Abstract: The Great Lakes Higher Education Corporation (Great Lakes) is a private, non-profit organization located in Madison, Wisconsin. Great Lakes's main businesses are to guarantee loans under the federal Guaranteed Student Loan program (GSLP), and to provide various servicing functions for lenders making loans under this program—e.g., monitoring attendance, Federal billings, deferments, and repayment activities. As such, Great Lakes is an information middleman and computing is central to its business. We find that Great Lakes presently has a competitive advantage. In analyzing the case, we find that the competitive advantage is based mainly upon exploiting natural economies of scope and upon careful management. Further, we find scant support, in this case, for the competitive advantage hypothesis in information systems; rather, we find further support for the competitive necessity hypothesis.

1. Introduction

The Great Lakes Higher Education Corporation (Great Lakes) is a private, non-profit organization located in Madison, Wisconsin. Great Lakes's main businesses are to guarantee loans under the federal Guaranteed Student Loan program (GSLP), and to provide various servicing functions for lenders making loans under this program—e.g., monitoring attendance, Federal billings, deferments, and repayment activities.

Great Lakes is presently (1988) competing very successfully in its chosen niche in the GSLP services industry (or student credit industry), and has excellent prospects for sustaining its existing competitive advantage, which is based in no small part on information systems. This is surprising, for until recently Great Lakes was not a strong performer in the GSLP services industry, was focused on doing business in Wisconsin—(Until 1988, Great Lakes was known as the Wisconsin Higher Education Corporation (WHEC)—and was mired in legal difficulties between July 1984 and May 1987. Recently, however, Great Lakes has expanded into Ohio and Michigan. Further, Great Lakes is essentially an information middleman. The services it offers are delivered on standard IBM computing facilities, using commercially available software, which it has extensively modified, for its major applications. Finally, Great Lakes enjoys no legal monopoly.

In brief, Great Lakes is doing business in an increasingly competitive industry, one in which the customers (lenders under the Guaranteed Student Loan (GSL) program) are free to choose their suppliers and have ample incentive to choose wisely. Great Lakes, nevertheless, appears to have a degree of competitive advantage. The aim of the present essay is to tell the Great Lakes story in detail (§2), to analyze it (§3), and to discuss it (§4 and §5).

The field of information systems and strategy has produced several hypotheses of some interest and generality. A single case study—such as the present instance—can hardly resolve any important theoretical issue. Such a case study may, however, materially contribute to resolution and understanding of theoretical issues by finding and clarifying pertinent facts, facts that bear upon, that tend to support or undermine, the ambient hypotheses with which the research community is working. In §5, I address several of these, more theoretical hypotheses in information systems and strategy, and do so by bringing to bear the facts of the Great Lakes case.

2. Great Lakes Higher Education Corporation

2.1 The GSLP Services Industry

The Guaranteed Student Loan program is a Federally-sponsored program, aimed at providing loans for financing higher education. The loans are given to students, who are responsible for repaying them and who may use the funds at any qualifying institution of higher education. During 1987, more than $9 billion of GSLP loans were made, with Federal subsidies exceeding $3 billion. In the past, there was broad agreement on the principle that higher education should be paid for by the generation preceding that of the students. During the last twenty years, this principle has suffered significant erosion and increasingly students are financing higher education through loans that they are obligated to repay. The GSL program has been the main instrument in this change and the emerging student credit industry has focused on this program.

There is, in fact, a nation-wide industry, with broadly-based competition, aimed at providing services for various aspects of the Guaranteed Student Loan (GSL) program. Some of the firms participating in the industry are organized for profit; others are non-profit; and still others are state agencies. Further, some organizations participate in but one aspect of the Guaranteed Student Loan program (e.g., as lenders or as guarantors), while others—including Great Lakes—play multiple parts.

The student credit industry is largely organized around
The life cycle of a GSLP loan, which may be divided into four parts:

1. making the loan
2. guaranteeing the loan
3. servicing the loan
4. collecting the loan

The making of a loan is done by a lender (bank, credit union, savings and loan, etc.). (In order to make a loan, a process called origination must be followed. The lender, or maker, may perform the origination process or may hire a third party to do so.) In exchange for complying with certain terms and conditions (largely mandated by the Federal government), a lender may have a loan guaranteed under the GSL program. From the time a loan is guaranteed until it is closed or defaults, it must be serviced. A lender may perform the servicing in-house or may contract with a third party (one of the participants in the GSL services industry) to do the servicing. Because servicing GSLP loans requires specialized software much different from conventional consumer loan software, many lenders find it economical to contract with other firms for servicing GSLP loans. (Lenders with very large participation in the GSL program, such as Chase Manhattan, often write their own GSLP loan servicing software and perform the function in-house.) This is called third-party servicing in the industry. Use of such third-party servicing providers is also often motivated by lenders’ wishes to minimize financial liability. A third option for a lender is to sell the loan. The option is available to the lender at any point in the life cycle of the loan. In nearly every case, this amounts to selling the loan to the Student Loan Marketing Association (SLMA or “Sallie Mae”)—a Federally sponsored private firm set up to create a secondary market for GSLP loans—or to one of several other GSLP private secondary markets, which emerged during the 1980s.

