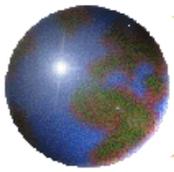


Japanese Electronic Industry

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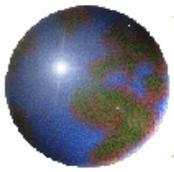
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Strategic Advisor: Bay Area Council



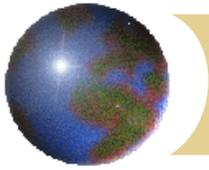
Videos:

- ✦ Troubled times for Japan's electronics industry
 - ✦ <https://www.youtube.com/watch?v=yJAYQCiYUiU>
- ✦ The future of Sony
 - ✦ <https://www.youtube.com/watch?v=d50DpKwGrME>
- ✦ Japan's Electronics Kings Learning From Defeat
 - ✦ <https://www.wsj.com/video/japan-electronics-kings-learning-from-defeat/EBEA683D-821C-4903-92C9-B31BA72DD3F0.html>
- ✦ The Future of Japans Electronics Industry
 - ✦ <https://www.wsj.com/video/the-future-of-japan-electronics-industry/07B8D756-23BC-48A0-976A-C2AAF3345CE7.html>



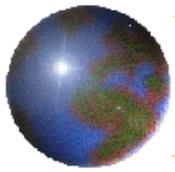
History of the Japanese Electronics Industry

- ✪ The Japanese Ministry of International Trade and Industry (MITI) nurtured the early stages of the Japanese electronics industry.
 - ✪ In 1957, the Japanese government passed the Electronics Industry promotion law, which enabled MITI to secure funding, direct research, and propose strategies for underdeveloped electronics companies.
 - ✪ *To protect against foreign competition in the domestic market, MITI placed a 25% tariff on computer imports.*
 - ✪ By 1987, Japan supplied 90% of its domestic semiconductor market, as well as 50% of the world semiconductor market.



Consumer electronics

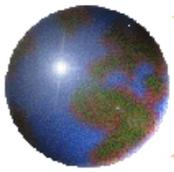
- ✿ Consumer electronics account for 1/3 of Japan's economic output (2017).
 - ✿ Even with declining sales in final products like cameras and DVD players, products like computers are made up of components that are often produced in Japan.
 - ✿ Japanese companies are still strong is the fact that have been offset by the strong sales of important components (CD ROM players, memory chips, LCD screens and batteries); production and manufacturing machinery (robots and machine tools).



Japanese innovations

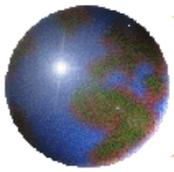
- ✦ Japanese electronic industry has maintained its dominance in the market and maintained its export strength in this field due to the high reputation of its electronics
 - ✦ Japanese are been responsible for a number of important innovations, including having pioneered the transistor radio and the Walkman (Sony), the first mass-produced laptops (Toshiba), the VHS recorder (JVC), and solar cells and LCD screens (Sharp).





Late 1960s to the late 1970s:

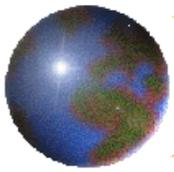
- ❖ Late 1960s to the late 1970s:
 - ❑ Japanese electronic industry led by Sony and Matsushita conquered world markets.
 - ❑ Sony became the world's foremost innovator of consumer electronic technology: Walkman, Triton Color TV, VCR, CD and the DVD.
 - ❑ Matsushita (Panasonic) became the industry's most successful firm in product development, production, and marketing worldwide.



By the late 1980s

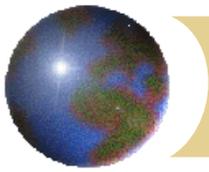
✚ By the late 1980s:

- ✚ Sony and Matsushita with Sanyo and Sharp, had driven both the U.S. and European consumer electronics companies out of their own home markets. Japanese electronic industry became the largest consumer electronics industry in the world.
- ✚ Japan's achievements are unparalleled industrial history, a particularly spectacular performance in a mass-producing, mass-marketing, high-tech industry.



1980s

- ✚ The Japanese companies made virtually everything in the consumer electronics world, from televisions to microwaves and digital music players.
 - ✚ There seemed to be no way to stop their momentum.
 - ✚ Japanese companies such as Sony, Panasonic, and Sharp were considered premium brands.
 - ✚ Japanese products often carried higher price tags to reflect their perceived quality, and people were buying them up.

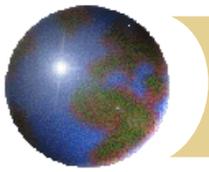


JAPAN'S ELECTRONICS INDUSTRY

- ✚ 1991: Japan's production represented about 27% of Global electronics production of \$652 billion

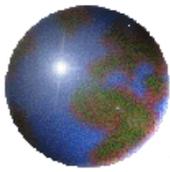
	Japan	USA	Western Europe
Consumer electronics	48%	12%	22%
Industrial electronics	22%	38%	34%
Electronic components	37%	32%	18%

- ✚ In 1991, 27% of Japan's total exports were electronics production
 - Japan's electrical and electronics industry provided jobs for over two million workers, or 18% of Japan's manufacturing work force (Dodwell 1993).

