

A STUDY ON CHANGING TRENDS IN CONSUMER ELECTRONICS INDUSTRY ESPECIALLY THE TELEVISION SEGMENT

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ABSTRACT

India has moved from agriculture to electronics. India is the largest democracy in the world. Since Independence, the strength of the economy has transitioned from being primarily agricultural to being one of the major industrialized nations of the world. Indians also seem to have a particular affinity for electronic goods and owning state-of-the-art electronics is considered a status symbol and a luxury. As the economy has progressed, so have the sales of electronic items. In the seventies, few electronic goods were made domestically, and in the eighties, even though goods were produced here, they were not considered to be of the same quality and foreign goods were preferred. In the nineties, the Indian consumer started having more faith in the domestically produced good, and now people are close to being indifferent between Indian and foreign electronic goods. Electronics industry occupies a key position in modern science and technology. The development of Electronics Industry in any country shows that it has been driven by the growth of the Consumer Electronics Industry. This includes a massive category of electronic products like televisions, cameras, digital cameras, PDAs, calculators, VCRs, DVDs, clocks, audio devices, headphones, and many other home products. The growth of Consumer Electronics industry products results in the growth of component industry since a large volume of products enables components to be manufactured locally in a viable economy of scale. The objective of the paper is to make an assessment of the Consumer Electronics Industry from 1990 to 2020, to study the trends over the last 30 years and the contribution of television industry. Television cultivates social environment and has emerged as an effective tool in social transformation. It is the world's most important vehicle for information and entertainment.

Keywords: Electronics Hardware, Consumer Electronics, Colour Television.

Introduction

According to the Ministry of Electronics & Information Technology, "Consumer electronics includes any device containing an electronic circuit board that is intended for everyday use by individuals for the purpose of entertainment, recreation or communication" (Annual Report, 2021-22). The development of Electronics Industry in any country shows that it has been driven by the growth of the Consumer Electronics Industry and the demand created for products like radios, TVs, Electronic calculators, VCRs etc.- products which were initially manufactured in smaller quantities and which later grew to millions of units per month. This is true specially for countries like Taiwan, Japan and South Korea (Nambiar, 1998). This is mainly because the products are of proven technology, assembling of components on to a board etc. The shift of production is to a high value added industry from a low value added industry. The growth of Consumer Electronics industry products results in the growth of

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component industry since a large volume of products enables components to be manufactured locally in a viable economy of scale. The other important aspect of the Consumer Electronic industry is that it needs low investment and does not require high levels of skills. It is foot loose and being environment friendly, it can be located anywhere. Also, its products like calculators, watches, televisions, radios, etc. have a ready market.

The objective of the paper is to make an assessment of the Consumer Electronics Industry from 1990 to 2020, to study the trends over the last 30 years and the contribution of television industry. Television cultivates social environment and has emerged as an effective tool in social transformation. It is the world's most important vehicle for information and entertainment.

The paper has been divided into two sections, from 1990-2000 and from 2000-2020.

Section 1: 1990- 2000

The Indian economy has witnessed a significant change in its overall scenario especially since the process of economic reforms began in the early 1990s. Though the reforms began in early 1980s, they gathered momentum only in the next decade. Various industries have logged significant changes and Consumer Electronics industry is one of them.

The Consumer Electronics (CE) industry consists of:

- **Audio Equipment:** Includes radio receivers, tape recorders, record players/ changers, amplifiers and public address systems, audio disc players etc.
- **Video Equipment:** Includes Black and White TV Receivers, Colour TV Receivers, Video Cassette Players/Recorders, Video Disk Players, Video Cameras and Video Projectors
- **Audio Visual Equipment:** Includes Electronic Projectors
- **Other Items:** Includes Electronic Games and toys, Video/TV games, Electronic Watches and Clocks, Electronic gas lighters, Electronic cameras and flash guns, Calculators, Cassettes-audio, video, compact discs, Microwave ovens etc.

