Association for Information Systems
AIS Electronic Library (AISeL)

AMCIS 1999 Proceedings

Americas Conference on Information Systems (AMCIS)

December 1999

Technology Transforms Telogy

Doris Duncan
California State University, Hayward

Follow this and additional works at: http://aisel.aisnet.org/amcis1999

Recommended Citation
Duncan, Doris, "Technology Transforms Telogy" (1999). *AMCIS 1999 Proceedings*. 232.
http://aisel.aisnet.org/amcis1999/232

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 1999 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Technology Transforms Telogy

Doris G. Duncan, California State University, Hayward,dduncan@csuhayward.edu

Abstract

Conversion to client/server technology from a legacy mainframe computing system was an integral component of Telogy Inc.'s strategy to re-engineer the organization. This paper summarizes many issues addressed by Telogy, Inc. in the decision to replace its legacy mainframe computer system with a client/server system, a major component of re-engineering the entire organization. The new client/server system helped Telogy to achieve the lowest cost of operations in the industry and one of the highest revenue-per-employees ratios in the business world as well as an annual gross margin of 33 percent. Even though the new client/server system is more expensive than its predecessor mainframe, the overall benefits exceed the costs. Measurable benefits were achieved in areas of sales/marketing, orders/inventory/shipping/billing, imaging, purchasing/sourcing, vendor/customer chain, customer service, and productivity software.

The migration to client/server could not have been accomplished without strong support from Telogy's Chief Executive Officer and Chief Information Officer who formed a solid partnership to manage radical changes in the organization, its culture, its processes and its systems. Lessons learned from this endeavor are intended to benefit decision makers in organizations contemplating whether and how to migrate their current operations to a client/server environment. The most important lessons pertain to: 1) overcoming resistance to change, 2) preserving data integrity, 3) involving systems users, and 4) linking success of implementation with employee performance appraisal and compensation.

Company Profile of Telogy

Telogy, Inc. is a rapidly growing, privately held electronic test equipment and measurement company. Based in Menlo Park, California, Telogy has approximately 200 employees and derives about half its revenues from outside the United States. The firm buys, sells, refurbishes, rents and manages test and measurement equipment. Its inventory of 5,000 models and 55,000 units of equipment is worth over $250 million. Customers span several industries, such as computing, data communications, automobile manufacturing, aerospace, pharmaceuticals and financial services. Suppliers include original equipment manufacturing (OEM) companies such as Fluke, Hewlett Packard and Tektronix. Telogy is able to lease equipment back to the equipment manufacturers and thus competes with its suppliers. Competitors include AT&T, Ford and General Electric.

Motivation to Migrate

In the early 1990s, Telogy realized it needed a computer-based information system that was flexible and could grow with the company. Cost-cutting was not the primary motivator. To achieve a competitive edge, Telogy sought to configure, fine-tune, deliver and invoice equipment within 24 hours. This required a streamlined, seamless systems infrastructure that integrated functional areas as sales, marketing, engineering, operations, finance and customer support.

Phased Migration

After evaluating various alternatives, Telogy began migrating toward a distributed processing system and away from its legacy mainframe computer. The Sun Microsystems file server and variety of clients including laptop computers, PCs, X terminals and Sun sparcstations were installed. Next, the local area networks using Novell Netware were installed and tested. The Sybase database was installed soon after. The following year applications software packages were installed. These were comprised primarily of three Aurum (Customer Relationship Planning (CRP) modules and six of 23 TXbase Materials Requirements Planning (MRP) modules. The 23 TXBASE applications are summarized in Table 1.

TABLE 1
TX BASE FUNCTIONS AND MODULES

ASSET MANAGEMENT	**SOURCING INTERNATIONAL**
Catalog	International Requisition
Fixed Asset	Capital Requisition
Capital Authorizations	Partner Management
Fair Market Value	Broker Management
Delivery/ Available to Promise (ATP)	
PURCHASING	**SOURCING DOMESTIC**
Capital Requisition	Capital Requisition
Capital Purchase Order	Partner Management
MRO Requisitions	Broker Management
MRO Purchase orders	Auctions
Receiving Capital/MRO	
Incoming Inspection/quality control	**PRODUCT MANAGEMENT**
MRB	Bill of Material
Vendor Management	Item Master

Telogy did the migration implementation in six phases:

1. Sales and marketing and leasing.
2. Order filling, inventory management, refurbishing, shipping and billing.
3. Imaging for equipment and options
4. Purchasing and sourcing
5. Supply
6. Customer chain: vendors and customers

User requirements, both original and changes resulting from personnel turnover, have required continual modifications and custom development since their conception. Telogy outsourced some of the custom software development to a firm in India that provided knowledgeable staff with skill sets superior to those of Telogy employees for a fee far below what comparable staff would cost in the USA.