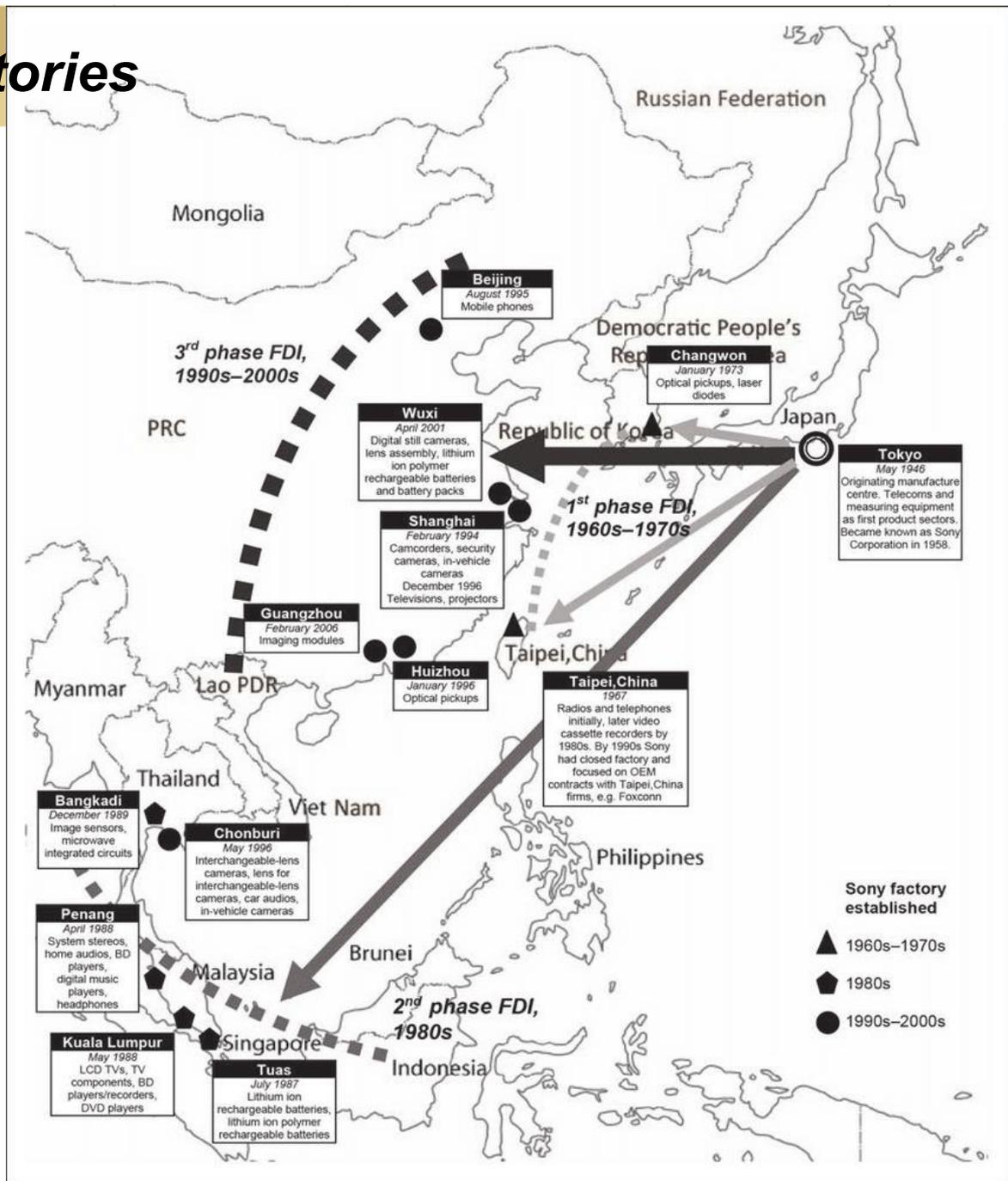


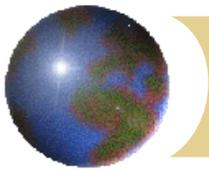
Moving Production Offshore

- ❖ Japan's success in global competition has created new political problems for the country.
 - ❖ Continuing imbalance in trade and current accounts has generated surpluses in Japan for 31 straight months since 1989.
 - ❖ 20% appreciation in the value of the yen in 1993 made it more difficult to maintain the low-cost requirement of Japanese consumer product strategy.
- ❖ Japanese firms are moving operations, with the accompanying advanced production technologies, into countries where manufacturing costs are lower.



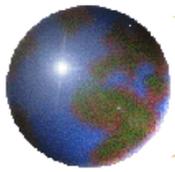
Sony's Factories





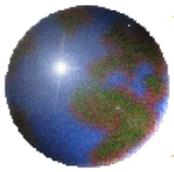
Digital Revolution

- ✦ The Digital Revolution refers to the advancement of technology from analog electronic and mechanical devices to the digital technology available today.
 - ✦ The era started during the 1980s when the computer became a familiar machine and by the end of the decade, being able to use one became a necessity for many jobs. Cellphone was also introduced during this decade.
 - ✦ The Digital Revolution also marks the beginning of the "Information Era". It is also called the "3rd Industrial_Revolution"



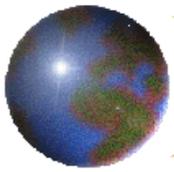
Digital challenge- WEB 1.0

- ✪ 1989: Web 1.0- Invention of the World Wide Web
- ✪ Japanese companies were overtaken by the digital revolution.
 - ❏ The Japanese companies built their business on making complex electrical machines - color televisions, radios, cassette players, washing machines, refrigerators. All of them were basically mechanical devices.
 - ❏ Then came the digital revolution, and the world changed. Example: Sony Walkman has no software in it. It is purely mechanical.



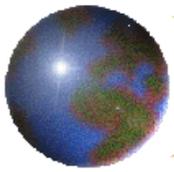
Digital revolution and manufacturing

- ✦ The digital revolution not only changed the way electronic devices work, they changed the way electronic devices are made.
 - ❏ Manufacturing model shifted as companies moved production to low-cost countries. That has put huge downward pressure on profit margins for Japanese manufacturers.
 - ❏ Example: iPhones are made in China, but maybe only 3% of the value of an iPhone stays in China. Apple makes 50% profit margins.
 - ❏ It's hard to become rich just by manufacturing



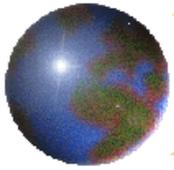
Japanese companies just couldn't keep up.

