline of 0.4% in revenues for the industry in the U.S. from 2011 to 2015 because of increasing outsourcing and competition from abroad.

The U.S. library-automation-systems industry focused on libraries as clients. The industry serviced public and academic libraries (both individual and combined into consortia), K-12 schools (both individual and district-centralized), and special libraries (which covered
corporate and enterprise customers). Table 1 shows the estimated U.S. library-automation-systems-industry revenue and revenue-growth rate from 2004 to 2009. During this period, the growth rate fluctuated between zero and 10.5%, with an average annual growth rate of 3.98%. Industry sales declined significantly between 2006 and 2007, remained flat between 2007 and 2008, and began to pick up again in 2009. This was a reflection of the economic downturn in the U.S. and across the globe. By mid-2008, the U.S. economy entered the deepest and longest economic downturn since the great depression. GDP growth contracted from 2.1% in 2007 to minus 2.4% in 2009. The economic recession had significant negative impact across a wide range of industries, including the U.S. library-automation-systems industry. According to Breeding, the upsurge in revenue growth for the industry in 2009 was not caused by real growth in revenues but by the entrance of powerful new competitors such as OCLC.

| Table 1 – U.S. Library-Automation-Systems-Industry Sales and Sales Growth Rates |
|---------------------------------|-----|-----|-----|-----|-----|-----|
| Sales* (SM) | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| 505 | 535 | 570 | 570 | 570 | 630 |
| Sales Growth Rate | 1.0% | 5.9% | 6.5% | 0.0% | 0.0% | 10.5% |


* Represents total revenues of all companies that participate in the North American Library-Automation market

Firms in this industry obtained over 90% of their business from responding to request for proposals (RFPs) submitted by libraries. In an RFP, a library specified in detail its library-automation needs and invited vendors to submit proposals through a bidding process. The firms responding prepared proposals detailing how their products met the specifications of the client and the price. Libraries would often select the products that most closely met their needs at the
lowest price. Paul describes below the two basic systems provided for the libraries by the incumbents.

One system is if you go to the City of Covina’s public library and you walk in with your library card and you go to the bookshelf and check out a book, and they scan your library card and the book and tell you the due date, this is the ILS, or Integrated Library System; its book inventory. That is one system we have. The other system is called Inter-Library Loan (ILL). Let’s say you went to Cal Poly Pomona University and you were looking for a book and they did not have it, but they had an online terminal that you could search. Let’s say one of the Claremont Colleges had it and Cal Poly Pomona has a borrowing-and-exchange program with them, you could do what is called an inter-library loan request. These are the two basic systems we have.15

While new Integrated Library Systems (ILS) sales were the library-automation-systems industry’s core product and typically indicated who would be successful in the long term, non-ILS software and sales to non-US clients represented increasing proportions of revenues from 2005 through 2009. Thus, the industry had evolved to be less dependent on traditional ILS procurements. However, support of ILS products and new sales still constituted the largest and most reliable revenue sources for the industry.

Despite flat revenue growth, firms in the library-automation-systems industry were gearing up for new product development that would result in improving their long-term competitive positions as indicated by increased investments in personnel between 2008 and 2009. Total employment for the whole industry was 2,926, a 17% increase over the 2008 figure.16 Support personnel had the largest increase in response to a greater number of customers followed by development personnel in preparation for the development of innovative products and new functionalities in current products.

A legacy system referred to a system that an institution had been using for a period of time. Usually it contained outdated hardware and operating systems. The process of legacy migration meant updating the outdated hardware with a new system and provided the greatest
opportunity for new ILS sales.\textsuperscript{17} In 2007, legacy migrations represented 63\% of all ILS sales.\textsuperscript{18} The process of legacy migrations was cyclical and depended on the various market categories within the industry. As an example, migrations were currently winding down in the mid-sized to large academic and public libraries, but were increasing in the K-12-schools and small-public-library categories.

Libraries tended to defer replacing their legacy systems for as long as possible with the effect that these systems often remained in use many years past the point when new development ended. This was often caused by uncertainty regarding companies and technology trends. Some libraries held back as they waited to see how well new products would hold up in other libraries and whether open source would prove itself as a safe and beneficial alternative. It was common for libraries to maintain a legacy ILS as long as possible but provide a new-generation interface to modernize its look for patrons.\textsuperscript{19} In 2009, these new interfaces, the promise of new technologies, and the global economic recession all worked in tandem to encourage libraries to defer migration to a new ILS.\textsuperscript{20}

A scorecard of a company’s progress and activity was often measured by the number of contracts sold and the total number of installed products that a company had. In the public, academic, and consortia segment in which A-G competed, the overall number of ILS contracts signed was far below the peak seen in 2004 when the number of new customers was 538 and total contracts numbered 892.\textsuperscript{21} The number signed to new-name customers between 2007 and 2009 dipped 23\% and total sales dipped 38\%.\textsuperscript{22} In this segment, Ex Libris Group led in total installed products in 2009. While “counting contracts” was an important general measure, all contracts were not created equal and varied widely in value, number of libraries under a single contract (as in the case of consortia), collection sizes, and complexity of automation. For example, smaller library systems averaged $72,000 per contract, while large research libraries
and consortia averaged over $300,000 per contract.\textsuperscript{23} Also, Exhibit 1 shows that although Ex Libris Group was the 800-pound gorilla, smaller players like A-G, Civica, and LibLime actually had larger average growth rates for total contract sales and new-contract customers.

\textbf{Market Segments}

The US library-automation-systems industry was divided into three major segments: public and academic libraries (both individual and combined into consortia), K-12 schools (both individual and district-centralized), and special libraries (which cover corporate and enterprise customers). As displayed in Figure 1, the K-12 schools-and-school-districts segment dominated the industry with an 89\% share of total installed products, followed by the public, academic, and consortia segment at 10\% and the special-libraries segment at 1.4\%.\textsuperscript{24} The public, academic, and consortia segment was further broken down by market share among A-G and its top competitors: Ex Libris, Innovative Interfaces, LibLime, OCLC, Polaris Library Systems, SirsiDynix, and The Library Corporation (TLC) (see Figure 2). Ex Libris and SirsiDynix were the largest in this segment with 33.5\% and 32\% shares of the market respectively. A-G’s market share was 3\%. Market share was determined by the number of total installed products in 2009. Despite the 10.5\% growth in revenues for the industry overall, the firms in this segment had a record low of new contracts signed in 2009.\textsuperscript{25}
Note: Data for SirsiDynix and LibLime were from 2008.
Note: Data for SirsiDynix and LibLime were from 2008.
Each market segment had a different automation need to which industry competitors had to be attuned in order to succeed in developing competitive products. Public libraries required automated tools primarily to access their collections and reduce administrative workloads, which helped them to use precious budget dollars efficiently. They had a higher rate of SaaS (Software as a Service) usage since most were moderately sized institutions that benefited from leveraging the vendor’s technical infrastructure. High-volume public libraries also saw Radio Frequency Identification (RFID) technology as a way to improve efficiency, especially through automated-sorting systems, patron self-check, and inventory control. With the pressure to be ever more efficient, libraries needed to generate automated reports to accurately report on library activity, which could positively impact staffing and funding. As for add-on products like reference linking, electronic-resource-management, and federated-search applications, libraries had not yet seen enough benefits because, unlike academic libraries, they didn’t have as much electronic content to manage. A-G was among the companies capitalizing on delivering full-featured automation products to otherwise underserved small public libraries.26

