

# Indian laptop industry



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Report On The Laptop Industry in India By: Abhishek Dutta Ayush Palod Amit Jha Aditya Patnaik Debanjan Roy Kanwardeep Singh Mukesh Lohan Pallavi Arora Ravinder Pal Singh Shantanu Sinha Sujay Kher Somdipto Ghosh A brief Introduction on the Laptop Industry of India Computers One industry which continues to hold its head high even in an environment of industrial slowdown is information technology (IT) – with annual growth rates of software value hovering between 20% and 30%. Growth rates for the industry earlier were as high as 40% to 60%.

The soft-ware industry is supported, on the one hand, by the hardware industry – computers, peripherals and components, and on the other, by IT-related services. Software exports have been a source of strength for the economy as a whole and for the hardware segment. The industry recorded an exponential annual growth rate over 24% in the years from Rs 801 bn in 2001-02 to Rs 2, 911 bn in 2007-08. IT and electronics exports at Rs 305 bn in 2000-01 were up 64% from Rs 185 bn in 1999-2000.

During the period 2001-02 to 2007-08, exports of software increased from Rs 365 bn in 2001-02 to 1630 bn in 2007-08, recording a CAGR of over 28%. At the time when Indian PC market is experiencing slowdown, market players are focusing on new growth drive through low price laptops ‘notebooks’. While the average price of a PC is Rs 20, 000, the price of an entry level notebook starts from Rs 35, 000. With several sectors reeling under the impact of global slowdown, expenditure on IT is expected to decline 3. 7% in 2009.

A survey by research firm, Gartner says that budgets for IT hardware will bear the brunt of cuts of almost 14.9%. The advent of the sub-Rs 10,000 PC, it is expected, will help India achieve the 80 mn PC usage target by 2010 from 15 mn right now. Taking into account the annual population growth, this means PC sales as well as penetration in the country will more than double every three years. From 3.

77 mn in 2004-05, PC sales in the country increased by 32% to cross the 5 mn mark in 2005-06. In the following year, 2006-07, the number rose to 6.34 mn. The PC sales – notebooks and desktops – registered a growth rate of nearly 16% in 2007-08 over 2006-07 registering sale of 7.34 mn.

The market was led by high growth in notebook segment at 114% with sale of over 1.8 mn units, while desktop increased by a slightly over half a per cent with sale of 5.52 mn units in 2007-08. Desktops accounts for less than 75% of total personal computer market while laptop had 25% share.

The ratio of desktop-to-note book sale has declined from 10:1 in 2005-06 to 3:1 in 2007-08. Note book vendors like Lenovo, HP, LG, Acer, HCL, Dell and Toshiba have launched new models with value added features. According to IDC, over the next five years, India's laptop market is expected to grow at a CAGR of 30%. By 2010, India will have 1.75 million laptops market in unit terms.

In value terms, it would translate into nearly three fold growth to USD 1.87 bn or 24% of the market, up from USD 671 mn which is about 20% of the total desktop in 2005. HP commands 41% of the laptop market. In PC

segment, Dell accounts for a market share of 7.3% while HP has 20.3%, HCL has 13.

9% and Lenovo 9.4 The business segment accounted for about 74% of the total PC sales, registering a growth rate of 18% year-on-year. The home PC market expanded at a growth rate of 23%. The sales to large enterprises witnessed a growth of 69%. The implementation of various e-governance projects led to an increase of 126% in government usage.

The young segment aged between 18-30 years constitutes 50-60% of the market. By 2009-10, the young buyers are expected to account for 70-80% of the overall market. The emergence of user segments like the household professionals are driving the growth. Household professionals accounted for 40% of the total demand in the segment. While SMEs (small and medium enterprises) accounted for 43% of total sales, the rest was accounted for by large corporates or organizations.

The share of large corporates owning laptops has come down from 56% in 2006-07 to 44% in 2007-08. The high income segment of consumer household recorded a 21% growth in demand and continued to dominate the market with 55% share in the overall household segment. The middle level segment registered a 16% growth in sales and accounted for 29% in the segment. Households in the relatively low income bracket posted a decline in its share. Sales in this segment declined by 14%.

World computer chip leader, Intel, unveiled a new processor designed to turn a personal computer into a living room multimedia centre. Intel also announced new ventures with other electronics producers, including

Microsoft and content vendors to give a richer Internet content experience. Intel was expected to launch small, affordable laptops for students, called 'Eduwise' in the Indian market by earlier of 2008. Eduwise does not have a hard drive. It has a flash memory and can be networked through the Internet and through wired or wireless network.

