



A
Research Report
on
“A Consumer perception of Dell and HP Laptop”
A case of Bareilly City.



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About Dell

Dell is an American multinational computer technology corporation based in 1 Dell Way, Round Rock, Texas, United States, that develops, sells and supports computers and related products and services. Bearing the name of its founder, Michael Dell, the company is one of the largest technological corporations in the world, employing more than 103,300 people worldwide. Dell is listed at number 41 in the *Fortune 500* list. It is the third largest PC maker in the world after HP and Lenovo. Dell has grown by both increasing its customer base and through acquisitions since its inception; notable mergers and acquisitions including Alienware (2006) and Perot Systems (2009). As of 2009, the company sold personal computers, servers, data storage devices, network switches, software, and computer peripherals. Dell also sells HDTVs, cameras, printers, MP3 players and other electronics built by other manufacturers. The company is well known for its innovations in supply chain management and electronic commerce. Fortune Magazine listed Dell as the sixth largest company in Texas by total revenue. It is the second largest non-oil company in Texas – behind AT&T – and the largest company in the Austin, Texas area. Dell traces its origins to 1984, when Michael Dell created *PCs Limited* while a student at the University of Texas at Austin. The dorm-room headquartered company sold IBM PC-compatible computers built from stock components. Dell dropped out of school in order to focus full-time on his fledgling business, after getting about \$300,000 in expansion-capital from his family. In 1985, the company produced the first computer of its own design, the "Turbo PC", which sold for US\$795. PCs Limited advertised its systems in national computer magazines for sale directly to consumers and custom assembled each



ordered unit according to a selection of options. The company grossed more than \$73 million in its first year of operation.

The company changed its name to "Dell Computer Corporation" in 1988 and began expanding globally. In June 1988, Dell's market capitalization grew by \$30 million to \$80 million from its June 22 initial public offering of 3.5 million shares at \$8.50 a share.^[9] In 1992, *Fortune magazine* included Dell Computer Corporation in its list of the world's 500 largest companies, making Michael Dell the youngest CEO of a Fortune 500 company ever.

Growth in 1990s and early 2000s

From 1997 to 2004, Dell enjoyed steady growth and it gained market share from competitors even during industry slumps. In 1996, Dell began selling computers through its website, and in 2002, it expanded its product line to include televisions, handhelds, digital audio players, and printers. Dell's first acquisition occurred in 1999 with the purchase of ConvergeNet Technologies. Dell surpassed Compaq to become the largest PC manufacturer in 1999. In 2002, when Compaq merged with Hewlett Packard (the 4th place PC maker), the combined Hewlett Packard took the top spot but struggled and Dell soon regained its lead. In 2003, the company was rebranded as simply "Dell Inc." to recognize the company's expansion beyond computers. In 2004, Michael Dell resigned as CEO while retaining the title of Chairman, handing the CEO title to Kevin Rollins who was the President and COO. Under Rollins, Dell began to loosen its ties to Microsoft and Intel, the two companies which were responsible for Dell's dominance in the PC business. During that time, Dell acquired Alienware, which introduced several new items to Dell products, including AMD microprocessors. To prevent cross-market products,



Dell continues to run Alienware as a separate entity, but still a wholly owned subsidiary.

Missed expectations and return of founder

However in 2005, while earnings and sales grew, sales growth slowed considerable, and the company stock lost 25% of its value that year. The slowing sales growth has been attributed the maturing PC market, which constituted 66% of Dell's sales, and analysts suggested that Dell needed to make inroads into non-PC businesses segments such as storage, services and servers. Dell's price advantage was tied to its ultra-lean manufacturing for desktop PCs, however this became less important as the market shifted to laptops, and as rivals such as Hewlett-Packard and Acer made their PC operations more efficient. Throughout the entire PC industry, declines in prices along with commensurate increases in performance meant that Dell had fewer opportunities to upsell to their customers (a lucrative strategy of encouraging buyers to upgrade processor or memory), and as a result the company was selling a greater proportion of inexpensive PCs than before which eroded profit margins. There has also been a decline in consumers purchasing PCs through the Web or on the phone, as increasing numbers were visiting consumer electronics retail stores. As well, many analysts were looking to innovating companies as the next source of growth in the technology sector. Dell's low spending on R&D relative to its revenue (compared to Apple Inc.) which worked well in the commoditized PC market prevented it from making inroads into more lucrative segments such as MP3 players. Dell's reputation for poor customer service, which was exacerbated as it moved call centres offshore and as its growth outstripped its technical support infrastructure, came under increasing scrutiny on the Web. There was also criticism that it used faulty components for its PCs. There



was also a battery recall in August 2006, as a result of a Dell laptop catching fire which caused much negative attention for the company, although later Sony was found to be responsible for the faulty batteries.

2006 marked the first year that Dell's growth was slower than the PC industry as a whole. By the fourth quarter of 2006, Dell lost its title of the largest PC manufacturer to rival Hewlett Packard which was invigorated thanks to a restructuring initiated by their CEO Mark Hurd. After four out of five quarterly earnings reports were below expectations, Rollins resigned in January 2007 and founder Michael Dell assumed the role of CEO again. Dell announced a change campaign called "Dell 2.0," reducing headcount and diversifying the company's product offerings.

Recent plans and acquisitions

- In 2006, Dell acquired Alienware, a manufacturer of high-end PCs popular with gamers.
- The company acquired EqualLogic on January 28, 2008, to gain a foothold in the iSCSI storage market. Because Dell already had an efficient manufacturing process, integrating EqualLogic's products into the company drove manufacturing prices down.

In 2009, Dell acquired Perot Systems, a technology services and outsourcing company, mainly active in the health-sector, founded by former presidential hopeful H. Ross Perot



- In 2009, Dell acquired Perot Systems, based in Plano, Texas, in a reported \$3.9 billion deal.^[19] Perot Systems provided Dell with applications development, systems integration, and strategic consulting services through its operations in the U.S. and 10 other countries. In addition, the acquisition of Perot brought a variety of business process outsourcing services, including claims processing and call center operations.
- On February 10, 2010, the company acquired KACE Networks a leader in Systems Management Appliances. The terms of the deal were not disclosed.
- On August 16, 2010, Dell announced plans to acquire the data storage company 3PAR.^[22] On September 2, Hewlett-Packard offered \$33 a share for 3PAR, which Dell declined to match.
- On November 2, 2010, Dell acquired Software-as-a-Service (SaaS) integration leader Boomi. Terms of the deal were not disclosed.
- In February 2011 the acquisition of Compellent by Dell was completed after the initial announcement of Dell's intention to buy the company was announced on 13 December, 2010
- On Friday February 24, 2012 Dell acquired Backup and Disaster Recovery software solution AppAssure Software of Reston, VA. AppAssure delivered 194 percent revenue growth in 2011 and over 3500% growth in the prior 3 years. AppAssure supports physical servers and VMware, Hyper-V and XenServer. The deal represents the first acquisition since Dell formed its software division under former CA CEO John Swainson. Dell added that it will keep AppAssure's 230 employees and invest in the company.



Dell is headquartered in Round Rock, Texas

- In March 2012, USA Today said that Dell agreed to buy SonicWall, a company with 130 patents. SonicWall which develops security products, is a network and data security provider^[25].
- On 2 April, 2012, Dell announced that it wants to acquire Wyse, global market-leader for thin client systems^[26]
- On 3 April, 2012, Dell announced that it has acquired **Clerity Solutions**. Clerity, a company offering services for application (re)hosting, was formed in 1994 and has its headquarters in Chicago. At the time of the take-over approx. 70 people were working for the company

Dell facilities

Dell's headquarters is located in Round Rock, Texas. As of 2010 the company employs about 16,000 people in the facility, which has 2,100,000 square feet (200,000 m²) of space. As of 1999 almost half of the general fund of the City of Round Rock originates from sales taxes generated from the Dell headquarters. Dell previously had its headquarters in the Arboretum complex in northern Austin,



Texas. In 1989 Dell occupied 127,000 square feet (11,800 m²) in the Arboretum complex. In 1990 Dell had 1,200 employees in its headquarters. In 1993 Dell submitted a document to Round Rock officials, titled "Dell Computer Corporate Headquarters, Round Rock, Texas, May 1993 Schematic Design." Despite the filing, during that year the company said that it was not going to move its headquarters. In 1994 Dell announced that it was moving most of its employees out of the Arboretum, but that it was going to continue to occupy the top floor of the Arboretum and that the company's official headquarters address would continue to be the Arboretum.



The company sponsors Dell Diamond, the home stadium of the Round Rock Express, the AAA minor league baseball affiliate of the Texas Rangers major league baseball team. By 1996 Dell was moving its headquarters to Round Rock. As of January 1996 3,500 people still worked at the current Dell headquarters. One building of the Round Rock headquarters, Round Rock 3, had space for 6,400 employees and was scheduled to be completed in November 1996. In 1998 Dell



announced that it was going to add two buildings to its Round Rock complex, adding 1,600,000 square feet (150,000 m²) of office space to the complex.

Scope and brands



Dell's tagline 'Yours is Here', as seen at their Mall of Asia branch in Pasay City, Philippines. The corporation markets specific brand names to different market segments. Its Business/Corporate class represent brands where the company advertising emphasizes long life-cycles, reliability, and serviceability. Such brands include:

- OptiPlex (office desktop computer systems)
- Vostro (office/small business desktop and notebook systems)
- n Series (desktop and notebook computers shipped with Linux or FreeDOS installed)
- Latitude (business-focused notebooks)



- Precision (workstation systems and high-performance notebooks),^[50]
- PowerEdge (business servers)
- PowerVault (direct-attach and network-attached storage)
- PowerConnect (network switches)
- Dell Compellent (storage area networks)
- EqualLogic (enterprise class iSCSI SANs)

Dell's Home Office/Consumer class emphasizes value, performance, and expandability. These brands include:

- Inspiron (budget desktop and notebook computers)
- Studio (mainstream desktop and laptop computers)
- XPS (high-end desktop and notebook computers)
- Studio XPS (high-end design-focus of XPS systems and extreme multimedia capability)
- Alienware (high-performance gaming systems)
- Adamo (high-end luxury laptop)
- Dell EMR (electronic medical records)



Dell's Peripherals class includes USB keydrives, LCD televisions, and printers; Dell monitors includes LCD TVs, plasma TVs and projectors for HDTV and monitors. Dell UltraSharp is further a high-end brand of monitors. Dell service and support brands include the *Dell Solution Station* (extended domestic support services, previously "Dell on Call"), *Dell Support Center* (extended support services abroad), *Dell Business Support* (a commercial service-contract that provides an industry-certified technician with a lower call-volume than in normal queues), *Dell Everdream Desktop Management* ("Software as a Service" remote-desktop management),^[51] and *Your Tech Team* (a support-queue available to home users who purchased their systems either through Dell's website or through Dell phone-centers). Discontinued products and brands include Axim (PDA; discontinued April 9, 2007), Dimension (home and small office desktop computers; discontinued July 2007), Dell Digital Jukebox (MP3 player; discontinued August 2006), Dell PowerApp (application-based servers), and Dell Omniplex (desktop and tower computers previously supported to run server and desktop operating systems).