- ✚ Digital technology changed everything
 - ✚ Japanese companies had built its reputation on having the best technology.
 - ✚ Competition has switched to who has the best sales and marketing strategy, and the biggest advertising budgets. The Japanese companies just couldn't keep up.
 - ✚ In the television industry it means that just one chip is now needed to produce a large and high quality TV picture.
 - ✚ New players from Korea and China have the advantages.



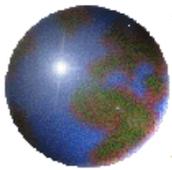
Japanese manufacturers' Decline

- ❖ Japan's postwar economic miracle exploded in the early 1990s.
- ❖ Japanese manufacturers' global market share dropped
 - ❖ From 76% to 3% from 1987 to 2004 in DRAM chips
 - ❖ From 95% to 20% from 1997 to 2006 in DVD players
 - ❖ From 100% to 5% from 1995 to 2005 in liquid crystal display panels
 - ❖ From 100% to 20% from 2003 to 2007 in car navigation systems
 - ❖ From 45% to 21% from 2004 to 2007 in solar energy panels
 - ❖ From 90% to 48% from 2000 to 2008 in lithium ion batteries
 - ❖ Japanese electronics companies produced 70% of an iPod in 2005 but only 20% of an iPad in 2010



More downturns

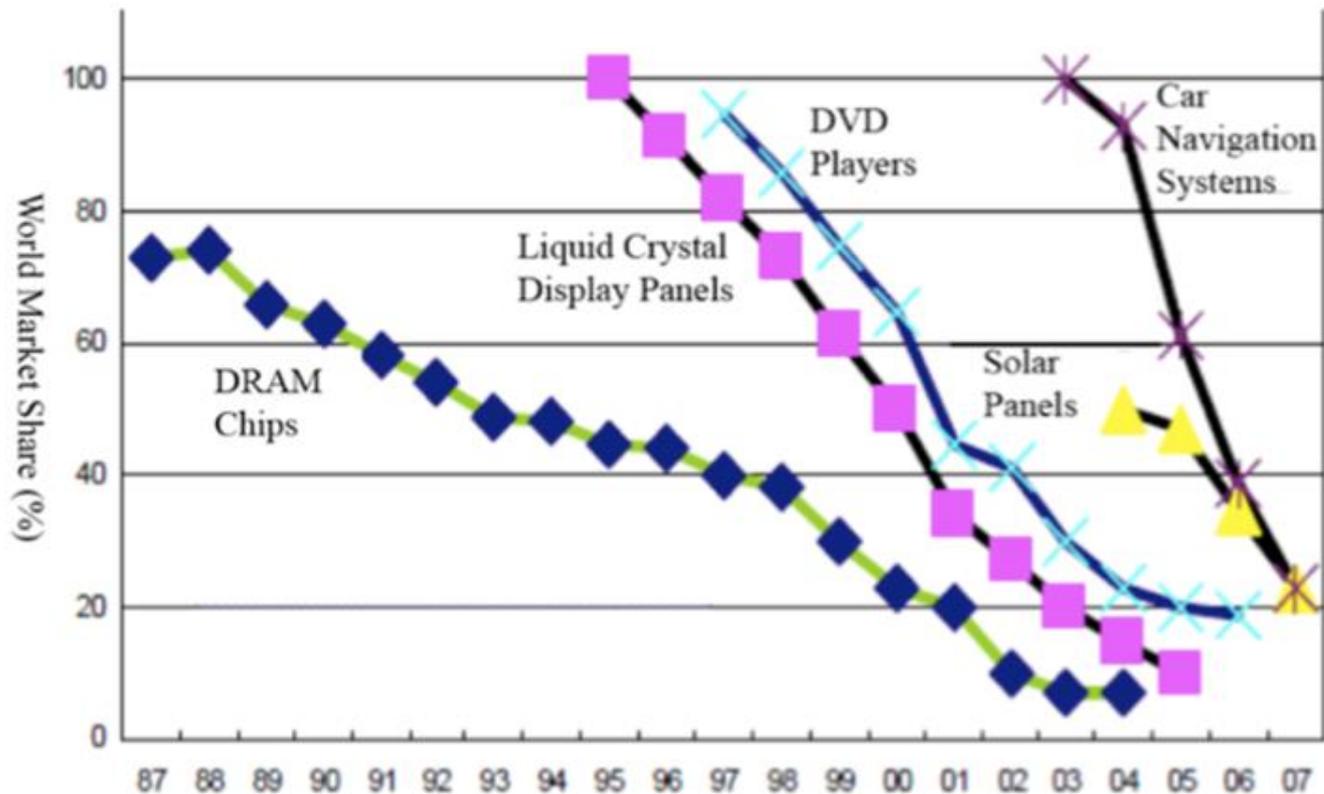
- ✚ By 2009, Japan's electronics production fell by 41%. Japan's global market share fell by almost half to 10% by 2011
- ✚ *Korea's electronics production global market share rose to 10%.*
 - ✚ This marked the end of an era in which these Japanese companies thought they could operate in a myriad of different businesses.



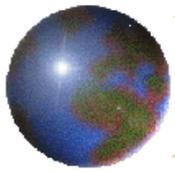
Japan's ICT Market Share dropped

- Japan's share of OECD Information and communication technology (ICT) goods exports dropped from 16.8% in 1999 to 10.4% in 2011

FIGURE 1. World Market Share, 1987 - 2007

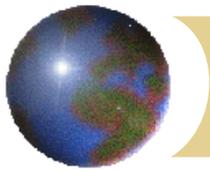


Source: Ogawa, Kouichi. 2008. "From Product Innovation to Business Model Innovation." *IAM Discussion Paper Series #001*. Tokyo.