Eduwise is expected to cost less than USD 400. Intel, which invested USD 700 mn in India over the past few years, has plans to invest over a in India towards R; D and other investments. Apple is expected to unveil the first Mac-based on Intel processors. Apple recently added some Media Centre-like capabilities to its iMac line with a programme, called Front Row.

Big Apple Manufacturing has sold about 1300 computers priced at around Rs 7000 in about nine months. All the hardware features are built into the monitor. The 14in colour monitor contains eatures such as a Celeron 300 microprocessor (equivalent to a low-end Pentium II), 810E motherboard, 1GHz processing speed, 64 MB RAM, 10 GB hard disk drive, a 56 kbps modem with LAN card, sound card and inbuilt stereo speakers with mike (sensitive upto 20 feet) and three USB ports. It comes with a keyboard that has a touch-pad mouse (like the one on laptops).

Along with this package, comes 7a free Intel phone for Internet communication that can be interfaced with a web camera. Big Apple's computer also comes with a one-year warranty, occupying about 1. 5 sft of space. Designed specifically for BPOs and Internet browsing centres also found a market in schools and hotels.

Increasing number of schools are acquiring these computers in bulk.

Singapore-based contract manufacturing company, Flextronics Corporation, plans to manufacture computers in SEZ at Chennai with chip from its JV partner SemIndia. The contract manufacturing market for PCs in India is estimated at US USD 20 bn. Patni Computers System and Sahara computers have chosen Flextronics as their contract manufacturer.

The company assembles PCs and manufacture the body and the mouldings for the PC and the laptops. Dell has chosen Chennai as its first manufacturing facility in India. It has committed an investment of USD 60 mn, including USD 30 mn expected to come in five years. Initially, it will manufacture desktop computers, which account for 70% of its sales in India. Dell entered India in September 2000 and in 2005-06 reported a turnover of Rs 18 bn, growing at 60% per annum. Dell planned to invest Rs 2.

8 bn in its manufacturing facility near Chennai. Dell has made its foray into small business and home segment in India and is already generating 15% of its revenues from this segment. Dell is among the top 5 PC vendors in the country. Dell introduced Dell Adamo in 2009, it is the latest to claim its position amongst the coveted svelte devices of 2009.

Lenovo launched Ideapad Y650. It is a neat multimedia notebook with latest features. Apple computers made a dynamic entry into the notebooks' market with Intel processors. Hewlett-Packard (HP), Fujitsu, Lenovo and even Sony have launched notebooks in the sub-Rs 70, 000 bracket.

HP India has launched the HP Pavilion notebook, decked up with HP's Imprint Finish technology. Lenovo has also introduced N100 in the notebook

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segment. It gives a better impression with its processing power (Intel's core duo processor). N100 incorporates a 4-in-1 multi-card reader for downloading digital pictures from multiple types of memory cards, four USB ports (all side mounted), 4-pin Fire Wire and S-Video port. Lenovo's Think Pad is now targeted at small and medium businesses, individuals and self employed professionals. The Think Pad series also includes Think-Center desktops.

Think Pad has a strong business usage while the Lenovo series is more for mail chat and entertainment use. Lenovo is planning to expand its capacity from 0. 6 to 1 mn units. Lenovo had plans to set up its second unit for manufacturing in north India.

Its Puduchery plant has a capacity of 370, 000 units. In 2005-06 the turnover of Lenovo was Rs 6 bn. Lenovo has made SMB a target by introducing new version of its Thinkpad range styled as Thinkpad 52. Dell has also come up with two new models for SMB sector.

A report by MAIT (a body representing IT hardware) showed that sales in 2007-08 were up by a sharp 114%. In notebook sales, currently laptops account for 25% of the computer sales. Fujitsu's Life Book series of notebooks take a much more traditional approach. Life Book C1320 (Rs 43, 000), S2110 (Rs 63, 000) and S6240 (Rs 93, 000) are a bunch of modular looking notebooks. The S6240 is powered by the Intel Pentium M750 (1. 86 GHz) processor, a 60 GB hard drive, a 13.

3-inch LCD screen. Fujitsu Life Book S2110 runs on a 64 bit AMD Turion mobile processor that runs up to three hours (with Wi-Fi on). HP is investing

about Rs 1 bn in new computer manufacturing facility in Uttrakhand. The facility will churn out 2, 00, 000 units of desktops, laptops and servers a month. Sys Information Technologies has launched a range of laptops in the Indian market with the brand name ‘ Wizard’.