Manufacturing

From its early beginnings, Dell operated as a pioneer in the "configure to order" approach to manufacturing—delivering individual PCs configured to customer specifications. In contrast, most PC manufacturers in those times delivered large orders to intermediaries on a quarterly basis. To minimize the delay between purchase and delivery, Dell has a general policy of manufacturing its products close to its customers. This also allows for implementing a just-in-time (JIT) manufacturing approach, which minimizes inventory costs. Low inventory is another signature of the Dell business model—a critical consideration in an



industry where components depreciate very rapidly. Dell's manufacturing process covers assembly, software installation, functional testing (including "burn-in"), and quality control. Throughout most of the company's history, Dell manufactured desktop machines in-house and contracted out manufacturing of base notebooks for configuration in-house. However, the company's approach has changed. The 2006 Annual Report states "we are continuing to expand our use of original design manufacturing partnerships and manufacturing outsourcing relationships." *The Wall Street Journal* reported in September, 2008 that "Dell has approached contract computer manufacturers with offers to sell" their plants. Assembly of desktop computers for the North American market formerly took place at Dell plants in Austin, Texas (original location) and Lebanon, Tennessee (opened in 1999), which have been closed in 2008 and early 2009, respectively. The plant in Winston-Salem, North Carolina received \$280 million USD in incentives from the state and opened in 2005, but ceased operations in November 2010, and Dell's contract with the state requires them to repay the incentives for failing to meet the conditions. ^[57] ^[58] It is expected that most of the work that used to take place in Dell's U.S. plants will be transferred to contract manufacturers in Asia and Mexico, or some of Dell's own factories overseas. The Miami, Florida facility of its Alienware subsidiary remains in operation. Dell servers continue to be produced in Austin, Texas. Dell assembles computers for the EMEA market at Limerick in the Republic of Ireland, and employs about 4,500 people in that country. Dell began manufacturing in Limerick in 1991 and went on to become Ireland's largest exporter of goods and its second-largest company and foreign investor. On January 8, 2009, Dell announced that it would move all Dell manufacturing in Limerick to Dell's new plant in the Polish city of Łódź by January 2010. European Union officials said they would



investigate a €52.7million aid package the Polish government used to attract Dell away from Ireland. European Manufacturing

Technical support

Dell routes technical support queries according to component-type and to the level of support purchased

1. Basic support provides business-hours telephone support and next business-day on-site support/ Return-to-Base, or Collect and Return Services (based on contracts purchased at point of sale)
2. Dell ProSupport provides 24x7x365 telephone and online support, a selection of 4 or 6-hour onsite support after telephone-based troubleshooting, and a Mission Critical option with two-hour onsite support, for customers who choose the highest level of support for their most critical hardware assets.

Dell's Consumer division offers 24x7 phone based and online troubleshooting in certain markets such as the United States and Canada. In 2008 Dell redesigned services-and-support for businesses with "Dell ProSupport", offering customers more options to adapt services to fit their needs. Rather than take a one-size-fits-all approach, Dell allows various options for its customers.

In addition, the company provides protection services, advisory services, multivendor hardware support, "how-to" support for software applications, collaborative support with many third-party vendors, and online parts and labor dispatching for customers who diagnose and troubleshoot their hardware. Dell also



provides Dell ProSupport customers access to a crisis-center to handle major outages, or problems caused by natural disasters.^[67]

Organization

The board consists of nine directors. Michael Dell, the founder of the company, serves as chairman of the board and chief executive officer. Other board members include Don Carty, William Gray, Judy Lewent, Klaus Luft, Alex Mandl, Michael A. Miles, and Sam Nunn. Shareholders elect the nine board members at meetings, and those board members who do not get a majority of votes must submit a resignation to the board, which will subsequently choose whether or not to accept the resignation. The board of directors usually sets up five committees having oversight over specific matters. These committees include the Audit Committee, which handles accounting issues, including auditing and reporting; the Compensation Committee, which approves compensation for the CEO and other employees of the company; the Finance Committee, which handles financial matters such as proposed mergers and acquisitions; the Governance and Nominating Committee, which handles various corporate matters (including nomination of the board); and the Antitrust Compliance Committee, which



attempts to prevent company practices from violating antitrust laws. Day to day operations of the company are run by the Global Executive Management Committee which sets strategic direction. Dell has regional senior vice-presidents for countries other than the United States, including David Marmonti for EMEA and Stephen J. Felice for Asia/Japan. As of 2007, other officers included Martin Garvin (senior vice president for worldwide procurement) and Susan E. Sheskey (vice president and Chief Information Officer).

Marketing

Dell advertisements have appeared in several types of media including television, the Internet, magazines, catalogs and newspapers. Some of Dell Inc's marketing strategies include lowering prices at all times of the year, offering free bonus products (such as Dell printers), and offering free shipping in order to encourage more sales and to stave off competitors. In 2006, Dell cut its prices in an effort to maintain its 19.2% market share. However, this also cut profit-margins by more than half, from 8.7 to 4.3 percent. To maintain its low prices, Dell continues to accept most purchases of its products via the Internet and through the telephone network, and to move its customer-care division to India and El Salvador. A popular United States television and print ad campaign in the early 2000s featured the actor Ben Curtis playing the part of "Steven", a lightly mischievous blond-haired youth who came to the assistance of bereft computer purchasers. Each television advertisement usually ended with Steven's catch-phrase: "Dude, you're gettin' a Dell!" A subsequent advertising campaign featured interns at Dell headquarters (with Curtis' character appearing in a small cameo at the end of one of the first commercials in this particular campaign). A Dell advertising campaign for the XPS line of gaming computers featured in print in the September 2006



issue of *Wired*. It used as a tagline the common term in Internet and gamer slang: "FTW", meaning "For The Win". However, Dell Inc. soon dropped the campaign. In the first-person shooter game F.E.A.R. Extraction Point, several computers visible on desks within the game have recognizable Dell XPS model characteristics, sometimes even including the Dell logo on the monitors. In 2007, Dell switched advertising agencies in the US from BBDO to Working Mother Media. In July 2007, Dell released new advertising created by Working Mother to support the Inspiron and XPS lines. The ads featured music from the Flaming Lips and Devo who re-formed especially to record the song in the ad "Work it Out". Also in 2007, Dell began using the slogan "Yours is here" to say that it customizes computers to fit customers' requirements.

Dell partner program

In late 2007, Dell Inc. announced that it planned to expand its program to value-added resellers (VARs), giving it the official name of "Dell Partner Direct" and a new Website.

Criticisms of marketing of laptop security

In 2008, Dell received press coverage over its claim of having the world's most secure laptops, specifically, its Latitude D630 and Latitude D830. At Lenovo's request, the (U.S.) National Advertising Division (NAD) evaluated the claim, and reported that Dell did not have enough evidence to support it.

Retail

Dell first opened their retail stores in India.



United States

In the early 1990s, Dell sold its products through Best Buy, Costco and Sam's Club stores in the United States. Dell stopped this practice in 1994, citing low profit-margins on the business. In 2003, Dell briefly sold products in Sears stores in the U.S. In 2007, Dell started shipping its products to major retailers in the U.S. once again, starting with Sam's Club and Wal-Mart. Staples, the largest office-supply retailer in the U.S., and Best Buy, the largest electronics retailer in the U.S., became Dell retail partners later that same year.

Kiosks

Starting in 2002, Dell opened kiosk locations in shopping malls across the United States in order to give personal service to customers who preferred this method of shopping to using the Internet or the telephone-system. Despite the added expense, prices at the kiosks match or beat prices available through other retail channels. Starting in 2005, Dell expanded kiosk locations to include shopping malls across Australia, Canada, Singapore and Hong Kong. On January 30, 2008, Dell shut down all 140 kiosks in the U.S. due to expansion into retail stores. By June 3, 2010, Dell had also shut down all of its mall kiosks in Australia.

Stores

In 2006, Dell Inc. opened one full store, 3,000-square-foot (280 m²) in area, at NorthPark Center in Dallas, Texas. It operates the retail outlet seven days a week to display about 36 models, including PCs and televisions. As at the kiosks, customers can only see demonstration-computers and place orders through agents. Dell then delivers purchased items just as if the customer had placed the order by



phone or over the Internet. In addition to showcasing products, the stores also support on-site warranties and non-warranty service ("Dell Solution Station"). Services offered include repairing computer video-cards and removing spyware from hard drives. On February 14, 2008, Dell closed the Service Center in its Dallas NorthPark store and laid off all the technical staff there.

Competition

Dell's major competitors include Hewlett-Packard (HP), Acer, Toshiba, Gateway, Sony, Asus, Lenovo, IBM, MSI, Samsung, Apple and Sun Microsystems. Dell and its subsidiary, Alienware, compete in the enthusiast market against AVADirect, Falcon Northwest, VoodooPC (a subsidiary of HP), and other manufacturers. In the second quarter of 2006, Dell had between 18% and 19% share of the worldwide personal computer market, compared to HP with roughly 15%. In late 2006, Dell lost its lead in the PC-business to Hewlett-Packard. Both Gartner and IDC estimated that in the third quarter of 2006, HP shipped more units worldwide than Dell did. Dell's 3.6% growth paled in comparison to HP's 15% growth during the same period. The problem got worse in the fourth quarter, when Gartner estimated that Dell PC shipments declined 8.9% (versus HP's 23.9% growth). As a result, at the end of 2006 Dell's overall PC market-share stood at 13.9% (versus HP's 17.4%). IDC reported that Dell lost more server market share than any of the top four competitors in that arena. IDC's Q4 2006 estimates show Dell's share of the server market at 8.1%, down from 9.5% in the previous year. This represents a 8.8% loss year-over-year, primarily to competitors EMC and IBM.