"Sony Shock"

- ✿ Japanese consumer-electronics giants are struggling just to turn a profit.
 - ❏ Sony Corp. announced that it had drastically revised its profit forecast downward, causing the so-called "Sony Shock" to stock markets.
 - ❏ Sony's debt was downgraded for the 2nd time to one notch above junk status by Moody's.
 - ❏ Sharp is already at junk status
 - ❏ Panasonic's leadership has already signaled a willingness to shed any unprofitable businesses



2010, *Apple shocked Japan*

✦ "iPod shock"

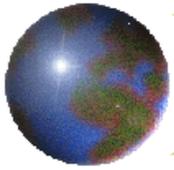
- ✦ knocked Japan's favorite gadget "Sony Walkman" off its "top of the tech wish list".

✦ "iPhone shock"

- ✦ Japan's cellphone companies - long used to detest at their competitors - scrambling to develop similar smartphones.

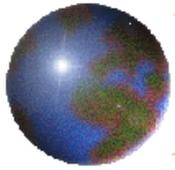
✦ "iPad shock"

- ✦ threatening to bring upheaval to an widening group of industries in Japan once proud of being on the cutting edge of technology.



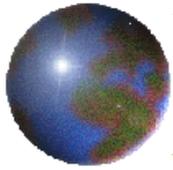
Big companies' equal slow companies

- ❖ What were the problems ?
 - ❖ Failed to pay attention to shifting trends
 - ❖ Outmaneuvered by overseas competitors
 - ❖ As consumer markets shifted to digital media and games, mobile devices, software apps and the Internet, they struggled to keep up.
 - ❖ External factors like the rising value of the Japanese yen, which made products exported from Japan more expensive abroad and cut into margins at home, further squeezed the companies.



Japanese television business

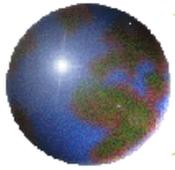
- ✚ The decline in the Japanese television business illustrate the downfall.
 - ✚ Sony, Sharp, and other Japanese companies were dominant in the television business when bulky tube TVs ruled. The Sony Trinitron had a sterling reputation as *the* television to own.
 - ✚ Few of them managed the transition to flat-panel display televisions all that well. While many of them reaped profits early on, increased competition and tightening margins began to squeeze many of the companies



Television business

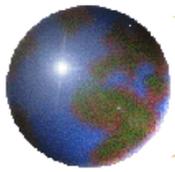
❖ LG and Samsung from Korea

- ❖ Samsung, in particular, focused on building higher quality flat-panel TVs, packing them with a larger array of features and selling them for a competitive price -- and steadily boosted its share. It's the leader in the television business with a gold-standard brand.
- ❖ As flat panel and HD got more prevalent, you started to see a (TV) business model more akin to the PC market. The Japanese companies weren't prepared for that.



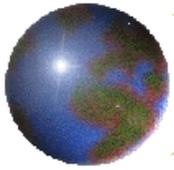
Missing out on mobile

- ✚ Japanese companies missed the opportunity on mobile.
 - ✚ Panasonic and Sharp were too insular and focused on Japan to compete globally.
 - ✚ Sony/Ericsson had some success with basic phones.
 - ✚ Japanese companies found themselves unable to compete with the iPhone.
- ✚ Japanese companies were slow to adopt the Android platform found themselves far behind as Samsung and HTC took the lead



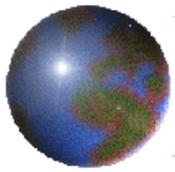
Competition from China

- ❖ The competition increasingly from China.
 - ❖ Lenovo has shown its dominance in the PC business. This comes as Sony and Toshiba laptops keep losing market share
 - ❖ Huawei and ZTE are making strides around the world with both low and high-end phones.
 - ❖ Chinese TV manufacturer is TCL and Hisense. are starting to make moves. Both companies have been chipping away with extremely low-cost televisions



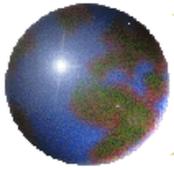
Parts maker

- ❖ Dominant throughout the 1980s and 1990s, Sony, Sharp, and the rest have fallen on hard times. These electronics conglomerates have been reduced to making parts for Apple's products.
 - ❖ Sharp supplying iPhone and iPad panels
 - ❖ Sony making the camera sensors,
 - ❖ Japanese electronics industry as a whole seems fated to lack compelling products of its own, forcing it to occupy the less glamorous and less profitable role as the world's ultra high-tech parts maker.



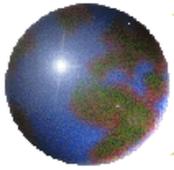
Sony

- ✦ Sony (PlayStation, Hollywood movie and recording studios) may have the best shot at survival given its diversified presence in gaming and entertainment.
- ❏ Sony's probably the best positioned of any Japanese company. Sony is looking to focus more on areas such as imaging and gaming, as it looks establish its footing in the mobile area.



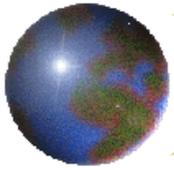
❁ Threat of Entry of New Competitors

- ❁ Strong brand and large scale of economies the company built over the years with the use of advanced technologies resulted in high entry barriers such as large capital requirement, high switching costs, advanced technology, know-how knowledge and innovation, preventing new competitors entering into market.
- ❁ Yet, threat of entry of new competitors in electronics industry (especially from East Asia) is high as the new entrants can overcome entry barriers by investing in facilities, advanced technology or outsourcing the same electronic components from suppliers.