No matter who does it, servicing a GSLP loan involves (among other things) maintaining the borrower’s current address, processing Federal billings, and verifying student enrollment. Essentially six months after the borrower leaves school, repayment begins. The loan servicer must then generate repayment coupons, process the payments, handle deferments and forbearances, and make collection efforts should the borrower become delinquent. If a loan becomes 180 days delinquent and the servicer has managed the loan properly, the owner of the loan (e.g., the maker or a secondary market) sells the loan to the guarantor, at which time the loan is in default. After this occurs, the loan is submitted to the Federal government for reinsurability payment (at or about the 270th day of delinquency) and the loan enters the default collection phase.

What creates and maintains the GSLP services industry are the Federal payments, under the GSL program, to lenders and reinsurer payments to guarantors. Owners of GSLP loans (normally the original lender or the secondary market) receive a rate of return equal to the average 91 day Treasury bill rate, plus 3.25%. Currently, the return is sufficiently attractive that lenders compete with one another to make GSLP loans. Moreover, the Federal government pays guaranty entities a 1% administrative allowance based on the loan amount guaranteed on an annual basis. Further, a guarantor retains 30% of the amount collected on defaulted loans. Perhaps most significant for the success of the GSL program are the arrangements for guaranteeing the loans. Lenders making a GSLP loan have it guaranteed by a GSLP guarantor, such as Great Lakes. If the student borrower dies, becomes disabled, or defaults on the loan, the guarantor provides 100% of the outstanding balance to the lender, providing that the lender has followed correct procedures in servicing the loan. The guarantor, in turn, is reinsured by the Federal government, at the rate of of 80 to 100%, depending on the guarantor’s experienced rate of default. If the guarantor’s default rate is below 5%, the Federal reinsurance rate is 100%. Default rates between 5 and 10% and greater than 10% produce Federal reinsurance rates of 90% and 80%, respectively. The Federal reinsurance is thus conditional on the performance of the guarantor agency. (During 1988, Great Lakes was experiencing a 3% default rate, which was among the lowest among GSLP guarantor organizations.) Besides the Federal government, the student borrowers contribute funds that support the industry. These funds are in the form of an insurance premium, which the student borrower pays to the guarantor agency when the loan is made. The guarantee agencies use these funds to pay for administrative costs and to cover the 0-20% gap in their Federal reinsurance rates. Nationally, the insurance premiums range from 1 to 3% of the amount borrowed. Great Lakes charges 1%.

Thus, quite a few organizations have found it profitable to participate in one aspect or another of the GSLP services industry. Consequently, lenders typically have a choice of several guarantee agencies and of several loan servicing agencies, if they decide to service the loans by third-party contract.

### 2.2 Great Lakes’s Rôle and Activities

The Great Lakes Higher Education Corporation (Great Lakes) was originally established in 1967 as a result of a Wisconsin statute authorizing a State agency, the Higher Educational Aids Board (HEAB) to establish a private, non-stock corporation for the primary purpose of providing access to the Guaranteed Student Loan program for Wisconsin citizens. Because the Wisconsin constitution prohibits the State from incurring debt on behalf of individuals, the State could not directly participate in the GSL program. Great Lakes—then called the Wisconsin Higher Education Corporation (or WHEC)—was the State’s way of achieving indirect participation. WHEC (now Great Lakes, the two shall be referred to indifferently in what follows as “the Corporation”) was created to guarantee student loans in Wisconsin under the GSL program. While from the beginning the relationship between the State and the private corporation (the Corporation) was close, it was always contractual, with the Corporation free to exercise all of the prerogatives of any other private, non-stock corporation in Wisconsin.

In July 1984 the Corporation amended its bylaws, restructuring its board of directors. The new board voted to withdraw from using State computing services, personnel policies, and other State administrative services. The Corporation then hired HEAB’s top management, including James...
A. Jung, who had been executive secretary of HEAB as well as chief executive officer of the Corporation, and who was the leader in the Corporation's change in status. Jung became president of the Corporation and resigned his position with the State of Wisconsin. These actions, which effectively placed the Corporation beyond control of State government, engendered much controversy and resulted in a law subjecting the Corporation essentially to total State control. The Corporation initiated legal action, claiming that the law in question violated both the State and Federal constitutions. In May 1987, the Corporation obtained a permanent injunction against the State in circuit court and the State declined its right to appeal to the State Supreme Court. The Corporation then began operating, free of legal threat.