In 2011, The Brand Trust Report, India study revealed that Dell is ranked as the 27th most trusted brand as compared to Samsung which stood at 5th and HP which ranked 23



Partnership with EMC

The Dell/EMC brand applies solely to products that result from Dell's partnership with EMC Corporation. In some cases Dell and EMC jointly design such products; other cases involve EMC products for which Dell will provide support — generally midrange storage systems, such as fibre channel and iSCSI storage area networks. The relationship also promotes and sells OEM versions of backup, recovery, replication and archiving software. On December 9, 2008, Dell and EMC announced the multi-year extension, through 2013, of their strategic partnership that began in 2001. In addition, Dell plans to expand its product line-up by adding the EMC Celerra NX4 storage system to the portfolio of Dell/EMC family of networked storage systems, as well as partnering on a new line of de-duplication products as part of its TierDisk family of data-storage devices. On October 17, 2011, Dell announced officially discontinued reselling all EMC storage products, this put end to 10 years of Partnership.

Environmental record

Dell committed to reduce greenhouse gas emissions from its global activities by 40% by 2015, with 2008 fiscal year as the baseline year. It is listed in Greenpeace's Guide to Greener Electronics that scores leading electronics manufacturers according to their policies on sustainability, climate and energy and how green their products are. In November 2011, Dell ranked 2nd out of 15 listed electronics



makers (increasing its score to 5.1 from 4.9, which it gained in the previous ranking from October 2010). Dell was the first company to publicly state a timeline for the elimination of toxic polyvinyl chloride (PVC) and brominated flame retardants (BFRs), which it planned to phase out by the end of 2009. It revised this commitment and now aims to remove these toxics by the end of 2011 but only in its computing products. In March 2010, Greenpeace activists protested at Dell offices in Bangalore, Amsterdam and Copenhagen calling for Dell's founder and CEO Michael Dell to 'drop the toxics' and claiming that Dell's aspiration to be 'the greenest technology company on the planet' was 'hypocritical'.^[85] Dell has launched its first products completely free of PVC and BFRs with the G-Series monitors (G2210 and G2410) in 2009.

Green initiatives

Dell became the first company in the information technology industry to establish a product-recycling goal (in 2004) and completed the implementation of its global consumer recycling-program in 2006. On February 6, 2007, the National Recycling Coalition awarded Dell its "Recycling Works" award for efforts to promote producer responsibility. On July 19, 2007, Dell announced that it had exceeded targets in working to achieve a multi-year goal of recovering 275 million pounds of computer equipment by 2009. The company reported the recovery of 78 million pounds (nearly 40,000 tons) of IT equipment from customers in 2006, a 93-percent increase over 2005; and 12.4% of the equipment Dell sold seven years earlier. On June 5, 2007 Dell set a goal of becoming the greenest technology company on Earth for the long term. The company launched a zero-carbon initiative that includes:

1. reducing Dell's carbon intensity by 15 percent by 2012



2. requiring primary suppliers to report carbon emissions data during quarterly business reviews
3. partnering with customers to build the "greenest PC on the planet"
4. Expanding the company's carbon-offsetting program, "Plant a Tree for me".

The company introduced the term "The Re-Generation" during a round table in London commemorating 2007 World Environment Day. "The Re-Generation" refers to people of all ages throughout the world who want to "make a difference" in improving the world's environment. Dell also talked about plans to take the lead in setting an environmental standard for the "technology industry" and maintaining that leadership in the future.

Dell reports its environmental performance in an annual Corporate Social Responsibility (CSR) Report that follows the Global Reporting Initiative (GRI) protocol. Dell's 2008 CSR report ranked as "Application Level B" as "checked by GRI". The company aims to reduce its external environmental impact through energy-efficient evolution of products, and also reduce its direct operational impact through energy-efficiency programmers. Internal energy-efficiency programmers reportedly save the company more than \$3 million annually in energy-cost savings.^[92] The largest component of the company's internal energy-efficiency savings comes through PC power management:



HP(Hewlett-Packard)

Hewlett-Packard Company or **HP** is an American multinational information technology corporation headquartered in Palo Alto, California, United States that provides products, technologies, software, solutions and services to consumers, small- and medium-sized businesses (SMBs) and large enterprises, including customers in the government, health and education sectors. The company was founded in a one-car garage in Palo Alto by William (Bill) Redington Hewlett and Dave Packard. HP is the world's leading PC manufacturer. It specializes in developing and manufacturing computing, data storage, and networking hardware, designing software and delivering services. Major product lines include personal computing devices, enterprise, and industry standard servers, related storage devices, networking products, software and a diverse range of printers, and other imaging products. HP markets its products to households, small- to medium-sized businesses and enterprises directly as well as via online distribution, consumer-electronics and office-supply retailers, software partners and major technology vendors. HP also has strong services and consulting business around its products and partner products. Major company events have included the spin-off of part of its business as Agilent Technologies in 1999, its merger with Compaq in 2002, and the acquisition of EDS in 2008, which led to combined revenues of \$118.4 billion in 2008 and a Fortune 500 ranking of 9 in 2009. In November 2009, HP announced the acquisition of 3Com, with the deal closing on April 12, 2010. On April 28,



2010, HP announced the buyout of Palm for \$1.2 billion. On September 2, 2010, HP won its bidding war for 3PAR with a \$33 a share offer (\$2.07 billion) which Dell declined to match. Hewlett-Packard is not affiliated with Packard Motor Car Corporation, founded by James Ward Packard and William Doud Packard, or with Packard Bell.

Founding

Bill Hewlett and Dave Packard graduated with degrees in electrical engineering from Stanford University in 1935. The company originated in a garage in nearby Palo Alto during a fellowship they had with a past professor, Frederick Terman at Stanford during the Great Depression. Terman was considered a mentor to them in forming Hewlett-Packard. In 1939, Packard and Hewlett established Hewlett-Packard (HP) in Packard's garage with an initial capital investment of US\$538. Hewlett and Packard tossed a coin to decide whether the company they founded would be called Hewlett-Packard or Packard-Hewlett Packard won the coin toss but named their manufacturing enterprise the "Hewlett-Packard Company". HP incorporated on August 18, 1947, and went public on November 6, 1957. Of the many projects they worked on, their very first financially successful product was a precision audio oscillator, the Model HP200A. Their innovation was the use of a small incandescent light bulb (known as a "pilot light") as a temperature dependent resistor in a critical portion of the circuit, the negative feedback loop which stabilized the amplitude of the output sinusoidal waveform. This allowed them to sell the Model 200A for \$54.40 when competitors were selling less stable oscillators for over \$200. The Model 200 series of generators continued until at least 1972 as the 200AB, still tube-based but improved in design through the years.



One of the company's earliest customers was Walt Disney Productions, which bought eight Model 200B oscillators (at \$71.50 each) for use in certifying the Fantasound surround sound systems installed in theaters for the movie *Fantasia*.

Early years



Original 1954 Hewlett-Packard trademark

The company was originally rather unfocused, working on a wide range of electronic products for industry and even agriculture. From the 1940s until well into the 1990s the company concentrated on making electronic test equipment: signal generators, voltmeters, oscilloscopes, frequency counters, thermometers, time standards, wave analyzers, and many other instruments. A distinguishing feature was pushing the limits of measurement range and accuracy; many HP instruments were more sensitive, accurate, and precise than other comparable equipment. Following the pattern set by the company's first product, the 200A, test instruments were labelled with three to five digits followed by the letter "A".



Improved versions went to suffixes "B" through "E". As the product range grew wider HP started using product designators starting with a letter for accessories,



The 1960s

HP is recognized as the symbolic founder of Silicon Valley, although it did not actively investigate semiconductor devices until a few years after the "Traitorous Eight" had abandoned William Shockley to create Fairchild Semiconductor in 1957. Hewlett-Packard's HP Associates division, established around 1960, developed semiconductor devices primarily for internal use. Instruments and calculators were some of the products using these devices. HP partnered in the 1960s with Sony and the Yokogawa Electric companies in Japan to develop several high-quality products. The products were not a huge success, as there were high costs in building HP-looking products in Japan. HP and Yokogawa formed a joint venture (Yokogawa-Hewlett-Packard) in 1963 to market HP products in Japan. HP bought Yokogawa Electric's share of Hewlett-Packard Japan in 1999. HP spun off a small company, Dynac, to specialize in digital equipment. The name was picked so that the HP logo "hp" could be turned upside down to be a reverse reflect image of the logo "dy" of the new company. Eventually Dynac changed to Dymec, then was folded back into HP in 1959. HP experimented with using Digital Equipment Corporation minicomputers with its instruments, but after deciding that it would be easier to build another small design team than deal with DEC, HP entered the computer market in 1966 with the HP 2100 / HP 1000 series of minicomputers. These had a simple accumulator-based design, with registers arranged somewhat similarly to the Intel x86 architecture still used today. The series was produced for 20 years, in spite of several attempts to replace it, and was a forerunner of the HP 9800 and HP 250 series of desktop and business computers.



The 1970s



Hewlett-Packard logo, mid-1970s

The HP 3000 was an advanced stack-based design for a business computing server, later redesigned with RISC technology. The HP 2640 series of smart and intelligent terminals introduced forms-based interfaces to ASCII terminals, and also introduced screen labeled function keys, now commonly used on gas pumps and bank ATMs. The HP 2640 series included one of the first bit mapped graphics displays that when combined with the HP 2100 21MX F-Series microcoded Scientific Instruction Set^[13] enabled the first commercial WYSIWYG Presentation Program, BRUNO that later became the program HP-Draw on the HP 3000. Although scoffed at in the formative days of computing, HP would eventually surpass even IBM as the world's largest technology vendor, in terms of sales.



"The new Hewlett-Packard 9100A personal computer is ready, willing, and able ... to relieve you of waiting to get on the big computer."