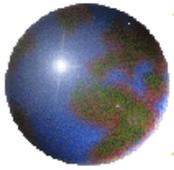
⊕ Threat of Substitute Products

- ⊠ Although Japan has strong brand equity associated with high quality and reliable products allowing to sell its products at premium. Samsung have focused on building higher quality product with a larger array of features and selling them for a competitive price.
- ⊠ Increasing number of cheaper substitute products are being manufactured in China
- ⊠ Moreover, while some Japanese products are considered to be the best in the market, many other Japanese products falls short from meeting high customer expectations



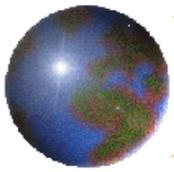
❖ Bargaining power of Buyers

- ❖ The bargaining power of buyers is rather high with the electronics industry. Consumer electronic products are highly price sensitive as majority of them are considered to be luxury goods rather than essential and today's consumers tend to demand high quality
- ❖ Moreover, most of the Japanese electronic products in the market are fairly undifferentiated and due to availability of alternative products buyers face few switching costs.
- ❖ In addition, the dramatic increase of online shopping has further increased the bargaining power of buyers increasing pressure on the company to reduce prices.



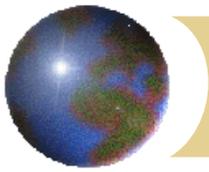
❁ Bargaining Power of Suppliers

- ❁ The power of suppliers is limited due to Japanese consumer electronic company's significant market presence and share in global market. Its suppliers cannot risk losing such a big customer.
- ❁ Most consumer electronic company's purchases are made up of standardized products that can be produced by many suppliers adds pressure on suppliers and reduces further their bargaining power.
- ❁ Finally, the Keiretsu system represents the bargaining power of the Japanese manufacturers and limits the bargaining power of the supplier



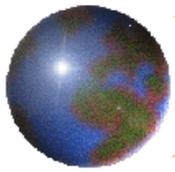
✿ Intensity of Competition

- ✿ Fierce competition in the global electronics market. The threat these Japanese companies faces from competition is a significantly high.
- ✿ Factors behind the intense competition:
 - Highly competitive environment in electronics market. Large number of equally positioned competitors
 - Rapid change in technologies and short product life-cycle
 - High research and development costs
 - Low profit margins
 - High exit barriers
 - Therefore, this intense competition requires the Japanese companies to constantly focus on research and development, increase its innovativeness and efficiency, and employ right marketing strategies in order not to lose the battle to its competitors.



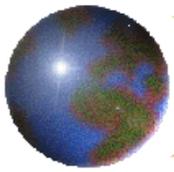
Computer Industry 1980's

- ✦ The personal computer has become an extremely important product in the US market, reigning as the 2nd most popular consumer electronics product (1st=Color TV)
- ✦ Although the US computer industry appeared to be prospering in the 1980's, it was suffering from “manufacturing outsourcing” that occurred as industries sent their manufacturing abroad.
- ✦ In the 1970's, US manufactures 95% of the US market and 60% of the world market for semi-conductors.
- ✦ By 1987, the US supplied 40% of the world market for semi-conductors, with the Japanese supplied 25%.
- ✦ By 1989, only 66% of computer components were manufactured in the US.



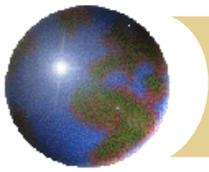
Digital revolution and consumers

- ✚ 1980's: Japanese companies were considered premium brands. Japanese companies thought they could operate in a myriad of different businesses.
- ✚ But then came the digital revolution, and the world changed. The consumer markets shifted to digital media and games, mobile devices, software apps and the Internet, the Japanese struggled to keep up.



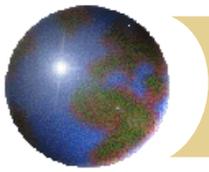
PC Industry and keiretsu

- ✿ A major strength of the Japanese industry is the keiretsu (families of companies that are "vertically integrated"). This tight relationship between suppliers and investors improved communication, mutual understanding, and consequently, overall product quality.
 - ✿ Safe in the knowledge that patient, low cost capital, a secure domestic market, and government backing would prove more than a match for the entrepreneurs of Silicon Valley.
- ✿ By the 1980's, the Japanese computer industry gained increasing control in the world semiconductor market



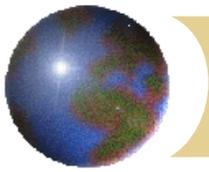
NEC Corporation

- ❖ 1979: NEC PC8001 was released. It was the 1st microcomputer build in Japan.
 - ❖ NEC remains the top supplier of microcomputers in the Japanese market, having manufactured 47% of the domestic installed microcomputer base.
 - ❖ To foreign producers, the Japanese market remained almost impenetrable.
- ❖ In 1989, 90% of the units purchased in Japan was by Japanese manufacturers.



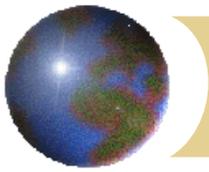
Japanese industry led in chip production

- ❖ 1987: Japan supplied 90% of its domestic semiconductor market, as well as 50% of the world semiconductor market.
- ❖ 1989: the Japanese industry led the world in chip production capital equipment and produced 80% of the world's DRAM memory chips
 - ❖ "In almost every case, Japanese manufacturers copied the American products, then gradually added their own features." Sheridan M. Tatsuno
 - ❖ This enabled Japanese companies to invest in the total quality that Japanese craftsmanship is known for, rather than the hit and miss process of scientific discovery.



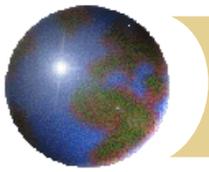
Japanese Software

- ❖ With the loss of market share in consumer electronics, the growing Japanese microcomputer market had given the Japanese computer industry a chance to strengthen and solidify.
 - ❖ The idiosyncrasies of the Japanese language provide a chance to offer compelling, personalized systems to Japanese consumers that US products cannot match.
 - ❖ Unfortunately, due to lack of qualified programmers. MITI estimates that the Japanese software industry is 20% understaffed. Programming doesn't seem to attract very many university students.
 - ❖ Japanese software industry is not keeping pace with the advancements.