Great Lakes participates in all four phases of a GSL program loan. Great Lakes cannot legally make or own loans. However, to assist lenders in making GSLP loans, Great Lakes offers origination services. Great Lakes actually guarantees (GSLP) loans and for a fee it will service loans owned by lenders. Finally, Great Lakes, as a guarantee agency, is responsible for collection efforts on defaulted loans. Great Lakes's policy has always been to service only the loans it guarantees. This policy is an essential part of Great Lakes's competitive strategy, as we shall see in what follows.

Of the loans that it guarantees in Wisconsin, Great Lakes services about 70%, with about 28% serviced by the originating lender and 2% by competing firms. While active competition with Great Lakes in Wisconsin is minimal, just the opposite is true in Ohio, Michigan and in the quest to obtain national accounts. United Student Aid Funds and the Higher Educational Assistance Foundation, both large national guarantors and deliverers of student credit products, are able and aggressive competitors. Besides having to beat the competition in terms of price and service levels, Great Lakes must also overcome the view among lenders and schools outside Wisconsin that Great Lakes is merely a "state player." Jung believes that Great Lakes's servicing prices are as low or lower than the competition's and, except for small portfolios, much lower than it costs the lenders to service the loans themselves. The actual figures are generally kept secret by industry participants. SLMA buys loan servicing from Great Lakes for all of SLMA's loans guaranteed by Great Lakes. Further, SLMA has reported that Great Lakes's servicing fees are quite competitive.

Great Lakes has not always been a strong competitor in the GSLP services industry. In 1979, Great Lakes purchased software for GSLP loan processing from Cybernetics and Systems, Inc. of Florida. (Cybernetics and Systems is a software firm owned by the CSX railroad and competes with Great Lakes in the servicing part of the industry.) Great Lakes did this realizing that extensive modifications would have to be made to the software if even the minimum of Great Lakes's requirements were to be satisfied. Great Lakes failed to perform any extensive or rigorous systems analysis. In addition, Cybernetics and Systems's documentation was poor and communication between Great Lakes and the vendor became strained. Consequently, many problems arose in getting the purchased software completed and ready for production, and work fell behind schedule. Great Lakes, however, put the software into production in mid-1980, with the software far from being ready. Great Lakes's reason for doing this was that its existing software was "falling apart." Bugs and errors were rampant and it was impossible to keep up with maintenance. Because the new software had an acceptable journaling function (a function quite absent from the old software), the decision was taken to put it into production with the knowledge that debugging and testing were far from complete.

In the next two years, 1981 and 1982, were by all accounts a disaster period. Great Lakes, however, made what it in retrospect thinks was a strategically significant policy decision. The policy was that when an error was found (e.g., incorrect payment computed) the source of the error was to be located and the offending code fixed throughout the system. In addition, all of the data were corrected so that ramifications of the software errors were completely eliminated. Other organizations in the student credit industry are believed to have left such hidden data problems uncorrected, thereby greatly complicating servicing in the long run. As a result, by mid-1983 Great Lakes found its operations running smoothly and efficiently in 1982 Great Lakes reorganized without significant personnel replacement. Great Lakes had been organized in State agency fashion, that is functionally, with an accounting department, a collections department, and so on. With the restructuring, Great Lakes's organization was reoriented towards its products: guaranteeing and servicing GSLP loans. There are presently three divisions, each division head reporting to the Corporation President: Guaranty Programs (guaranteeing and collecting loans); Loan Servicing; and Corporate Services (information systems). Corporate Services does not have an independent budget, but must sell its services to the other two, product-oriented divisions. The management participants in the reorganization uniformly report that management problems—focused on the problems with the Cybernetics software—quickly dissipated after the reorganization. Jung now holds the view that poor information systems performance is symptomatic of poor organizational design. He believes that the inferior performance so often found in the public sector is due to focusing authority and responsibility on the means (accounting, collecting, etc.) rather than the ends (guaranteeing loans, servicing loans, e.g.) of the organization.

It is Jung's view that government is, and ought to be, largely process-oriented, with overriding concern on means, while the private sector is, and should be, mainly outcome-oriented, with overriding concern on ends. Government is focused on issues of fairness and equity, both in its programs (e.g., law enforcement, welfare) and in its means of deliver-
ing services (e.g., civil service regulations, government contracting rules). When this approach and its accompanying mind-set are applied in a circumstance in which process actually matters little in comparison with outcome, then, Jung believes, unwarranted and unjustified inefficiency is inevitable. In retrospect, he believes that the problems the Corporation had with Cybernetics and Systems were fundamentally related to problems with the Corporation, problems due to the process-oriented mind-set ascendant at the Corporation. By reorganizing and by moving to alter corporate culture in an outcome-oriented direction, significant efficiency improvements naturally occurred, as energies were directed more at achieving good ends, rather than good means.