Academic libraries needed automated tools to manage and provide access to their extensive electronic collections. Electronic Resource Management (ERM) systems were becoming mainstream in these institutions because they helped to automate internal processes such as selection, licensing, and procurement of electronic content. One ongoing issue was that their patrons, a generation accustomed to Google-like search engines and the latest and greatest technologies, had high expectations for a library’s ease of use and breadth of content. Academic libraries hoped to live up to their patrons’ expectations through improving interfaces and providing portals to institutional courseware and e-learning, using link resolvers that allowed
users to link and navigate among licensed e-resources, and providing federated-search products to eliminate the laborious task of searching e-database collections individually.  

Libraries at K-12 schools had automated cataloging needs beyond a typical library. Schools needed to manage inventories of textbooks and other resources and support assessment activities. Within this category, demand for a transition to more centralized systems was fueling a hot market for legacy migrations. Within the K-12 segment, a new giant had emerged—Follett. It had an estimated 60% market share, was ten times the size of its nearest competitor, and consolidated a large number of school products under one roof.

The automation needs of the special-library (corporate) category were difficult to assess because companies were reluctant to disclose information and their corporate customers often demanded nondisclosure. The types of automation and product needs were also shifting further away from traditional library-automation models into the realm of knowledge management. Most special libraries relied heavily on e-content ranging from sensitive internal documents and external subscription-based materials to reports and research materials.

A trend across all categories was a fundamental shift from individual libraries/schools and PC-based systems to consortia and centralized, district-wide, web-based systems. These new consortia and resource-sharing environments helped increase efficiency and compensated for reduced budgets by providing technological developments that lowered automation costs and gave access to a larger collection of materials. Consortia were starting to merge together as well, creating “mega” consortia.

While there were many opportunities to create solutions for these market segments, all public entities were constrained by a dependence on state budgets and private grants and donations. As a result, few institutions invested in automation software to achieve only incremental improvements, and successful funding must be tied to real deliverables.
Pressures to Innovate

Constant innovation was fueled by the need to keep up with the user expectations of a generation that has grown up with technology. Students, for example, demanded a single interface to access not only library information, but also university social activities, professor websites, and e-learning environments as well. Google, bookstores, and other web destinations were also constantly raising the bar. Google’s search engines delivered well-ranked and intuitive results that the industry struggled to emulate, and Google also encroached into the library domain with its Scholar’s division that plans to digitize millions of books. By these standards, libraries were making radical changes to keep up. Libraries dropped the Dewey-Decimal-system standard and organized materials by topic so that collections were easier to browse for patrons who were used to visiting bookstores. Some libraries used Facebook applications to provide access to their catalog and services. With all these changes, librarians wondered: What would happen if brick-and-mortar buildings were replaced by virtual libraries and flesh-and-blood librarians by avatars that represented them?

Industry Trends

There had been a fundamental change in the business model of firms in the industry. The traditional business model involved libraries making large up-front investments in licensing fees for proprietary software and modest payments for maintenance over the life of the contract, usually five years. In Software as a Service (SaaS), a library hosted its system and data on servers provided by the vendor and paid annual subscription fees in lieu of the licensing fees. Customers accessed the software and products ranging from link servers, federated-search environments, resource-sharing systems, and collection-management services all through the Internet. This provided cost savings associated with administration and with installing and maintaining hardware and software. SaaS also freed up valuable IT or technical staff to support
other projects. This new model could result in significant cost reductions for libraries as it eliminated the need for local servers and the technical personnel to maintain them. The companies providing the hosting also experienced significant cost reductions because the expenses had very low unit costs, which further declined as the number of SaaS accounts increased.

Libraries were increasingly interested in more open-source products. The open-source movement allowed customers to own the product’s source code, which could then be modified and customized to fit their specific needs. Revenues with this new business model were mostly from hosting, services, and custom development. According to Breeding, “though early in the market-adoption cycle, open-source ILSs are well within the mainstream of the library-automation industry. We can expect an increasing number of libraries to move to open-source ILS-support models.” Combined revenues of the firms supporting open source represent over just one percent of industry revenues and the number of libraries participating ranged from 2-5% of all libraries. Three companies dominated in providing open-source ILS. LibLime was by far the largest with 208 libraries that had made official commitments to implement its Koha system, followed by Media Flex with 59 commitments to implement its OPALS system, and Equinox Software with 58 commitments to implement its Evergreen system. Public and academic libraries dominated libraries that had made official announcements to adopt open-source ILS at 57% for public libraries and 7% for academic libraries.

Despite the seeming popularity of open source, Paul Cope had his misgivings:

Open source appeals to the library mentality of sharing. Everything should be free. Open source said, “Here, just install it and run it yourself,” and the libraries said, “OK, we’ll give it a try.” The libraries then found that it was more difficult than they had thought. They are enamored with the idea that they could get the source code, so that if they did not like the provider, they could always run it themselves; however, they could not run it themselves. In reality, they do not want to change the core business logic; they want to change the look and feel, to change the screen to purple, pink, or green. But librarians are
buying open source without getting a quote because they are so enamored. The word I like to use is—it’s almost a cult.

The whole idea is they did not have to pay the license fee. The kicker is that open-source guys charge as much or more for installation, implementation, and set-up as they would charge for a license. They have simply changed the word from licensing to implementation. What we are finding is, if you buy open source, we will charge you $115 for implementation and $7 for hosting, but they do not tell you that fixing is on a time-and-materials basis. And of course, there are lots of fixes. It is a very deceptive thing. The libraries are just now beginning to question it.

In our contract since 1972, it says “If Auto-Graphics should fail, go out of business, or not offer you the next version of our software, while you have our software and are paying for it, we will give you the source code.” So we have always had transparency. We are going to help you (the customer) keep running the software if we go out of business as our last will and testament.42

Although open sourcing currently represented a very small portion of the library-automation business, it could be the start of a permanent shift, and had the potential to disrupt the industry’s traditional business model of licensing.

The library-automated-systems industry had changed from a relatively fragmented industry to one dominated by a few consolidated companies. There were significant M&A activities in the mid-2000s; however, the rate of M&A had declined due to the economic slowdown but it was projected to pick up beginning in 2010 as the economy began its recovery.43 The ability to increase market share became harder as the market reached saturation in North America. Firms hoped to reduce overhead and cost (HR, financing, accounting, marketing, etc.) by combining resources and increase their market share by combining product development and support. In the largest business acquisition in the industry’s history, Sirsi bought out Dynix in 2005 and became SirsiDynix, making it 40% bigger than its nearest competitor.44 Other groundbreaking mergers during that period included Follett Software Company’s acquisition of archrival Sagebrush in the K-12 school category, Ex Libris’s acquisition of Endeavor in the academic-library category, and OCLC’s acquisition of Fretwell-Downing, Openly Informatics, and Sirsi Information Systems.45 Although 2009 saw relatively few mergers, LibLime announced
it is being acquired by Progressive Technology Federal Systems (PTFS). The considerable consolidation activities were a sign of shakeout as companies elected not to expand a company's market into other library types.