The company had also launched a PC (e-PC) with LCD monitor. The company’s Wizard 8000 series laptops had just 12in screen, which suited to all computing needs of professionals, while keeping the notebook lighter to carry. The company has plans to launch the Wizard 6000 series laptops with 15in screen at a cost of less than Rs 50, 000. Allied Computers International (ACI) launched an sub-Rs 30, 000 laptop in 2005-06. In the last one year the brand managed to sell 10, 000 laptops. The company uses Via Processor chips in laptops.

It has introduced a laptop for Rs 20, 000, a good Rs 8, 000 lower than market leader HCL’s cheapest offering. LG launched the Express series of notebooks which is hailed as one of the thinnest ranges of laptops in the Indian market. The ultra-thin range of notebook is based on Intel’s Sonoma mobile platform, a part of Intel’s Centrino brand which includes a Pentium M processor chipset and a Wi-fi card. The notebooks are embedded with ATI Mobility Radeon X6000 graphics card that supports up to 128MB of graphics memory and a PCI Express interface that offers four times faster graphics performance compared to the existing models. This series and LS70 Express series are equipped with DVD super multi-driver (SMD), which supports most DVD formats.



With freebies and exchange schemes, leading brands, including Compaq and IBM, are banking on the replacement market. The existing base of notebooks is close to 300, 000 and with newer software applications coming into the market, the old machines would require higher replacement.

Reduced prices and exchange schemes will expand the market for notebook PCs. Nearly 5 mn non-PC companies or 22% of small enterprises in India, have plans to invest in computers for the first time. It has been revealed by the Study of New York-based Access Markets International (AMI) that this will boost investments in other IT categories, such as software, security. Laptop Computers Demand : Past ; Future Yearth no.

1995-9615 1996-9720 1997-9826 1998-9930 1999-0035 2000-0140 2001-0245 2002-0351 2003-0489 2004-05177 2005-06432 2006-07851 2007-081822 2008-091950 2009-102200 2010-113125 2011-124300 2012-135800 2013-147750 2014-1510230 2019-2035760 Lead Players

CompanyShare (%) Hewlett Packard (HP)35-40 Lenovo15-20 Toshiba10-12 Dell Sony Compaq Acer Market Growth Rates 1996-97-2001-0217. 60% 2001-02-2006-0780. 0% 2006-07-2011-1238. 30% 2011-12-2019-2030.

30% Sensitivity Coefficient9. 8% Market Structure Market Segmentation

SegmentShare (%) Businesses56 Householders44 Small16 Medium47

Large37 North25 South27 West31 East17 Leading Brands Toshiba, HP, Dell, Tecra, Satellite, IBM Thinkpad, Acer, Compaq, Armada, LG Major Merger and Acquisitions in the Industry IBM-Lenovo With the sale of IBM's personal

computer business to Chinese company Lenovo Group Limited, two

emerging trends quickly move front and center: The increasing

commoditization of technology and the emergence of Chinese companies as

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global players. IBM benefits from the deal by getting rid of a business — PCs — that defined the company in the 1980s, but later became a drag on profit margins. Over the past decade, IBM has transformed itself into a services and software company, and set its sights clearly on China as a potentially huge market. For Beijing-based Lenovo, the acquisition of IBM's PC business signals the arrival of China as a global player in key industries. Lenovo gains access to the worldwide PC market and quickly becomes a computer maker with more than \$12 billion in annual revenues.

It also permanently acquires the “ ThinkPad” brand. The two companies complement each other neatly. Lenovo specializes in consumer PCs and low-cost manufacturing. It dominates the PC market in China. IBM ranges worldwide and focuses on businesses.

Its 30, 000-person sales force and global network of 9, 000 business partners helps sell Lenovo PCs. IBM's 19% of the stakes of new Lenovo will guarantee the common interests They together create a formidable force against the direct guys like Dell. But Lenovo isn't planning to out-Dell Dell. What makes Dell so successful is the efficiency of its purely direct-sales approach and build-to-order manufacturing. New Lenovo has a very different philosophy.

It will sell through retailers, corporate resellers, the IBM sales force, and Dell's route as well. That presents a sizable opportunity, particularly in emerging markets. Worldwide, more than 80% of PCs are sold through retailers and other resellers. That figure is even higher in China and other developing countries, where consumers like to get their hands on products and frequently don't have credit cards. Since the deal was announced, both

Lenovo and IBM have been working hard to make sure it will be a success. They've tried to be open to each other's cultures.

