

E*BUSINESS FOR TRADITIONAL BUSINESS-TO-BUSINESS COMPANIES: A CASE EXAMPLE

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A B S T R A C T

The purpose of this paper is to show the effect of e business as a trend in affecting the activities of large companies and their way of doing business. David Liederbach, IBM Director of e-commerce marketing defined “ *E-business is extending any business process from one company to its trading partners. And using web technology to automate the internal business processes as well. E-Commerce is a distinct subset wrapped around the marketing, sales and part of the customers support processes, and the trading partners you deal with for these business processes*”

The Rapid Growth of The Internet:

A strong and growing demand for Net access by way of cellular phones, televisions, voice portals and other wireless devices is driving the growth of e-commerce. The number of online shoppers has doubled in the past two years and that consumers expect to turn to the Web even more in the future as new, non-PC devices increase the ways they can log on.

The Internet is a disruptive technology, which affected dramatically the business of many bricks and mortars companies. Despite the fact that many brick and mortar businesses were affected negatively, the global Internet Economy is forecast to reach \$2.8 trillion to become the world's third largest economy by 2003, larger than the gross domestic product of Germany, France or the United Kingdom.

Brick-and-Mortar firms and E-Business:

Despite the fact that many dot.coms failed in the recent e business collapse and others suffered from a sharp decrease in their stock prices in the last few months, this doesn't prove that e-business as a trend is failing or declining. These companies failed due to problems in their vision, strategies and operations. On the other hand, there are many other dot.com companies that are operating well and gaining profits. Also traditional companies improved their revenues and services by using the e-business models and they have ambitious plans to apply the e-business tools over the next five years to improve their marketing and operations.

We will study the example of IBM, as a model in using the E-Business tools to improve its performance and leverage its competences.

A Case Example: IBM's e-Business Strategy

E-IBM

The philosophy at IBM is that the best way to learn is by doing. IBM is making an example, becoming an e-business by doing. By moving purchasing onto the Web, the company expects to save \$240 million on the \$11 billion in goods and services it will buy this year. Similar moves to put customer support online will save another \$750 million.

E-SERVICES

IBM has 130,000 consultants and an e-service business expected to hit \$3 billion this year. IBM has handled 18,000 jobs over the last three years-- from Web-site design to hooking older corporate databases into new online systems--for companies such as DHL and Payless ShoeSource.

E-ENGINEERING

This is where IBM sees e-business heading. Companies will use the Net to cut costs, turning for help on how to do it. United Technologies Corp. has already turned over procurement via the Web to IBM.

PRODUCTS

IBM pumps half of its \$5 billion R&D budget into Internet-related areas. Gerstner, IBM CEO, isn't stopping there: He has created the Institute for Advanced Commerce, a think tank that includes outside consultants and academics as well as 50 IBM scientists--all working on electronic commerce. Initial focus: Auction software.

RESEARCH

IBM offers everything from laptop PCs to mainframes that plug easily into the Net. Its software, such as MQ Series, is becoming the glue that allows machines from different makers to pass messages over the Net. Other programs such as Net.Commerce handle huge amounts of e-commerce transactions.

E-OUTSOURCING

For companies that do not want to run their own Web business. IBM will host it for them at one of their mega data centers. IBM does the works. At Lego, for example, it runs everything, including contracting the Danish post office to handle shipping.

How IBM Uses the Net

e-Care Getting customers to use the Net to help themselves means big savings. For every service call handled through ibm.com, the company saves 70% to 90% of the cost of having a person take that call. This year, IBM expects to handle 35 million online service requests, saving an estimated \$750 million in customer support costs.

e-Commerce Through the first three quarters of 1999, e-commerce revenue--from sales of everything from PCs to mainframe software--totaled \$9.7 billion, up from \$977 million during the same period last year. By yearend, e-commerce revenue is expected to be between \$10 billion and \$15 billion, vs. \$3.3 billion in 1998.

e-Learning IBM estimates that for every 1,000 classroom days converted to electronic courses delivered via the Web, more than \$400,000 can be saved. For the year, the company expects 30% of its internal training materials will be delivered online, with anticipated savings of more than \$120 million.

e-Procurement: In 1999, IBM expects to buy \$11 billion in goods and services over the Web, saving at least \$240 million. So far this year, IBM has plugged more than 6,700 suppliers into its online procurement system. Now, IBM can cut out rogue buying--employees who buy from suppliers that aren't pre-approved.

1- INTRODUCTION

The Internet as a new technology, which is invading all the aspects of our lives, is extremely important. It receives a lot of the interest of many consumers and customers and the attention from the different business creators such as the entrepreneurs, investors and business observers. Many observers were sure that great changes would affect the whole world economy and the way of doing business from 1995 until 1999 and before the crash of the dot.coms. They argued that the market would be reshaped according to new rules and that the old rules of doing business would be obsolete. But in 1999 and after the huge crash that happened to the dot.coms, many questions arose about what happened and what the causes were for this crash. Moreover some asked if the business on the Internet would take place any more in the future or not. The answers for these questions started to exist a few months after studying the reasons for this crash. First of all, the reason that most of the companies failed was because of the low value provided to the customer. There was no real value to their consumers/customers that allowed them to continue their businesses. Also they used the technology to shift the bases of competition away from quality, features, and services and towards price, making it harder for anyone in their industries to turn a profit. Many companies doing business on the Internet were suffering from not having a clear vision or a defined strategy for the future and how to improve their business and that was the main reason for most of the failed companies. IBM management found an opportunity in this field. The need for a consultancy organization to come up and set the rules for the Internet business field arose dramatically. IBM recognized that the failure of these companies doesn't mean the failure

of the Internet but it will be a start for a new period that professionals and expertise must take place to ensure their success. IBM with its experiences and expertise decided to enter the field of the Internet as a service provider. It is estimated that the revenues that IBM will acquire from entering this business will grow dramatically and will allow IBM to shift from a famous computer manufacturer to the first Internet service provider in the world.