Two particular successes should be noted. First, Guaranty Programs successfully implemented a service, called the LCL (lender communications link) Program, that puts a personal computer with Great Lakes software on the premises of lenders who use Great Lakes to guarantee GSLP loans. The lender keys in information about the loan on the personal computer. Great Lakes’s mainframe polls the personal computer. Great Lakes’s mainframe polls the personal computer at night, recovers the data keyed in by the lender, processes the data, approves the loan for guarantee (subject to the usual error and eligibility checking), and transmits the approval information to the lender’s personal computer. This service is regarded as valuable by the lenders, who gain by having the loan approved quickly (lender interest payments and fees begin at the time the loan check is initially produced) and with a minimum of administrative investment on their part. Built upon the LCL Program is Great Lakes’s LOS (loan origination service) Program. Subscribing lenders contract with Great Lakes to service their GSLP loans and to have Great Lakes originate their GSLP loans using an in-house version of the LCL Program. Given these arrangements, the lender’s activities and responsibilities are limited to selling the loan and providing the funds. Great Lakes handles everything else. It is important to note that Great Lakes’s competitors in this area (guaranteeing GSLP loans) do provide similar services, and did so before Great Lakes, which began offering these services in response to the actions of these competitors. Great Lakes, however, presently offers overnight turnaround on GSLP applications (either through LCL or through LOS), something that many guarantors cannot offer and apparently are not set up to provide.

The other success to be noted has to do with collecting GSLP loans after they have become defaulted. Responsi-

bility for these collection efforts also lies with the Guaranty Programs division. In 1984 Great Lakes had the worst collection results of any large GSLP collection effort. By 1987, Great Lakes had one of the best. Great Lakes bought a standard loan collection package and began modifying it for Great Lakes’s specific needs. These efforts were effective. By 1987 Great Lakes was claiming 300% productivity improvements due to the new collections software.

3. Analysis

Great Lakes is doing well. Productivity gain of better than 15% have been accomplished for each of the previous three years. Its servicing fees have been reduced for each of the past three years, with 1987 reductions averaging over 10%, resulting, Great Lakes believes, in a significant improvement in its competitive position. All its major software projects of late have been delivered on time and on budget.

The purpose of the present section is to inquire more carefully why Great Lakes is doing so well, by presenting a fairly detailed analysis of who does what during the life of a GSLP student loan. It will be evident that much of the activity taken by various participants in the process is concerned with inter-organizational communications. After establishing this fact in the present section, §4 discusses how it is that Great Lakes has gained a competitive advantage.

Recall that the GSL life cycle consists of four parts: originating the loan, guaranteeing the loan, servicing the loan, and collecting the loan. In addition, then, to the student borrower, B, and B’s educational institution, E, there are at least four other entities involved in the loan’s life cycle: the originator (or maker) of the loan, M, the guarantor of the loan, G, the servicer of the loan, S, and the collector of the loan, C, if it defaults. The key to understanding why Great Lakes can have a competitive advantage lies in understanding the interplay of these six entities during four stages of the life of a GSL loan. We shall now examine this interplay in some detail.

3.1 Making and Guaranteeing a GSL Program Loan

GSL program loans are given to students who properly complete an application and send it to a GSL lender, who then approves the loan and receives a guarantee for it from a GSL guarantee organization. This procedure is summarized in Table 3.1-1.

Table 3.1-1:

The GSL Program Origination Procedure

(1) The student borrower, B, obtains a GSL application form, fills it out, has his institution, E, verify enrollment and eligibility, and forwards the completed application to a prospective lender, M.

(2) If the lender, or maker (M), finds the application to be in order, and the lender chooses to make the loan, M requests that its guarantee agency, G, guarantee the loan; otherwise, M returns the application to the student borrower, B.

(3) The guarantee agency, G, ascertains that B is eligible and that the request from M is in order, and issues a guarantee (to M) for the loan; otherwise, G notifies M that the loan cannot be guaranteed.

(4) If G guarantees the loan, M notifies B and E, and disburses a check to the student borrower (B).