Table 1: Production of Consumer Electronics and Electronics Hardware

(Value in Rs. Million)

Product Area	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Consumer Electronics	29,710	30,240	33,840	39,290	45,070	55,590	64,960	74,500	90,000	110,000	113,000
Electronics industry Hardware Total	91,640	96,620	113,560	130,170	154,380	173,380	195,890	215,870	248,000	277,500	299,000

Estimated

Source: GOI, DOE, Data Bank and Information Division, Guide to Electronics industry in India 1999 and Annual Report 2000-01

The nineteen nineties have witnessed a major growth in the CE sector in the country (Table 1). The production in this sector increased from Rs.3024 crores in 1991 to Rs. 11,300 crores in 2000. During this period the Electronics hardware production increased from Rs. 9,662 crores to Rs. 29,900 crores. This brings out two important features: —

- The growth in the Consumer Electronics sector has been much faster (Compound Annual Growth Rate (CAGR) 16 per cent) than the growth in Electronics hardware production, (CAGR 13 per cent), and
- The share of CE in the Electronics hardware production has increased significantly (from 31 per cent in 1991 to 38 per cent in 2000)

As far as CE is concerned, India in 2000 was in the growth phase similar to what Japan was in the seventies and eighties, and South Korea in the eighties. During this period, both these countries had a CE share of the order of 20 to 30 per cent. Thus, the share of CE in total Electronics hardware production is an indicator of the stage of development of Electronics industry in a country. Countries like Brazil, China, Indonesia, Malaysia and Turkey had CE accounting for 25-40 per cent of the production in the nineties.

Therefore, in the global context, such large share of CE was not in conformance with the global trend in the late 1990s. Globally, the Consumer Electronics accounted for about nine per cent of the total hardware production, since the share declines over a period of time.

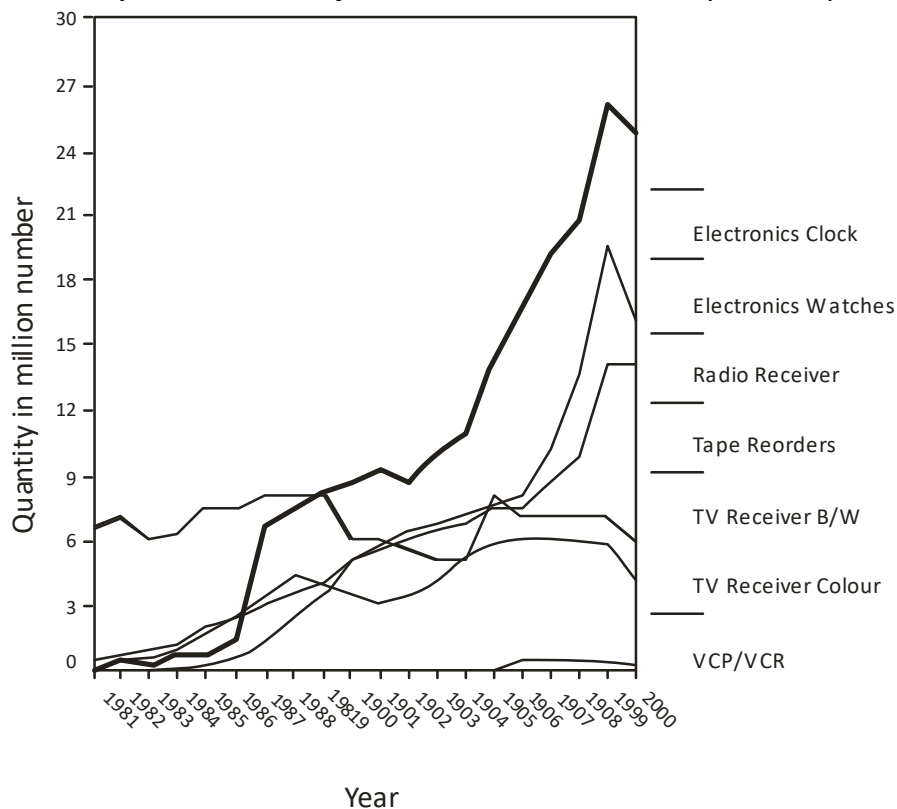
The decline is mainly due to:

- Slowing of the growth in the CE sector, and
- Faster growth in the Information Technology and telecom sectors

Till the beginning of nineteen nineties, the Consumer Electronics industry was still in a nascent stage as:

- It was totally insulated from the world market
- In the licensing regime, introduction of new products/capacities was controlled by various policies (e.g. VCR, microwave ovens)
- It was a sellers market
- Market development efforts were rather shallow, and
- Role of foreign equity companies was limited.