HP is identified by *Wired* magazine as the producer of the world's first marketed, mass-produced personal computer, the Hewlett-Packard 9100A, introduced in 1968. HP called it a desktop calculator, because, as Bill Hewlett said, "If we had called it a computer, it would have been rejected by our customers' computer gurus because it didn't look like an IBM. We therefore decided to call it a calculator, and all such nonsense disappeared." An engineering triumph at the time, the logic circuit was produced without any integrated circuits; the assembly of the CPU having been entirely executed in discrete components. With CRT display, magnetic-card storage, and printer, the price was around \$5000. The machine's keyboard was a cross between that of a scientific calculator and an adding machine. There was no alphabetic keyboard.

Steve Wozniak, co-founder of Apple, originally designed the Apple I computer while working at HP and offered it to them under their right of first refusal to his work, but they did not take it up as the company wanted to stay in scientific, business, and industrial markets. The company earned global respect for a variety of products. They introduced the world's first *handheld scientific electronic calculator* in 1972 (the HP-35), the first *handheld programmable* in 1974 (the HP-65), the first *alphanumeric, programmable, expandable* in 1979 (the HP-41C), and the first symbolic and graphing calculator, the HP-28C. Like their scientific and business calculators, their oscilloscopes, logic analyzers, and other measurement instruments have a reputation for sturdiness and usability (the latter products are now part of spin-off Agilent's product line). The company's design philosophy in this period was summarized as "design for the guy at the next bench". The 98x5 series of technical desktop computers started in 1975 with the 9815, and the cheaper 80 series, again of technical computers, started in 1979 with the 85. These

machines used a version of the BASIC programming language which was available immediately after they were switched on, and used a proprietary magnetic tape for storage. HP computers were similar in capabilities to the much later IBM Personal Computer, although the limitations of available technology forced prices to be high.

The 1980s



The garage in Palo Alto where Hewlett and Packard began their company

In 1984, HP introduced both inkjet and laser printers for the desktop. Along with its scanner product line, these have later been developed into successful multifunction products, the most significant being single-unit printer/scanner/copier/fax machines. The print mechanisms in HP's tremendously popular LaserJet line of laser printers depend almost entirely on Canon's components (print engines), which in turn use technology developed by Xerox. HP develops the hardware, firmware, and software that convert data into dots for the mechanism to print.^[citation needed] HP transitioned from the HP3000 to the HP9000 series minicomputers with attached storage such as the HP 7935 hard drive holding



404 MiB. On March 3, 1986, HP registered the HP.com domain name, making it the ninth Internet .com domain ever to be registered. In 1987, the Palo Alto garage where Hewlett and Packard started their business was designated as a California State historical landmark.

The 1990s



Hewlett-Packard logo used until 2008

In the 1990s, HP expanded their computer product line, which initially had been targeted at university, research, and business users, to reach consumers. HP also grew through acquisitions, buying Apollo Computer in 1989 and Convex Computer in 1995. Later in the decade, HP opened hpshopping.com as an independent subsidiary to sell online, direct to consumers; in 2005, the store was renamed "HP Home & Home Office Store." From 1995 to 1998, Hewlett-Packard were sponsors of the English football team Tottenham Hotspur. In 1999, all of the businesses not related to computers, storage, and imaging were spun off from HP to form Agilent. Agilent's spin-off was the largest initial public offering in the history of Silicon Valley.^[18] The spin-off created an \$8 billion company with about 30,000 employees, manufacturing scientific instruments, semiconductors, optical networking devices, and electronic test equipment for telecom and wireless R&D and production.

In July 1999, HP appointed Carly Fiorina as CEO, the first female CEO of a company in the Dow Jones Industrial Average. Fiorina served as CEO during the



technology industry downturn of the early 2000s. During her tenure, the market value of HP halved and the company incurred heavy job losses.^[19] The HP Board of Directors asked Fiorina to step down in 2005, and she resigned on February 9, 2005.

The 2000s



Hewlett-Packard Deskjet 3845 printer



The current two dimensional HP logo used on corporate documents, letterhead





HP's recent campaign, *The Computer is Personal Again*, features several celebrity endorsements, including a TV commercial with Gwen Stefani.



HP Presario F700 F767CL

On September 3, 2001, HP announced that an agreement had been reached with Compaq to merge the two companies. In May, 2002, after passing a shareholder vote, HP officially merged with Compaq. Prior to this, plans had been in place to consolidate the companies' product teams and product lines. In 1998 Compaq had already taken over the Digital Equipment Corporation. That is why HP still offers support for PDP-11, VAX and AlphaServer. The merger occurred after a proxy fight with Bill Hewlett's son Walter, who objected to the merger. Compaq itself had bought Tandem Computers in 1997 (which had been started by ex-HP employees), and Digital Equipment Corporation in 1998. Following this strategy, HP became a major player in desktops, laptops, and servers for many different markets. After the merger with Compaq, the new ticker symbol became "HPQ", a combination of the two previous symbols, "HWP" and "CPQ", to show the significance of the alliance and also key letters from the two companies **H**ewlett-**P**ackard and Compa**q** (the latter company being famous for its "Q" logo on all of its products.) In the year 2004 HP released the DV 1000 Series, including the HP Pavilion dv 1658 and 1040 two years later in May 2006, HP began its campaign, *The Computer is Personal*



Again. The campaign was designed to bring back the fact that the PC is a personal product. The campaign utilized viral marketing, sophisticated visuals, and its own web site (www.hp.com/personal). Some of the ads featured well-known personalities, including Pharrell, Petra Nemcova, Mark Burnett, Mark Cuban, Alicia Keys, Jay-Z, Gwen Stefani, and Shaun White. On May 13, 2008, HP and Electronic Data Systems announced that they had signed a definitive agreement under which HP would purchase EDS. On June 30, HP announced that the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 had expired. "The transaction still requires EDS stockholder approval and regulatory clearance from the European Commission and other non-U.S. jurisdictions and is subject to the satisfaction or waiver of the other closing conditions specified in the merger agreement." The agreement was finalized on August 26, 2008, and it was publicly announced that EDS would be re-branded "EDS an HP company." As of September 23, 2009, EDS is known as HP Enterprise Services.

On November 11, 2009, 3Com and Hewlett-Packard announced that Hewlett-Packard would be acquiring 3Com for \$2.7 billion in cash.^[24] The acquisition is one of the biggest in size among a series of takeovers and acquisitions by technology giants to push their way to become one-stop shops. Since the beginning of the financial crisis in 2007, tech giants have constantly felt the pressure to expand beyond their current market niches. Dell purchased Perot Systems recently to invade into the technology consulting business area previously dominated by IBM. Hewlett-Packard's latest move marked its incursion into enterprise networking gear market dominated by Cisco.



The 2010s



A Hewlett-Packard Mini 1000 netbook computer, a type of notebook computer

On April 28, 2010, Palm, Inc. and Hewlett-Packard announced that HP would be acquiring Palm for \$1.2 billion in cash and debt. In the months leading up to the buyout it was rumored that Palm was going to be purchased by either HTC, Dell, RIM or HP. The addition of Palm handsets to the HP product line provides some overlap with the current iPAQ mobile products but will significantly increase their mobile presence as those devices have not been selling well. The addition of Palm brings HP a library of valuable patents as well the mobile operating platform known as webOS. On July 1, 2010, the acquisition of Palm was final. The purchase of Palm, Inc.'s webOS began a big gamble – to build HP's own ecosystem. On July 1, 2011, HP launched its first tablet named HP TouchPad, bringing webOS to tablet devices. On September 2, 2010, won its bidding war for 3PAR with a \$33 a share offer (\$2.07 billion) which Dell declined to match. Following HP's acquisition of Palm, it would phase out the Compaq brand.



On August 6, 2010, CEO Mark Hurd resigned amid controversy and CFO Cathie Lesjak assumed the role of interim CEO. On September 30, 2010, Léo Apotheker was named as HP's new CEO and President.

Apotheker's appointment sparked a strong reaction from Oracle chief executive Larry Ellison,^[29] who complained that Apotheker had been in charge of SAP when one of its subsidiaries was systematically stealing software from Oracle. SAP accepted that its subsidiary, which has now closed, illegally accessed Oracle intellectual property.

On August 18, 2011 HP announced that it would strategically exit the smartphone and tablet computer business, focusing on higher-margin "strategic priorities of cloud, solutions and software with an emphasis on enterprise, commercial and government markets"^[31] They also contemplated spinning off their personal computer division into a separate company.^[32] HP's consideration of a fundamental restructuring to quit the 'PC' business, while continuing to sell servers and other equipment to business customers, would have been similar to what IBM did in 2005.^[33] However, after a brief review, HP decided their PC division was too integrated and critical to business operations, and the company reaffirmed their commitment to the Personal Systems Group.

On September 22, 2011, Hewlett-Packard Co. named former eBay Inc. Chief Executive Meg Whitman its president and CEO, replacing Léo Apotheker, while Raymond Lane became executive chairman of the company.^[35]

On March 21, 2012, HP said its printing and PC divisions would become one unit headed by Todd Bradley from the PC division. Printing chief Vyomesh Joshi is leaving the company.^[36]



Facilities



A sign marking the entrance to the HP corporate headquarters in Palo Alto, California

HP's global operations are directed from its headquarters in Palo Alto, California, USA. Its U.S. operations are directed from its facility in unincorporated Harris County, Texas, near Houston. Its Latin America offices in unincorporated Miami-Dade County, Florida, U.S., near Miami and in Medellín Colombia. Its Europe offices are in Meyrin, Switzerland, near Geneva. Its Asia-Pacific offices are in Singapore. [\[37\]](#)[\[38\]](#)[\[39\]](#)[\[40\]](#)[\[39\]](#)[\[41\]](#)[\[42\]](#) It also has large operations in Boise, Idaho, Roseville, California, Fort Collins, Colorado, San Diego, and Plano, Texas (the former headquarters of EDS, which HP acquired). In the UK, HP is based at a large site in Bracknell, Berkshire with offices in various UK locations, including a landmark office tower in London, 88 Wood Street. Its recent acquisition of 3Com will expand its employee base to Marlborough, Massachusetts.



Products and organizational structure

HP has successful lines of printers, scanners, digital cameras, calculators, PDAs, servers, workstation computers, and computers for home and small business use; many of the computers came from the 2002 merger with Compaq. HP today promotes itself as supplying not just hardware and software, but also a full range of services to design, implement, and support IT infrastructure.