There are several things that should be noted in this process. The process includes a series of two-way interactions, including: B—E for verifying enrollment and eligibility for the student’s application; B—M as the student actually submits the application; and M—G as the lender obtains a guarantee for the loan. Each of the entities involved—the student, the school, the lender, the guarantor—is a distinct organi-
zation, so each of the two-way interactions involves interorganizational communication. Note also that the origination process does not resemble the sort of linear, value-added chain so often discussed in the management and strategy literature. (For example, (Porter, 1985; Porter, 1980; Hax and Majchrzak, 1985.) Instead, the process contains branching and looping elements, and more resembles a network than a chain. (This is just what one would expect from the literature that carefully addresses the activities of firms, e.g. (Cyert and March, 1963; Gane and Sarson, 1982; Moriarty, 1983.) Moreover, the guarantee phase is embedded in the origination phase. The origination process begins when the borrower submits a GSLP loan application to the maker. The process ends (normally) when a check is disbursed, after the loan has been guaranteed. Thus, there is an essential intermixing of the activities of different agents during the life cycle of a loan. This is a fact we shall discuss in the sequel.

3.2 Servicing a GSL Program Loan

Once a GSLP student loan has been disbursed, the lender (M) has responsibility for servicing the loan. This includes monitoring the borrower’s attendance in school, maintaining a current address for the borrower, issuing a payout note when the borrower leaves school (for whatever reason), processing payments by the borrower, processing deferments and forbearances, and notifying the guarantor if the borrower is delinquent. During the servicing phase, borrowers may have one of two statuses: repayment or non-repayment. Normally, repayment status begins six months after the borrower leaves school and ends when the loan is closed, e.g., by the borrower repaying the loan, by the death of the borrower, or by purchase of the loan by G. Non-repayment status, summarized in Table 3.1-2, begins immediately upon disbursement of the loan.

Table 3.1-2:
The GSL Program Servicing Phase, Part 1

Non-repayment Status

(1) Twice each year, the guarantor (G) requests a report from each E for which students with GSL program loans it has guaranteed are expected to be in attendance. The report lists all students enrolled who have received loans guaranteed by G.

(2) Each educational institution responds by sending the appropriate report to G.

(3) G amalgamates the various reports and produces new reports by lender, giving the current enrollment statuses of the borrowers with active GSL program loans it has guaranteed. G forwards each of these new reports to the appropriate servicer (S).

(4) Using the reports, each servicer ascertains the school attendance status for each of its GSL program borrowers.

(5) If a borrower is found eligible to remain in non-repayment status, then records are updated and this is noted.

(6) If a borrower is discovered to be, or about to be, no longer eligible for non-repayment status, a switch to repayment status is scheduled and the borrower is issued a repayment schedule and payout note.

(7) When the borrower receives the payout note, the borrower signs it and returns it to S, the loan servicer.

Again, notice that this process involves the active participation of several entities: B, E, S, and G.

When the borrower is in repayment status, we may think of time as being marked in months with payments due on the first of each month. If the borrower makes a payment on time, the servicer’s activities are limited to processing the payment and, if the payment is the final one, taking the necessary steps to close the account. If, by the middle of the month, the borrower has not made a full payment and has not received a deferment, the borrower is delinquent and the loan servicer, S, is required to pursue the borrower diligently. Should the borrower fail to respond and become caught up in payments, the owner of the loan (normally, either the maker or an agency which has bought the loan from the maker) may make use of the guarantee and sell the loan to G. This transaction is normally handled by the loan servicer, S. In addition, the borrower may at any time request a deferment from the servicer. When this occurs, S is required to investigate the eligibility of the borrower for the requested deferment. If the borrower is eligible (e.g., if the borrower is unemployed and has requested a deferment in virtue of this fact), the servicer puts the borrower into deferred status and periodically monitors B to check for continued eligibility. (If the borrower returns to school, monitoring deferment status may require interaction with G and possibly with some E.) Finally, S is required to produce various scheduled and ad hoc reports. (Some are required by G, others by the borrowers, e.g., an annual report for tax purposes of the amount the borrower paid for interest.)

3.3 Collecting a Defaulted GSL Program Loan

The collection phase only occurs when the borrower has been so delinquent that M, via S, has sold the loan to G, i.e., to Great Lakes. Activities during this phase are similar to those taken by S when B is in repayment, except that the present owner, G, does not have a guarantee on the loan, but that G is free to pursue legal action against defaulted borrowers, who continue to be delinquent.

3.4 Summary

The student borrower must inevitably interact with various organizations during the lifetime of the borrower’s loan. What should be clear from the discussion in the present section is that several different entities—E (the educational institution), M (the maker of the loan), G (the guarantor of the loan), and S (the servicer of the loan)—have extensive interactions with one another during the life of a given GSL program loan. I shall now discuss how it is that Great Lakes is able to exploit this fact and compete with advantage.

4. Discussion: Great Lakes’s Competitive Strategy

There are two basic competitive strategies and any number of intermediate combinations: compete on the basis of price,
and compete on the basis of differentiation, including service. Great Lakes's competitive strategy is both price-based and service-based, although more heavily the former. The key to the price-based strategy is the fact that there are natural economies of scope to be realized when both guaranteeing and servicing a particular loan and when originating, guaranteeing, and servicing a particular loan. The main thrust of Great Lakes's strategy is to exploit these economies of scope. Doing so leads, as noted, to significant economies of scope. It also leads to service differentiation.