The overall objective of the merger was business continuity and product leadership in most parts of the world. Through merger with IBM, new Lenovo obtained over 1, 000 granted patents( in 1996, Lenovo only had one granted patent) In the case of the new Lenovo, things are different from the usual merger situation; it is an acquisition of an already lean division which will take over much of the management duties for the new parent. So the typical overlap that would generate layoffs, for the most part, doesn't exist. And, that Lenovo is using the acquisition to move into additional markets, a staffing uplift is part of the goal. There's an additional opportunity in a merger like this that is often missed – and was missed in the HP/Compaq merger – and that is to dramatically update policies and procedures so that they exceed the current market leader.

New Lenovo is proceeding with a best of breed rather than a competitive approach which will reduce the overall effectiveness of the result. People at Lenovo believe that the merger would not be easy, “ being a Chinese company creates the perception of low quality, issues surrounding the government of the state in which it resides, and HR practice differences,” as well as the fact that “ Chinese culture does not favor marketing, and this will make the solution very difficult to address timely. ” Distribution system in Laptop Industry Distribution system of majority of players in Laptop industry includes dealers and retailers as intermediaries. Distribution system can be impressively complicated for sophisticated products like laptop computer. This is due to the large number of different parts and elements, the large

number of suppliers (at all tiers) of these parts and, importantly, their location and the transport means for getting all this together to result in the manufacture of laptop. Efficient distribution system helps in establishing customer relationships and reducing costs.

There is a need to manage entire process from order management to order fulfillment. It helps in increasing revenue growth and successfully manages demand. Companies use the power of internet to provide customers with convenient and easy access to the product. Companies creating new online sales channel for the customers would enable them to capture a larger share of sales and complement its existing network of sales distributors. The laptop is assembled in plant and billed to dealers and retailers.

Final customer purchases the laptop from these dealers. Some companies like IBM have both direct and indirect system. As shown in the diagram below IBM is slowly moving to direct system of distribution. For any laptop manufacturing company the availability and distribution is the major concern of the hour if they want to penetrate successfully in the fast growing market Indian market.

Companies such as Dell entered the PC industry at a time when most companies sold through small, specialized, high-cost dealers which provided customers with support on both how to purchase and how to use computers. This high-cost channel was quickly obsolete and most PC suppliers switched to large, megastore retail chains (CompUSA, Computer City, etc. ). While the other suppliers were struggling with retail channel evolution, Dell took a radically different path by finding a means to sell products which normally

required both significant customer assistance and local stocking without a dealer or distributor network. Dell created a new channel option by bringing new technology to traditional roles played by the distribution channel.

Dell takes orders over the telephone, it allows purchasers to customize products to their own needs, it assembles products largely to order, and it achieves rapid delivery. The combination provides a high degree of customer service at a previously unattainable cost structure. With this distribution change as a major element of its strategy, Dell grew to a profitable \$7.8 billion business at the time when many larger computer companies were giving up on the PC market.

Dell shows how a company can meet most of the same end customer needs as its competitors through a radically different distribution approach. As enabling technologies (telephone communications, call centers, shipping logistics, etc. evolve, more suppliers will supplant traditional sales and distribution approaches and, therefore, gain competitive advantage. However, simply copying a model which has worked once is not a guaranteed path to success.

No other “mail order” computer company has managed to match Dell’s growth in sales and profits. Dell built a strong overall business model and established its position before others had a chance to copy the model. There are majorly two ways any laptop manufacturing company can establish channel for laptop distribution into the market. Companies use direct channel comes which helps reduced costs in distribution. The company

reduces costs, and as a result is able to offer a cheaper product to the consumer.

In the indirect channel, the main profit comes from specialty laptop dealers and value-added resellers. They provide customers (such as big businesses) with a high level of customization, and they charge a premium for this service. Dell, previously a second level PC maker, is now in the first tier of laptop production because it has been able to capitalize on its direct method. However, some major companies, such as Acer, have maintained the indirect method. In this method, companies use distributors to move their product to specialty dealers, value-added resellers, and retailers. The major players and the Key Success Factors of the Industry The major players in the laptop category are: •Hewlett Packard (HP) •IBM •Toshiba •Compaq •Dell Computers •Sony KEY SUCCESS FACTORS: •Indian Laptop market is now in sync with global market.