Graph 1: Growth of Major Consumer Electronics Items (1981-2000)



Graph 1 shows the growth of major consumer electronics items during the period 1981-2000.

In 2001, the industry's operating scenario had totally changed, the industry had been delicensed and there was no bar on foreign equity companies. Other salient features of growth in the Consumer Electronics sector were (Chopra, 1998):

- Investments and technical/marketing tie-ups made by major multinationals. Almost all MNCs which contribute significantly to the global market were in India, e.g., Blaupunkt, Grundig, Philips and Thomson from Europe, Akai, AIWA, Clarion, Matsushita, Sansui, Sanyo Sharp, Sony and Toshiba from Japan, and Daewoo, Hyundai, LG and Samsung from South Korea.
- Extensive market development and product promotion campaigns.
- Intense competitive scenario leading to reduction in consumer prices, and at the same time improvement in product quality and servicing support.
- Introduction of new products like CD players and VCD and DVD players, and resurgence of market for audio systems and microwave ovens.
- Improvement in video software and spread of cable TV. Live coverage of major sports events had also contributed to the pick-up in production.

Table 2: Contribution of Total TV Receivers in Consumer Electronics

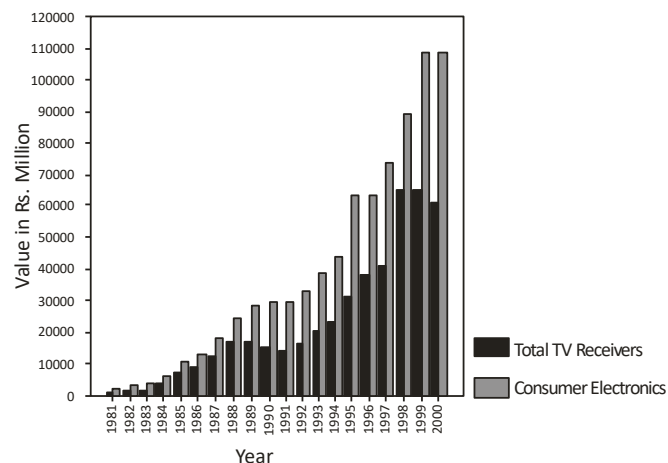
(Value in Rs million)

Year	Value of Total TV Receives	Value of Consumer Electronics	% share of Total TV receivers in CE
1981	893.62	2478.01	36.06
1982	1520.26	3395.91	44.77
1983	1599.98	3388.01	47.22
1984	3647.08	5971.75	61.07
1985	7626.64	10600.27	71.95
1986	8987.76	13120.09	68.50
1987	12986.06	18348.34	70.78
1988	17157.69	24000.64	71.49
1989	16909.94	27997.58	60.40
1990	15744.07	29382.68	53.58
1991	13992.06	29816.49	46.93
1992	16338.63	33273.12L	49.10
1993	20510.76	38498.44	53.28
1984	23272.72	43997.18	52.90
1995	30788.40	54538.74	56.45
1996	38015.67L	63681.45	59.72
1997	41352.15	73647.23	56.15
1998	53321.98	89381.22	59.66
1999	65216.61	109280.76	59.68
2000	60687.66	109289.62	55.53

Source: GOI, Department of Electronics, Data Bank and Information Division

Table 2 shows the contribution of television industry to the Consumer Electronics industry. The share of the television industry on an average has been more than 50% inf act since 1995 it has been more than 55% This clearly shows that the television industry is the most important component of the Consumer Electronics industry. The television industry includes both B/W television and CTV Graph 1.1 shows the growth of both the TV industry and the Consumer Electronics industry.