When a GSLP loan is given to a student, both $G$ and $M$ need to set up and maintain various records pertaining to the loan. Further, throughout the life of the loan, as seen in §3, there is interaction—mainly information exchange—between $G$ and $S$. This interaction is greatly facilitated if the maker of the loan, $M$, hires the guarantor, $G$, to service the loan. Even greater efficiencies may be obtained if $M$ hires $G$ both for servicing the loan and for originating the loan. Proper design of the supporting information systems then can assure prompt, accurate, and format-translation-free information exchange between the maker or owner of a loan and the guarantor of the loan. Coinciding with this natural efficiency is an essential asymmetry. Guarantors and lenders must be separate entities, but there are many more lenders than guarantors. (Great Lakes has about 600 active lenders.) Since one lender is unlikely to hire another, competing lender to service its GSLP loans, economies of scale favor the guarantor’s becoming the central servicer of choice and realizing the economies of scope.

Great Lakes’s policy of servicing only the loans it guarantees works hand in glove with the strategy of exploiting the natural economies of scope in the GSLP services industry. Borrower records maintained for the purpose of guaranteeing GSLP loans may easily be used for or transformed to borrower records maintained for the purpose of servicing GSLP loans, when both sets of records reside in a common computer system and are owned and maintained by a single entity. In sum, Great Lakes’s costs for servicing GSLP loans are substantially reduced by the fact that every loan Great Lakes services has been guaranteed by Great Lakes and has its borrower records residing in the same computing environment it uses to service the loans.

This economy of scope is further exploited through the LCL (lender communications link) program, which is funded entirely by Great Lakes except for the price of the personal computer on the lender’s premises, and the LOS (lender origination service) program. In making a loan, an LCL lender (using his own microcomputer, and running Great Lakes’s software) keys in the information needed to originate the loan. This information is extracted from the lender’s microcomputer by Great Lakes on a nightly basis using dialup lines. Automatically, the information is processed, borrower records set up, guarantee given (normally), and the response information transmitted the same evening (normally) to the lender’s microcomputer. The arrangement operates speedily. With lenders competing to make GSLP loans to students, overnight approval of a GSLP loan application is highly beneficial for the lender’s marketing efforts. In addition, the arrangement is efficient. Data entry is performed once, by the lender at the lender’s expense, and results in data in a single format, designed by Great Lakes. LCL is optional for Great Lakes’s lenders, but most lenders that use LCL also purchase loan servicing from Great Lakes. For the loans from these lenders, Great Lakes is able to begin servicing automatically, based on the data provided via LCL.

A lender who purchases Great Lakes servicing (called LOS (loan origination service)) is required also to purchase loan servicing from Great Lakes. A result is that the lender has essentially no administrative costs other than the costs of convincing the borrower to take the loan. Under LOS, student borrowers mail their applications to Great Lakes, which keys in the requisite data for the lender and makes GSLP loan disbursements on the lender’s behalf. All of this activity occurs at Great Lakes, so that $M$-$G$ communication is essentially one way: Great Lakes sends reports to the lender.

The strategic picture that emerges is this. Great Lakes’s strategy has been primarily one of driving down its costs. It has implemented this strategy by using information systems to exploit natural economies of scale (mainly for GSLP loan servicing software and for origination services) and, most importantly, economies of scope. Great Lakes has found two sources of scope economies using information systems. First, it is cheaper for an organization to service loans it guarantees. Second, it is cheaper for an organization to provide origination services for loans it guarantees. Originally created to guarantee GSLP loans, Great Lakes has found that servicing and origination services can be sold to help pay for the costs of its basic operations.

Significantly, as will be discussed in §5, the arrangement has worked so well because it is efficient, rather than because of a market distortion effect of the strategy, such as using early entry to lock in customers by presenting them with high switching costs. Great Lakes has, however, been an early entrant in the sense that it has been the first to exploit vigorously the natural economies of scope in the GSLP services industry. Great Lakes’s main competitors all will service loans they do not guarantee. Although they have been successful in competing against various State agencies they fare poorly against Great Lakes in its niche in Wisconsin.