The decision of IBM to shift to a service provider and the effect of this decision on the company and the whole industry will be discussed in this paper.

2- IBM BUSINESS BACKGROUND

IBM constitutes of six major segments of business. Those groups work together to help IBM customers to transform themselves into e-businesses.

2-1 Research:

IBM's rich history of discovery and innovation has brought international recognition. In addition to five Nobel prizes, IBM researchers have been recognized with four U.S. National Medals of Technology, three National Medals of Science and 19 memberships in the National Academy of Sciences. IBM Research has more than 46 members of the National Academy of Engineering and well over 300 industry organization fellows.

Examples of technology originated by IBM include:

- **Reduced Instruction Set Computing (RISC)** -- the architectural basis for most high performance work stations and servers
- **Thin-film heads** -- for high-density disk storage devices
- **DRAM** -- the fundamental solid-state memory technology used in the industry
- **Relational databases** -- one of the foundational technologies of knowledge management
- **The Track point** -- the little red pointing device for laptop computers
- **Virtual memory** -- allows many users to share a single computer

- **The Scanning Tunneling Microscope** -- the first instrument able to image atoms
- **Fortran** -- one of the world's most widely used computer languages
- **RAMAC** -- the world's first disk drive
- **The AT bus** -- the basic architecture for IBM personal computers

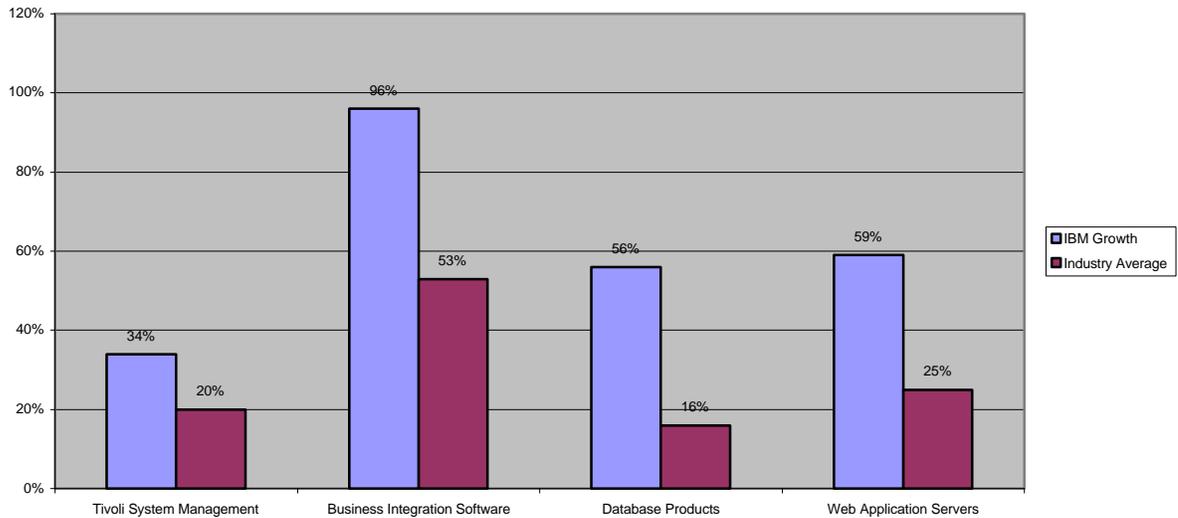
In addition to basic research into the working of the nature, IBM research also collaborates with other IBM divisions-and directly with customers-to bring IBM technology to market. IBM innovations contribute to new products and improve existing ones. IBM is more and more licensing its intellectual property and marketing through the IBM Technology Group to original equipment manufacturers (OEMs).

2-2 Software:

IBM provides software that enables customers to connect to the Internet; that is dependable, open and pervasive; and that can help the company transform itself and integrate its entire business. Middleware products account for the lion's share of IBM's total software offers.

In 1999, IBM's middleware software revenue grew in double, faster than the industry average. IBM signed 244 contracts in 1999 related to pervasive computing with 105 customers.

Facts about Software



2-3 Hardware:

That segment of IBM business includes:

- Enterprise Systems
- Personal Systems.
- Printers.
- Enterprise Storage Systems.