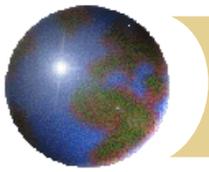
Japan and the PC Revolution

- ✦ The personal computer revolution appeared to offer a tremendous opportunity for Japan.
 - ✦ Combining their strengths in electronic components with their growing capabilities in computer technology, the Japanese computer makers appeared likely to become major competitors in the global PC industry.
 - Many in the US expected that Japanese companies would eventually use their control over upstream components and technologies to dominate the industry. Intel's Andrew Grove predicted that Japan would overtake the US as the dominant world supplier of computer systems by 1992.
 - ✦ *Unfortunately, many of the presumed strengths of the Japanese companies would turn out to be liabilities in the PC industry*



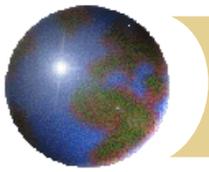
NEC purchased PC maker Packard Bell

- ✚ Japan's PC makers have driven the foreigners back from their domestic market. The Japanese manufacturers are investing in the US market
 - ✚ 1997. NEC purchased PC maker Packard Bell, which had used low-priced machines to take first place in the U.S. consumer market but had nearly gone bankrupt doing so.
 - ✚ The Japanese vendors also abandoned many of their domestic suppliers (keiretsu) and began tapping the global production system to cut production costs.



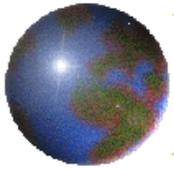
Japan's integrated electronics producers

- ✦ In the earlier period, Japan's integrated electronics producers were seen to have an advantage over American semiconductor manufacturers because their computer divisions could subsidize their semiconductor operations.
- ✦ 1990's : This integration became a liability during the Internet age as Japanese electronics firms were slow to capture either the
 - ✦ cost benefits of modular production by electronics contract manufacturing company (E.g. FOXCONN)
 - ✦ the innovative potential of independent software and components firms.



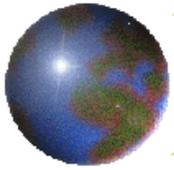
Globalization of Production

- ✦ Globalization of Production refers to the dispersal of production activities to locations that help a company achieve its costs –minimization or quality- maximization objectives for a good or service.
- ✦ *The globalization of production implies that firms are basing individual productive activities at the optimal world locations for the particular activities.*
 - ✦ Provides access to Low-Cost Workers.
 - ✦ Provides access to Technical Expertise.
 - ✦ Provides access to Production Inputs.



Transformation of the US ICT industries.

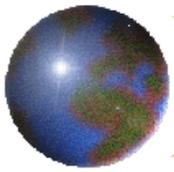
- ✪ 1980's: The Globalization of the production chain drove the transformation of the US electronics and information industries.
 - ✪ U.S. antitrust policies broke up the supply chain, and reforms in telecommunications fueled innovation.
 - ✪ This started the "WIN-Intel" era in which integrated electronics firms such as AT&T or IBM no longer controlled technological standards, but shared control with downstream suppliers.
 - ✪ Successful U.S. firms have relied on specialists such as Foxconn, Flextronics, etc. to handle manufacturing, focusing primarily on design and marketing. (E.g. APPLE, Dell)



Japan's computer industry 1990's

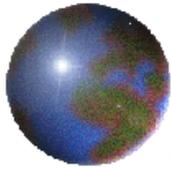
✦ Early 1990s:

- ✦ Stagnation of the Japanese economy in the aftermath of the "bubble" economy of the late 1980s. Economic growth was around 1% from 1992 to 1995.
- ✦ In the country that invented the Walkman, brands missed out on major trends -- like the rise of the smartphone -- and got bogged down by bureaucracy.
- ✦ *The Globalization of the production has hit Japan's integrated electronics manufacturers particularly hard.*
- ✦ Japanese computer industry was heavily dependent on the domestic market, was especially hard hit.
- ✦ The Japanese companies were too insular and focused on their home market to be effective enough to compete around the world



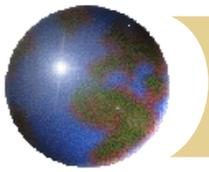
Japan's computer industry started its steep decline

- ✦ Japan's computer industry started its steep decline in computer production in the early 1990s, reversing a decade of rapid growth.
- ✦ New increased competition from U.S. and Asian competitors, especially from Korea from risen .
 - ❑ Total Japanese output declined by 20% from 1991 to 1993
 - ❑ This downturn also forced Japanese components manufacturers to reduce investment.



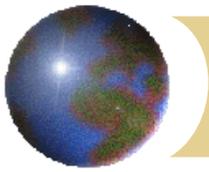
Japanese market cracked open by US firms

- ✚ By 1994, The Japanese market had been cracked open by the efforts of IBM, Compaq, Apple, and Microsoft, which had done in computers what U.S. trade negotiators had struggled to accomplish in other sectors.
- ✚ NEC's market share began to erode, from 52% in 1991 to 43% in 1994. Fujitsu, Toshiba, and Seiko Epson also lost ground, while U.S. companies grabbed a 30% market share.



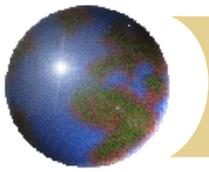
PC Revolution: Japan was left behind

- ❖ The PC Revolution disrupted many mainframe and minicomputer companies
 - ❖ In the US, their decline was compensated for by the rapid ascent of new PC-oriented businesses such as Apple, Compaq, Dell, and Microsoft.
 - ❖ Unfortunate for Japan, the large companies that control most of Japan's computer industry all faced serious downturns in the 1990s
 - ❖ While IBM was able to reverse its fortunes through a painful restructuring and by shifting focus to emphasize its service and network businesses, the Japanese companies were hamstrung in their efforts to shift course by practices such as lifetime employment and seniority-based promotion.