Graph 1.1



The production of B/W TV receivers started in 1970 in India. There were two units in production and production in that year was 14,406 sets. Both the number of units and the production grew steadily. Production was limited to only one size-51 cm (20 inches). By 1980, the production was 3,70,000 sets. The B/W TV production increased continuously till 1988 (compound annual growth rate was 36% between 1980-88). In 1984, the first portable 14" B/W sets were also introduced in the country. From 1989 to 1992, the B/W TV industry was hit by recession. The main reasons were the overall economic slowdown of the economy, high rate of inflation, increase in the price of petroleum products etc. The production of B/W TVs which had been stagnant since 1996 showed a decline in 1999 and 2000.

The B/W TV was introduced in 1970, but the CTV made its appearance after a decade. The nineteen eighties saw the introduction of colour televisions and rapid expansion in TV network. The Asian games held in 1982 gave an impetus to the TV industry. The actual production of CTV started in 1983 because production in 1982 was merely kit assembly to meet the Asian Games requirements. During the period 1992- 2000, there has been a compound annual growth rate (CAGR) of 23.4%. The CTV industry has seen the production increase from 83,000 units in 1992 to 5,74,000 units in 2000. The main factors have been as follows:

The year 1992-93 was a landmark year for the TV industry, when Dr. Manmohan Singh in his first budget started bringing down the import duties and cut back the excise duties. This helped the prices of the TV sets to fall, thereby, creating a demand that grew continuously till the year 2000. The liberalisation of the economy allowed the best brands in the world to enter our country. The increase in the number of brands provided the customers with a wide array of models to choose from. The intense competition between the various brands led to a sharp increase in the advertising expenditure and reduction in the price of TVs.

Also, in the year 1993, Cable and Satellite TV was born and this led to the proliferation of satellite channels. The transmission was liberalised and this brought about revolutionary changes in software. Regional language transmission also began to grow as the production of programmes and software moved into the hands of private organisations. The emergence of satellite television led to the crumbling of national information borders and laid bare before the Indian viewer the world, by touching a button on his TV remote. The events in sports, especially in cricket, added substantially to demand of CTVs. During this period, there was World Cup Cricket in 1996 and 1999 and the World Cup Football in 1994 and 1998. Each of these events was highly promoted and lots of discounts, prizes like free trip abroad to see the matches and other incentives were given by the TV companies in order to boost their sales. The implementation of Fifth Pay Commission's recommendation in 1997 gave a lot of arrears in the hands of the government employees. This also resulted in increased demand for Consumer Electronics including CTVs.

From 1996 to 1999, there was phenomenal growth (CAGR of 33.24 %). This was mainly due to the marketing strategies of the companies. For the first time, like no other industry, the companies went absolutely aggressive. That aggression was manifested in many different ways, and the impact was dramatic. The companies were urging customers to buy, and they were offering incentives to them in very many different ways. One of the other steps taken by the Government for boosting the demand of TV sets in the country was that banks agreed to finance consumer durables such as TVs on hire purchase.

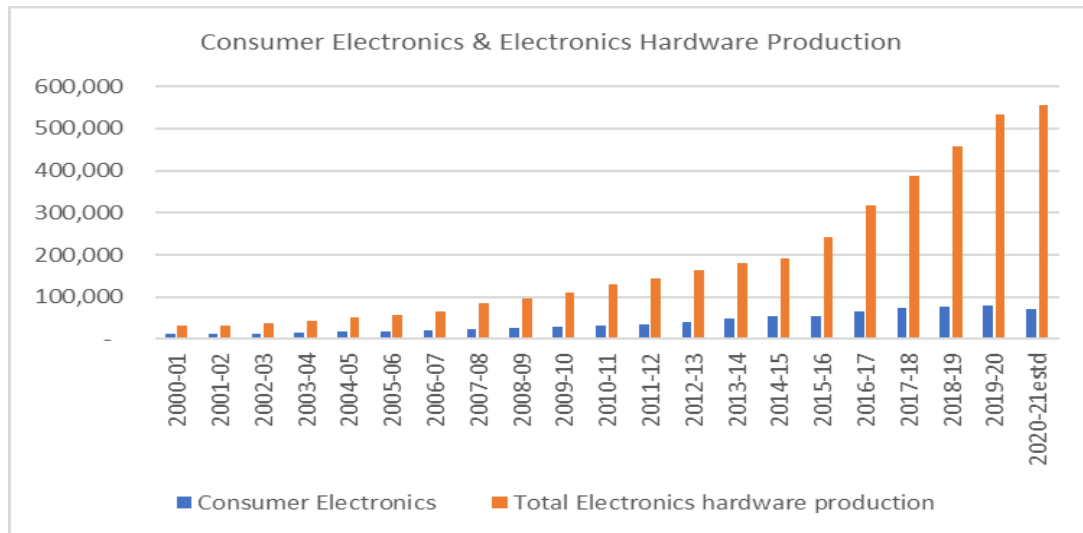
Section 2: 2000- 2020

Table 3: Production of Consumer Electronics and Electronics Hardware

(Value in Rs Crores)

