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Tymshare, Inc.: 1965 - 1970

A Report
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History 10

by
Rebecca M. McNown
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Note: Most of the information in this paper was supplied by Thomas J. O'Rourke, President of Tymshare, Inc. Footnoting is used only for information obtained from other sources. The author is an employed by Tymshare, Inc., and has drawn upon her experience in that capacity.

Tymshare, Inc: 1965 - 1970

Tymshare, Inc. is a California corporation with headquarters in Palo Alto. The company markets time-sharing computer services. Computer time-sharing is a method by which many people may simultaneously, from their own offices, use the same computer to solve their computational problems. Each person is unaware that he is sharing the computer. To him, it appears that he alone is using it.

Tymshare's customers may access one of the company's computers from their individual business locations with a simple phone call. A customer leases or purchases a terminal, which may be a teletypewriter-like device or a cathode ray tube unit, and an acoustic coupler which connects the terminal and the computer via a standard telephone.

The primary advantage of time-sharing is its economy. The customer is not required to lease, purchase, or maintain his own computer. Nor does he need to develop his own languages to run the computer. He uses the computer languages and applications programs developed by the time-sharing vendor.

Time-sharing is a recent development in computer technology. The mid-1960's saw the birth of several companies specifically to market time-sharing services and the diversification of other companies to include such services in their repetoire.

After these initial companies proved the practicality of time-sharing, a virtual flood of time-sharing companies opened in the period from 1966 to 1968. The economic downturn of the late sixties and the stabilization of the time-sharing market have caused many of these time-sharing companies to go out of business or to merge with other companies.

Tymshare currently employs approximately 300 people and provides three basic types of service:

1. A general computational service providing the user with a variety of computer languages. The user develops his own programs with these languages. The languages offered by Tymshare are SUPER BASIC, SUPER FORTRAN, BATCH FORTRAN IV, FORTRAN II, BATCH FORTRAN, CAL, EDITOR, and EXECUTIVE.

2. A repetoire of applications programs, allowing customers to solve their computational problems without having to write programs. Applications programs are available in the fields of logic and continuous system simulation, statistics, electrical and structural engineering, and business.

3. Facility management, providing a customer with in-house computer equipment, plus the necessary software and operations personnel to maintain it, at a fixed monthly charge.

In addition to these services, Tymshare markets certain types of related computer equipment, selling computer terminals, including teletypewriters, cathode ray tube devices, and plotters. The company also sells acoustic couplers used to link terminal equipment to the computer via the telephone.

Tymshare, Inc., is the fulfillment of a lifetime dream of its president, Thomas J. O'Rourke. He had followed with interest the various university research projects which were developing time-sharing hardware and software. These projects, often joint efforts between the electrical engineering and computer science departments, included Project MAC at M.I.T.; ATLAS at Cambridge University, and similar projects at the University of California at Berkeley and Dartmouth.

In addition, Mr. O'Rourke had possessed for some time the desire to found and direct his own company. In January, 1965, Mr. O'Rourke was the Western Regional Marketing Manager for General Electric with headquarters in Sunnyvale. An electrical engineer, he had been associated with GE for 17 years. During these years, the O'Rourke family had grown to eight members and the numerous relocations which are a part of management were becoming less and less palatable to them. The family wanted to settle permanently, preferably in California.

General Electric and Mr. O'Rourke came to a parting of the ways in May of 1965. It seemed a perfect time to put into action his plans to form a time-sharing company. He and David Schmidt, a technical consultant at GE, formed a partnership, Tymshare Associates, in May, 1965.

Time-sharing was untested as a commercial venture. Both IBM and GE were experimenting in the field, but it was not a proven money maker. For this reason, the purpose of Tymshare Associates was to investigate the feasibility of selling time-sharing services to the scientific and engineering communities in the San Francisco Bay Area.

The headquarters of Tymshare Associates were located at 745 Distel Drive in Los Altos, California in August of 1965. The secretarial work for the enterprise was done by the Camino Secretarial Service, operated by Mrs. Patricia D'Agati. Mrs. D'Agati was hired by Tymshare in April, 1966, as executive secretary to Mr. O'Rourke. She still holds that position and that of Personnel Administrator. (2)

Roger L. Mosher, partner in the Wilson, Mosher & Martin law firm in Palo Alto was named the company attorney. He assisted in drawing up the company by-laws and now serves on the Board of Directors as Secretary. (2)

Mr. O'Rourke and Mr. Schmidt made a thorough marketing survey and became convinced that time-sharing was indeed a marketable service. They planned to acquire a GE Model 225 computer and to modify it for time-sharing. The fruit of the Tymshare Associates partnership was a 110-page business plan for marketing a time-sharing service based on that machine. Their plan was to establish the company in the Bay Area and to serve the scientific community there. This proved to be a very shortsighted idea.