HP's Imaging and Printing Group (IPG) is "the leading imaging and printing systems provider in the world for printer hardware, printing supplies and scanning devices, providing solutions across customer segments from individual consumers to small and medium businesses to large enterprises."^[44] Products and technology associated with IPG include Inkjet and LaserJet printers, consumables and related products, Officejet all-in-one multifunction printer/scanner/faxes, Designjet and Scitex Large Format Printers, Indigo Digital Press, HP Web Jetadmin printer management software, HP Output Management suite of software, LightScribe optical recording technology, HP Photosmart digital cameras and photo printers, HP SPaM, and Snapfish by HP, a photo sharing and photo products service. On December 23, 2008, HP released iPrint Photo for iPhone a free downloadable software application that allows the printing of 4" x 6" photos.^[45]

HP's Personal Systems Group (PSG) claims to be "one of the leading vendors of personal computers ("PCs") in the world based on unit volume shipped and annual revenue."^[44] PSG includes business PCs and accessories, consumer PCs and accessories, (e.g., HP Pavilion, Compaq Presario, VoodooPC), handheld computing (e.g., iPAQ Pocket PC), and digital "connected" entertainment (e.g., HP



MediaSmart TVs, HP MediaSmart Servers, HP MediaVaults, DVD+RW drives). HP resold the Apple iPod until November 2005.^[44]

HP Enterprise Business (EB) incorporates HP Technology Services, Enterprise Services (an amalgamation of the former EDS, and what was known as HP Services), HP Enterprise Security Services oversees professional services such as network security, information security and information assurance/ compliance, HP Software Division, and Enterprise Servers, Storage and Networking Group (ESSN). The Enterprise Servers, Storage and Networking Group (ESSN) oversees "back end" products like storage and servers. HP's networking business unit ProCurve is responsible for the family of network switches, wireless access points, and routers.^[46] They are currently a business unit of ESSN.



An HP camera with an SDIO interface, designed to be used in conjunction with a Pocket PC

HP Software Division is the company's enterprise software unit. For years, HP has produced and marketed its brand of enterprise management software, HP OpenView. From September 2005 through 2010, HP purchased a total of 15 software companies between as part of a publicized, deliberate strategy to augment



its software offerings for large business customers. HP Software sells three categories of software: IT performance management, IT management software and information management software. HP Software also provides consulting, Software as a service, cloud computing solutions, education and support services.

HP's Office of Strategy and Technology has four main functions:

- (1) steering the company's \$3.6 billion research and development investment,
- (2) fostering the development of the company's global technical community,
- (3) leading the company's strategy and corporate development efforts,
- (4) performing worldwide corporate marketing activities.

Under this office is *HP Labs*, the research arm of HP. Founded in 1966, HP Labs's function is to deliver new technologies and to create business opportunities that go beyond HP's current strategies. An example of recent HP Lab technology includes the Memory spot chip. *HP IdeaLab* further provides a web forum on early-state innovations to encourage open feedback from consumers and the development community.

HP also offers managed services where they provide complete IT-support solutions for other companies and organisations. Some examples of these are: A large activity is HP offering "Professional Support" and desktop "Premier Support" for Microsoft in the EMEA marketplace. This is done from the Leixlip campus near Dublin, Sofia and Israel. Support is offered on the line of Microsoft operation systems, Exchange, Sharepoint and some office-applications.^[51] But HP also offers



outsourced services for companies like Bank of Ireland, some UK banks, the U.S. defense forces, etc.

Corporate social responsibility

In July 2007, the company announced that it had met its target, set in 2004, to recycle one billion pounds of electronics, toner and ink cartridges. It has set a new goal of recycling a further two billion pounds of hardware by the end of 2010. In 2006, the company recovered 187 million pounds of electronics, 73 percent more than its closest competitor.

In 2008, HP released its supply chain emissions data — an industry first.

In September 2009, *Newsweek* ranked HP No.1 on its 2009 Green Rankings of America's 500 largest corporations. According to environmentalleader.com, "Hewlett-Packard earned its number one position due to its greenhouse gas (GHG) emission reduction programs, and was the first major IT company to report GHG emissions associated with its supply chain, according to the ranking. In addition, HP has made an effort to remove toxic substances from its products, though Greenpeace has targeted the company for not doing better."

HP took the top spot on *Corporate Responsibility Magazine's* 100 Best Corporate Citizens List for 2010. The list is cited by *PR Week* as one of America's most important business rankings. HP beat out other Russell 1000 Index companies because of its leadership in seven categories including environment, climate changes and corporate philanthropy. In 2009, HP was ranked fifth.



Fortune magazine named HP one of the World's Most Admired Companies in 2010, placing it No. 2 in the computer industry and No. 32 overall in its list of the top 50. This year in the computer industry HP was ranked No. 1 in social responsibility, long-term investment, global competitiveness, and use of corporate assets.^[59]

In May 2011, HP released its latest Global Responsibility report covering accomplishments during 2010. The report, the company's tenth, provides a comprehensive view of HP's global citizenship programs, performance, and goals and describes how HP uses its technology, influence, and expertise to make a positive impact on the world. The company's 2009 report won best corporate responsibility report of the year. The 2009 reports claims HP decreased its total energy use by 9 percent compared with 2008. HP recovered a total of 118,000 tonnes of electronic products and supplies for recycling in 2009, including 61 million print cartridges.

In an April 2010 *San Francisco Chronicle* article, HP was one of 12 companies commended for "designing products to be safe from the start, following the principles of green chemistry." The commendations came from Environment California, an environmental advocacy group, who praised select companies in the Golden State and the Bay Area for their efforts to keep our planet clean and green.

In May 2010, HP was named one of the World's Most Ethical Companies by Ethisphere Institute. This is the second year in a row HP has made the list. Ethisphere reviewed, researched and analyzed thousands of nominations in more than 100 countries and 35 industries to create the 2010 list. HP was one of only 100 companies to earn the distinction of top winner and was the only computer



hardware vendor to be recognized. Ethisphere honors firms that promote ethical business standards and practices by going beyond legal minimums, introducing innovative ideas that benefit the public.

HP is listed in Greenpeace's Guide to Greener Electronics that ranks electronics manufacturers according to their policies on sustainability, energy and climate and green products. In November 2011, HP secured the 1st place (out of 15) in this ranking (climbing up 3 places) with an increased score of 5.9 (up from 5.5). It scored most points on the new Sustainable Operations criteria, having the best programme for measuring and reducing emissions of greenhouse gases from its suppliers and scoring maximum points for its thorough paper procurement policy.

Moreover, HP does especially well for its disclosure of externally verified greenhouse gas emissions and its setting of targets for reducing them. However, Greenpeace reports that HP risks a penalty point in future editions due to the fact that it is a member of trade associations that have commented against energy efficiency standards.

HP has earned recognition of its work in the area of data privacy and security. In 2010 the company ranked No. 4 in the Ponemon Institute's annual study of the most trusted companies for privacy. Since 2006, HP has worked directly with the U.S. Congress, the Federal Trade Commission (FTC), and the Department of Commerce to establish a new strategy for federal legislation. HP played a key role in work toward the December 2010 FTC report "Protecting Consumer Privacy in an Era of Rapid Change."

After winning nine straight annual "Most Respected Company in China" awards from the Economic Observer and Peking University, HP China has added the "10



Year Contribution" award to its list of prestigious accolades. The award aims to identify companies doing business in China with outstanding and sustained performance in business operations, development and corporate social responsibility.

Brand



A Hewlett-Packard sponsored Porsche 997 GT3 Cup



The company sponsors the HP Pavilion at San Jose, home to the NHL's San Jose Sharks.



According to a Business Week Study, HP is currently the world's 11th most valuable brand. Since its creation, the HP Logo has remained largely the same. Because of its extreme simplicity, the logo is recognized all over the world.

HP has many sponsorships. One well known sponsorship is of Walt Disney World's Epcot Park's Mission: SPACE. From 1995 to 1999 they were the shirt sponsor of Premier League club Tottenham Hotspur F.C..^[citation needed] From 1997 to 1999 they were sponsors of Australian Football League club North Melbourne Football Club.^[citation needed] They also sponsored the BMW Williams Formula 1 team until 2006 (a sponsorship formerly held by Compaq), and as of 2010 sponsor Renault F1.^[citation needed] Hewlett-Packard also has the naming rights arrangement for the HP Pavilion at San Jose, home of the San Jose Sharks NHL hockey team.

After the acquisition of Compaq in 2002, HP has maintained the "Compaq Presario" brand on low-end home desktops and laptops, the "HP Compaq" brand on business desktops and laptops, and the "HP ProLiant" brand on Intel-architecture servers. (The "HP Pavilion" brand is used on home entertainment laptops and all home desktops.)

HP uses DEC's "StorageWorks" brand on storage systems; Tandem's "NonStop" servers are now branded as "HP Integrity NonStop".

Hp Discover Customer Event

In 2011, HP Enterprise Business, along with participating independent user groups, combined its annual HP Software Universe, HP Technology Forum and HP Technology@Work into a single event, HP DISCOVER. There are two HP Discover events annually, one for the Americas and one for Europe, Middle East



and Africa (EMEA). HP DISCOVER 2011 Americas took place June 6–10, in Las Vegas at the Venetian/Palazzo. The event offered nearly 1,000 sessions on application transformation, Converged Infrastructure, information optimization, mobile devices, webOS, global data centers, security, hybrid delivery and cloud computing. Approximately 10,000 customers, partners and IT thought leaders attended HP Discover 2011 in Las Vegas and approximately 5,000 are expected to attend the EMEA event. The Americas conference featured tracks designed for several industries including automotive and aerospace; communications, media & entertainment, energy, financial services, healthcare and life sciences, high tech and electronics, public sector, retail and consumer goods, and transportation and logistics. The nearly 1,000 sessions, hands-on labs and exhibits explored all areas of the HP Enterprise Business portfolio including servers, storage, networking, software and services. In addition, the company provided sneak previews of its new tablet device, webOS TouchPad which will be available in July 1, 2011, starting at \$500.

The HP DISCOVER 2011 event in EMEA is slated to take place in Vienna, Austria, at the Reed Exhibitions, Messe Wien Congress Center, on November 29 through December 1, 2011.

