Microsoft Corporation Essay, Research Paper

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Microsoft History

Historians categorize blocks of time with the discovery of certain raw materials

that humans utilized. The Bronze Age and the Iron Age were two periods in human

history that proved through the discovery of artifacts that humans learned to

harness these raw materials ingeniously. The Industrial Revolution of the late

nineteenth century brought the discoveries of the Bronze and Iron Ages to new

heights, and the advent of the locomotive, automobiles, cargo ships and

airplanes were the most evident by-products of such raw materials. Use of these

by-products from the earth’s raw materials dramatically changed the world of

business and trade. With the subsequent invention of wire communications (i.e.,

tapping out Morse code and speaking over telephone lines), business and trade

grew exponentially. Wireless communications via the inventions of radio,

television, and motion pictures contributed greatly to the advances of the

Industrial Revolution. The need to find better ways of doing business to keep

the marketplace fresh and innovative has driven the human race toward the brink

of a new eraCthe Information Age. Unlike more tangible qualities of prior ages,

the Information Age offers less defined qualities. At the heart of this new age

is the advent of the personal home computer. Pumping life into this otherwise

material home appliance is software that incorporates the necessary commands to

access information stored within the computer’s memory. The company that

offered the world its first software manufacturing company was Microsoft

Corporation (MSFT on the NASDAQ exchange). At the helm of this young, innovative

company are William Gates and Paul Allen, a pair of former high school chums who

envisioned a world of home computer technology years before such a dream became

even remotely possible.

Early Influences

Their story begins at Lakeside High, a private high school in Seattle,

Washington. The Mothers’ Club at Lakeside decided to purchase a computer

terminal for the kids with proceeds from bake sales and rummage sales. Students

at Lakeside became enthralled with this new toy. True to their innate curiosity,

Gates and Allen began to dabble farther into the workings of the computer; Gates,

for example, wrote his first computer program at the age of thirteenCa version

of Tic, Tac, Toe. Because the computer terminal was so slow, one game of Tic,

Tac, Toe took up most of a lunch break; if played on paper, a full 30 seconds

might have been required. Despite the simplicity of the program, it spawned the

creative genius in both young men to tackle more challenging programs in the

years ahead. Because the Mothers’ Club was unable to afford continued use of

computer time at $40 per hour, they decided to make it students’ responsibility

to purchase their own computer time. Most students complied by getting jobs

outside school. Gates and Allen became programmers in the summers for

compensation of computer time and $5000 in cash. In his 1995 book The Road

Ahead, Gates describes the mainframe computers of the early >70’s as A. . .

temperamental monsters that resided in climate-controlled cocoons . . .

connected by phone lines to clackety teletype terminals. . . .@ (11) He went

on to explain that a personal home computer called the DPD-8 was actually

available from Digital Equipment Corporation. According to Gates it was A. . .

an $18,000 personal computer which occupied a rack two feet square and six feet

high and had about as much computing capacity as a wristwatch does today . . .

Despite its limitations, it inspired us to indulge in the dream that one day

millions of individuals could possess their own computers.@ (11-12)

In the summer of 1973, Paul Allen, who knew more about computer hardware than

Bill Gates, shared an article with Gates buried on page 143 in Electronics

Magazine. The article described the invention of the 8008 micro-processor chip

by a young company called Intel. Paul was surprised to receive the technical

manual for the chip in the mail simply upon request. Immediately, he went to

work analyzing its capabilities. Due to the lack of transistors, the 8008 chip

was very limited in its use, but Allen discovered despite the limitations, the

chip was good for repetitive tasks and mathematical data.