Given the foregoing and the fact that the GSLP services industry is crowded, one would expect to find Great Lakes both expanding and taking steps to head off the effects of strategic imitators. On the expansion side, Great Lakes has recently moved to become a regional (rather than purely Wisconsin) player in the GSLP services industry. In spring of 1988 Great Lakes began doing business in Ohio and as of summer 1988 it has opened an office in Michigan. In addition, political efforts are underway in both Michigan and Ohio to enact legislation that would result in a full merger of the Wisconsin, Michigan, and Ohio entities into a single enterprise. Under the GSL program, each state must designate a primary guarantor for its GSLP loans. Great Lakes retains that designation in Wisconsin. Ohio and Michigan currently designate analogs of HEAB and the old WHEC. The direct result of the statute changes Great Lakes is seeking would be to have Michigan and Ohio designate Great Lakes as their primary guarantor for GSLP loans. In the past, such designation has carried with it access to Federal advances to the guarantee agency’s guarantee fund, but this
is no longer the case. Instead, the upshot of the proposed redesignations would be for Ohio and Michigan to issue a strong expression of preference in favor of Great Lakes and to terminate their GSLP guarantee agencies, whose principal personnel would presumably be transferred to Great Lakes. Jung refers to this effort as "comprehensive regionalization" of the GSL program. Competition and changes taking place in the financial services industry require a reduction in the number of guarantee agencies. In Jung's view, unless this reduction occurs, the Federal costs will increase sharply, due to support of inefficient guarantee entities, without any corresponding benefit to lenders and borrowers.

Regarding its future strategy, Great Lakes must face the fact that it has likely exhausted economies of scope in the GSLP services industry. There remains the possibility of using its early advantage to obtain additional economies of scale in the industry. (Great Lakes could, of course, expand into a new industry, such as loan collection, but that is not being contemplated and there does not appear to be any scope advantage to be had with such a move.) In fact, Great Lakes has decided to invest heavily in information systems. An IBM shop, Great Lakes has committed both to full conversion to a DB2 environment (IBM's relational database product) and to maintaining sub-second response time. (Since DB2 is a computationally expensive environment, the tension between these two policies must be resolved by investment in hardware.) Jung's belief is that the heavy hardware investment entailed by these twin policies is amply justified by the fact that maintaining the policies is, or will soon be, simply necessary for being a competitive player in the GSLP services industry.

5. General Discussion

I shall now discuss several theoretical issues related to the Great Lakes story, as described above, and the use of information systems in a strategically interesting manner. Whereas the preceding discussion was intended to recount the facts as objectively and atheoretically as possible, my goal in the present section is to interpret those facts and to discuss their meaning. I shall focus here on three ideas of a theoretical nature that have been circulating in the information systems and strategy literature or oral tradition: the sustainable competitive advantage hypothesis, the strategic necessity hypothesis, and the edge towards the market hypothesis. No hypotheses such as these can, of course, be either substantially supported or undermined by any single case. Each of the hypotheses are, however, sufficiently interesting or important to warrant inquiring whether any given case either tends to support or to undermine it.

The sustainable competitive advantage hypothesis, much present in the oral tradition of the information systems community (and a favorite among consultants and aspiring information systems managers), has it that information systems can be used to generate sustainable competitive advantage for those firms that use them well. Great Lakes occupies a niche in which it appears to operate with a competitive advantage. (The evidence, while convincing, is not hard. Great Lakes and its competitors are not organized on a for-profit basis, so that profitability and return on investment figures are not available.) Significantly, Great Lakes was the first organization to move into the niche, Great Lakes having, so to say, inherited the position. According to the findings and analysis given above, Great Lakes has been responsive to its customers in responding to service innovations developed elsewhere in the GSLP services (or student credit) industry. Further, Great Lakes has positioned itself to exploit the natural economies of scope generated by both guaranteeing and servicing a GSLP loan. Great Lakes should be able to sustain a high level of efficiency in originating, guaranteeing and servicing loans for its present base of customers. This advantage could be threatened if larger, national firms, such as HEAP, find compensating economies of scale, or if concentration in the banking industry causes Great Lakes's servicing customers to withdraw in favor of self-servicing of the loans, or if competitors begin to imitate Great Lakes's strategy of pursuing economies of scope. Because these threats are, while not close, real, Great Lakes may not currently be said to have obtained a sustainable competitive advantage.

It is important to note the way in which Great Lakes has achieved its measure of competitive advantage. The literature and the oral tradition have emphasized that firms may gain competitive advantage by moving first in a way that distorts the market, e.g., by foisting extensive switching costs on customers. Great Lakes has moved first to exploit economies of scope, but I can find no evidence of any market-distorting effect in this industry, such as substantial customer switching costs.

The strategic necessity hypothesis (Clemons and Kimbrough, 1986) says that, seen aright, strategically interesting investments in information systems are much more often justified as responding to a competitive or strategic necessity than as opting for a competitive advantage. The hypothesis sees information systems used more often to respond to threats than to take advantage of opportunities. As such, this hypothesis should be seen as an alternative form of explanation to the strategic advantage hypothesis. The Great Lakes story illustrates strategic necessity as well as competitive advantage. As noted above, Great Lakes has been a responsive service imitator, for example with the LCL and LOS programs. At the time of writing, Great Lakes is in the early phases of converting from IMS to DB2 as its database system, and in doing so is engaging in a technical innovation within the GSLP services industry. Great Lakes is betting that the flexibility to be gained with DB2 will more than offset the extra costs. Significantly, however, Great Lakes informants have emphasized that each of these innovations was driven by a perception that Great Lakes had little effective choice other than to make the changes.