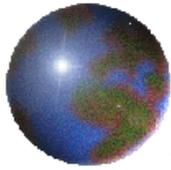
PC Revolution: Japan was left behind

- ❖ The size, diversification, and vertical integration of Japan's computer makers are advantages in producing high-volume hardware products with stable technologies and long product cycles
- ❖ These attributes have become a liability in the PC industry, with its unpredictable market and technology shifts.
- ❖ The hardware orientation of Japan's electronics industry has meant that software is not given the prominence it deserves, given its critical role in establishing technology standards.



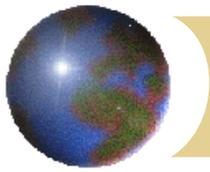
PC Revolution: Japan was left behind

- ✦ Japan's industry structure and corporate culture made it difficult for Japanese companies to recognize and respond to the PC revolution.
- ✦ While constant churning of people and companies marks the culture of Silicon Valley, Japan is marked by stability.
- ✦ Stability might be desirable in a mature industry such as automobile, but in a dynamic environment like the PC industry, it can be synonymous with stagnation.
- ✦ Japanese labor practices-along with Japan's egalitarian educational system and emphasis on incremental improvement-were well suited to stable manufacturing businesses, but they were liabilities in the unpredictable, rapidly changing increasing returns world of the PC industry.



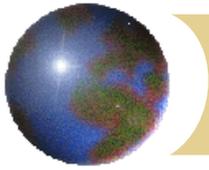
Failures in Software

- ❖ U.S. Standards Make Japan Dependent
 - ❖ The inability of Japanese companies to control any of the major architectures for hardware or software has plagued the industry from the beginning. (WIN-INTEL)
 - ❖ while Japanese companies know how to manufacture, they lag behind American firms in knowing what to manufacture, allowing the US to maintain its control over key standards.
 - ❖ For instance, Japanese mainframe makers had caught up with IBM in performance by the early 1980s but still depended on IBM standards and were forced to make large royalty payments to IBM.



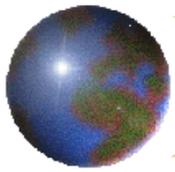
Software in Japan

- ❖ Software is simply not highly respected as a product in Japan. The tradition of bundling hardware and software caused the Japanese to undervalue software, since it was not paid for separately.
- ❖ Software professionals do not receive the respect given to hardware specialists. They generally do not receive top salaries, nor are likely to rise to top management positions in major corporations. This discourages bright students from studying for careers in software.
- ❖ The lack of job mobility between Japanese companies often makes it difficult for companies to get experienced workers and limits the dissemination of skills throughout the industry as well as making it virtually impossible to make quick transitions in human resource strategy according to market conditions.



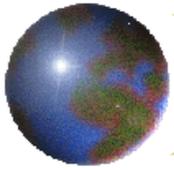
Venture capital

- ✚ The shortage of venture capital is especially acute in the software industry.
 - ❏ Japan's capital markets lack the knowledge and experience needed to evaluate software makers, whose assets are intellectual and intangible, and whose future profitability is difficult to predict.
 - ❏ In the US, there are venture capitalists that specialize in software companies and have the experience to judge their prospects more accurately.



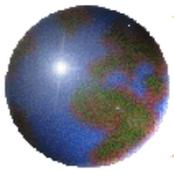
PC Revolution: Japan was left behind

- ✦ Japanese companies are still world leaders in many components and peripherals, but aggressive competitors elsewhere in Asia have challenged their leadership.
- ✦ 1996: A decade after driving Intel and other U.S. companies out of the DRAM business, Japan was passed by Korea as the leading producer of DRAMs.
- ✦ Korea's electronics companies were also gearing up for a challenge in flat-panel displays, another Japanese stronghold.
- ✦ Taiwan had become so adept at producing PCs and components that Japan's computer makers were outsourcing production to Taiwanese OEMs to cut costs and get products to market more quickly.



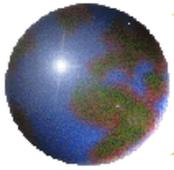
Porter's 5 Forces: Japanese PC Industry(1)

- ✿ Threat of Entry of New Competitors
 - ✦ Threat of new entrants in the PC industry is very low.
 - ✦ High level of investment is required to build a PC brand has deterred any new player from entering the PC market. A company needed to invest in brand building, marketing, production, supply chain as well as skilled human resources.
 - ✦ The top brands that are already in the market (HP, Lenovo, Dell, Apple and Acer) were able to exploit economies of scale which allows them to produce high volumes at lower costs.
 - ✦ Very difficult for the new players. PC business is a hard bargain and therefore new players fear to enter.



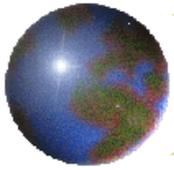
❁ Threat of Substitute Products

- ❁ The threat of substitute products for the PC industry has grown. The growth in mobile technology has led to decline in the demand for PCs as the consumers have great options before them in the form of portable devices like large screen smart phones and tablets that can provide same features but without the need to carry a large laptop.
- ❁ There are many brands that are fighting for market share and work as each other's substitutes.
- ❁ None of the top PC brands that are dominant in the market is a Japanese Brand.
- ❁ While the number of substitutes of PC is high, the threat from them is also high.



Bargaining power of Buyers

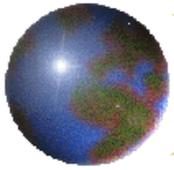
- ❖ Today's buyers are well informed and empowered. He searches for information and makes his shopping decisions after careful consideration based on feedback from several sources.
- ❖ The buyers also have several options before them when they want to make a purchase. All of this results in moderate bargaining power.
- ❖ None of the top PC brands that are dominant in the market is a Japanese Brand. This has created a tough situation for the Japanese PC Brand
- ❖ Every brand is pushing very hard in terms of quality and prices to attract the customer.
- ❖ In addition, the dramatic increase of online shopping has further increased the bargaining power of buyers increasing pressure on the company to reduce prices.