First Business Venture

When Paul Allen entered college at Pullman, Washington, a town on the east side

of the state, sixteen-year-old Bill Gates traveled frequently by bus to visit

him. On these long trips across the state, Gates wrote a program that

facilitated the reading of traffic information gathered by municipalities

through a device set up on the side of certain intersections. A long, rubber

tube stretched across the road from one of these devices, and each time a

vehicle ran over the tube a punch was made in the roll of paper within the

device. People deciphered this crude data by visually inspecting the punch

holes and annotating the results. Gates’ program relieved humans from such a

tedious task, using the technology of the 8008 chip instead. With this program

Gates and Allen launched their first company, Traf-O-Data. The two programmers

were full of enthusiasm for the success of their new company; most communities,

however, were reluctant to purchase from two kids: consequently, their fledgling

company enjoyedonly marginal sales.

Education Attempt

Gates attended Harvard College in 1973 while Allen secured a job in Boston,

Massachusetts as a programmer for Honeywell. In 1974 Intel announced the advent

of the 8080 chip that boasted 2,700 more tran-sistors than its predecessor.

Because of the disappointment they experienced in the hardware side of computing

through dismal success in Traf-O-Data, Gates and Allen focused on new

opportunities in the software side of computers. With a vision of millions of

computers owned by individuals, the pair banked on competition between Japanese

and American companies for control of the computer hardware market. With this

in mind, and with the introduction of the 8080 microprocessor chip (and

inevitable successors to the chip), Gates and Allen determined that their future

lay in developing software for these computers.

The Motivational Side of Fear

During a cold, New England morning outside a newsstand in Harvard Square during

one of his frequent visits to Bill Gates, Paul Allen picked up a copy of the

January issue of Popular Electronics magazine. The cover photo pictured a small

computer kit called the Altair 8800. It sold for a mere $397, and had 4,000

characters of memory . Panic struck Gates: A>Oh no! It’s happening without us!

People are going to go write real software for this chip.’ I was sure it would

happen sooner than later, and I wanted to be involved form the beginning. The

chance to get in on the first stages of the PC revolution seemed the opportunity

of a lifetime, and I seized it.@ (Gates, 16).

Driven by fear of someone writing software for the Altair 8800 personal computer

before his own software was complete, Gates scrambled feverishly in his Harvard

College dormitory forgoing a decent night’s rest. Five weeks later, a version

of BASIC became the impetus for Athe world’s first microcomputer software

company . . . In time we named it >Microsoft.’@ (Gates, 17)

In the spring of 1975, Allen quit his job with Honeywell; Gates decided to take

an indefinite leave of absence from college (never intending to forgo a degree).

Both young men planned to dive into the world of the computer software business

at its very beginning stages. Allen was twenty-two years young and Gates was

only nineteen. They set up operations in Albuquerque, New Mexico because the

city was home to MITS, creator of the first inexpensive personal computer to be

offered to the general pubicCthe Altair 8800 .

Microsoft provided BASIC language because it allowed a format for computer users

to write their own programs instead of having to rely on scarce, packaged

software. Immediately, the MITS Altair 8800 faced strong competition from

computer makers such as Apple, Commodore, and Radio Shack who entered the

personal computer market in 1977. The strategy at Microsoft was to convince

computer manufacturers to buy licenses to Abundle@ Microsoft software with their

computers. Royalties would then be paid to Microsoft on each computer sale.

Aside from the antics of early software piraters and lack of government laws

preventing such activities, this strategy of selling licenses for the use of

their software worked well for Microsoft.

A Japanese Connection

By 1979 half of Microsoft’s business came from Japan. This was due in large

part to Asweat equity@ of one man in particular. His name is Kazuhito (Kay)

Nishi. Kay telephoned Gates in 1978 after discovering Microsoft in a newspaper

article. Both Gates and Nishi were only twenty-two at the time and shared many

similarities despite cultural and language differences. They met shortly after

the phone call at an electronics con-vention in southern California. Without

attorneys, they signed a 12 page contract which gave Nishi exclusive

distribution rights to Microsoft’s BASIC language in East Asia. Eventually,

their original expectation of $15 million was realized ten-fold through sales as

a result of that contract.