Year	Consumer Electronics	Total Electronics Hardware Production
2000-01	11950	31100
2001-02	12700	32750
2002-03	13800	37500
2003-04	15200	43800
2004-05	16800	50500
2005-06	18000	56600
2006-07	20000	66000
2007-08	22600	84410
2008-09	25550	97260
2009-10	29000	110720
2010-11	32000	128870
2011-12	34300	143300
2012-13	40447	164172
2013-14	47599	180454
2014-15	55806	1,90,366
2015-16	55765	2,43,263
2016-17	64742	3,17,331
2017-18	73524	3,88,306
2018-19	77000	4,58,006
2019-20	81000	5,33,550
2020-21estd	70,514	5,54,461

Source: Compiled from Ministry of Electronics & Information Technology, Annual Reports

Graph 2: Growth of Consumer Electronics and Electronics Hardware

The Consumer Electronics sector has been a catalyst for the growth of Indian electronics industry. The production in this sector increased from Rs.11950 crores in 2000-01 to Rs. 81000 crores in 2019-20. During this period the Electronics hardware production increased from Rs. 31100 crores to Rs. 533550 crores (Table 3 and Graph 2). This brings out two important features:

- The growth in the Consumer Electronics sector has been lower (Compound Annual Growth Rate (CAGR) 9.28 per cent) than the growth in Electronics hardware production, (CAGR 15.49 per cent), and
- The share of CE in the Electronics hardware production has decreased significantly (from 38 per cent in 2000-01 to 15 per cent in 2019-20)

These two features in the period 2000-20 are opposite of what we saw in the period 1990-2000.

The largest contributor to this segment continues to be the Colour TV segment. We will study a few components of CE and discuss them briefly.

Colour TVs

The beginning of a new century saw the introduction of flat screen TVs in the country. There has been a phenomenal growth in production of flat televisions, which accounted for over 20% of the total colour TV production in 2004-05 which increased to more than 50% of the total domestic TV production in 2006-07. The 21 inch segment accounted for about 85% of flat screen TV in the country in 2004-05. Some companies also introduced DVD combo flat TV. A number of companies introduced hi-end TV, including Projection TVs, Plasma Display Panels (PDP) and Liquid Crystal Display (LCD) TVs. This was in conformity with the worldwide trend. TV manufacturers quickly adopted marketing of Liquid Crystal Display (LCD)/ Light Emitting Diode (LED) TVs as they offered sharper and higher resolution pictures.

Black and White (B/W) TV production continued to decline in the new decade because of increase in prices by branded players as the excise duty was increased to 16%. It continued to register negative growth. Most of manufacturing had shifted to grey market due to high level of taxation on this product which was meant for rural masses. The price differential between the B/W TV and CTV narrowed substantially as the CTV production in the country reaped economies of scale.

Prasar Bharati launched Direct-to Home (DTH) satellite service in December 2004. It had a basket of 30 TV+ Radio Channels (free to air), which were made available to people living in remote areas, hills and interior areas of the country with no access to TV signal or had access to one Doordarshan channel. A set-top box and a dish antenna were needed to access the DTH service. Dish TV was the first private DTH broadcaster in India.

The Liquid Crystal Display (LCD) TVs registered a 400% growth in 2007-08 with 32" LCD TV being the most popular choice. The manufacturing of LCD TV started in the country in 2007-08 and as the demand increases, the production would increase.