We see here that strategic necessity may well be present with sustainable competitive advantage. Jung is clear and emphatic in asserting that considerations of competitive advantage have not played any significant role in the development and execution of Great Lakes's strategy.

Perhaps there was some competitive advantage to be derived from information system developments in the sixties and seventies. But now, competitive advantage is nothing more than sound management. Information systems have become so im-
important, so available, so successful that they are now as important to the successful executive as pens and paper. What a success story! In just a couple of decades, information systems have become, along with pencils and paper, essential to management!

The present situation was arrived at more by responding to threats than by seizing opportunities. Even the present expansion towards a regional strategy is seen by Great Lakes as a defensive strategy. In short, whatever competitive advantage Great Lakes has achieved was achieved as a by-product of Great Lakes doing what it had to do better than the competition did what it had to do. Again, Jung:

Whatever success or competitive advantage Great Lakes is enjoying is a result of a management team with over 70 years of executive management experience with student aid generally and the Guaranteed Student Loan program in particular. It is always sound management—with a measure of luck—that produces competitive advantage, not information systems.

The point is a subtle one and may be paraphrased as follows. Information systems played an essential, but essentially derivative, role in the achievement of Great Lakes's competitive advantage. There was nothing about the information systems that distorted the market, since no market distortion at all has occurred. The competitive advantage is due to moving first in effectively exploiting a natural efficiency in the industry. That information systems were involved is in many ways incidental. The efficiency would be there for the exploiting, more or less regardless of developments in computer technology.

Finally, the edge towards the market hypothesis (Malone et al., 1987) states that, broadly speaking, firms confronted with a make or buy decision will be nudged towards the buy (market) option by advances in information systems. The hypothesis relies upon Oliver Williamson's (Williamson, 1975) theories of markets (buy) and hierarchies (make), which emphasize the importance of transaction costs in industrial organization. Very briefly, increasing transaction costs favor a hierarchy solution and lowered transaction costs a market solution to the make or buy decision. Malone (Malone et al., 1987) argues that information systems tend to decrease transaction costs and therefore, assuming Williamson's theory, should edge firms towards market-based solutions to their make or buy decisions.

Superficially, it would seem that the edge towards the market hypothesis is supported by the Great Lakes case. Great Lakes is prospering because lenders have taken a market-based solution to their make or buy decision on servicing and originating GSLP loans. Moreover, we have found that Great Lakes's advantage lies mainly in its exploiting the economies of scope to be had in originating, guaranteeing and servicing a given loan. These economies of scope, of course, are due in large part to the lowered cost of communicating between the guarantor and the servicer of the loan. In short, Great Lakes is reducing transaction costs and benefitting from it. I believe it mistaken, however, to find this a case in point of the edge towards the market hypothesis. Although Great Lakes and other firms are reducing transaction costs, that has little to do with the make or buy decision on the lender's part. Great Lakes and other servicing firms get business from lenders because of economies of scale, having nothing to do with transaction costs, associated with servicing large numbers of student loans. The simple fact is that the cost of setting up a GSLP loan servicing system is substantial and essentially constant across a wide range of loans serviced. Because of this, lenders generally decide to buy servicing for their GSLP loans. Where the transaction costs matter is in the competition among servicers. In significant part because of lowered transaction costs Great Lakes is better able to compete with other servicers, but the effect of this on the total percentage of loans serviced by lenders is negligible. The Great Lakes story does not serve to illustrate the effect postulated by the edge towards the market hypothesis.

In brief, the case tells us this. Great Lakes is an information middleman. The value it adds, and its entire business, is focused upon receiving, storing, processing, and transmitting information. Its information systems are of the plain vanilla data processing type (but state-of-the-art commercially). Great Lakes does at present enjoy a degree of competitive advantage, especially in Wisconsin. We find that this competitive advantage is mainly the result of natural economies of scope that Great Lakes has identified and moved early to exploit, using its information systems of course. It would be misleading, however, to say that Great Lakes has achieved its competitive advantage due to its information systems, just as it would be misleading to say that the advantage is due to the fact that Great Lakes has a telephone system and uses photocopiers. There is nothing special about Great Lakes's telephones, photocopiers, or information systems that has produced the present (and likely to be temporary) competitive advantage. Instead, what we find is an insight about economies of scope in processing GSLP loans and careful husbanding of resources to produce an efficient operation.

References