The growing saturation could also be seen by the shift from venture-capital investments to the ownership of companies by private-equity firms. Venture capitalists gravitated towards companies in the earlier phases of their business-development cycle. Private-equity firms, on the other hand, invested in more established companies, made larger investments to gain complete ownership so that they could strategically manage the company to increase its value over time. Two large companies in the industry, SirsiDynix and Ex Libris, already had substantial investments in them by private equity firms. In 2007, SirsiDynix was acquired by private equity firm Vista Equity Partners and Ex Libris was acquired by Francisco Partners.

There continued to be increasing growth in international clients. The industry experienced an average four-year annual growth of 28% in non-U.S. sales from 2006 to 2009. Although growth had slowed considerably in 2009 as compared with 2008 due to the global economic recession, the international arena still constituted a fruitful avenue for growth for the incumbents as demonstrated by the large overseas contracts signed in 2009. Innovative Interfaces, Inc. landed a new account for its Millennium product in Saskatchewan, Canada, with a new consortium that consolidated the ten library systems in the province. The University of Oxford with the largest library system in the United Kingdom signed a deal with Ex Libris. Also, VTLS, Inc.’s Virtua was selected by the Hong Kong Public Library system. As the global economy recovered from the recession, international sales were expected to rebound and increase.

Companies were increasingly marketing add-ons to the libraries being serviced by their competitors to enhance revenues through new products and services. Companies were also
starting to decouple the library’s front-end interface from the back-end ILS core product. This
divided the library’s system into two parts that could be serviced by two different companies.

In relation to this trend, Paul had this to say:

That is what I am trying to do right now. The new interface we are building is built on
Adobe Flash; it is a standalone piece of code. It can sit and it talks through some of the
newer technology called, “Web Services,” to our back end. Without giving away
everything, I hope that I can write a piece of middleware that will allow it to hook to
anyone’s back end. Twenty years ago we did that for a couple of big companies and we
sold about $3 million a year with that interface. People thought the interface was cool
because that is what the patrons actually see. I do not need to worry about the backend.
The backend does what it needs to do, it has its own interface; I want my patrons to have
a better user experience. If I can do that, I think I got something. So that is what I am
working on.52

COMPETITION

A-G’s top competitors within the Public, Academic, and Consortia market category of the
industry were Polaris Library Systems, SirsiDynix, The Library Corporation (TLC), and
LibLime.53

Polaris Library Systems

Polaris was a mid-sized private company headquartered in Syracuse, New York. It
offered Polaris ILS to public libraries and it had over 1000 libraries in its portfolio.54 It focused
primarily on the automation needs of public libraries in the United States, and it was A-G’s
closest competitor in terms of overall product and platforms.55 The company experienced a 41% decline in new contracts between 2008 and 2009; however, it was able to capture some very
large accounts compared to previous years with customers like the Phoenix and Dallas Public
Libraries.56 Polaris hoped to grow its business by providing products to midsized colleges. In
2009, Polaris experienced a management buyout as its management team, under the leadership of
CEO and President Bill Schickling, acquired the company from Croydon Company, which had
owned it from its inception. Also in 2009, Polaris created a new unit charged with maintaining
high levels of customer satisfaction. Polaris had consistently maintained one of the highest ratios in the industry of customer support staff to customer sites. 57

On top of its standard ILS platform, Polaris offered around 24 modules, the most unique being ExpressCheck, which bar-coded items with RFID tags, and Outreach Services, which provided books by mail, assisted-living visits, and jail-book requests. Product-pricing models included both local installation (license) and SaaS. 58 As was the case with many firms in the industry, Polaris had strategic partnerships with 54 other companies including iTeam Resources, Tutor.com, and others, to provide their customers access to these firms’ products. 59

SirsiDynix

Sirsi Corporation was founded in 1979 and Dynix Corporation in 1983. In June 2005, Sirsi, the smaller of the two, acquired Dynix to become the world’s largest supplier of library software. 60 Its headquarters in Provo, Utah served more than 23,000 library facilities in more than 70 countries including in Europe, Asia, Latin America, and Africa with more than 300 million users worldwide. 61 With the acquisition, SirsiDynix experienced future product-strategy challenges. Sirsi and Dynix were direct competitors with overlapping products in almost all areas and SirsiDynix has had to consolidate the development of front-end interfaces and portals, creating interfaces that will work equally well with both flagship systems. 62

In 2009, while SirsiDynix signed significant number of new clients for its Symphony ILS, the net result was a loss of customers due to the defection of many libraries running SirsiDynix ILS products including Horizon, Dynix, and Unicorn to competitors. 63 The company experienced a decline of over 56% in revenues between 2007 and 2008; this is after a 70% increase in revenues between 2006 and 2007. 64 This was attributed to the problems of integration. Many customers were unhappy with having to pay more to upgrade to Sirsi’s
products after the merger when SirsiDynix pulled the support for Dynix’s products. This created opportunities for smaller players in the industry, such as A-G, to grab additional market share. SirsiDynix’s flagship ILS was Symphony, although it continued to support Horizon and Dynix Classic, both of which had a shrinking customer base. Its other product offerings included integrated library- and consortia-management systems, ILL and resource-sharing solutions, user-interface/portal solutions, productivity solutions, data-analysis and business-intelligence tools, and digital-media-archive technology. Its products were complemented with around 100 partnerships. SirsiDynix also provided a number of services such as consulting, data- and network-servicing, and training. Delivery and pricing utilize SaaS or local-installation options. The Library Corporation (TLC)

The Library Corporation (TLC), a family-owned and -operated company, was founded in 1974 to provide MARCIFICHE to libraries. By 2010, the company had evolved into an international company headquartered in Inwood, West Virginia, with offices in Denver, Colorado and Singapore. TLC served public and school libraries and employed 197 people, down from the 204 reported for 2008. Its 2009 revenues were in the $30–$35 million range. TLC experienced a 6-year average decline in total sales from 2004 to 2009 of almost 12%, with a 6% decline between 2008 and 2009. New customers declined by over 6% between 2008 and 2009. However, sales of its Library.Solution, which TLC offered to all but the largest class of libraries, continued modest growth with 30 contracts in 2009, increasing the number of installations to 719 from 700 in 2007. The company also had an especially good year in the K–12-school arena with eight sales of Library.Solution to school districts, including Jefferson County School District in Colorado, totaling 140 libraries serving 85,000 students.