Market size for colour television in 2010-11 was 16.10 million units, a growth of 5.50 per cent over the previous year. In value terms, the growth was much higher at 16.40 per cent. This was mainly due to the sale of flat panel LCD TVs which increased in exponential terms. The market for LCD TVs increased from 1.5 million units in 2009-10 to 2.8 million units in 2010-11. The conventional CRT TV segment stood at around 13.30 million units.

The growth in the Consumer Electronics over the years has been accompanied by an increase in imports, especially of LCD/ LED TVs. Therefore, the government imposed a 36.5% duty on the same in 2013-14 and stopped their duty-free import. The growth in production of LCD / LED TVs increased to about 40% in 2013-14 compared to 11% in 2012-13. As per estimates from the industry association (CEAMA), this segment registered a growth of about 16% in 2014-15. The conventional TV (with Picture Tube) continued its negative growth and production fell from 4.5 million in 2013-14 to 3.5 million in 2014-15. This trend has continued and as per CEAMA, production of CRT TVs was estimated to be one million during 2017-18 valued at Rs' 400 crore.

The factors responsible for growth in CTV segment were:

- Growth of DTH broadcasting
- Good quality digital broadcast reception available everywhere in the country
- Sports events such as Cricket and Football World cups
- Falling prices of the LCD TV
- Sale of bigger sizes LCD TV
- The penetration of TVs increased significantly
- Increase in the penetration of television in rural India

The domestic production of LCD/LED TVs increased to 1.20 crore units in 2018-19 from 0.87 crore units in 2014-15. There are 38 units manufacturing LCD/ LED Televisions in the country. This was made possible because the Basic Customs Duty (BCD) levied on Open Cell used in the manufacture of LCD/ LED TV Panels was made zero from 5%. This resulted in lowering the price which increased the demand, which provided a boost to domestic manufacturing. (Annual Report 2019-20).

DVDs & VCDs

A few companies introduced audio system incorporating DVD Players. Since the prices of audio CDs were almost at par with audio cassettes, CD based audio systems grew, while Tape recorder sets declined both in volume and value terms. The growth in sale of DVD players during 2004-05 was impressive. A number of MNCs and branded players entered this market as it was expected to record over 100% growth. Which keeping in line with the trend in international markets, there was a sharp fall in prices of DVD players. The sub Rs. 4000 DVD players grew the fastest. The difference between the cost of VCD players and DVD players narrowed down significantly which has helped in driving growth of DVD Players. Slim DVD players were introduced in the market with value added features like Dolby digital, 5.1 channel output, JPEG photo, Zoom and multi format disc compatibility. VCD players gained popularity in rural areas and semi-urban areas due to their low cost and availability of content at reasonable prices. The total production of VCD/MP3 players was estimated at 8 million numbers in 2004-05 and was dominated by unorganized sector (Annual Report 2004-05). The Indian DVD market was estimated at 7 million units and grew at 15 per cent per annum in 2007-08. The fast growth, quality and popularity of the DTH sector had an adverse impact on the DVD player market. It began to decline and came down to 5.40 million units in 2010-11 as compared to 6.20 million units in 2009-10. It continued to decline due to rapid growth of DTH sector, digitalization of TV network and use of set Top Boxes.

Home Theatre Systems

The Hi-end audio equipment growth was being driven by the popularity of Home Theatre Systems. Home Theatre systems became increasingly affordable and grew significantly in 2004-05. The market has two segments - Home Theatre in a Box (HTIB) and high -end Home Theatres, which contains a DVD receiver, 5 satellite speakers and a powered sub-woofer. 60 % of the Home Theatre market is of HTIB. The growth is taking place due to:

- Improving lifestyles
- Increasing disposable income
- Increased sale of DVD players
- Availability of DVD software at affordable prices.

The Home Theatre segment continued to grow from 0.24 million units in 2009-10 to 0.30 million units in 2010-11, a growth rate of 25 per cent. The growth was expected to go up because the number of DTH subscribers increased as more private operators entered this platform. The Home Theaters which were 0.7 million in numbers valued at Rs 840 crore grew to about 0.76 million in numbers valued at about Rs 924 crore in 2017-18

Microwave Ovens

The microwave oven industry grew at the rate of 25-30% with noteworthy reduction in prices and entry of more players in this segment. The manufacturers are introducing latest features in their microwave ovens. The features included

- 3D wave distribution system
- Child lock
- Auto defrost
- Steam function
- Power saver technology

The rate of growth of production of microwaves ovens was 7.9 per cent in 2009-10 and increased to 21.6 per cent to reach 930 Crore in 2010-11.