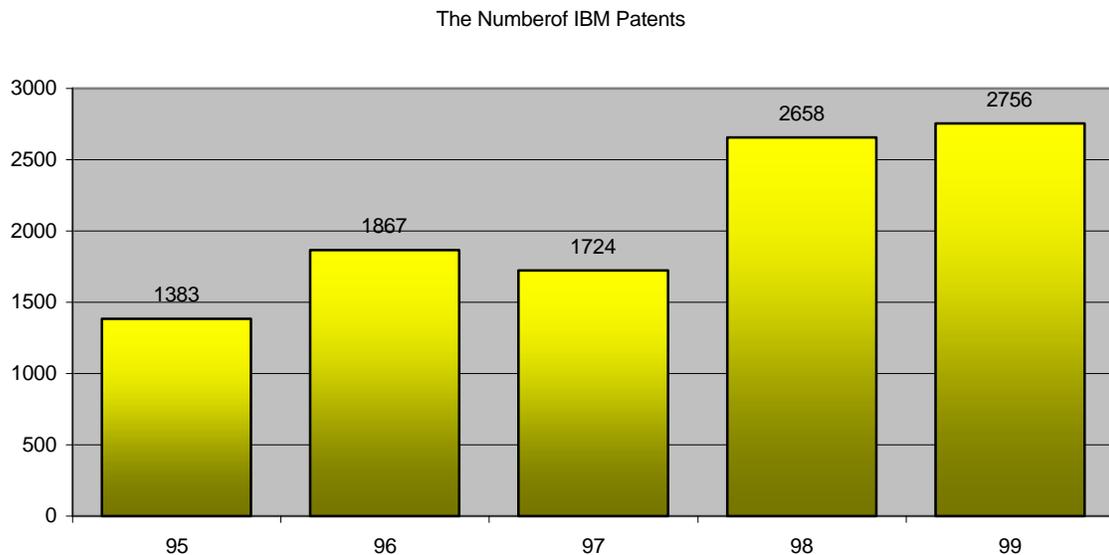
In fact, the breadth of IBM's hardware offerings is a key asset in its ability to assemble complete solutions for customers. IBM offers servers for all sizes from the main frame to the microprocessors based computers. IBM also offers storage systems to handle the needs for the largest networks.

Actually, 70 percent of the world's corporate data resides on IBM servers and 98 percent of the fortune 500 uses IBM's AS-400 as department level servers.

2-4 Component Technology:

Component technology ranges from semiconductors and storage devices to displays and networking components. Advanced component technologies are the key elements of IBM's own products, but the company sells components such as microprocessors and disk drives to other companies as Cisco, Dell and EMC. Half of IBM's 20 largest product

and service companies also buy technology from IBM. And IBM's industry-leading patent portfolio now earns more than \$1 billion each year in royalties.



Measured separately, IBM's component technology revenues (\$16 billion in 1999) would rank it among the Fortune 100. IBM closed nearly \$30 billion in technology deals in 1999. IBM is making focused investments in three business segments-wired communications, storage and server electronics-, which in combination account for more than 80 percent of IBM's revenue from original equipment makers.

In 1999, IBM's signed a \$1 billion contract with Nintendo to design and manufacture a processor based on IBM's Power PC design, using advanced copper technology.

In 1999, IBM's Technology Group accounted for roughly 45 percent of all patents issued to IBM-more than 1150 in all.

2-5 Services:

Services are the fastest growing part of IBM. IBM operates 139 data centers and more than 10,000 network computing sites worldwide.

IBM is one of the world's premier sources of IT expertise. IBM consultants draw on the vast expertise of the company's research, technology and product divisions, as well as its network of business partners and vendors, to solve customers' problems. IBM develops

business and IT strategies, transforms businesses into e-businesses, and manages business and information systems.

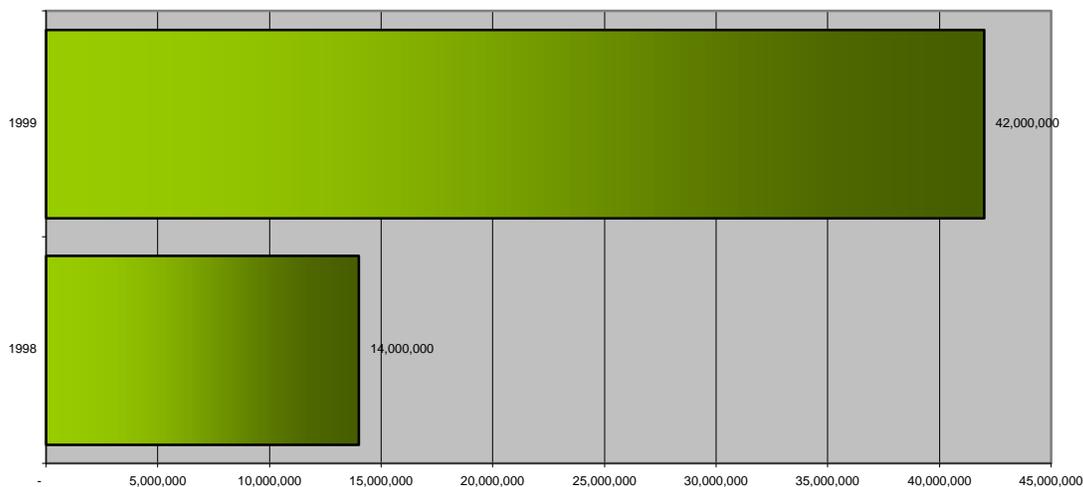
IBM Services Group includes:

- **Business Innovation Services:** Customers want their business problems solved, but they shouldn't have to assemble all the pieces themselves. IBM puts it all together-providing expertise on the industry- specific strategy, business processes and IT system integration- and produces an end-to-end solution for customer.
- **Integrated Technology Services:** IBM experts work closely with customers to make sure that their IT infrastructure continues to support their business goals. They also deploy and operate IT systems on a piece-by-piece basis, so customers can better focus on their business and IT priorities. For instance, in early 2000 Dell Computer began offering its U.S. corporate, government and education customers warranty services from IBM.
- **Strategic Outsourcing:** IBM work closely with its customers to identify IT and business operations that they could effectively outsource. For example, Mitsui Marine, a Japanese insurance company, signed a \$235 million, 10-year outsourcing contract that charges IBM to improve the quality of Mitsui's IT system, introduce new technology and reduce costs.
- **Learning Services:** IBM provides a wide range of services that help customers transform their businesses and address their IT skills shortages. One example, is a comprehensive program for Cariplo Bank in Italy, the largest savings bank in the world, to train 20,000 far-flung IT employees. IBM is one of the world's largest IT-training providers. It delivers the equivalent of more than two million student-days worldwide every year.
- **Financing Services:** IBM is the largest IT financing company in the world. Working directly and through business partners, IBM Global financing helps customers with flexible and economical loans and leases on IBM and non-IBM

products, services and solution. IBM's financing arm has \$40 billion in assets. It helps the finance needs of 95 of the largest 100 companies in the United States.