TLC’s ILS products included Library.Solution aimed primarily at small to mid-sized libraries, and Carl.X aimed at consortia and municipal libraries. Library.Solution was developed...
by TLC and Carl.X was obtained through its acquisition of the Carl Corporation in 2000. TLC serviced almost all industry segments and had 18 products that ranged from an integrated library system (ILS) to school-automation and -cataloguing. TLC had 28 strategic partners.

**LibLime**

LibLime was founded in 2005 to provide open source software solutions to libraries. The company’s capstone product, Koha, was the industry’s first and most popular open-source ILS system. In March 2010, Progressive Technologies Federal Systems, Inc. (PTFS) acquired LibLime. PTFS, a once relatively obscure firm in the industry because it supported libraries predominantly in the government and the military, was catapulted into the major leagues of library-system providers by the acquisition. The company is headquartered in Bethesda, Maryland.

LibLime, before the acquisition, was the leading firm in the open-source segment of the industry. It had successfully sold the idea of open source to libraries and garnered 208 official commitments from libraries to implement its Koha system. As of 2009, LibLime had 108 contracts for its Koha open-source ILS in 500 libraries. Joshua Ferraro, LibLime’s co-founder and former CEO, oversaw the implementation of the Koha open-source-library-automation system at the Athens County Public Library System in Ohio. Athens County was the first library system in the U.S. to adopt an open-source-integrated-library system. Open source gave libraries the freedom to innovate through directly participating in the development process or paying software developers like LibLime to implement their ideas. Unconstrained innovation also meant that open-source software had much faster development cycles compared to that of companies with their own proprietary software.

LibLime had experienced positive growth since its humble beginnings with a two-year average growth rate in new-customers of 32% and in number of contract sales of 10% (see
Exhibit 1). LibLime had three product categories—Koha Integrated Library System, biblos.net cataloging, and GetIt Library Acquisitions. The Koha Integrated Library System included three products – the LibLime Enterprise Koha (LLEK) and Koha Community, both aimed at public and academic libraries and consortia, and Koha Express aimed at small, public school and special libraries. The introduction of LLEK in 2009 had strained relations between LibLime and the broader Koha support community, who felt that the company took advantage of a cooperatively developed resource without the reciprocity of contributing back the features it developed.

THE COMPANY

Robert S. Cope, Paul Cope’s father, founded A-G in 1950 in Pomona, California, where the company was currently headquartered. A-G had evolved as technologies had evolved. In the 1950s, the company produced computer schematics for the space program, and when Robert Cope took the company public in 1969, it converted card catalogs into electronic catalogs for libraries. At that time, A-G also began building databases for libraries. It continued to reinvent itself as library technologies went from paper, then microfilm and microfiche systems, to online systems, CD-ROM cataloguing, and finally to Internet-web-based catalogues. As desktop publishing and Microsoft Word came along in the 1990s, A-G left the typesetting and publishing businesses almost completely. Now virtually all of what it does was focused on library-automation systems, serving more than 6,000 customers throughout North America and Canada and providing solutions to customers across multiple industries. According to Paul:

Times are changing of course, so things are different. That is the amazing thing. We used to say that we reinvented the company every ten years, and then a couple of years ago it was five, now it’s like every couple of years that we have to look at everything. The strategic plans have to be rewritten for five years; now I’m down to 18 months. Last time I wrote one (strategic plan) and I was in the middle of an update, it was already outdated.
A-G’s ability to continually innovate was attributed to the flexibility and initiative of its management and employees. It retained loyal, hard-working, and adaptable employees. In a company survey a couple of years ago, A-G found that employees worked an average of 13 years with the company. As it grew, it hoped to attract the same caliber of employees, but also aimed to hire people with more experience in the library-automation-systems industry.

In 1997, A-G acquired ISM Library Information Services Unit in Toronto, Canada and added more than 32 million bibliographic and authority records to its extensive resource holdings. This enabled it to offer new services to its customers. A-G renamed the company A-G Canada and maintained a small four-person sales staff in its Toronto office. In 1998, A-G completely reengineered ISM’s major products and created MARCit and TRACEit. In May 2004, A-G terminated the registration of its common stock with the SEC and suspended its reporting obligations (i.e., went private). Paul noted that, as a small company, A-G did not have the resources to support the quarter-of-a-million-dollar-price tag and the people needed for the reporting activities required by Sarbanes-Oxley. In 2009, A-G’s shareholders approved the
creation of Agent Information Software, Inc. (AIS) to act as a parent company to A-G and to any entity that may be created to serve other industries and markets. AIS listed its stock under the symbol “AIFS” on Market Watch. The current stock price as of July 2010 was under $1.00, with Paul’s friends and family owning 70% of the company’s interest.87

A-G experienced a six-year average increase of 28.50% in total sales and of 27% in new customers between 2004 and 2009 (see Exhibit 1). This was due primarily to a growth rate of 260% in both categories between 2005 and 2006. The percentage changes in the other years were negative. Exhibits 2 and 3 present A-G’s five-year financial statements.88 A-G went from a growth rate in revenues of 3.50% in 2006 to a decline of 4.96% in 2009. NIAT, which had been declining since 2006, had its biggest decline of 53.32% in 2009.

In relation to A-G’s financial performance, Paul had this to say:

Other than a small percentage of software services we provide for publishing, the rest of our revenues come from the library business. The library business has a U.S. revenue side and a Canadian revenue side. The Canadian side had continued to decline since we acquired the company and we cannot turn it around. We hired sales people up there and we paid them X and lost that amount in revenue. We are averaging about $80,000-$100,000 per annum in lost sales in Canada. We cannot turn it around.

In Canada, the product we sell is higher-end, so we need experienced people because it is a consultant sale. Canada is a very tough market because there aren’t big population centers, so a library does not see a lot of value in what we are doing. We are working on a couple of product ideas. We are looking at bundling some services and trying to offset our Canadian loses. This year, with the change in the US and Canadian dollar (we were at 1.0 last year and as low as 0.7 this year), so just on the exchange rate, we are losing money. Sales have not been growing as much as we want. In 2008, we did not grow; it was flat late in the year for us. At the end of the second quarter and as we got into the third quarter, some worries about the economy started to hit and remember a lot of government budgets are in July so a lot of libraries were told to put their purchases on hold. So we had flat third and fourth quarters. Normally we see some sales and in fact we close deals in the third and fourth quarters and install in the first and second quarters. For example, we reported a loss for the first time in thirty quarters. Sales have suddenly flattened out because of what happened in 2008.

The primary change in net income was a decision on my part to finance internally all the new development of the new products. Although we capitalized some of the software, the hiring of new marketing and sales people for the legal product and some hiring of new product people in the library area to work on this new product that is coming out now
was a decision that I made. So we consciously made that decision that we would have lower income; that way we could hire. We made this decision separate from the economy. That was the key decision there.89

Products

A-G specialized in library automation and resource-sharing products for both large-scale resource-sharing projects and traditional library automation for public libraries at both the state level and for small libraries.90 A-G provided a range of products that rivaled its largest competitor, SirsiDynix. Most marketing to libraries was done at three major national shows and 13 state-library shows every year. Year-round marketing was also done via email and free webinars. Paul stated that webinars, where customers can watch product demos and provide feedback, were very popular.91

The main product suite and platform that A-G sold was called AGent. The AGent platform’s primary core products were AGent Iluminar™, AGent VERSO™, AGent Resource Sharing™, and AGent Search™, but others included: iLib2Go, MARCit, Digital Collections, TRACEit, Telephone Attendant, Content Management System (CMS) and Batch Services.92 The principal advantage of these products was that they could be customized and therefore applied to institutions of any size.