Controversies

Spying Scandal

Main article: Hewlett-Packard spying scandal

On September 5, 2006, David O'Neil and Shawn Cabalfin from *Newsweek* revealed that HP's general counsel, at the behest of chairwoman Patricia Dunn, contracted a team of independent security experts to investigate board members and several



journalists in order to identify the source of an information leak. In turn, those security experts recruited private investigators who used a spying technique known as pretexting. The pretexting involved investigators impersonating HP board members and nine journalists (including reporters for CNET, the *New York Times* and the *Wall Street Journal*) in order to obtain their phone records. The information leaked related to HP's long-term strategy and was published as part of a CNET article in January 2006. Most HP employees accused of criminal acts have since been acquitted.

Hardware

Hewlett-Packard has also been at the center of a fiasco in recent years. In November 2007, Hewlett-Packard released a BIOS update covering a wide range of laptops with the intent to speed up the computer fan as well as have it run constantly, whether the computer was on or off. The reason was to prevent the overheating of defective NVIDIA graphics processing units (GPUs) that had been shipped to many of the original equipment manufacturers, including Hewlett-Packard, Dell, and Apple. In July 2008, HP revealed an extension to the initial one-year warranty covering a few of the affected computers, but leaving many more without the protection, despite research showing that these computers were also affected. Since this point, several websites have been documenting the issue, most notably www.hplies.com and nvidiasettlement.com, a forum dedicated to what they refer to as Hewlett-Packard's "multi-million dollar cover up" of the issue. There have been several small-claims lawsuits filed in several states, as well as suits filed in other countries. Hewlett-Packard also faced a class-action lawsuit in 2009 over its i7 processor computers. The complainants stated that their systems locked up



within 30 minutes of powering on, consistently. Even after being replaced with newer i7 systems, the lockups continued.

HP and Oracle lawsuit

On June 15, 2011, HP filed a lawsuit in California Superior Court in Santa Clara, claiming that Oracle had breached an agreement to support the Itanium microprocessor used in HP's high-end enterprise servers.^[91] On June 15, 2011, HP sent a "formal legal demand" letter to Oracle in an attempt to force the world's No. 3 software maker to reverse its decision to discontinue software development on Intel Itanium microprocessor.

Notable people

- Michael Capellas (Compaq CEO/Chairman - HP President)
- Rahul Sood (VoodooPC Founder)
- Steve Jobs (Summer job)
- Steve Wozniak (calculator designer)

Consumer Perception about HP & Dell

Hewlett-Packard reported its financial results for the quarter ending on April 30, 2011, early in the day on May 17, a day sooner than expected. Dell reported its financial results the same day, at its normal time at the end of the day. In many ways, as we will see in a minute, the results were similar. Yet the financial market reaction was dramatically different. HP's stock price dropped by 7% during the day, while Dell's stock price rose by almost 7% in after-hours trading. *Bloomberg*



News, in its article on the two companies' results, headlined what it saw as the reason for the different performance: "Dell Shares Rise After Corporate Spending Gives Company Edge Over Rival HP."

First, let's compare the actual numbers. HP's revenues in the quarter were up by 3%, and right in line with expectations, while Dell's revenues were just 1% higher, and lower than expectations. Dell's sales to business rose by 3%, while HP's sales increased by 8%. Dell's sales to consumers fell by 7%, slightly better than the 8% drop in HP's sales to consumers. So far, very similar numbers between the two vendors, with HP actually doing better than Dell in the quarter. So, why the market perception that Dell outperformed HP?

One reason is that Dell's earnings were better, at least in terms of growth. HP's net income increased by 5% and its earnings per share by 15%, while Dell's earnings rose by a much more impressive 177% and its earnings per share by 188%. However, Dell had a particularly bad quarter the year before, so its growth numbers reflect that low base. Another reason is that Dell raised its revenue and income expectations for future quarters, while HP lowered its fiscal 2011 annual revenues by \$1 billion.

But there is third reason why the reaction to Dell's and HP's results was so different, and that is perception: Dell was perceived as having a smaller exposure to the consumer market than HP and so was less exposed to the buzz saw of Apple's iPad that is decimating consumer demand for conventional laptops and netbooks. That perception is partly but not entirely true. In this quarter, Dell's ratio of consumer-to-business revenues was 20%/80%; HP's ratio was 32%/68%. That is a difference, but it's a shades-of-gray difference, not a black-and-white



difference. Still, in today's market, if a vendor is in the consumer computer hardware business and is not named Apple, it will suffer in the eyes of stock investors. Dell was less in that business than HP, so it was perceived to be doing better.

From a strategic perspective, this episode raises the question as to whether vendors like Dell, HP, or even Microsoft that are in both the consumer and business computing markets should do what IBM did several years ago and sell off their consumer computing business. IBM's stock price in 2011, which is up 15% so far this year while Microsoft's and HP's are both down, shows there is shareholder value in being focused just on the business computing market and not trying to compete in both the business and consumer markets. Apple makes the same point from the other side. However, it is not practical for Dell or HP to separate its consumer PC business from its business PC business, nor is it reasonable for either to spin off the whole PC business, given its size for both companies.

Still, there is an alternative that provides some of the same benefits at much, much lower cost. That is to provide greater clarity about the relative size of their consumer versus business revenues. Dell actually does this, with a clean, simple number for its consumer revenues compared to its business and government revenues. HP does not, providing only a breakdown of its printer product revenues between consumer and business purchases and no numbers on what proportion of PC, server, storage, or services revenues come from consumers versus business. (Microsoft -- which we think has a very similar ratio of consumer-to-business revenues as HP -- is just as bad as HP in not disclosing actual consumer versus business revenue.) So it is not surprising that when both Dell and HP report that their consumer PC revenues are down, investors assume that HP is suffering



more than Dell. Dell can point to a number that shows only 20% of its revenues come from consumers; HP cannot point to a number that shows only 32% of its revenues come from consumers. And it is probably no coincidence that both IBM and Dell have had similar rises in their stock prices this year, while the more obscurantist Microsoft and HP are each down.

Finally, turning to what Dell's and HP's revenue numbers show about tech market trends in the business tech market that we track, our expectation of slowing but still positive growth in business and government purchases of computer equipment is being borne out, though with some interesting twists. First, for all the computer equipment vendors that we track (with estimates for NetApp and Lenovo until they report), computer equipment purchases by business and government rose by 8% in Q1 2011, slower than the 13% to 21% growth rates of 2010, but not bad. Second, servers have done surprisingly well, with a 9% rise at HP, a 10% rise at HP, and a 22% rise at IBM (Unisys and Fujitsu did not do as well). We had expected slower growth as virtualization reduces the demand for servers, but it is possible that server buying by telcos and other would-be cloud vendors (including, of course, IBM, HP, and Dell) has kept demand growing. Third, corporate buying of PCs still is strong, but government buying is dropping.



Objective of the study

- To find the customer awareness of our brand in our target market.
- To find out market share of both the companies.
- To assess the level of satisfaction of customer for both the brand.
- To study the market promotion strategies of both the brand
- To know the various factors attributing to competitive edge of HP & Dell service provider over others.
- To know the perception of different factors of HP & Dell Laptop & Desktop.
- Analysis the market share of Dell & Hp.
- To study the marketing strategies of Dell & Hp.



RESEARCH METHODOLOGY

a) **Research Concepts**

b) **Opted methodology**

RESEARCH CONCEPTS

RESEARCH

Research in common parlance refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. Thus we can take research as an art of scientific investigation. The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet.

Different basic types of research are:

- (i) **Descriptive vs. Analytical**: Descriptive research includes surveys and fact finding enquiries of different kinds. In Analytical research,



on the other hand, the researcher has to use the facts or information already available, and analyze these to make a critical evaluation of the material.

- (ii) **Applied vs. Fundamental**: Applied research aims at finding a solution for an immediate problem facing a society or an industrial / business organization, whereas fundamental research is mainly concerned with generalizations and with the formulation of a theory.

- (iii) **Quantitative vs. Qualitative**: Quantitative research is based on the measurement of quantity or amount. It is applicable to the phenomenon that can be expressed in terms of quantity. Qualitative research, on the other hand is concerned with qualitative phenomenon i.e., phenomenon relating to or involving quality or kind.

- (iv) **Conceptual vs. Empirical**: Conceptual research is related to some abstract ideas or theory. It is used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. While, Empirical research relies on experience or observation, often without due regard for system and theory.

Significance of Research

The role of research in several fields of applied economics, whether related to business or to the economy as a whole, has greatly increased in modern times. Research provides the basis for all government policies in our economic system. It has its special significance in solving various operational and



planning problems of business and industry. It is equally important for social scientists in studying social relationships and in seeking answers to various social problems.

Research Methodology

Research methodology is a way to systematically solve the research problem. It can be taken as a science of studying how research is done scientifically. It not only includes research methods but also considers the logic behind the methods we use in the context of our research study and also explain why we are using a particular method or technique, so that research results are capable of being evaluated either by the researcher himself or by others. Further it is equally important to select an appropriate method for a particular research as to develop new methods. There is also a need to understand the assumptions underlying various techniques and also to know the criteria by which it is to decide that certain techniques and procedures will be applicable to certain problems and others will not. Also the term research and scientific methods are closely related. The scientific methods attempts to achieve a systematic interrelation of facts by experimentation, observation, logical arguments from accepted postulates and a combination of these three in varying proportions. In scientific method, logic aids in formulating propositions explicitly and accurately so that their possible alternatives become clear.





Research Process

Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps. The following order concerning various steps provides a useful procedural guideline regarding the research process:

Formulating the research problem,

Extensive literature survey,

Developing the hypothesis,

Preparing the research design,

Determining the sample design,

Collecting the data,

Execution the project,

Analysis of data,

Hypothesis testing,

Generalizations and interpretations, and

Preparation of the report.



Sampling

A researcher must have to decide the way of selecting a sample or popularly known as design. Samples may be either probability samples or non-probability samples. With probability samples each elements has a known probability of being included in the sample but the non-probability samples do not allow the researcher to determine this probability. Probability samples are those based on simple random sampling, systematic sampling, stratified sampling, cluster / area sampling whereas non-probability samples are those based on convenience sampling, judgment sampling and quota sampling techniques. These are described as:

Deliberate sampling: This sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe.

Simple Random sampling: In this type of sampling each & every item in the population has an equal chance of inclusion in the sample and each one of the possible samples, if finite universe, has the same probability of being selected.

Systematic Sampling: An element of randomness is usually introduced into this kind of sampling by using random numbers to pick up the unit with which to start.