- **Sales:** IBM's sales force is organized around its customers. For the largest customers, sales teams are grouped into five industry segments (communications, distribution, industrial, financial services and public sector.) Separate sales teams focus on small businesses, midmarket businesses with 100 or 1000 employees. IBM also has sales teams for Web and telephone sales and business partners.

Questions and Problems resolved at ibm.com



3- IBM TURN AROUND

Pat Zilvitis is chief information officer at Gillette in Boston and a huge IBM customer. But it's not the quality of Big Blue's PCs, servers, and mainframes that draws him. "I often don't know if I need hardware or software or services, and I don't care," he says. What Zilvitis likes is the ability to draw on IBM's unmatched breadth of products, people, and services. "I don't view IBM as a hardware vendor anymore," he says. "I think of them as an IT vendor that can help me in a number of different ways. If I've got a requirement, I go to [my IBM rep] and expect to get the right expert."

IBM's services now matter more than its hardware. That's the key to Lou Gerstner's remarkable turn-around--and to IBM's future. IBM has always promised data-processing "solutions" to its clients, but for decades those solutions were built around its hardware.

Gerstner has engineered a remarkable transformation: Services, not products, are the engine that drives the new IBM.

The change has come at the right time. According to figures IBM only two years ago released, its software division is doing well, regularly scoring pretax margins of 20%-plus. IBM's problem is hardware. While sales of computers traditionally bring higher margins than sales of services like outsourcing and systems integration, the business is getting tougher. IBM has done a great job of milking its mainframes, which, with sales of server computers, still yield a 25.7% pretax margin. But monitors, storage equipment, and memory chips are far less profitable, with just a 5.8% margin last year. (To secure steady demand for such businesses, in year 2000 Gerstner scored two big deals: a \$16 billion, seven-year agreement to sell parts to Dell Computer; and a \$3 billion pact to supply disk drives to storage leader EMC.) IBM has been hammered in PCs.

So the company really needs services. Last year customers paid it \$23 billion for offerings such as these: to plan, install, and run their computer systems; to connect remote offices; to manage Lotus Notes installations; and to bring them up to speed in e-business. That's a 22% increase in revenues, which now account for 40% of IBM's 2000 sales of \$82 billion--a figure that rose just 6% from 1999. Better yet, last year's pretax profit margin on services (including the maintenance of IBM computers) was 25.5%, up from 25.1% in 1999 and 11.8% the year before. In fact, pretax profits on such services were up 30% last year, reaching \$3.8 billion, or 39% of IBM's total pretax profit of \$9.7 billion. And if Gerstner can make IBM a force in the high-level, high-margin consulting dominated by the likes of McKinsey and Andersen Consulting--he's not there yet--profits will grow even more.

We may, in fact, have to redefine IBM as a services company: The Gartner Group research firm in Stamford, Conn., predicts that services will represent 46% of IBM's revenues by 2003 (see chart). Adds Sam Albert, a consultant and IBM watcher in Scarsdale, N.Y.: "IBM--International Business Machines--is becoming IBS, where 'S' is for services, software, and solutions." Shareholders back the shift; since Gerstner arrived in 1993, the stock has risen from just above \$25 (split adjusted) to about \$180.

Management has done an extraordinary job weaving services into every part of the complex fabric that is IBM. That was the plan behind Gerstner's controversial first step--canceling John Akers' scheme to break up IBM into a loosely affiliated network of "Baby

Blues" built around different products. Gerstner saw that by keeping the company together, he could offer corporate customers a lot more than the trusted IBM name--he now also offers the widest range of products and experts in the business, a package capable of addressing virtually any IT dilemma.

"The trends are with IBM for the first time in 15 years," says Merrill Lynch analyst Steve Milunovich. "It's a services-led sale for them now, and that's appropriate because we are in a more solutions-oriented world." Corporate computing is getting more and more confusing; these days a typical FORTUNE 500 business must serve its suppliers and customers via its Website, manage complex enterprise-software packages, wirelessly connect its sales force, and last but not least, sell products over the Web. Worse yet, it must do all this using software and hardware from myriad sources, including Cisco Systems, Dell, Microsoft, Oracle, SAP, Sun Microsystems, and others. Says Tom Bittman, who heads Gartner Group's research on IBM: "Complexity drives services. The more you go to a heterogeneous world, the more services become necessary."

IBM headed into services full-bore back in the early '90s, when it bid aggressively to win major outsourcing contracts with the likes of Eastman Kodak and Hertz. In such deals, IBM typically takes over everything--the customer's IT employees become IBM employees and IBM owns the customer's computers, which it then manages. Long-term outsourcing deals represent about half of IBM's services revenue, or almost \$11 billion in 1997, according to Dataquest, which has yet to crunch IBM's 1998 figures. (The two other big slices of services are systems development and integration, and maintenance; then come software support, consulting, training, and business-management services). Outsourcing is a fabulously reliable business: IBM is guaranteed \$51 billion over the next few years from outsourcing contracts with companies such as Dayton Hudson, which just signed a \$400 million, five-year pact; the revenue will be booked as the services are delivered. Even Dick Brown, the new CEO of archrival EDS, endorsed IBM last summer. Then CEO of global telecom company Cable & Wireless, Brown signed a ten-year, \$3 billion outsourcing pact that was IBM's largest ever outside the U.S.