AGent Iluminar was a next generation patron user interface and the most recent addition to the AGent suite of products. A-G announced the introduction of Iluminar in 2008 and completed initial development in 2009. Iluminar was developed on a new platform based on the Adobe Flex technology, an open source development framework, and provided an open platform with greater capabilities for interoperability with external applications. AGent Iluminar gave patrons more flexibility by allowing them to modify their own user experience through "My Lists" and "My Account" customization options.93
AGENT VERSO was an Integrated Library System (ILS) that provided libraries with a way to manage and track their inventory and resources. It automated circulation activities like checking-in, checking-out, and transferring items; placing item-reserve requests and notifications; and recovering fines, fees, and lost items. It also automated cataloguing activities such as adding, modifying, or deleting bibliographic records, updating bibliographic headings to library standards, printing book-spine and pocket labels, and analyzing an item’s activity. AGENT VERSO also provided automated-administration and -reporting activities with a statistical package. This package created, stored, retrieved, and analyzed information on patron-account status, fines and fees, item holds, and bibliographic-record information, all at automatically scheduled times. AGENT VERSO also featured Google-like searches, a “My Account” for patrons to access their information, and the option to receive weekly-account-status emails.94

AGENT Resource Sharing was a robust Interlibrary Loan (ILL) system, which allowed partner libraries to share resources and borrow from each other via a single interface regardless of the library’s size or the ILS system it used. It also supported an unlimited number of trading partners and their respective lending policies. Through its add-on Circulation-Interlibrary-Loan Link (CILL) module, Resource Sharing interacted with the library’s circulation system and eliminated 50-60% of the steps required to process a borrowing or lending request. At the East Hampton Public Library in Connecticut, CILL was able to reduce staff labor by 54%, with borrowing workflow reduced from 22 to 11 steps and lending workflow reduced from 14 to 8 steps. CILL’s time-saving service was invaluable when considering that staffing was the largest component of any library budget and ILL transactions tended to be most labor-intensive.95

AGENT VERSO and Resource Sharing were once on separate platforms developed by different groups, but A-G aligned both to be on the same platform using one programming language, and allowed both to be more scalable to different sizes of organization and handle a lot
more users. This enabled A-G to serve both rural libraries and previous accounts like the State of Texas, which had 65 million items at over 6,900 libraries.96

AGent Search was a powerful federated search that quickly and intelligently searched resources and avoided information overload by ensuring that search results were not duplicated. With a single login, the product could search multiple, free, and proprietary content, catalogs, and the Internet simultaneously. A statistics feature also monitored usage by tracking on-site and remote access, and identified popular databases through website traffic. This helped libraries to identify areas of patron interest where they could allocate more resources to improve services. A Gent Search was also flexible and could be integrated into any existing application or incorporated into a custom-designed website or portal. This product distinguished A-G from its competitors because only a small number of competitors had developed their own software, with the rest offering the technology through unstable partnerships with other companies.97

A-G introduced iLib2Go, an iPhone application, in 2008 as part of the AGent suite of products. It was a preference tracking system with alerts and other features that could be used as the basis for a program for home delivery of library materials. Users could register their profile and receive alerts when materials became available that matched their interests. iLib2Go enabled libraries remain relevant to technology savvy patrons who were accustomed to accessing information using mobile devices.98

AGent MARCit provided a single point of access for public libraries to share over 20 million quality bibliographic records that ranged from individual library machine readable (MARC) records to the Library of Congress database (MARC was a bibliographic-data format used for library cataloguing). AGent Digital Collections created, cataloged, and displayed digital content that was once limited to only internal library viewing. It supported all web-available audio, video, image, and text-file types, and complied with Americans with Disabilities Act
(ADA) and BOBBY. BOBBY was a system launched by the Center for Applied Special Technology (CAST) in 1995 that ensured World Wide Web accessibility to individuals with disabilities. It helped novice and professional web-designers analyze and make improvements for those with disabilities. AAgent TRACEit extended resource-sharing beyond traditional ILL boundaries and provided an efficient way to locate hard-to-find material. AAgent Telephone Attendant allowed libraries to provide automated services via telephone. Library hours, special-event information, renewing books, reviewing balances, and overdue items could all be done 24/7 at the patron’s convenience. AAgent Enterprise provided modified versions of AAgent Search and AAgent Digital Collections and adapted them to corporations in various industries, using the newest data standard as its basic data structure – Extensible Mark-up Language (XML).99 Paul felt that A-G’s use of this new software language, the newest technology for the Internet, would be a big competitive advantage.100

Any of these core products had over 16 modules and options that could be integrated into it, allowing A-G to fully customize any system. Some of these included a serials module that controlled and maintained subscriptions, an instant-messaging module, a geo-location IP-authentication-technology module, and a student and staff book-review module. Core products and modules could further be customized through integrating partnership services and third-party products. Some partnerships included those with Baker & Taylor, Inc. that provided patrons with the option to purchase library materials, and Syndetic Solutions that provided libraries and patrons with book-jacket art, book reviews and summaries, and display items. The ability to customize products could be instrumental in cases where there were gaps in standards or when operating standards were not available. Modules and partnerships also provided A-G with additional sources of revenue.
In relation to new product development, Paul had this to say:

A lot of the development of new modules and features come out of our user group. What are our users looking for? We have annual and quarterly calls with all of our customers. We do about 94% of the user-requested enhancements. For new features we look to see if it helps the entire community of users. If it does, then will it help us get a new deal? For example, in ILL, the users asked for a bunch of new forms because they want more flexibility in the forms, more fields and stuff. It is not going to help us get a new sale, but it was voted on by 6 out of 12 customers as their number-one priority. So we said, “Ok, that goes to the top of the list.” If it is a new feature, we tend to see if it will help the base and help sales. Another example was from acquisitions last year. A lot of the companies that people buy books from, Baker & Taylor, Ingram, etc., do a lot of selling online. So we improved the online invoicing between those companies and our system. The users wanted functionality in that area, so sales said if you could do that, it will help our base and give us a market we can go after that we haven’t been able to go after as strongly and should result in more sales; so a combination of decisions like that get made.\textsuperscript{101}

All of A-G’s products ran off a standard browser, and products were delivered via three options:

1. SaaS (Software as a Service), where the product and upgrades were free and immediately available to all subscribers through A-G’s secure and backed-up servers

2. Hosted license, which was a hybrid pricing model where the library made an initial capital investment in a license and then was supported via SaaS

3. The selling of a license, which was geared towards larger institutions with the budgets and IT staff to support A-G’s products. Pricing was based on certain pre-determined criteria, such as volume (how many records or items the system supported), activity, and number of users or staff the system supported.