Microsoft moved from Albuquerque, New Mexico to its present home in Redmond,

Washington in 1979 with most of its twelve employees. According to Gates, the

mission of Microsoft was Ato write and supply software for most personal

computers without getting directly involved in making or selling computer

hardware.@ (44) The programming team adapted programs to each machine and were

Avery responsive to all the hardware manufacturers . . . we wanted choosing

Microsoft software to be a no brainer . . . along the way, Microsoft BASIC

became an industry standard.,@ Gates was quoted. (44)

IBM Influence

By 1980, International Business Machines (IBM) enjoyed an 80% market share of

large computer hardware, but only marginal success with the smaller personal

computer (PC) market. The Apple II computer appeared poised to takle the

business market, thanks in part to a popular spreadsheet program called VisiCalc.

Based on Apple’s success, IBM decided to enter the PC market. In the summer of

1980, two emissaries from IBM met with Gates to discuss IBM’s plans for a full-

market assault, with components already available off-the-shelf. IBM’s plan was

to utilize Intel’s microprocessor chip and to use Microsoft’s programming

expertise, rather than create its own software. As a result of this meeting,

Microsoft hired Tim Paterson, from a Seattle, Washington firm, who became

responsible for creating the Disc Operating System (DOS) for IBM compatible

computers.

Survival of the Fittest

The first IBM PCs hit the market in August of 1981 with a choice of three

operating systems: Microsoft’s DOS, UCSD-Pascal, and CP/M86. Gates realized

that only one operating system could survive, just as only one video cassette

recorder survived their market previously (VHS beat out Beta Max). Gates

developed a three-part plan to come out on top of the competition: < make

Microsoft DOS the best product of the three < help other software companies

write MS-DOS based software < ensure MS-DOS to be inexpensive.

A Crucial Deal

With these objectives in mind, Gates offered IBM an attractive deal. Microsoft

would allow IBM to use DOS (called IBM- or PC-DOS to distinguish itself from

the nearly identical MS-DOS) for a low one-time fee for as many PC’s IBM could

sell. This deal gave IBM the incentive to push DOS, rather than the other two

oper-ating systems, whose manufacturers received royalties for each PC sale with

their respective operating systems installed. Hence, IBM sold UCSD Pascal P-

system for $450 and CP/M-86 for $175 while DOS was offered at only $60.

Gates’s strategy worked as he stated:

AOur goal was not to make money directly from IBM, but to profit from licensing

MS-DOS to computer companies that wanted to offer machines more or less

compatible with the IBM PC. IBM could use our software for free, but it did not

have an exclusive license or control of future enhancements. This put Microsoft

in the business of licensing a software platform to the PC industry. AConsumers

bought the IBM PC with confidence . . each new customer . . . added to the IBM

PC’s strength as a potential de facto standard for the industry. . . . A. . .

the availability of software and hardware add-ons sold PCs at a far greater rate

than IBM had antici-patedCby a factor of millions,@ which meant Abillions of

dollars for IBM.@ (Gates, 49-50)

Competition Errors

After three years of competition blitzing, all competing standards for personal

computers had disap-peared with the exception of Apple’s Apple II and Macintosh.

AHewlett Packard, DEC, Texas Instruments, and Xerox, despite their technologies,

reputations, and customer bases, failed in the PC market in the early 1980s

because their machines weren’t compatible and didn’t offer significant enough

improvements over the IBM architecture.@ (Gates 50) Only Commodore Corporation

fared well through the eighties in the PC market, due substantially to lower

cost of models 64 and 128, and the superb graphics of the Commodore Amiga, still

used today by some commercial movie studios.

Gates defends IBM against certain revisionist historians who conclude A. . . IBM

made a mistake working with Intel and Microsoft to create its PC. They argue

that IBM should have kept the PC architecture proprietary, and that Intel and

Microsoft somehow got the better of IBM. But the revisionists are missing the

point. IBM became the central force in the PC industry precisely because it was

able to harness an incredible amount of innovative talent and entrepreneurial

energy and use it to promote its open architecture. IBM set the standards.@

(Gates, 50)

Birth of Windows

Because of the character-based commands that users of DOS needed to type into

the computer from a keyboard peripheral, Gates saw the potential of losing

Microsoft’s leading software position if it stayed with the MS-DOS format.