Big customers also like the scope of what IBM can do. Merrill Lynch CTO John McKinley, who has worked with outsourcers like EDS, AT&T, and Compaq as well, says, "IBM's ability to extend out from the traditional data center all the way to the

desktop is probably unique in the industry." What IBM calls its services value chain comprises five elements--assessing, planning, designing, implementing, and running a customer's IT infrastructure. Said Palmisano in September: "We can assist a customer anywhere along this value chain." At Merrill, that meant rolling out 15,000 workstations and also helping the giant brokerage redesign its trading systems to handle heavier volumes.

4- IBM's E-BUSINESS STRATEGY

4-1 *E-IBM*

The best way to learn is by doing. So IBM is becoming an e-business. By moving purchasing onto the Web, the company expects to save \$240 million on the \$11 billion in goods and services it will buy this year. Similar moves to put customer support online will save another \$750 million.

COMPETITIVE LANDSCAPE:

The field is split here. IBM is clearly ahead of rivals such as HP, Sun and Compaq. Others such as Dell, Cisco and Intel have been on Internet time longer than IBM.

4-2 *E-SERVICES*

IBM has 130,000 consultants and an e-service business expected to hit \$3 billion this year. IBM has handled 18,000 jobs over the last three years-- from Web-site design to hooking older corporate databases into new online systems--for companies such as DHL and Payless Shoe Source.

COMPETITIVE LANDSCAPE:

The giants are plunging ahead--Sun, HP, Intel and EDS--along with upstarts Scient and Lante. Still, IBM has the advantage with corporate databases that need to be hooked into online systems.

4-3 *E-ENGINEERING*

This is where IBM sees e-business heading. Companies will use the Net to cut costs, turning for help on how to do it. United Technologies Corp. has already turned over procurement via the Web to IBM.

COMPETITIVE LANDSCAPE:

Not the usual crowd. Companies with specific skills such as Federal Express will get into logistics, while Andersen Consulting and other Big 4 consultants will help e-engineer business tasks.

4-4 PRODUCTS

IBM pumps half of its \$5 billion R&D budget into Internet-related areas. Gerstner isn't stopping there: He has created the Institute for Advanced Commerce, a think tank that includes outside consultants and academics as well as 50 IBM scientists--all working on electronic commerce. Initial focus: Auction software.

COMPETITIVE LANDSCAPE:

Growing your own takes time. Meanwhile, rivals Microsoft, Cisco and Intel are using their sky-high stock valuations to buy what they need.

4-5 RESEARCH

IBM offers everything from laptop PCs to mainframes that plug easily into the Net. Its software, such as MQ Series, is becoming the glue that allows machines from different makers to pass messages over the Net. Other programs such as Net.Commerce handle huge amounts of e-commerce transactions.

COMPETITIVE LANDSCAPE:

IBM continues to stumble in PCs and servers, as pesky Dell Computer and Sun Microsystems roar ahead. In software, Microsoft looms, while upstarts such as BroadVision have been knocking Big Blue out of some key accounts, such as Ford and Sears.

4-6 E OUTSOURCING

Don't want to run your Web business? Let IBM hosts it for you at one of their mega data centers. IBM does the works. At Lego, for example, it runs everything, including contracting the Danish post office to handle shipping.

COMPETITIVE LANDSCAPE:

EDS is big, but it has been slow to move its business to the Net. New outsourcing players like Intel and Exodus are piling in. But IBM remains in the lead.

5- HOW IBM USES THE NET

5-1 e-Care

Getting customers to use the Net to help themselves means big savings. For every service call handled through ibm.com, the company saves 70% to 90% of the cost of having a person take that call. This year, IBM expects to handle 35 million online service requests, saving an estimated \$750 million in customer support costs.

5-2 e-Commerce

Through the first three quarters of 1999, e-commerce revenue--from sales of everything from PCs to mainframe software--totaled \$9.7 billion, up from \$977 million during the same period last year. By yearend, e-commerce revenue is expected to be between \$10 billion and \$15 billion, vs. \$3.3 billion in 1998.