The SaaS Business Model

A-G thrived on the SaaS business model. Since customers needed only a URL and login/password to access the product, they benefited by requiring no installation of any hardware or software, and freed their IT department of a substantial maintenance burden. Customers also
benefited from high uptimes. Any problems or bugs in the product could be found and fixed faster, and updates could immediately be effective once the customer logged back in.

But what set A-G apart from its competitors was that A-G provided customers with the latest software version of its core products. Usually, in a typical licensing model, users bought a license and waited as long as possible to purchase future upgrades. This meant that the licensing company had to support, manage, and supply patches for all previous versions in the event that the company needed to upgrade, all of which were charged to the customer as an additional fee. A-G’s constant updates not only benefited the customer by allowing it to use the latest and greatest product, but it also benefited A-G in that it had only one product and one source code to support and maintain.

The SaaS subscription-like model also provided a lower investment alternative to customers, with less risk than they would otherwise incur using a product with which they were dissatisfied. However, this model also made A-G work hard for its customers. It required A-G to have a good customer-service organization, but more importantly, it required A-G to have a good solid product because customers could cancel at any time (versus a license model where all fees were paid up front and were non-refundable). Customers could cancel the service and go to another company if A-G did not answer a phone call, if they did not like a feature, or if they found a better product. A-G thus had to earn its customers’ loyalty every day.

Despite the ability for customers to “jump ship,” A-G found that customers were staying with it longer. This was great for obvious reasons, but it was especially important since A-G’s ROI model is built on a three- to five-year subscription. Although the SaaS model provided lower upfront revenue, it brought A-G higher profitability every additional year a customer stayed with A-G beyond five years. And with some companies staying with A-G for over 20 years, long-term customers like these were creating a consistent long-term profit stream.
A-G increasingly depended on SaaS as the preferred delivery option, especially in light of a few cases where the license option lost it a few customers. An example of this was the Toronto Public Library in Canada. With a large IT department, the library felt that it could run the software more cheaply. However, although A-G sent upgrades, the IT department didn’t release them and, before long, the library was several versions behind. The differences between A-G’s current version and the library’s version was like night and day, and soon the library decided to look for another product since it felt that A-G wasn’t keeping up with technology and the library’s ever-increasing needs.

Challenges

A-G faced multiple challenges as it moved forward. In the near term, A-G had to stop the bleeding in A-G Canada and grow revenues and profits. A-G Canada’s primary product was MARCit, which was developed from the ISM acquisition. Canadian clients were primarily academic and special libraries, albeit the greatest percentage of revenues for MARCit in Canada was from public libraries. According to Albert Flores, AG’s VP of Sales, the central issue revolved around Canadian clients shifting to lower cost sources of MARC records such as the Internet, outsourcing their cataloging departments or consolidating their needs with other libraries. Clients were not being attracted by competing products which would suggest poor product quality and could be easily fixed, but were leaving the product category altogether. The bibliographic records in MARCit were often available online at a fraction of the cost or sometimes for free, requiring only that the client sort through and organize, which could be very labor intensive. Also, publishers were now creating bibliographic records for their books and making them available for free to libraries that purchased the books. All of this created the challenge of convincing the clients of the value added of MARCit so that they would be willing to pay the subscription fees. A-G had some options. It could create new service/product
improvements to attract new special libraries and retain current ones. The company could also utilize its current portfolio of products in the U.S. markets to attract and retain current Canadian clients through bundling or some other arrangements. A-G could also identify possible new markets for MARCit or expand its use among libraries where it is currently was not being used as much such as in public libraries.

In the future, A-G needed to find additional sources of long-term revenues and profits. The library market was becoming an increasing challenge for A-G. A-G’s customers had constantly changing and often decreasing budgets. To get new business, A-G bid on request for proposals (RFPs) submitted by libraries, which listed their requirements and needs. However, libraries and schools often had inflexible budgets and limited dollars to work with, and would often ask A-G to lower its bid if it was more than they could afford. This could be a sticky situation because A-G risked losing the bid to a competitor. And even if it were to lower its price, it also risked upsetting current customers that had bought the same product at a higher price. As a result, if A-G lowered the bid it had to be clear as to how to remove some of the services so that other customers would not feel cheated.

The reliance of A-G’s customers on state budgets and private grants sometimes made the library industry unattractive. In an extreme case, A-G’s previous account mentioned earlier, the State of Texas, was ended without warning when the Texas legislature found in mid-August that it was around $5 billion over budget. A-G’s account was closed and funding ceased two weeks later. In most cases though, A-G had the opportunity to work with a library’s reduced budget by scaling back services.103

Paul would like to find more profitable alternatives to and within its library markets in order to grow. Although home to its headquarters, A-G had only three or four customers in California. With California’s ballooning budget deficit, libraries were living with what they had
because they had already invested large sums in licenses with other companies. However, Paul felt that A-G’s SaaS-subscription model could benefit over 60% of California libraries by providing the same level of service at a cheaper price than the libraries’ current on-going support and maintenance fees with their original license companies. However, libraries were slow to change, like what they had, and were loyal to original vendors.104

On a different front, A-G showed interest in developing the enterprise market. In early 2007, A-G began creating products for the financial-services market, with the hopes of penetrating brokerage houses and banking institutions like Merrill Lynch, Fidelity Investments, CitiBank, and Chase that were in need of federated-search products. A-G had originally planned on releasing products that fall but, because the housing and credit-crunch crises created gigantic losses and destroyed well known companies, money dried up immediately for buying new systems.

Although non-U.S. sales continued to grow, A-G currently had no plans to expand internationally. Paul felt that A-G was too small to get into the overseas market, which required a different support structure and organization far beyond the resources that A-G could provide. International contracts also typically comprised smaller projects. Paul also did not see foreign competition as a real threat to the North American market because foreign companies would require a large presence and investment to provide libraries with the current caliber of support provided by North American firms.