There has been exponential growth in the Set Top Boxes market, due to introduction of CAS and DTH in the country. The Department took steps to promote indigenous manufacturing of Set Top Boxes. The measures included imposing a Basic Customs Duty (BCD) of 10% on imported STBs, mandatory compliance safety standards have been provided to stop the inflow of sub-standard STBs, the development and implementation of Indian Conditional Access System (CAS) etc.

Conclusion

“The convergence of information, communication and entertainment is bringing new momentum in the consumer electronics industry in India. It has experienced rapid changes over the last few years. Consumer preference has shifted towards products and devices that come with smart technology, innovative designs and aesthetic looks. Premium products, particularly in the metros, are the growth drivers in the consumer electronics industry Consumer electronics is one of the largest segments in the electronics hardware sector in India. In this segment, Colour Television is the largest contributor.” (Annual Report 2010-11)

Indian consumer durables industry is poised at a very interesting juncture at present and India has the potential to become an attractive investment destination for investment in this sector. Global corporations view India as one of the key markets from where future growth is likely to emerge. The growth factors in India's consumer electronics market are:

- A favourable population composition
- Increasing disposable incomes
- Growing awareness
- Easier access
- Changing lifestyle
- Reduction in the per unit prices
- Greater affordability
- Reduction of GST rate from 28% to 18% on Televisions up to 32”, refrigerators, washing machines and microwave ovens
- Allowing 51% Foreign Direct Investment (FDI) in multi-brand retail and 100% FDI in single-brand retail

As per Indian Brand Equity Foundation (IBEF), Indian appliance and consumer electronics market is expected to reach Rs.1.48 lakh crore (USD 21.18 billion) by 2025.

“Television is a very important component in consumer electronics and is one of the products for which India can become the global hub for manufacturing. The organized TV market size was approximately 16.1 million units (valued at USD 3.1 billion) and is expected to grow at CAGR of around 8.5% till 2024-25, as per FICCI. Nearly 12.5 million TV sets were manufactured in India during 2019-20.

Globally, the TV market size in 2019-20 was around 229 million units valued at USD 129 billion and is expected to grow at CAGR of 2% unit's wise and 7% value wise. The types of Televisions available today in the market cover a wide range of LCD/LED/QLED TVs which offer sharper, higher resolution pictures. Some of the initiatives taken by the Government to promote domestic manufacturing include

Increase in the Basic Customs Duty (BCD) on several consumer electronic goods to encourage companies to substitute imported goods with domestically manufactured goods, permitting 100% FDI in the consumer electronics manufacturing sector via direct route and providing Cap Ex subsidy under the Modified Special Incentive Package Scheme (M-SIPS), etc." (Annual Report 2020-21). These steps would encourage foreign companies to set up manufacturing facilities in consumer electronics without the need to form a joint venture or a partnership with a domestic company. A local partner would be required legally and practically for distributing consumer electronic goods to the end users.

The Make in India programme was launched in 2014 of Government of India. It intended to make India the Global manufacturing hub by increasing domestic manufacturing and making it more competitive. This would increase the manufacturing sector's contribution and reduce our dependence on the services sector. "Digital India", similarly, was designed to boost domestic manufacturing of electronics. The objective is to reduce our country's dependence on imports in this critical sector. The objective is to provide a level playing field for domestic manufacturers to enable them to compete with imports by rationalizing tariff structure, simplifying procedures, providing incentives and upgrading infrastructure. The vision of National Policy on Electronics 2019 (NPE 2019) is to position India as a global hub for Electronics System Design and Manufacturing (ESDM).

"The India consumer electronics market size was valued at USD 71.17 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 6.5% from 2022 to 2030. India provides a worldwide opportunity for short to medium-term growth in consumer electronics spending. Minimal penetration rates, as against other upcoming markets, portray a better prospect to sell to first-time buying households, along with replacement devices to the middle class" (Market Analysis Report, Grand View Research).

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