It was in 2005 that sales of laptops surpassed the sales of desktop computers for the first time in India. •The Laptop market is growing at a fast rate because of change in work life of consumers. As the need for “ anytime anywhere” access to information is increasing, the sales of Laptops are also increasing. •Other factors that are responsible for the hike in sales figure are reduction in prices and affordability. Laptops are now sold at approximately half the price at which they were sold two years ago.

Laptops prices are now almost at par with the desktop computer prices. •The third most important factor is duty free import of Laptops as a personal baggage that has helped a lot in increasing the penetration level of the

product among the consumer population. Awareness about laptops has also increased over the years. Given the choice of portability, flexibility and ease of use and narrowing of price-performance gap that once existed between portables and desktops, consumers are almost overwhelmingly inclined to buy notebook PCs.

Dell retained the top slot with a market share of 27 per cent, while HP occupied the second position with 20 per cent and Sony third with 15 per cent. HP Hewlett-Packard Company commonly referred to as HP, is a technology corporation headquartered in Palo Alto, California, United States; with offices at the old Compaq Campus in Houston, Texas. HP is the largest technology company in the world and operates in nearly every country. HP specializes in developing and manufacturing computing, storage, and networking hardware, software and services. Major product lines include personal computing devices, enterprise servers, related storage devices, as well as a diverse range of printers and other imaging products. Today HP serves more than one billion customers in more than 170 countries on six continents.

When HP merged with Compaq in 2002, it took over Compaq's existing naming rights agreement. As a result, HP sells both HP and Compaq-branded machines. HCL HCL Enterprise Limited (formally known as HCL Computers Limited) is one of India's largest electronics, computing and information technology company. Based in Noida, near Delhi, the company comprises two publicly listed Indian companies, HCL Technologies and HCL Infosystems DELL Dell, one of the most recalled names when it comes to buying a laptop

is undoubtedly retained as the favourite computing partner for users of all generations spanning various regions around the world.

A perfect blend of efficiency, performance, elegance, customer service and more makes it the right choice for those thousands of prospective buyers of laptops or notebooks around the world. And now the gigantic notebook maker has spread its wings further with its Laptops now available in one of the world's most potential economy, India. With multifold increase in the IT conscious folks in the country over the years and a mammoth amount of laptop Buyers around the country at any given point makes it “ not so bad” decision from Dell. The Dell distribution in India however remains different from that of the other countries. With not so many people inclined onto the online purchase, Dell has adopted a proper channel partner that distributes the Dell Products in the same old fashion that the folks in India are glued to. A treat to the all those users which have been longing to bag one from the vast range of Laptops from the brand, it won't be long before the brand would pose a strong competition for already prominent brand in the country.

Dell has most of its series available in India through its online channel or Local resellers. Acer: Acer Incorporated is a Taiwan-based multinational electronics manufacturer. Its product lineup includes desktops and laptops, as well as personal digital assistants (PDAs), servers and storage, displays, peripherals, and e-business services for business, government, education, and home users. Acer's subsidiary in India is Acer India (Pvt) Limited, and was incorporated as a wholly owned subsidiary of Acer Computer International, Ltd. in 1999. It is a notable vendor in key segments such as



education, desktop computers and low profile notebooks for education purposes.

Its headquarters are in Bangalore, India. Lenevo: Lenovo Group Limited is a multinational computer technology corporation that develops, manufactures and desktops and notebook PCs, workstations, servers, storage drives, IT management software, and related services. Environmental Analysis using Porter's 5force model Threat of new entrants : Due to aggressive pricing and reducing profit margin, there is a high barrier of entry for new players in the market. Big companies can invest more in the R; D facility.

So the product improvement can be done by them easily. This also create a barrier for the new entrants. Due to standardization in the laptops used, the switching costs are low. Competition is driven both on pricing and product differentiation. Companies like DELL have more emphasis on pricing whereas APPLE is more interested in product differentiation.

But both this aspects need good capital investments. All this aspects make the threat for small new entrants low for this industry. Bargain power of supplier : There are mainly two types of supplier for a laptop industry. One is hardware supplier and another is software supplier.

In hardware domain Intel and AMD are the two major microprocessor supplier. So they have some amount of bargain power over the PC companies. For hardware, there are many suppliers like samsung, western digital, seagate etc. For motherboard, Intel, MSI, ASUSTek are the major suppliers. All these companies have limited bargaining power because of their lack of branding on the finished product.

Manufacturers have different supplier for the same component. So, if the prices are not competitive the risk of a supplier to loose to its rivals is very high. All these aspects make the bargaining power low for hardware supplier. In the software side, Microsoft dominates the market with its operating system.