In relation to international expansion, Paul had this to say,

The other companies in the international market are much bigger, in the $70 million range. They go from our size of $5 million to $10 million or maybe even down to $2 million, the small players. Then there is this gigantic leap up to the big firms. Some of those big firms are big because they have pursued some mergers and acquisitions. They have been doing a lot overseas for a long time. They have distributor networks, support networks; they have a lot of things. They also tend to sell a local license so it is run on local hardware. One of the things that is of concern to me, is I do not want to get into that
licensing model. It is not a business model that I am particularly fond of. Our business-model would work, but then it would require that I have to build an infrastructure-computer center overseas to support all that and so now I would have to create a whole infrastructure of fixed costs to do it effectively. So although it is a capital side of it or a costs side of it, money maybe solves it. Also I have been afraid because, up until now, our product has been seen as a statewide system for ILL, or a middle/small-size system for ILS. You are going to find that those libraries (overseas) are harder to sell, have less financial resources, and you have to build a bigger infrastructure to support them. Since the other bigger players are already in that market with a license model, it’s going to be harder to sell. If we had been really successful here, or stopped the bleeding in Canada, then I maybe would have felt differently about going overseas. We keep saying that we are hitting singles and doubles, but not out the park. I do not want to go across the pond until we can hit it out the park here.¹⁰⁵

A sociocultural trend of interest to A-G was a change in libraries’ definition of who they were. According to Paul,

The challenge that happens for libraries is that they have to figure out what is their business. Are they in the communication business? We are finding out that there is a whole group of people in some of areas (such as Mississippi and Louisiana, our two largest and newest customers) that are taking an approach that the libraries are a community resource for access. Some of the libraries down there, when they had all the hurricanes, were the only ones with Internet access. What they are finding is that they can promote that. They can bring the community in. The new library in Rancho Cucamonga is kind of like a Barnes and Noble. It has coffee, an area for kids, movie night, all kinds of stuff. Libraries need to be more of a community center, or else people will not go. Libraries do not promote what they offer. I have been watching Rancho Cucamonga. We are trying to figure out how to get our system in. They have such forward thinking in terms of their goal to try to get people in and think of it as a community center. We would really like to be there. I am going as far as to say, “Let’s give it to them.” If that is what it takes to get solid feedback. I want to do that.

A lot of libraries are beginning to see that Amazon is beginning to affect them. Someone once said, “Amazon is to libraries what fast food is to sit down restaurants about twenty years ago.” Everyone worried that people would stop going to sit down restaurants because of fast food. People still go out to nice restaurants, and people will buy books but they will buy books that they want to have, but they still need to be able to get information. They need to know the services the libraries will help them with. It’s like AAA, you want to go on a trip, and they will help plan the trip for you. Those are services that the libraries have done for years, and people do not even know. Very interesting time. It is a challenge for the libraries, more than it is for us.¹⁰⁶
So how might A-G grow in the future? Should it pursue the California market even with its enormous state-budget problems? And if so, how could it convince customers to switch from competitor products and licenses? Also, as products continued to be enhanced, should A-G branch out from public libraries into other markets such as private libraries, museums, schools, law libraries, and other libraries? Or should A-G pursue corporate and enterprise markets that may be more profitable, certainly once the economy turned around? Should A-G consider acquiring another company—perhaps serving another market—to grow the business? But considering the current backlash against SirsiDynix and other merged companies, will acquiring a company be more of a risk than going it alone?

The ability to change with the market had, for over 50 years, validated A-G’s staying power and success. It would have been out of business long ago had it stuck with typesetting books, publishing paperbacks, and the card catalogs of the past. By figuring out how to grow and strategically planning its next round of adaptation and evolution, A-G could compete strongly for another 50 years in the marketplace.

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Sales</th>
<th>New Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent Change %</td>
<td>Percent Change %</td>
</tr>
<tr>
<td>Auto-Graphics, Inc.</td>
<td>-34.78</td>
<td>-12.96</td>
</tr>
<tr>
<td>Civica</td>
<td>212.50</td>
<td>12.00</td>
</tr>
<tr>
<td>Ex Libris</td>
<td>56.60</td>
<td>-19.28</td>
</tr>
<tr>
<td>Ex Libris</td>
<td>54.55</td>
<td>-64.71</td>
</tr>
<tr>
<td>Infor</td>
<td>7.14</td>
<td>-6.67</td>
</tr>
<tr>
<td>Innovative Interfaces, Inc.</td>
<td>-10.08</td>
<td>-11.21</td>
</tr>
<tr>
<td>LibLime</td>
<td>11.54</td>
<td>37.93</td>
</tr>
<tr>
<td>Polaris Library Systems</td>
<td>5.41</td>
<td>38.46</td>
</tr>
<tr>
<td>SirsiDynix</td>
<td>-23.83</td>
<td>-36.05</td>
</tr>
<tr>
<td>The Library Corporation (TLC)</td>
<td>-29.31</td>
<td>-17.07</td>
</tr>
<tr>
<td>VTLS Inc.</td>
<td>-28.57</td>
<td>8.00</td>
</tr>
</tbody>
</table>

*Numbers represented here are as reported by the vendors; blank spaces indicate that no data were provided.

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Sales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subscriptions and maintenance</td>
<td>$4,527,344</td>
<td>$4,554,850</td>
<td>$4,674,363</td>
<td>$5,576,737</td>
<td>$5,300,038</td>
</tr>
<tr>
<td>License and services</td>
<td>623,047</td>
<td>773,746</td>
<td>943,312</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total net sales</strong></td>
<td>5,150,391</td>
<td>5,330,596</td>
<td>5,617,675</td>
<td>5,576,737</td>
<td>$5,300,038</td>
</tr>
<tr>
<td><strong>Costs and expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of sales</td>
<td>1,302,407</td>
<td>1,428,975</td>
<td>1,429,727</td>
<td>1,253,499</td>
<td>1,305,711</td>
</tr>
<tr>
<td>Research and development</td>
<td>555,383</td>
<td>469,872</td>
<td>634,928</td>
<td>460,579</td>
<td>475,769</td>
</tr>
<tr>
<td>Sales, marketing and customer service</td>
<td>2,009,843</td>
<td>2,294,644</td>
<td>2,398,651</td>
<td></td>
<td>2,362,128</td>
</tr>
<tr>
<td>General and administrative</td>
<td>976,535</td>
<td>800,489</td>
<td>900,599</td>
<td>1,100,082</td>
<td>1,054,495</td>
</tr>
<tr>
<td><strong>Total costs and expenses</strong></td>
<td>4,844,168</td>
<td>4,993,980</td>
<td>5,363,905</td>
<td>5,335,381</td>
<td>5,198,103</td>
</tr>
<tr>
<td><strong>Income from operations</strong></td>
<td>306,223</td>
<td>336,616</td>
<td>253,770</td>
<td>241,356</td>
<td>101,935</td>
</tr>
<tr>
<td>Other expense (income)</td>
<td>(16,686)</td>
<td>(35,312)</td>
<td>(30,045)</td>
<td>(16,306)</td>
<td>(3,910)</td>
</tr>
<tr>
<td>Interest expense, net</td>
<td>11,412</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income before income taxes</strong></td>
<td>311,497</td>
<td>371,928</td>
<td>283,815</td>
<td>257,662</td>
<td>105,845</td>
</tr>
<tr>
<td>Income tax expense (benefit)</td>
<td></td>
<td></td>
<td></td>
<td>11,000</td>
<td>(9,295)</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$311,497</td>
<td>$332,928</td>
<td>$271,815</td>
<td>$246,662</td>
<td>$115,140</td>
</tr>
</tbody>
</table>

**Earnings per share**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic income per share</td>
<td>$ 0.06</td>
<td>$ 0.06</td>
<td>$ 0.05</td>
<td>$ 0.06</td>
<td>$ 0.03</td>
</tr>
<tr>
<td>Weighted average shares outstanding</td>
<td>5,525,586</td>
<td>5,269,088</td>
<td>4,327,377</td>
<td>4,778,277</td>
<td>4,273,210</td>
</tr>
</tbody>
</table>