Stratified Sampling: In this technique the population is stratifies into number of non-overlapping sub populations or strata and sample items are selected from each stratum.

Quota Sampling: To avoid high cost of taking samples from individual strata, interviewers are simply given quota to be filled from different strata, the actual selection of items for sample being left to the interviewer's judgment.



Cluster / Area Sampling: Cluster sampling involves grouping the population and then selecting the groups or the clusters rather than individual elements for inclusion in the sample. Area sampling is similar to cluster sampling and is often talked about when the total geographical area of interest happens to be big one.

Multi-stage sampling: Under this technique the first stage may be to select large primary sampling units such as states, then districts, then towns, and finally certain families within the towns. This technique is meant for big enquiries extending to a large geographical area.

Sequential Sampling: In this complex sample design the ultimate size of the sample is not fixed in advance but is determined according to mathematical decisions on the basis of information yielded as survey progresses. It is usually adopted under acceptance sampling in the context of statistical quality control.



OPTED METHODOLOGY

A research design specified the procedure & method for conducting and controlling the research project. It is the specification of methods and procedure for acquisition of the information needed. It is the overall pattern or framework of the project that stipulates what information is to be collected from which sources by what procedure. Generally a research design is a blue print of the research. The research study must explicitly state its plan about collection and analysis of the data.

RESEARCH DESIGN: - The type of my study is Descriptive, as the needs of employee towards training is not an apparent phenomenon, that's why it is required to study it in depth and explore the different parameters for needs of training.

Data Collection: - Primary & Secondary Data.

Primary Data:- It is collected through a structured questionnaire having questions on various aspects of training. It is based on the objectives set for the study.

Secondary Data: - It is collected from Magazines, Books and Websites of company.

Sample Size: - Though I have proposed to have a size of 100 who had cooperated and supported me in filling my questionnaire and thereby provides me the data.

Sample Domain: -Bareilly.

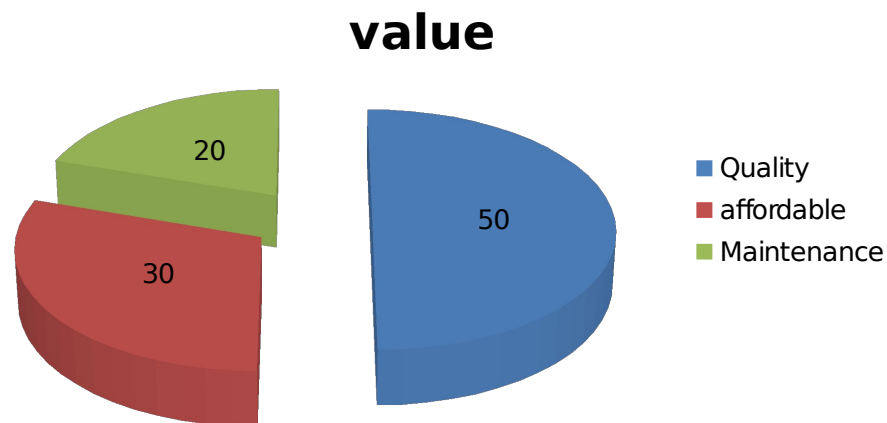
Data Interpretation & Analysis



1. What is the First thing, which comes into your mind when you think about Dell and HP?

Data Received

Answer	Value	%age
Quality	50	50
Affordable	30	30
Maintenance	20	20



Out of 100 as shown in data when the people listen about Dell and HP the first think ,which comes in their mind that is Quality (50%) then affordable (30%) in the end Maintenance (20%).

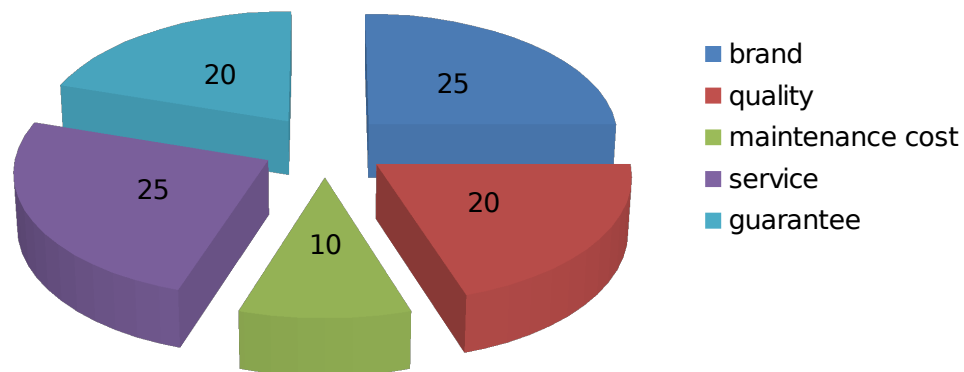
2. What do you find most important when buying a Laptop?



Data received

Answer	Value	%age
Brand	25	25
Quality	20	20
Maintenance cost	10	10
service	25	25
Guarantee	20	20

value



In the table we can see that when the people buy a Laptop a lot of things they saw in a Laptop as brand, quality, maintenance cost, service and guarantee.

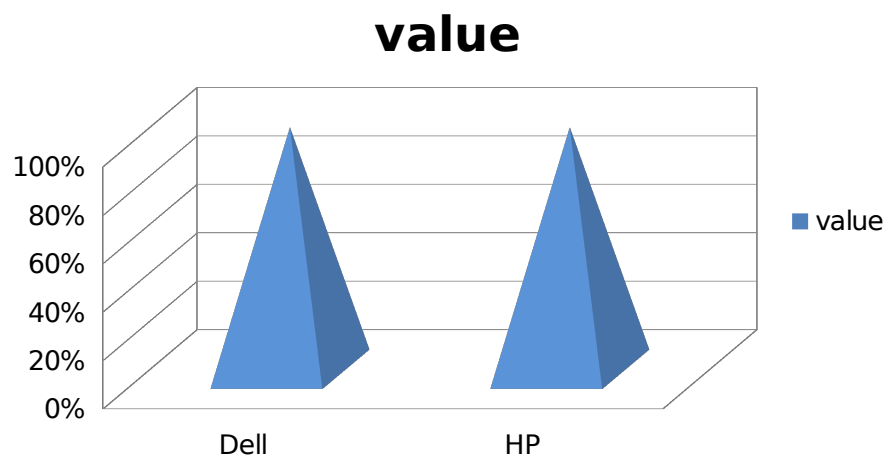
As shown in table we can see 25% people think about brand 20% think about quality 10 about maintenance cost 25 about services and last 20 about guarantee.



3.Which company of laptop would you prefer as of today?

Data received

Answer	value	%age
Dell	50	50
HP	50	50



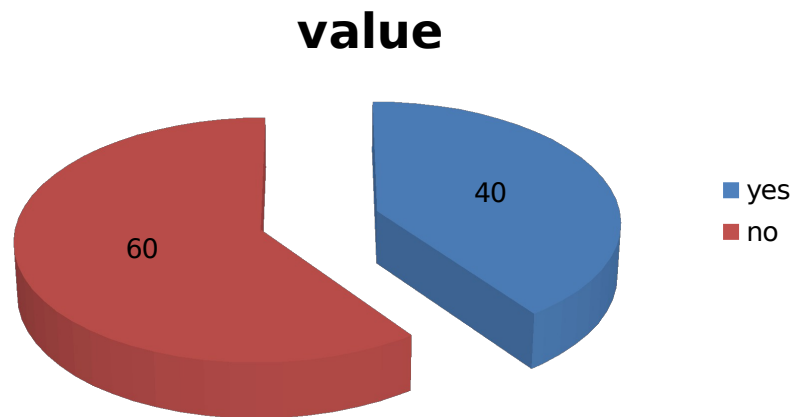
As shown in table 50% people think about Dell and last 50% people think about HP as a good laptop



3. Instead of purchasing a Dell, will you prefer to go for the HP?

Data received

answer	value	%age
yes	40	40
no	60	60



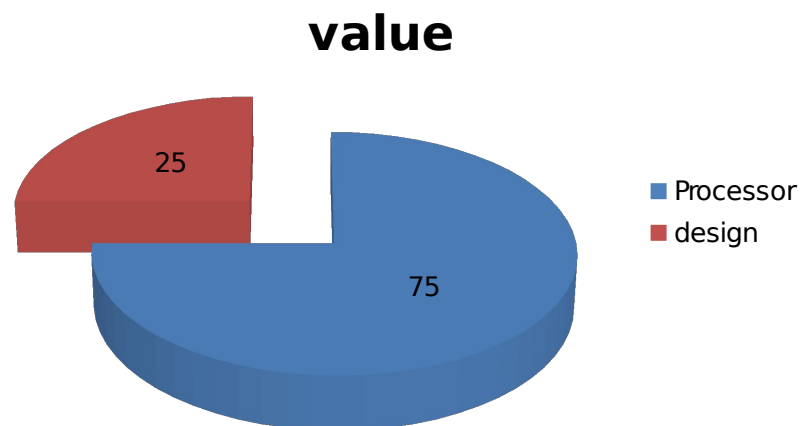
As shown in table we can see there is 60% people don't want to change their Dell laptop but 40% people who want to change their laptop instead of Dell and want to purchase HP.



4. Which feature of Dell attracts you most, that inspires you to go for Dell?

Data received

answer	value	%age
Processor	75	75
design	25	25



25% people attract with Processor but there is a 75 % who are attracted with its design.

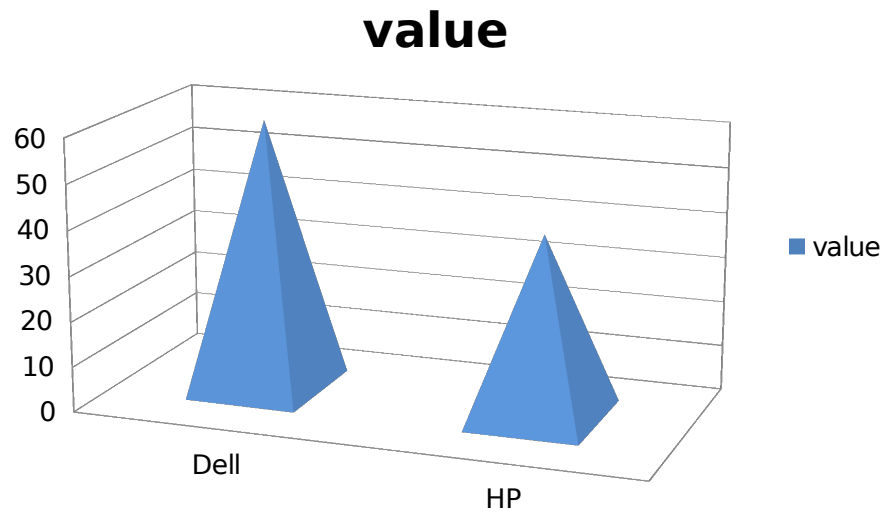
So we can see here that 75% people think that Dell laptop well rather than HP laptop.