The two partners then began marching up and down Montgomery Street in San Francisco looking for backers. They were seeking initial financing in the amount of $250,000. They found a sympathetic ear at the Bank of America's Small Business Enterprises Company. The SBEC operates under the auspices of the federal Small Business Investment Corporation especially to fund such small business ventures as Tymshare's.

In July, 1965, the Bank of America approved the loan and Tymshare was on its way! The computer had been ordered from General Electric. However, in August, 1965, GE turned down the order, ostensibly because of Tymshare's shaky credit rating. Other factors quite probably played a part, as General Electric was beginning to enter the time-sharing market in earnest. This forced Tymshare to renegotiate financing.

This unexpected turn of events forced a reevaluation of the hardware to be used for time-sharing. Mr. O'Rourke and Mr. Schmidt took another hard look at the university projects and were most impressed by the ARPA project at the University of California at Berkeley. This project, using a Scientific Data Systems 930 computer, seemed to be the most advanced and the most flexible.

Mr. O'Rourke and Mr. Schmidt then went to SDS, now Xerox Data Systems, with a proposal to extend the model 930's capabilities by developing the model 940 computer for time-sharing. They knew that convincing SDS would not be an easy task, as Max Palevsky, President and founder of the company, had gone on record with his opinion that time-sharing was a flash-in-the-pan and would not last. But O'Rourke and Schmidt convinced Dan L. McGurk, then Manager of Marketing, and Art Rock, Chairman of the Board, that Palevsky was wrong.

McGurk and Rock then sold Mr. Palevsky on the idea and SDS agreed to assume the project if Tymshare would restructure the Berkeley software, add disk file capability to the software, and sell four 940's. Mr. O'Rourke agreed to all these conditions, relying on his past sales experience to carry out the third condition. In return, SDS promised Tymshare serial number 1 of the 940 series.

Tymshare Associates then prepared a second business plan based on the SDS 940. This plan was submitted to the SBEC and was approved.

Mr. O'Rourke had done such a good job of selling the SBEC on the Tymshare venture that George Quist, then President of the SBEC, was persuaded to invest personally. He has served on the Board of Directors since the company's founding.

Mr. O'Rourke turned out to be correct in his evaluation of his ability to sell the 940. The four assigned to him were sold to Shell Oil Company and Stanford Research Institute in the Bay area and to two infant time-sharing corporations, Com-Share in Ann Arbor, Michigan, and Dial-Data, Inc., in Newton, Massachusetts. Mr. O'Rourke was convinced that Tymshare would remain a West Coast company and had no qualms about encouraging the development of time-sharing companies in the east and midwest.

The next task facing Tymshare was to assemble a technical staff. The first member hired was Verne Van Vlear, a former systems analyst for General Electric and a recognized expert on time-sharing. Mr. Van Vlear had worked with Dave Schmidt at GE and had seen the Tymshare plan as it developed. During the fall of 1965, Van Vlear and Schmidt were in constant communication. Tymshare Associates sent Van Vlear to the Fall Joint Computer Conference in Las Vegas in November, 1966, and two weeks later Van Vlear joined Tymshare as a senior programmer. (5)

Another of the early employees was Neil Sullivan who joined Tymshare in January, 1966. Previously employed by Control Data Corporation, he began working as a sales instructor. He is now one of the Senior Systems Analysts. (4)

Ann Hardy, another systems programmer recognized in the Bay area, was lured away from the computer science department at the Lawrence Radiation Laboratory in Livermore. She joined Tymshare in February, 1966, and has since contributed significantly to the company's software effort as well as twice becoming a mother. Her husband, Norm, is one of Tymshare's leading programmers and is manager of the Systems Programming staff. (2)

Tymshare Associates became Tymshare, Inc. in January, 1966. This was the culmination of seven months of tireless effort by Tymshare Associates. Mr. O'Rourke became President and Chairman of the Board of the new corporation. Mr. Schmidt became Executive Vice President and soon assumed the additional duties as General Manager of the Technical Division.