*Source: A-G.*
<table>
<thead>
<tr>
<th>ASSETS</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$775,460</td>
<td>$880,335</td>
<td>$803,949</td>
<td>$1,026,571</td>
<td>$1,014,158</td>
</tr>
<tr>
<td>Accounts receivable, less</td>
<td>229,468</td>
<td>426,041</td>
<td>458,530</td>
<td>355,529</td>
<td>164,828</td>
</tr>
<tr>
<td>allowance for doubtful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accounts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unbilled production costs</td>
<td>83,000</td>
<td>58,000</td>
<td>54,000</td>
<td>68,000</td>
<td>154,000</td>
</tr>
<tr>
<td>Deferred income taxes -</td>
<td>83,000</td>
<td>58,000</td>
<td>54,000</td>
<td>68,000</td>
<td>154,000</td>
</tr>
<tr>
<td>current</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other current assets</td>
<td>69,206</td>
<td>68,434</td>
<td>76,934</td>
<td>139,144</td>
<td>199,353</td>
</tr>
<tr>
<td>Total current assets</td>
<td>1,157,134</td>
<td>1,432,810</td>
<td>1,393,413</td>
<td>1,589,244</td>
<td>1,532,339</td>
</tr>
<tr>
<td>Software, net</td>
<td>2,549,295</td>
<td>2,307,706</td>
<td>2,039,318</td>
<td>2,026,682</td>
<td>2,384,536</td>
</tr>
<tr>
<td>Equipment, furniture and</td>
<td>231,666</td>
<td>203,562</td>
<td>240,287</td>
<td>270,155</td>
<td>225,706</td>
</tr>
<tr>
<td>leasehold improvements, net</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other assets</td>
<td>65,022</td>
<td>22,522</td>
<td>22,522</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>4,003,117</td>
<td>3,966,600</td>
<td>3,695,540</td>
<td>3,886,081</td>
<td>4,142,581</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES &amp; STOCKHOLDERS' EQUITY</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liabilities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>82,168</td>
<td>51,907</td>
<td>55,821</td>
<td>57,403</td>
<td>44,272</td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>735,497</td>
<td>827,102</td>
<td>897,111</td>
<td>882,549</td>
<td>944,999</td>
</tr>
<tr>
<td>Accrued payroll and related</td>
<td>183,870</td>
<td>200,607</td>
<td>240,118</td>
<td>207,657</td>
<td>197,149</td>
</tr>
<tr>
<td>liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other accrued liabilities</td>
<td>88,346</td>
<td>694,745</td>
<td>105,800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current portion of long-term debt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total current liabilities</td>
<td>1,089,881</td>
<td>1,774,361</td>
<td>1,298,850</td>
<td>1,279,606</td>
<td>1,299,660</td>
</tr>
<tr>
<td>Deferred income taxes</td>
<td>91,000</td>
<td>66,000</td>
<td>62,000</td>
<td>76,000</td>
<td>154,000</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>1,180,881</td>
<td>1,840,361</td>
<td>1,360,850</td>
<td>1,355,606</td>
<td>1,453,660</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stockholders' Equity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock, 12,000,000 shares</td>
<td>4,274,625</td>
<td>3,245,700</td>
<td>3,244,926</td>
<td>3,251,038</td>
<td>3,256,038</td>
</tr>
<tr>
<td>authorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated deficit</td>
<td>(1,412,048)</td>
<td>(1,079,120)</td>
<td>(867,395)</td>
<td>(620,733)</td>
<td>(505,593)</td>
</tr>
<tr>
<td>Accumulated other</td>
<td>(40,341)</td>
<td>(40,341)</td>
<td>(42,841)</td>
<td>(99,830)</td>
<td>(61,524)</td>
</tr>
<tr>
<td>comprehensive loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total stockholder's equity</td>
<td>2,822,236</td>
<td>2,126,239</td>
<td>2,334,690</td>
<td>2,530,475</td>
<td>2,668,921</td>
</tr>
</tbody>
</table>

| TOTAL LIABILITIES &              | $4,003,117 | $3,966,600 | $3,695,540 | $3,886,081 | $4,142,581 |
| STOCKHOLDERS' EQUITY             |        |        |        |        |        |

Source: A-G.
1 The initial work on this case by graduate students Sarah Hall, YiChuan (Carissa) Lee, and Yingjie (Kathy) Xu and more recent research assistance by Allene Turner is gratefully acknowledged.


7 Cope, P.

8 IBISWorld.

9 Ibid.

10 Ibid.


15 Ibid.

16 Breeding, M. (April 1, 2010).

17 Ibid.

18 Breeding, M. (April 1, 2007).

19 Breeding, M. (April 1, 2009).

20 Breeding, M. (April 1, 2010).


22 Breeding, M. (April 1, 2010).


24 Breeding, M. (April 1, 2010).

25 Ibid.

26 Breeding, M. (April 1, 2009).


28 Breeding, M. (April 1, 2010).


31 Breeding, M. (April 1, 2010).


34 Ibid.

35 Ibid.
36 Breeding, M. (April 1, 2009).
37 Ibid.
39 Breeding, M. (April 1, 2010).
41 Ibid.
42 Cope, P. (May 26, 2009).
43 IBISWorld Industry Report.
47 Breeding, M. (April 1, 2007).
48 Breeding, M. (April 1, 2010).
49 Ibid.
50 Ibid.
51 Breeding, M. (April 1, 2009).
52 Cope, P. (May 26, 2009).
53 Ibid.
55 Ibid.
56 Breeding, M. (April 1, 2010).
57 Ibid.
58 Polaris’ Official Website.
59 Ibid.
61 Ibid.
63 Breeding, M. (April 1, 2009).
64 Breeding, M. (April 1, 2010).
65 Cope, P. (May 26, 2009).
66 SirsiDynix’s Official Website.
67 Ibid.
69 Breeding, M. (April 1, 2010).
70 Ibid.
71 Ibid.
72 TLC’s Official Website.
73 Breeding, M. (April 1, 2010).
74 TLC’s Official Website.
75 Breeding, M. (April 1, 2010).
Breeding, M. (April 1, 2010).
Breeding, M. (April 1, 2010).
LibLime’s official website.
Breeding, M. (April 1, 2010).
Auto-Graphics’ Official Website.
Cope, P. (May 26, 2009).
Ibid.
Auto-Graphics’ Official Website.
Cope, P. (May 26, 2009).
Breeding, M. (April 1, 2010).
Cope, P. (May 26, 2009).
Auto-Graphics’ Official Website.
Ibid.
Ibid.
Ibid.
Ibid.
Auto-Graphics’ Official Website, op. cit.
Ibid.
Ibid.
Ibid.
Cope, P. (May 26, 2009).
Ibid.
Ibid.
Ibid.
Cope, P. (May 26, 2009).
Ibid.