Summary of Costs Vs. Benefits

In sum, the new client/server system has helped Telogy to achieve the lowest cost of operations in the industry and an impressive annual gross margin of 33% in recent years. Telogy also enjoys a 25% annual growth rate in revenue and profit in a somewhat stagnant market that grows at 5% per year. Measured in units, shipments have increased 30% annually. During the same time period headcount has increased about 10%. Even though the new client-server system costs more than the previous centralized one, it is reasonable to conclude that the benefits exceed the costs. This feat could not have been achieved without the formation of a solid partnership of the Chief Executive Officer (CEO) and Chief Information Officer (CIO) to manage radical changes in the organization, its culture, its processes and its systems.

Lessons Learned

1) **Anticipate User Resistance**. Facilitated by the client server network, Telogy has restructured in order to eliminate some layers of management, resulting in a much flattening of the organizational pyramid. Initially users of the system had difficulty crossing functional and technical boundaries. For example, an employee in Telogy's refurbishing/repair department did not understand the need to persuade accounting personnel to do something. It is important to anticipate resistance to change and address it early. It also is important to find ways to cross functional barriers with ease, which may in turn reveal unexpected benefits of cooperation and understanding.

2**) Get Data Administrator Involved**. The islands of automation that existed under the old system had to be converted and consolidated. Telogy appointed a data administrator to take responsibility for data conversion, reconciliation and synchronization early on in the conversion. The data administrator on staff was involved in technical aspects of the conversion more than in data integrity issues. Issues of data element names, data ownership, who authorizes update versus read only and other relationships are best resolved near the beginning. Otherwise drastic actions during conversion, even after implementation, may be necessary.

TABLE 2
TRAINING TIME TABLE

PHASE	TRAINER	TIME PERIOD	CONTENT AND LENGTH
1.	Vendors	Analysis and design	Product overview; Two two-hour sessions on two different days
2.	Telogy MIS staff	Analysis and design	System modification concepts, 1/2 day in length
3.	Telogy MIS staff	Pre-systems testing	Systems functionality, on three non-consecutive days
4.	Telogy user staff-task force members	Implementation	Trainers available to answer user questions during first month; two user task force members per department available to answer questions.

3**) Involve the Users**. User involvement should be constant from the time of specifications through implementation in order to minimize resistance to change and to assure success of the project. In the case of Telogy, users were involved early on but should have been even more so. Two persons from each of seven departments joined the task force, indicating 14 members were on the task force. In reality it more often was 10 to 12 users. These departmental representatives led their department through the conversion. They decided what changes, testing and training were needed. They also did much of the training, shown in Table 2. If Telogy had to do it over, they would insist on a minimum of three, or preferably four, user representatives from each department on the task force. This would also facilitate user training at an accelerated rate.

4) **Secure Management Champions at All Levels**. Users must accept responsibility for the new system from the beginning. User interest in the project can be sustained through good communication, recognition for good ideas, praise and training. Incorporating "success of implementation" into performance appraisals and compensation facilitates cooperation. Gaining proactive support of the CEO and senior management is imperative. At executive levels it is especially important to defuse territorial battles. One way to encourage the success of the reengineered process and new technology is to weight it heavily in the executive compensation incentive package (Duncan, 1991). Senior managers at Telogy, for example, the chief financial officer, have specific objectives against which they are evaluated and compensated as part of their performance appraisal. These objectives include successful implementation of the client/server system in their areas of responsibility. The CEO was the champion of the client/server system from the beginning. The CEO weighted heavily objectives pertaining to the reengineering process and client/server system implementation in the performance evaluation and compensation process to help ensure motivation directed toward successful completion of Telogy's migration to client/server computing.

References

1. Duncan, Doris G., "Information Technology Enhances Productivity: Fact or Fantasy?" Information Executive, Fall, 1991, Vol. 4, No. 4, pp. 41-46.

2. Lele, Sateesh B., "Global Customer Service -- Enterprisewide and Beyond," unpublished paper, April, 1995.

3. Santosus, Megan, "Pursuing the Perfect Pitch," CIO Magazine, Vol. 7, No. 6, June 1, 1994, pp. 30-34, 36.

4. Strehlo, K., "Round the Clock Offsourcing," Datamation, Vol. 40, No. 23, December 1, 1994, p. 44.

5. Telogy Web site:http://www.telogy.com, February, 1999.