The name Tymshare was chosen because it reflected the type of business in which the company was engaged and because it was not capable of being shortened to a three-initial acronym. The founders, Mr. O'Rourke and Mr. Schmidt, designed the company's trademark, the hourglass, because of its association with time.

The first Berkeley software was delivered to Tymshare in March, 1966, and the systems programmers began redesigning it for commercial use. Mr. Van Vlear and Larry Barnes, the latter a graduate student

at Berkeley, spent much of March and April at the SDS manufacturing plant in Santa Monica working on the computer before it was completely finished. (5)

A serious objection to the Berkeley software was that swapping of users in and out of core was being done on magnetic tape. Mr. Van Vlear and Mr. Barnes were attempting to implement a system whereby swapping would be done on the disk. Ann Hardy meanwhile, was designing a long range method by which swapping could be done on the RAD, the rapid access disk. (5)

Serial number 1 of the SDS 940 was delivered to Tymshare's computer center on East Meadow Drive in Palo Alto in May, 1966. The technical staff continued to put it through its paces. The system developed problems and much of the software was either rewritten or modified. (5)

Much of the modification of the early software was a joint effort between Tymshare and Com-Share, working out of Tymshare's Los Altos office. Richard Crandall and two other Com-Share programmers came to California during the spring of 1966 for this purpose. Mr. Crandall is now President of Com-Share. (2)

The first customers began using the Tymshare time-sharing system on an experimental, free basis in July, 1966. The maximum number of simultaneous users was eight. The system was demonstrated at the Fall Joint Computer Conference held in San Francisco in November, 1966, and was an overwhelming success.

At this point, the company's backers began to apply pressure. So even though the system was not perfect, notices were sent to all users that the service would be on a paying basis as of November 1, 1966. On November 1 and 2, the system was down, and it continued to be plagued with problems all month.

The sales force could not believe that Tymshare would send bills for such poor service that month. However, the statements did go out, and all but one customer paid immediately. The delinquent user paid after moderate prodding and continues to be a Tymshare customer.

During this period of conversion to a commercial basis, an accounting department was established. Edward J. Field joined Tymshare in November, 1966, as Manager of Accounting. He was appointed Controller in February, 1968, and Treasurer in September, 1969.

Mr. O'Rourke took the bills and payments to the Bank of America in December, 1966, to prove that indeed people would pay for such a service. He then requested a second one-quarter million dollar loan for additional hardware and staff. The loan was granted.

The Bay Area market for time-sharing services was expanding. The new company now had 14 employees, including a small sales staff headed by John Jerrehian as Sales Manager. Mr. Jerrehian was a former GE manager.

An even more lucrative market was identified in the Los Angeles metropolitan area. An office was opened in Inglewood, and computer #2 was leased in August, 1966. The computer was installed in the Inglewood computer center in February, 1967. Business was so good that another computer was installed in southern California on December 22, 1967.

The general structure of the company was somewhat stabilized about this same time. Ray Wakeman was hired in August, 1966, as Vice President and General Manager of the Southern California Division. He had been employed as Manager of Customer Relations for SDS. John Jerrehian was named Vice President and General Manager of the Northern California Division.

During the summer of 1967, the Board of Directors and the officers of the company realized that Tymshare possessed the potential to become a nationwide corporation. The area they selected for the next expansion was the New York/New Jersey metropolitan area. Mr. O'Rourke began to solicit financial backing for this expansion. He haunted Wall Street until he found a willing listener in Tony Lamport of Burnham and Company. Through the efforts of Mr. Lamport and his associates, a million dollar private placement of Tymshare stock was effected, and Tymshare proceeded with its expansion plans. Mr. Lamport is now a Director of Tymshare.

The Eastern Division was established with an office in Englewood Cliffs, New Jersey. The eastern customers were served by multiplex lines from the Palo Alto computer center until computer #4 was installed in New Jersey on March 29, 1968.

The Eastern Division did not develop as expected. To get things moving again, Mr. O'Rourke himself went east for two and one half months during the summer of 1968. He returned in August, having appointed John Jerrehian as temporary manager of the Eastern Division. Ron Braniff, Sales Manager of the Northern California Division was appointed Acting Division Manager of the Northern California Division and in this capacity, worked closely with Mr. O'Rourke. In February of 1969, Mr. Braniff was promoted to Eastern Division Manager. Mr. Jerrehian then returned to his former position as Division Manager of the Northern California Division.