5. Which service would you prefer?



Data received

answer	value	%age
Dell	60	60
HP	40	40



As shown in table 60% people like Dell & 40% people like HP laptops.

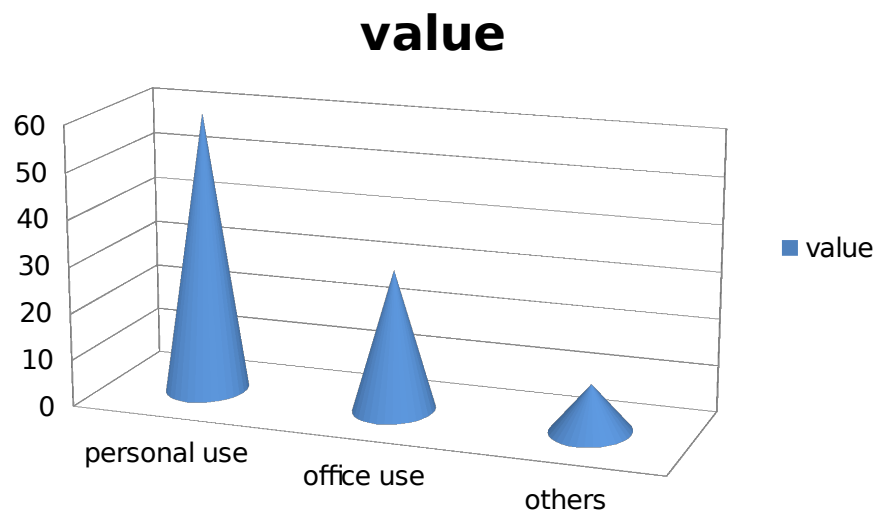
So here most of the people which want to purchase a Dell.

6. For what purpose would you like to use laptop?



Data received

Answer	Value	%age
Personal use	60	60
Office use	30	30
others	10	10



60% people uses laptops for their personal use and 30% uses for office use and less 10% for other uses.

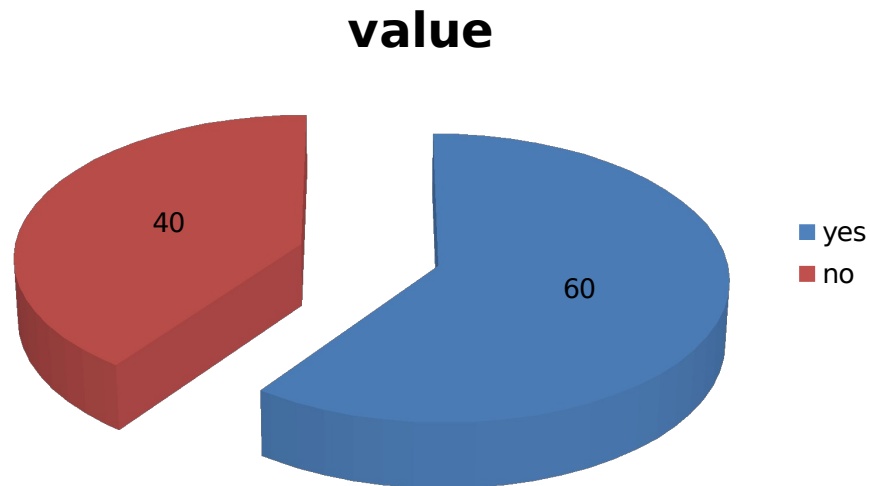
As shown in table we can see most of the people uses laptops for their personal use .

8. Do you think Dell is good better than HP?

Data received



answer	value	%age
yes	60	60
no	40	40



As shown in table we can see out of 100 people 60 % people think that Dell is better than HP laptops

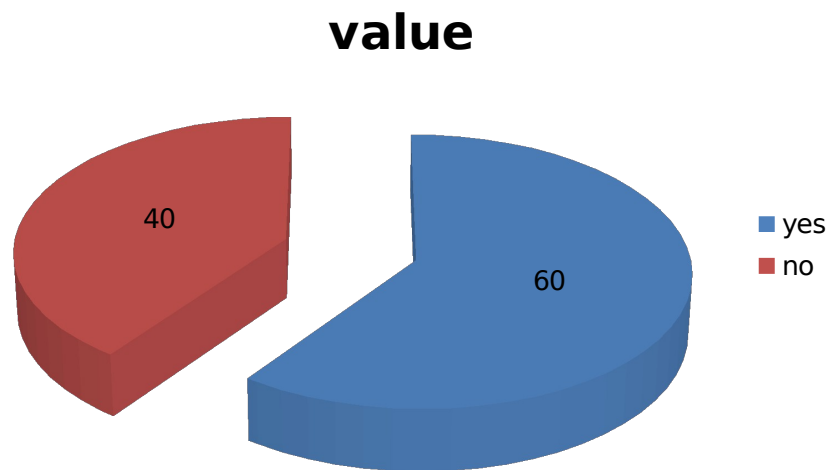
Brand, Quality, Maintenance cost, Service and Guarantee they get everything in Dell.

9.Will you recommend Dell to your friends and relatives?

Data received



answer	value	%age
yes	60	60
no	40	40



Out of 100 60 % people think that they recommend Dell laptop to their friends and relatives. Less 40% against that.

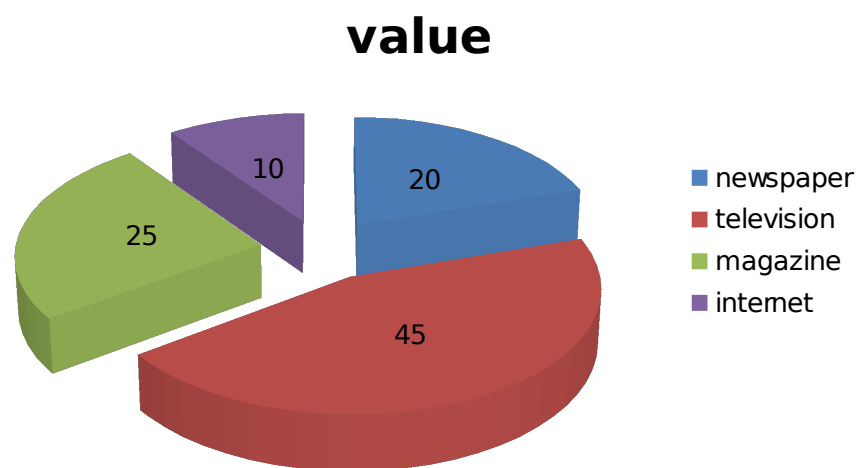
As shown in table most of the people want to recommend Dell to their friends and relatives.

10. Which kind of adv. attracted you to Dell and HP?

Data received



answer	value	%age
newspaper	20	20
television	45	45
magazine	25	25
internet	10	10



As shown in table most of the people attracted with television advertising after that magazine .

We can see 20% attracted with newspaper 45% attracted with television 25 % attracted with magazine and last 10% with internet.

Findings

- 1) Out of 100 as shown in data when the people listen about Dell and HP laptop the first think ,which comes in their mind that is Dell is favorit rather than HP laptop.



- 2) In the table we can see that when the people buy a laptop a lot of things they saw in a car as brand, quality, maintenance cost, service and guarantee. As shown in table we can see 25% people think about brand 20% think about quality 10 about maintenance cost 25 about services and last 20 about guarantee.
- 3) As a people prefer both Dell and HP laptops because both are good company. As shown in table 60% people think about Dell and last 40% people think about HP as good quality laptop.
- 4) As shown in table we can see there is 60% people don't want to change their Dell laptop but 40% people who want to change their laptop of Dell and want to purchase HP laptop.
- 5) 25% people attract with colour but there is a 75 % who are attracted with its processor. So we can see here that 75% people think that its design that inspires them to go for Dell laptop.
- 6) 60% people uses laptop for their personal use and 30% uses for office use and less 10% for other uses. As shown in table we can see most of the people uses laptop for their personal use .

LIMITATIONS

1. Employees were not available at a common time as they are working in different shifts. I was not in a position to approach employees working in the night shift.



2. There were some problems in collecting primary data; the employees were hesitating in giving their personal information and time.
3. To some extent employees were not aware about the concept of organizational climate.
4. Some of the employees were not interested in filling the questionnaire.
5. Some of the old employees were not want to expose the real image of the organization.
6. Some of the employees were not permitted by their seniors to fill the questionnaire.
7. Some of the employees were not able to give the answers because of lack of proper knowledge and other activities in the organization.
8. Employees were taking much time to agree for filling the questionnaire.



Conclusion

There is a fierce competition between Dell and HP for market domination of laptops. It's quite difficult to come to a conclusion when you are going to buy a laptop from one of these two brands. However, if you have right details it won't be a tough decision to make. We are going to summarize the battle between HP vs. Dell based on reliability, design, price, and customer service. Then it will be easier to buy the best laptop that fits your needs. One of the important facts to consider when you buy a laptop is its reliability. If a laptop can't be used for at least two years without problems, there's no point of buying such laptop. Laptops are more vulnerable than desktops. Also it's hard to find accessories for laptops. That's why you need to make a wise decision when you are going to buy a laptop. It is necessary to have better aesthetics for a laptop. That is one of the main reasons why people tend to buy laptops. Dell laptops are usually simple in design and come with vivid colors unlike HP laptops. Their keyboards are among the best for laptops. Displays are pretty good with better brightness.

HP laptops have great looking designs including various patterns and textures in the interior of the laptops. Also different styles of keyboards are available on their laptops. However none of these brands can stand out from another based on their design quality. **We like to both of their designs.** However Dell might have slight edge over HP due to their keyboard designs and track pads. Customer service is one of the important aspects when it comes to laptops. In this scenario Dell seems to have a better chance of leading the game of Dell vs. HP.

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