Researchers at Xerox’s Palo Alto, CA Research Center studied human-computer

interaction and found that computer users could more easily instruct the

computer if users were allowed to point to commands, via a device called a

Amouse,@ as opposed to typing commands, via a QWERTY keyboard. According to

Gates, AXerox did a poor job of taking commercial advantage of this

groundbreaking idea, because its machines were expensive and didn’t use standard

microprocessors. Getting great research to translate into products that sell is

still a big problem for many companies.@ (53)

The process of using pictures CiconsCto command a computer, rather than typed

characters, is called graphical technology. The screen which molds graphical

technology into the character-based operating system format is called a

Graphical User Interface (GUI). In 1983, Microsoft announced its version of a

GUI called Windows7. The Apple Lisa and Xerox Star were GUIs already available

to consumers, but both, in Gates’ view, A. . . were expensive, limited in

capability, and built on proprietary hardware architectures.@ (53) This meant

that other hardware companies could not license the operating systems to build

compatible systems. The same was true for software companies, and this hindered

the creation of new applications for the Star and Lisa GUIs by outside companies.

MISSION STATEMENT AND ANALYSIS

At Microsoft, our long held vision of a computer on every desk and in

every home continues to be the core of everything we do. We are committed to

the belief that software is the tool that empowers people both at work and at

home. Since our company was founded in 1975, our charter has been to deliver on

this vision of the power of personal computing.

As the world’s leading software provider, we strive to continually

produce innovative products that meet the evolving needs of our customers. Our

ectensive commitment to research and development is coupled with dedicated

responsiveness to customer feedback. This allows us to explore future

technological advancements, while assuring that our customers today receive the

highest quality software products.

A good mission statement attempts to answer some key questions about the

company and the industry. These questions are Who are we?, What business are we

in?, and Where are we headed? In Microsoft’s mission statement they tell who

they are, as well as what there business is. They stess their goals and where

they are headed very well. My biggest problem with this mission statement is

the fact that Microsoft is to worried about being on top and will do what ever

is necessary.

INDUSTRY AND COMPETITVE ANALYSIS

Dominant Economic Characteristics

Market Differentiation

The first popular graphical platform came to market in 1984 with Apple’s

Macintosh. It was an instant success as the GUI platform of Macintosh

eliminated the need for obscure character commands. Gates worked closely with

Steve Jobs, who was the leader of the Macintosh team, in order to create

Microsoft’s competing GUI version of the Mac called Windows. The major

difference that Microsoft held over Apple was its willingness to allow other

software developers open access to the Windows format. Apple restricted its GUI

to Macintosh computers only. That difference helped to elevate Microsoft

eventually to the software industry leaderCbar none.

Gates devotes pages of explanations of why such a Agreat company@ as IBM failed

in its attempts to finally create its own software operating system. He

apologetically cites the specific decisions that IBM made with the development

of its OS/2 operating system. His reason for the disappointing results of IBM’s

attempts are chiefly due to the fact that graphical computing could have found

mainstream success if IBM had been more cooperation with Microsoft in developing

a general application of GUI software to be used with existing hardware rather

than insisting on developing a whole new application.

When Microsoft went public in 1986, Gates offered IBM 30% of MSFT stock in

order that IBM could share in the fortune, be it good or bad, of Microsoft. IBM

declined. This was Microsoft’s attempt at keeping IBM close to Microsoft as IBM

was instrumental in the success of Microsoft.