Another personnel addition in 1968 was the employment of Alden Heintz in August as Director of Marketing. He was named Vice President of Marketing in September, 1969, and Vice President for Corporate Development in June, 1970.

New offices continued to open. By the end of 1968, Tymshare had grown to 138 employees, five computers, and seven district sales offices. Los Altos and Seattle comprised the Northwestern Division, formerly the Northern California Division. The three district offices in the

Southwestern Division (formerly the Southern California Division) were in Inglewood, California; Newport Beach, California; and in Dallas, Texas. Englewood Cliffs and Washington, D.C. served the Eastern Division.

The office at Distel Drive was not large enough to house the four groups operating from it: Corporate, Northwestern Division, Palo Alto District, and the Technical Division. The first to go was the Technical Division, moving to an office at 925 East Meadow Drive in Palo Alto in March, 1968.

Three more offices opened in 1969. They were in San Francisco, Boston, and Darien, Connecticut. Five more computers were installed. There were now two in each of the three divisions and four at the new computer center in Cupertino. Plans were being made to bring all Tymshare computers to the Cupertino computer center.

Another important change of address made in 1969 was the move of the Corporate offices to the Palo Alto Office Center, 525 University Avenue, Palo Alto, California. The offices have expanded and now occupy one and one half floors of this building.

The Technical Division programmers moved again in April, 1970. This move was to Bubb Road in Cupertino, bringing the programming and operations staff together in a three building complex in the West Valley Industrial Park.

Dr. Helmut Sassenfeld was named General Manager of the Technical Division in September, 1969, to replace David Schmidt who resigned in June, 1969. (See Page 19.)

Tymshare currently has twelve district offices, the newest ones opening in Chicago and Houston in the early months of 1970.

Tymshare has proved itself a viable institution in an industry which had a low survival rate of new companies. A total of two million dollars of financing was obtained in another private placement in December, 1968, with large amounts being invested by such institutions as Morgan Guaranty Bank, Fireman's Fund, J. H. Whitney and Company, and the Ford Foundation.

Through these past four years, Tymshare had many offers to be acquired or to acquire other companies. Each of these offers was explored, but none was accepted. In late 1969, however, Dial-Data, Inc., of Newton, Massachusetts, and Tymshare, Inc. agreed to a merger of their two companies. The new company was called Tymshare East, Inc., a wholly-owned subsidiary of Tymshare, Inc.

Lewis C. Clapp, president of Dial-Data, Inc., and Mr. O'Rourke had been friends of long standing. Mr. Clapp had founded Dial-Data in March of 1965. Mr. Clapp became Executive Vice President and a Director of Tymshare, Inc.

Because Dial-Data had also based its service on the SDS 940 and at the time of the acquisition had five such computers, Tymshare increased its computer capacity to 15. Another advantage to the merger was the acquisition of Dial-Data's excellent programming staff and its electronics applications programs. By combining the efforts of the two sales staffs and moving the computers to Cupertino, the new company became profitable within four months of the merger.

In 1969, Tymshare participated with two French businesses in a joint venture. The new company, CEGOS-Tymshare, is a collaboration among CEGOS-Informatique of Paris, Credit Lyonnais, and Tymshare. Tymshare currently owns 20 percent of the capital stock of the new company.

CEGOS-Informatique, a major European management consulting firm, operates several in-house computer systems. Credit Lyonnais is France's second largest bank.

CEGOS-Tymshare, headquartered in Paris, will offer time-sharing service throughout France. The service will be similar to that marketed throughout the United States.

Several Tymshare employees have been sent to Paris to assist in the operation of the enterprise.

A second foreign venture, Tymshare Canada Ltd., was formed in late 1969 and will begin commercial operation in the second half of 1970. Tymshare is joining with EDP Centres Limited in the formation of this Canadian corporation of which Tymshare owns 40 percent.

In the computer service industry, it is important to keep pace with the hardware developments within it. A product which serves well one year may become obsolete the next year by new inventions and discoveries. A continuing effort has been made at Tymshare in the area of hardware development.