5-3 e-Learning

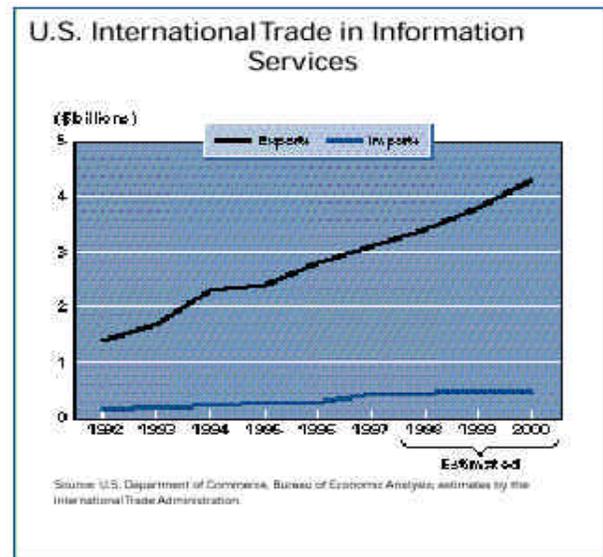
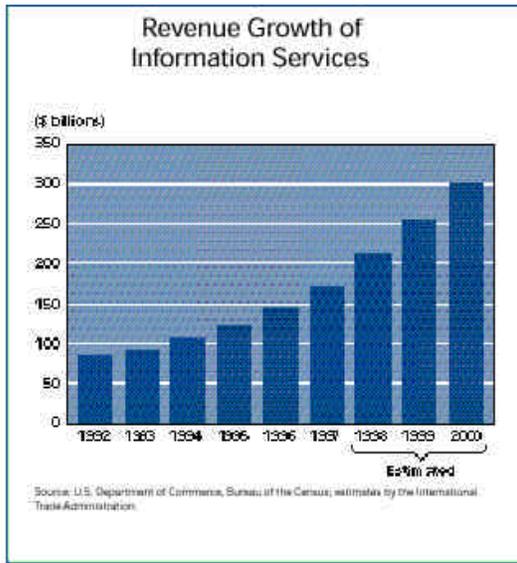
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5-4 e-Procurement

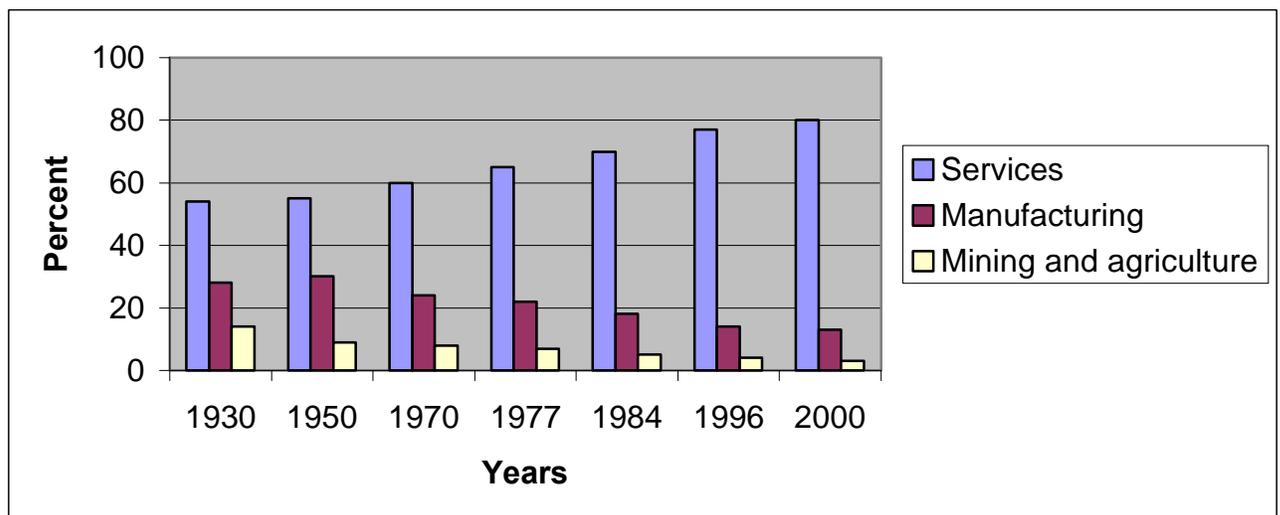
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6- WHY THE SHIFT TO SERVICES?

Before answering this question, there are some facts in the US market that must be mentioned. The services industries are growing tremendously in the US and the world economies. Around 80% of the US total employment are working in the services sector and almost all of the growth in numbers of jobs and the fastest growth rates in job information are in services industries.



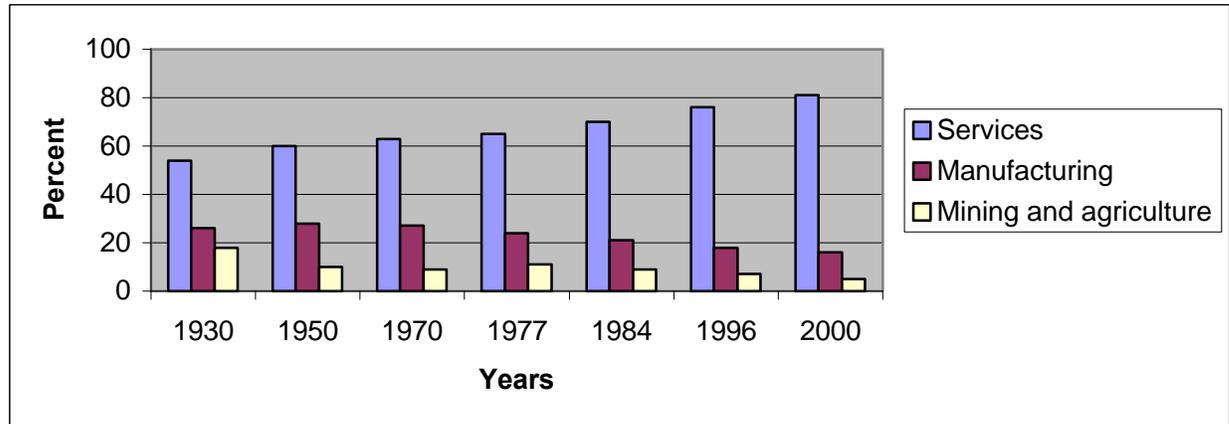
Graph: Percent of US labor force by industry



Moreover in 1997, it was stated that the balance of trade remains constant while the services achieved \$85 billion trade surplus. There is a growing market of services and increasing dominance of services in the economies worldwide, not just the United States.