Despite not seeing eye to eye with IBM in the development of Windows, Gates saw

the GUI application as the progressive alternative to DOS and continued to

create improvements on the existing applications. In the weeks prior to the

release of Windows 3.17, May 1990, Gates A. . . tried to reach an agreement with

IBM for it to license Windows to use on its personal computers. We told IBM we

thought that although OS/2 would work out over time, for the moment Windows was

going to be a success and OS/2 would find its niche slowly.@ (62) IBM again

refused to cooperate with Microsoft insisting total dedication to the

development of OS/2 which was eventually doomed to an ignominious future. AIBM

has proven conclusively through the years that it has no idea of how to create

or market software. Examples are Displaywrite word processing; the PC Jr, IBM

Personal Typing System, and the PS-1, all with proprietary software; OS/2as

mentioned above, and feeble attempts at networking. Now, with the purchase of

Lotus, the software giant should request last rites.@] According to Gates, AIf

IBM and Microsoft had found a way to work together, thousands of people-

yearsCthe best years of some of the best employees at both companiesCwould not

have been wasted. If OS/2 and Windows had been compatible, graphical computing

would have become mainstream years sooner.@ (62)

Pace of technological change

In its twentieth fiscal year (July 1BJune 30) since incorporation, Microsoft

leads the software industry with revenues of $5,937,000,000 as of June 30, 1995 .

It is the unequaled standard bearer for software manufactures and with its

release of Windows 957, a total graphical operating system, should remain at the

top for years to come.

Despite its current position, Microsoft is still faced with new challenges as

with the progression of any high-tech industry. The most recent challenges

facing Microsoft are its applications to the Internet and its commitment to the

development of the information super highway.

In 1989 the U.S. Government decided to cease funding its 1960s project ARPANET

and allow the project to be succeeded by the commercial equivalent AInternet.@

In its beginning stages, the Internet picked up where ARPANET left off. Its

primary function was to provide electronic communications, or e-mail, solely

between computer science projects and engineering projects. Its popularity

increased as it became commercially available to PC users. To fully appreciate

the significance of e-mail and the transmission of electronic data consider the

evolution of the printed language.

Advances to the Printed Word

When Johann Gutenberg introduced the printing press to Europe in 1450, the

method of copying the printed word was revolutionized. Before the advent of the

printing press there was an estimated 30,000 books available on the earth, most

were hand written by monks. Although it took two years to complete the movable

type for Gutenberg’s Bible, once completed, multiple copies could be made rather

quickly. Almost 500 years later, Chester Carlson, frustrated by the length of

time involved in preparing patent applications, set out to invent an easier way

to duplicate information in small quantities. What resulted was a process he

called Axerography@ when he patented it in 1940. In 1959, Carlson aligned with

Xerox Corporation as a means of manufacturing and distributing AXerox@ copying

machines. Xerox projected sales of perhaps 3000 units. Much to their surprise,

they placed orders for 200,000 units, and one year later reported nearly 50

million copies a month were being processed. By 1986, that figure increased to

200 billion copies per month and has steadily increased ever since. The advent

of xerography allowed small groups to participate in the capabilities of a

printing press for a fraction of the cost and in a fraction of the time a

conventional printer would take.

The market size for the computer industry is very large, this past year

it totaled $238.7 billion dollars. It is expected to rise considerably in the

next few years.

The competitive scope for the computer industry globally is very strong,

microsoft is worldwide. The Japenese are very big competitors, but Microsoft is

to powerful to compete with.

Ease of entry is very hard, the computer industry is a costly industry

to enter. To compete with large companies you would need millions of dollars to

even consider getting started. One could start a small computer business

focusing on one area without the cost being overly expensive. An example would

be if you wanted to focus one the accounting industry you need not worry about

anything else. The life of the product depends totally on your needs, as well

as the increases in technolgy. Microsoft comes out with new products all the

time, but you don’t necessarly need to buy them. Sometimes a computer program

can lasts companies for years. It is very difficult to enter the computer

industry due to the large capital requirements and the rapid technological

changes, so either backward or forward intergration would be very difficult.

Driving Forces

There are several driving forces in the computer industry.