Though Linux also has operating system , Google come with the new operating system, they are not able to capture large market share. So in the software side the bargaining power of supplier is relatively higher. Bargain power of buyer : Consumer preference for mobility and wireless connectivity at low cost resulted in the growth of the laptop market compared to desktops. In addition, continued demand for cheaper costs lead to aggressive pricing as well as the creation of new categories such as netbooks. The power of customers is reflected in the change in buying behavior .

As many big companies are now present in this market, the switching cost for buyer is very low. All this things make the bargain power of the buyer high. The high bargain power of buyers ; changing customers' buying behavior in developing markets influenced Dell's decision to sell through retail stores as well. Threat of New Entry : Due to aggressive pricing and reducing profit margins, there is a high barrier to entry for new companies.

Since large companies are able to invest more in R; D and more easily hire top management talent, there is greater possibility for more innovation in the products. This further increases the barrier to entry for smaller companies. However, ASUSTek's introduction of netbooks in late 2007 is an

example of identifying consumer demand that was not recognized by any of the top industry players and becoming a new competitor. Threat of

Substitutes : The laptop industry faces a significant threat from new trends such as cloud computing, which potentially will reduce the need for high computing power in portable laptops. Moreover, advances in computing power and as well as communication technologies (3G, WiMax, etc. ) have enabled devices such as smartphones (iPhone, Blackberry, etc.

) to compete with laptops by providing similar capabilities. For instance, iPhone apps reduce the need for laptops by providing similar functionality. So we can say that for this industry, at this point of time, the threat of substitute is moderate. PEST Analysis: Political: In 2005, the Government of India abolished the import duty on 217 items related to components of personal computing equipment including laptops.

Hence, all computer hardware technologies have become instantly available and cheap (at par with world prices) for Indian customers. Subsequently, sales of laptops that year surpassed the sales of desktop computers for the first time in India. According to IDC India, the sales of notebook computers have grown at 61 per cent year-on-year in 2009-2010, recording 8.5 lakh shipments. However, bureaucratic hassles concerning land acquisition and the local industry's lack of initiative have prevented the manufacturing of computer parts.

This situation is fraught with risk as India's sourcing of such components is dependent on unpredictable relations with foreign countries like China, Taiwan and the USA. Tighter quality control regulations are likely to be

introduced in the near future as environmental issues with regards to electronic waste disposal and the customer's standard expectations progress with time. Consequently, contract manufacturing of laptop components in special economic zones may become an opportunity for local players such that costs can further be brought down. For example, the target price of 35 dollars for the HRD Ministry's One Laptop per Child initiative may compel international component makers to enter into agreements with Indian subcontractors and vendors. Economic: The global economy influences various different factors that affect the growth of the portable computing industry in import-led India.

The economies in developing countries viz. BRICKS – Russia, China, India, Brazil, South Africa, Kazakhstan; ; Latin America are growing at a much faster rate than developed countries and therefore provide better growth opportunities for computer manufacturers, since developed countries like the US and Japan have become saturated. The call centre industry has become firmly established and the major cost for the Indian companies – material costs / hardware – is cheapest in the world and yet of world class quality. Similarly, in human resources, a ready availability of English speaking school graduates and trained technical manpower who are able to deliver similar performance for wages fifty times lower (1\$= Rs. 50 has ensured that Indian offshore development centers have a sustained 60% market share worldwide of the global call services market.

Social: Social factors such as education, preferences, income levels, and other cultural factors influence demand patterns in the different regions and therefore affect how a company operates in each region. The education and

income level of users affects the brand perception of the computer manufacturers. At the other end of the education spectrum, new devices such as the rugged and ultraportable OLPC (One Laptop Per Child) have been developed for underprivileged users in developing countries like Africa. Thus, education levels affect both product demand as well as preferences.

Computer access has increased tremendously since liberalization in 2000.

In July 2010, the HRD ministry released a prototype of a Sakshat tablet computing device, based on Android OS, as the Indian extension to the United Nations sponsored project. E-choupal's success is another example which demonstrates to the laptop industry the potential of growth in demand in rural markets in India. E-choupal is a venture by tobacco maker, ITC, to link directly with rural farmers via the Internet for procurement of agricultural and aquaculture products like soybeans, wheat, coffee, and prawns. Due to the evolution of laptops into low cost netbooks, e-choupal is an attractive distribution channel for portable computing devices.

Technological: Laptops are an inherently more convenient devices than desktops on account of their portability. However, they were always more expensive, power hungry and unreliable (poor spare parts support) than desktops.