Services are a dominant force in countries around the world as can be seen in the global feature.

Graph: Percent of US gross domestic product by industry



IBM was not the first company to shift, but other manufacturing and technology industries such as automobiles; computers and software recognized the need to provide quality services to compete worldwide. GE, Wang, Xerox and Hewlett-Packard were companies that used to make their profits from selling products transformed themselves into service providers. GE has ambitious plans to move deeper into services and it generated approximately 75% of its revenues from services in year 2000.

At the same time, the computer manufacturing sector is suffering from sever price competition and low demand. The growth is slowing down and opportunities for IBM to grow were to shift into another industry. The following table shows the different trends in the computer manufacturing sector for the last few years:

TABLE 27-1: Computers and Peripherals (SIC 3571, 3572, 3575, 3577) Trends and Forecasts
(millions of dollars except as noted)

	1992	1993	1994	1995	1996	1997 ¹	1998 ²	1999 ²	2000 ²	Percent Change			
										97-98	98-99	99-00	96-00 ⁴
Industry Data													
Value of shipments ³	61,969	64,374	73,345	86,078	92,592	105,700	116,300	122,300	131,900	10.0	5.0	8.0	7.8
Total employment (thousands)	221	211	201	210	221	246	251	238	233	2.0	-5.2	-2.1	1.3
Production workers (thousands)	74.2	73.9	75.8	78.9	83.4	101	106	105	103	5.0	-0.9	-1.9	5.4
Average hourly earnings (\$)	12.26	12.77	13.67	13.49	14.84	16.02							
Capital expenditures	2,137	2,045	1,907	1,902	2,684	3,288							
Product data													
Value of shipments ^{3,6}	49,900	53,254	60,643	76,344	72,503	84,300	92,800	92,400	105,200	10.1	5.0	8.0	7.9
Trade data ⁶													
Value of imports	21,783	25,593	29,027	33,818	39,306	44,975	44,015	47,320	50,150	-2.1	75	6.0	6.3
Value of exports	14,941	15,367	17,580	19,647	21,439	23,175	21,202	21,290	23,000	-8.5	0.4	8.0	1.8

¹ Estimate except imports and exports.
² Estimate.
³ Forecast.
⁴ Compound annual rate.
⁵ For a definition of industry versus product values, see "Getting the Most Out of Outlook 2000."
⁶ These data are for computers and peripherals, excluding parts.
Source: U.S. Department of Commerce; Bureau of the Census; International Trade Administration.

7- WHY MANY ECOMMERCE COMPANIES FAIL?

The dramatic boom in e-commerce sites was followed by an equally dramatic meltdown. About 80% of all e-commerce sites now operating on the Internet will be defunct within the next five years.

These companies saw the Internet as one department in their company rather than integrating the Internet with their entire business. E-commerce success comes from much more than just throwing up a web site.

The failure of these sites was because the poor planning, severe corner-cutting and unrealistic expectations on how to conduct an online business. Also many entrepreneurs made a lot of mistakes behind the believe of saving money. The site owner paid nothing and very often gets nothing as a return on investment.

The reasons of failure could be summarized in the following lines:

Don't have existing customer relationships

Many Hubs underestimate the importance of supplier-buyer relationships that are built with years of service and trust. Many Hubs also underestimate the length of the sales cycle - months/years instead of weeks.

High Cost of Building the Technology Infrastructure

Most Hubs spend between \$5MM and \$20MM just building the software engine. This includes software, licensing fees, bandwidth, hosting fees, disaster recovery, and daily maintenance. Many underestimate these costs.

High Cost of Customer Acquisition

For many B2B Hubs as well as consumer dot.coms the cost of acquiring the average customer is higher than the profit derived from that customer. With those upside-down finances, it doesn't matter how many customers come on board. Many overestimate the number of customers needed to bring operational costs down.

New Brand Nationally

Most Hubs must simultaneously build a company from scratch and market their name from scratch. How will Scientists ever know about Chemdex.com unless Chemdex.com

spends millions on advertising? Many underestimate the cost of launching a National brand, especially for a non-tangible service such as a Hub.

Integration Hurdle

Many Hubs find a major hurdle when customers demand that the Hub integrate with their ERP systems.

Tomorrow's Financing

Many Hubs overestimate their ability to raise 2nd and 3rd rounds of financing from their investors. After the year 2000 dotcom fallout, VCs have become much more choosy.

IBM realized the opportunity behind these failures and decided to be a service provider in this field to help in minimizing the problems that may face the any start up companies and existing companies. The Internet business is still in the introduction period of the life cycle and IBM decided to depend on its expertise and experiences to shape the industry and to have a better environment for more growth and better business.

8- TRENDS IN ECOMMERCE

In this part, the different market trends for the ECommerce business will be illustrated to show the different reasons that drove IBM to shift to a web service provider.

Despite the fact that most of the internet business faced a huge problem due to the crash happened in the stock market and about 50,000 jobs were lost in the dot-com sector last year, but that doesn't mean the boom in Internet commerce won't continue.

The IDC (research organization) mentioned in its report issued in Jan 2001 that it will not change its forecast for Internet commerce. The forecasts are based on demand - what companies and consumers will spend over the Internet - and not supply as the forecasts are only related to the amount of spending estimated for the individual commerce sites and even less to the valuations that speculators put on individual companies.