An early example of hardware development was the design of an acoustic coupler as an aid for the sales staff in the demonstration of the Tymshare service. The coupler was a brainchild of Mr. Schmidt and was built by a small firm, Communications Contact. This firm, located in the same building as Tymshare on Distel Drive, was composed of Nels Winkless, Paul Honore, and Terry Wilson. (2)

Tymshare has worked hard to develop the finest communications system in the industry. The first computer set up had communications lines radiating from it. These lines were able to serve only customers in the local area. (1)

The next improvement was the addition of multiplexors to the system. A multiplexor is a device which enables many signals to be sent simultaneously over the same wire or transmission medium. Thus one wire could transmit information from many customers to a single computer and vice versa. (1)

The next innovation was to use a small computer to perform the multiplexor function. The advantage to this method was that the transmission error rate could be reduced to 1 in 100,000. The company investigated several satellite computers and chose the Varian 620i. Using software and hardware modifications developed by Tymshare, this computer answers the phone and links the caller to the central processing computer. Used in this way, the Varian 620i is called a TYMSAT. (1)

The TYMSAT capability was then extended so that it replaced the communications termination equipment (CTE) used to link customer calls to the computer. This upgrading reduced the error rate to 1 in four billion. (1)

The future of the Tymshare communications system is the TYMNET, a veritable network of TYMSATs. TYMNET will allow error free international transmission of data, alternate routing in emergencies, and load leveling among all Tymshare computers. (1)

The Director of Telecommunications for Tymshare is Max Beere who joined the company in April, 1969. A former employee of Bell Telephone Company, he is responsible for the design of TYMNET and for handling communications with various utility companies.

LaRoy Tymes is responsible for the programming necessary to effect the TYMNET network. He and Mr. Beere work closely together to assure good service for Tymshare customers.

Tymshare's time-sharing users store data, programs, and other information on magnetic disks. These are storage devices in which data is recorded on the magnetized surface of a rotating disk. The disks are arranged in an array structure with associated heads for reading and writing information on the disk.

All available disk storage devices have a finite capacity. Disk storage began to be a problem for Tymshare as the demand for disk space exceeded the available space. Therefore new disks had to be investigated. The IBM 2314 disk, with a capacity of 200 million characters was chosen to replace, gradually, the original 50 million character Data Products disk.

Another area in which Tymshare is currently improving its equipment is the computers themselves. The XDS 940 was a good machine in 1966, but later development in this industry has resulted in larger and faster computers.

Consideration was given to a plan whereby Tymshare would develop and build its own ideal time-sharing computer. David Schmidt, then Executive Vice President, was especially interested in this project. He could not, however, sell the Board of Directors and resigned from Tymshare in June, 1969, forming his own company to manufacture this sophisticated computer. Mr. Schmidt's new company is Multi-Access Systems of California, Inc. The computer is currently under development.

Tymshare continued to investigate other third-generation computers. A Digital Equipment Corporation PDP-10 was obtained on a trial basis. At the time of the merger, Dial-Data had an XDS Sigma 7 on order. It was delivered to the Cupertino computer center in March, 1970.

A period of evaluation of the two computers began. Because the PDP-10 and the Sigma 7 were very similar in capability, the ultimate decision was largely a financial one. The PDP-10 was on a purchase-only basis, and the Sigma 7 could be leased. Because of the difficulties in obtaining additional funds in the spring and summer of 1970, the decision was made to go with the Sigma 7. This decision required the least capital outlay.

Sigma 7's were placed on order for delivery in 1970 and 1971. The PDP-10 programmers joined the Sigma 7 programmers to complete the programming of the Sigma 7 in preparation for the first commercial offering of Sigma 7 service in late 1970.

Tymshare has been a very successful company since its inception. Gross sales have grown from one million dollars in 1967 to 2.6 million dollars in 1968 and 6.4 million in 1969. The projected figures for 1970 are 12 million dollars.

Mr. O'Rourke bases his company's success on service. As he puts it, "We are a service bureau; therefore we have a responsibility to provide service." He also believes that a strong marketing staff is important to a thriving time-sharing company, and he feels that Tymshare's marketing force is the best in the industry.

He cites as other key factors in Tymshare's success the outstanding programming, operations, and hardware development staffs which the company has assembled. The programmers have developed outstanding programming languages and applications programs. The operations staff efficiently maintain the company's computers.

Tymshare points with pride to the documentation it produces to support its languages and applications programs. This documentation is supplemented by free classes conducted by Tymshare instructors.

From its beginning, Tymshare's programming and marketing impetus has been directed toward the scientific and engineering community. Through the capable efforts of the business language programmers, Tymshare's service has diversified into the business worlds also.

With time-sharing estimated to be the fastest-growing segment of the computer industry, the future certainly looks challenging for Tymshare.