1) Increased efficiency due to economies of scale

2) Change in the industry growth rate

3) Product innovation due to the rapid increases in technological

advancements

4) The need to be the first to develop the new program

The newest driving force for the computer industry was the internet or

super highway. The following describes both along with the advantages they

brought.

The Internet

The Internet offers even more advantages than Xeroxed copiers where information

can be accessed and/or distributed to all interested parties (with a PC) via the

electronic transmission of data. As defined by Gates, the Internet is Aa group

of computers connected together, using standard >protocols’ (descriptions of

technologies) to exchange information.@ (94) Electronic massages are sent via

phone lines from one computer to another and stored in the electronic Amailbox@

of the another computer until the message is Adown-loaded@ by the user.

Another advantage to the Internet is AWeb browsing@ on the World Wide Web (.www)

or simply AWeb.@ Server companies offer graphical pages of information to be

accessed by subscribers of their service. From the Ahome@ page of a topic, one

can activate subsequent hyperlinks for further information on given topics by

clicking the mouse device of most PCs.

Although Gates admits that Microsoft was surprised at the commercial success of

the Internet, he has begun work on software applications to make the Internet

easier to access for PC owners with limited computer knowledge. Some people may

confuse the subscriptions to companies on the Internet, such as CompuServe,

Prodigy, and America On-line with the creation of the information super highway,

but according to Gates, the Internet is simply a Aprecursor to the information

highway.@ (90) Comparing the information highway with the Internet is like

comparing a country lane with the Eisenhower Highway System. Even that analogy

would not do justice to the information highway as it will look in twenty or

more years. The limitations of the Internet must first be expanded before

anything resembling the actual information highway exists. One challenge that

Micro-soft and other companies have is to convince the phone companies and cable

companies to replace the coaxial lines that serve homes and businesses with

fiber optic cables. Fiber optics will expand the bandwidth necessary for the

immense amount of information sent on the highway.

Two technologies currently in the works toward this transformation of trunk

lines are DSVD and ISDN. Digital simultaneous voice data can be used with

existing phone lines, but does not provide a sufficient bandwidth to handle

video transmissions; hence, new lines must be laid for this application to reach

full capacity. Even with the current integrated services digital network

technologyCwhich incorporates a wider bandwidth but requires the laying of new

linesCthe clarity of full motion picture images still leaves much to be desired.

Add-in cards which upgrade the PC Ato support ISDN costs $500 in 1995, but the

price should drop to less than $200 over the next few years. The line costs

vary by location but are generally about $50 per month in the United States. I

expect this will drop to less than $20, not much more than a regular phone

connection.@ (Gates, 101)

The Information Highway

Once more and more PC owners hook up to the Internet with ISDN lines, the

groundwork for further progress towards the information highway will be laid.

The information highway was coined by then-Senator Al Gore Awhose father

sponsored the 1956 Federal Aid Highway Act@ (Gates, 5) during the Eisenhower

Administration. According to Gates, this terminology is flawed. It connotes

the following of routes with distance between two points. It implies traveling

from one place to another when the actual information highway will be free of

such limitations. Some people also confuse the information highway with a

massive government project which, Gates feels, A. . . would be a massive mistake

for most countries . . . .@ (6) Just as Microsoft’s mission in 1975 was Aa

computer on every desk and in every home,@ (Gates, 14) so it is with Microsoft

progressing towards A. . . >information at your fingertips’ which extols a

benefit rather than the network itself.@ (Gates, 6)

Key sucess factors

1) The high degree of expertise and product innovation

2) Being able to stay on the cutting edge of technology

3) Companies need to have a low degree of glitches in there programs

4) A very strong customer support system (user friendly)

5) Must be able to meet the customer needs

The computer industry is a strong leader in technology. To compete you

must stay one step ahead of the rest. Microsoft has proven how devoted they are

to computer program developing by always being one step ahead of the rest. When

one is dealing with the computer industry it is very important to have

kniowledgable employees working for you.