Not anymore. Technological advances and marketing innovations over the past decade, such as increased processing power with reduced power consumption and reduced cost, the availability of assembled notebooks (pioneered by Dell) or the standardization of platforms (Windows/Pentium) in laptops, are one of the main reasons for the increase in market share of the laptop segment compared to the overall PC industry. For instance, the

netbook category's average selling price (ASP) of Rs. 5000 has been made possible by the low cost Intel Atom microprocessor, released in 2008. New technologies; namely; cloud computing, Wimax, Smartphone, and open source platforms, threaten to transform the dynamics of the industry, due to the possibility of convergence of cheaper computing devices along with lower software costs. Cloud computing involves community based centralized computing in which the processing is done on servers instead of individual clients.

Gartner, Inc. estimates that the cloud computing market worldwide is likely to grow in revenue from \$1.3 billion in 2008 to \$65.7 billion in 2013. The Growth prospects for the Laptop Industry A few years ago, notebook computers — lightweight, portable PCs that can easily fit inside a bag or briefcase — were the preserve of the elite in India, used only by corporate executives, the super rich and super geeks. They accounted for a very small fraction of total personal computer sales in the country.

But the picture has been changing rapidly, and in just a few years one out of every two PCs sold in India is expected to be a notebook. The rise of the notebook as a primary computing device may seem remarkable in a country where PC penetration is just 2% to 3% and the total installed base of PCs is estimated at only 28 million units. “The notebook, despite the advantage of offering mobility, has long played second fiddle to the much larger and more established desktop market in India,” says Rajiv Grover, director of the personal systems group at Hewlett Packard (HP) India. HP is the largest player in the country's notebook market, with over 35% market share in unit terms.

“ It was seen as a niche factor and not meant for the burgeoning mass market. But now, it is on the threshold of a mobile-phone-like revolution in India. ” According to Sumanta Mukherjee, PC market analyst at research firm IDC India: “ The notebook story in India is clearly one of phenomenal growth. ” The numbers bear this out. According to IDC, in calendar years 2005, 2006 and 2007, notebooks grew over the previous year at respective rates of 148%, 108% and 81%.

Between January and September of 2008, notebook shipments grew by 54%. As a percentage of total PC shipments (desktops and notebooks) in 2004, notebooks accounted for a mere 5. %. In the first nine months of 2008, notebooks, at 1.

87 million units, accounted for almost 30% of total PC sales of 6. 42 million units. Even as notebook sales have flourished, desktops have experienced a slowdown. According to IDC, desktop sales growth dropped from 19% in 2005 to 7% in 2007. For the January to September period of 2008, shipments fell by 5. 4%.

“ The growth in the PC market in India is being driven by notebooks, and with notebooks continuing to show robust growth on a larger base, it is clear that their story is still strong,” says Mukherjee. We expect that by 2012 the split between notebooks and desktops will be equal. ” Vinnie Mehta, executive director of the Manufacturers’ Association for Information Technology, agrees that the market is transforming. In a September 2008 statement, he stressed that notebook sales had driven India’s PC market during the April to June quarter.

“ With sales crossing 610, 000 units in the first quarter of this fiscal year, notebooks account for close to a third [33%] of the total PC market in the country, up from less than 3% four years ago. With shifting consumer preference in favor of notebooks over the desktop, this proportion will only get larger with time. ” Driven by Price Affordability is certainly a key reason that notebooks are taking off. According to IDC, over the last few years notebook prices in India have been dropping by about 10% a year, primarily because of technological advancements, changes in the customs duty structure and growing volumes.

Prices have not dropped at the same rate in the more mature desktop market, so the price difference between a desktop and a notebook has been reduced substantially. Using rough estimates, industry players point out that four to five years ago, while a notebook was priced around US\$2, 000, a desktop was about half that. Today, notebooks are available for around US\$500, desktops for around US\$400. As Sameer Garde, country general manager at Dell India, notes: “ Price by itself is no longer a major deterrent for someone looking to buy a notebook. ” The growth in the telecom ecosystem and recent advancements in wireless connectivity have played an equally important role in driving notebook adoption. Increasing globalization has led to a more competitive landscape, and the norms of productivity therefore are changing rapidly,” Garde says.