The company forecasted that more than 100 million people will become Internet users in 2001 and that the growth will be mostly outside the U.S. This will bring the total to 450 million user. Also Internet commerce will double to more than \$500 billion and will be

mostly business-to-business. This estimated growth is the result of investments made by companies and governments (especially in the third world countries) over the past few years. The drop in the stock price of the e-commerce companies in Wall Street doesn't mean the end of the e-commerce business and the death of the idea of providing all the services to the customer on the Internet

In the mean while, many signs still prove that the global growth in the field of the internet remains strong as the telecommunications and servers prices in Europe and Asia continue to fall. Also small businesses continue to grow in the field of E-Commerce and all these signs are evidences that the eCommerce business still healthy and growing.

The report concluded the following:

1. While jobs may have been lost in the dot-com sector, there will still be a rapid growth of Internet-related jobs among brick-and-mortar companies. So, if you're a manager, your staff will still be heavily recruited.
2. There will be no letup in demand to connect back-end systems to your front-end commerce sites. This includes the complex task of tying in to the e-marketplaces in your industries.
3. With most of the growth in access and almost two-thirds of the growth in commerce coming from outside the U.S., the importance of Web site localization will increase. This will put pressure on IT organizations to rationalize major applications across geographies. And don't forget all the other technical issues, from keeping the Web site and its back-end systems going to ensuring privacy and security.

On the other hand, the forecasts for this the growth of E-Commerce promises that there will be a huge spending in the B2B sector. The future trends shaping the ECommerce sector could be summarized in

1 The evolution of e-markets.

In the market place, hundreds of electronic marketplaces are online already with hundreds in development. Even though many early players have failed from weak business models, e-markets are here to stay as a way to buy and sell goods and services.

2 Emergence of e-manufacturing.

Manufacturers started moving the production process online. In the future, however, more and more manufacturing companies will have to move to a make-to-order business model. That will force a shift in the way that manufacturing companies look at the manufacturing process. The great challenge of high quality and delivery on time faces most of the manufacturers and the need for an organized communication channel is a must.

3 Collaboration.

Collaboration as the real-time sharing of information about the design, manufacturing, delivery, and demand for a product with all of the trading partners of a supply chain. That's why partnerships and collaboration are going to be extremely important to manufacturing companies.

4 Web-hosted solutions.

Maintaining in-house information technology resources is time consuming and expensive, especially for second and third tier companies who can't afford their own IT departments but need to compete in the e-world. For them, outsourcing their technology requirements to an application service provider (ASP) who hosts the solutions they need may be the most cost-effective way to remain current.

This represents an opportunity for IBM to capture more revenue. The following table shows the estimated spending in the ECommerce field in till year 2004. These data proves that the sector of E-Commerce is till booming and that the whole world. The opportunity for IBM to capture a huge market share in the field of E-Services and consulting is clearly obvious. With the existing experience and expertise, IBM could enhance its competitive position by shifting to the field of services and greatly improve the revenues.

Also from the following table, it is clearly obvious that the penetration of the e-business was estimated to be growing dramatically in the coming few years.

Projected e-business penetration by industry

	2000	2001	2002	2003	2004	% of total trade
Total (billions)	\$406.2	\$716.6	\$1,166.9	\$1,823.4	\$2,695.5	17%
Computing and electronics	\$230.2	\$343.3	\$427.3	\$506.2	\$592.9	40%
Motor vehicles	\$35.1	\$90.0	\$190.2	\$311.5	\$411.5	26%
Petrochemicals	\$27.0	\$53.9	\$103.2	\$184.5	\$299.2	17%
Utilities	\$29.9	\$56.5	\$101.3	\$170.1	\$266.4	17%
Paper and office products	\$14.4	\$33.7	\$73.9	\$143.5	\$235.3	24%
Consumer goods	\$13.2	\$28.1	\$58.5	\$116.5	\$216.5	13%
Food and agriculture	\$22.5	\$41.2	\$73.9	\$128.1	\$211.1	12%
Construction	\$6.3	\$15.1	\$34.6	\$74.2	\$141.0	10%
Pharmaceutical and medical products	\$4.3	\$10.7	\$26.2	\$60.2	\$124.0	14%
Industrial equipment and supplies	\$7.0	\$13.1	\$23.8	\$41.9	\$70.3	7%
Shipping and warehousing	\$4.6	\$10.5	\$22.4	\$42.5	\$68.1	20%
Aerospace and defense	\$9.1	\$15.8	\$23.1	\$29.0	\$32.9	15%
Heavy industries	\$2.6	\$4.8	\$8.6	\$15.3	\$26.5	3%

Totals may not equal sum of rows due to rounding

By reviewing what was illustrated, the opportunities for growth are very high for the companies working in the ECommerce sector especially in the B2B for the different industries. IBM by this shift, has a great opportunity to improve its business growth rates and enhance its productivity.

9- CONCLUSION

After representing all these facts about the services sector, it is obvious now that the shift done by IBM was a right shift in the right time. The opportunities for IBM to capture a huge market share in the fragmented ECommerce services market is great and there is a great chance for the company to improve its performance and enhance its growth rates by invading this sector. The company's competitive advantage will be its experience in the market and the army of expertise working there. At the same time, the company with all its branches all over the world will be able not only to provide the service to the states, but also all over the world which will improve its competitive advantage more and more by gaining experiences about different areas.

The shift was a great and brave move and it will not be a surprise if other companies such as Intel and Microsoft shifted their businesses into other service areas that may allow them to compete or cooperate with IBM to provide better services in the US market.

Note: The facts and figures presented in this case were provided by IBM Corporation in various documents and communications.