Porter's 5 Forces: Japanese PC Industry(4)

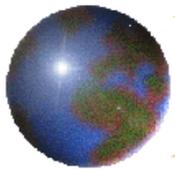
❁ Bargaining Power of Suppliers

- ❁ The bargaining power of suppliers in the PC industry is low because of their smaller size and large numbers.
- ❁ Most of these suppliers are located in China. It is the top five PC brands that controlled the game. They frame the rules that the suppliers have to comply with starting from labor related regulations to environmental compliance.
- ❁ The top 5 PC brands are all large in size and hold immense clout based on their financial strength. The result of all of this is the low bargaining power of the suppliers.



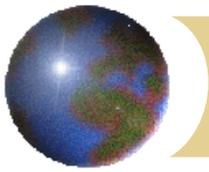
✿ Intensity of Competition

- ✿ The level of competitive rivalry has grown in the PC industry and its intensity is very high.
- ✿ The 5 main players are fighting for market share (HP, Lenovo, Dell, Apple and Acer). The size of these players and their financial strength gives rise to a tough marketing battle and results in intense rivalry.
- ✿ Most of them are close combatants very close in market share and financial strength.
- ✿ The market in the developed Western economies having grown saturated, the brands are fighting for market share in the Asian markets. India and China have become hot markets where most of the battle is taking place.



Japanese consumer electronics giants is dead

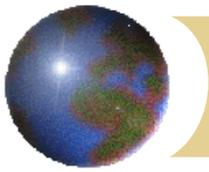
- ❖ Japanese companies once ruled the electronics industry. Nowadays, they make headlines for their problems rather than their products.
 - ❖ NEC (日本電気株式会社) was the world's fourth largest PC manufacturer by 1990. Its NEC Semiconductors business unit was the worldwide semiconductor sales leader between 1985 and 1990
 - ❖ By 2000: NEC closed Packard Bell NEC's assembly plant in Sacramento, Calif., lay off 3000 employees and stop selling Packard Bell computers
 - ❖ Lenovo Corp. 联想, which acquired IBM's PC Division, is the world's largest computer manufacturer. *It now owned 44% of NEC Computer.*



Toshiba 東芝

❖ "Toshiba is the last zombie"

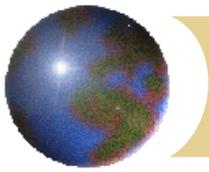
- ❖ A pioneer in laptops, TVs and other household electronic goods, Toshiba has joined the ranks of struggling companies kept on life-support by banks.
- ❖ Toshiba lost ground to companies in China and South Korea in key industries.
- ❖ Toshiba pivoted to other businesses, bought into the nuclear power industry by buying U.S. firm Westinghouse Electric.
- ❖ Massive delays and cost overruns at Toshiba's nuclear division amounts to \$6.3 billion. Toshiba's US nuclear department filed for bankruptcy in 2017.
- ❖ The Japanese company's share price has more than halved in a matter of months, and it's selling off its prized memory chips business and other assets to try to stay afloat.
- ❖ Sold its dishwasher and washing machine appliance branch to Midea (美的 China) and its electronics department to Hisense (海信 China)



Sharp シャープエレクトロニクス

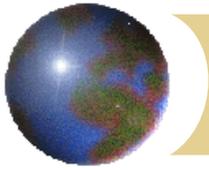
✦ Sharp: Sold to Foxconn

- ✦ Sharp was well known in the 1980s for high end calculators, VCRs and portable cassette players.
- ✦ Sharp bet big on LCD TVs and display panels. A strengthening yen and the global financial crisis sent demand plummeting.
- ✦ Sharp invested heavily in LCD televisions and display panels which didn't turn out so well.
- ✦ Sharp teetered on the edge of bankruptcy for years, with banks bailing it out twice. It announced huge losses and slashed some 5,000 jobs from its global workforce in 2015.
 - *But it's a big number in a place like Japan where a company is often "in business to keep everybody employed"*
- ✦ Sharp was bought out in 2012 by Taiwanese electronics manufacturer Foxconn.

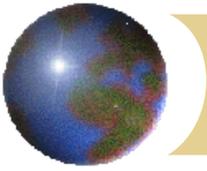


Olympus オリンパス : Saved by medical devices?

- ❖ Olympus started out as a producer of domestic microscopes and went on to become a leading camera maker and medical equipment supplier.
 - ❖ Olympus' shady accounting practices dragged it into a humiliating scandal.
 - ❖ In 2011, Michael Woodford became Olympus's first non-Japanese CEO and quickly discovered Olympus had been falsifying financial statements, hiding years of losses. When he began asking questions, the board abruptly fired him. Woodford turned whistleblower, exposing a 13-year, \$1.7 billion accounting fraud.
 - ❖ Woodford later said Japan's culture of extreme politeness contributed to the problems at Olympus. Deference to seniors created an environment where poor management decisions went unchallenged for years.
 - ❖ With a new team in charge, Olympus has made an impressive comeback. Its share price is up almost tenfold from the lows it hit in 2011, thanks to strong sales of medical devices.



- ❖ Sanyo was Japan's 3rd-largest consumer electronics maker, selling cell phone batteries and home appliances.
 - ❖ The company was a global household name, occupying premium real estate at one of London's top tourist spots, Piccadilly Circus, where it started advertising on a giant neon sign in 1978. Note: Sanyo's sign went dark in 2011.
 - ❖ By the 2000s, the company was facing a prolonged shakeout, grappling with competition from China and South Korea.
 - ❖ Panasonic (パナソニック) took over Sanyo in 2009.
 - ❖ China's Haier Group 海尔集团, which purchased Sanyo Electric's refrigerator and washing machine divisions, also owns General Electric home electric appliance business in the US.



Thank you

谢谢