“ Both organizations as well as individuals in India are realizing that mobility and connectivity are a very potent combination when it comes to increasing productivity. A whole new usage model is being driven by this. ” The model taking hold in large enterprises is one of notebooks no longer being limited



to top management; instead, they are percolating down the ranks to middle managers and sales teams to enable a faster information flow and improved decision-making. Not only the corporate world has embraced the notebook: Other segments driving the market include education, small and medium businesses, and consumers. For instance, notebooks have ushered in a new way of delivering education in areas such as engineering and management, and many educational institutions factor the price of a notebook into their fee structure.

For consumers, notebooks are fast becoming a lifestyle product. According to IDC, in 2006 and 2007 the consumer notebook segment grew at 261% and 248%, respectively. In 2008, it is estimated to have grown at 95% over the previous year. In most mature markets, because of the high penetration of PCs, most people start off with a desktop and then get a notebook as their second PC or as a replacement. In India, a lot of people are leapfrogging to buying a notebook itself as their first PC.

India is a very price-sensitive and value-conscious market, and notebooks are satisfying both these needs for first-time buyers. The entry of new user categories has redefined the notebook market. Vendors have introduced different products for different target segments. HP, for instance, has its HP-Compaq portfolio for commercial users and HP Pavilion and Compaq Presario for individuals. Dell has the E-series for corporate customers, Vostro for small and medium businesses, and the XPS, Studio and Inspiron for consumers.

Lenovo has the Think Pad for corporate users and the Idea for consumers. Acer has the Aspire brand for consumers and the Extensa and Travelmate for

the commercial segment. Global Strategy at Work One may argue that these target-specific products are part of the vendors' global strategies and are not specific to India. But the very fact that vendors are looking at segmentation in a market where PC penetration remains low is a clear indication of the potential they see.

There are other indicators. India was the first country outside of China where Lenovo forayed into the consumer space, introducing its products to that market in 2006. India was also the first country in the Lenovo world to get a film celebrity to endorse its consumer brand. The case is similar with Dell and its recent "Take Your Own Path" campaign targeted at small and medium businesses. When Dell launched its new Latitude E-series globally in October, New Delhi was one of three cities chosen for the launch (along with San Francisco and London). The New Delhi launch was by none other than company chairman Michael Dell.

HP's global re-launch of its Compaq brand in 2007 was held in Mumbai. HP is now introducing its "Digital Clutch" (the notebook that HP has designed in collaboration with fashion designer Vivienne Tam) and targeting it specifically to women. With consumers becoming a larger piece of the pie and the notebook becoming more of a lifestyle product, features such as better sound quality, screen size options, different colors and different finishes are coming into play. "Earlier, all the innovation was around making the notebook more robust and more secure for the corporate customer," says HP's Grover. Now, the innovations are around providing different benefits to the different user groups. It is very important that we fulfill both the spelled-out as well as the unspelled-out needs of the different segments.

For instance, with the notebook transforming into a lifestyle product, women clearly have different expectations [in terms] of style and colors. ”

Meanwhile, with the universe of notebook buyers and users growing beyond the metros to the smaller cities and towns, vendors are getting closer to customers. In addition to increasing their reach through multi-brand outlets, vendors are increasing their numbers of exclusive stores across the country. HP has doubled its stores to 180 in the last three years. Acer has more than 100 exclusive stores and Lenovo has 157. Just a few months ago, Dell opened its first two exclusive retail showrooms.

All have plans to add more. Vendors are also wooing customers through large-format retail stores such as Croma, Next, e-Zone, Staples and Metro. “ The buying experience of a notebook has become an important parameter in the purchase decision along with product features, brand and price,” says S. Rajendran, chief marketing officer at Acer India.

“ The growth of organized retail in India will also give an added [stimulus] to notebook buying. ” Netbooks Stake Their Claim Rajendran also sees potential in the Indian market for netbooks — small, lightweight notebooks suitable for accessing web-based applications. He cites figures from market research firm DisplaySearch, which show that in July-September 2008, netbooks accounted for 14% of total global notebook shipments, with Acer emerging as the leader with a share of almost 40%. We expect netbooks to be popular in India also, especially among small and medium businesses, and also as a second computing device in upper-middle class homes. ” Rajendran predicts that India’s netbook market will be around 300, 000 units this fiscal year.

Industry players largely expect the market to grow further once 3G wireless technology is introduced in the country.

Meanwhile, apart from concerns about the global economic slowdown's potential effect on the growth of India's notebook market, one long-term constraint may be language. A large part of the Indian market is vernacular, but the entire ecosystem of the personal computer is very English-oriented. For further growth, we need to remove this language barrier. In order to do this, different players like the government, device manufacturers, Internet service providers, content providers and others who are all working currently in silos need to work together to develop a new laptop.

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