



Opportunities and Challenges in Consumer Electronics & Home Appliances

Message from President CEAMA

The country is passing through a slow-down with economic growth coming down. Our sector is greatly affected by the general economic conditions in the country. The slow economic growth has affected our sector in adverse manner and has decelerated the growth of the sector.

The demand of electronics in the Indian market is projected to rise to US \$125 billion in next 2-3 years and US \$ 400 billion by 2020. To ensure that supply keeps pace with the increase in demand, the industry and the Govt. need to work together, to make the Indian industry competitive.

This Research Paper is an effort to make all the stake holders, specifically Electronic industry & Policy Makers aware of the opportunities & Challenges in Consumer Electronic & Home Appliances sector. I am sure that this research paper will be a useful document for both.

A handwritten signature in black ink, appearing to read 'A. V. Dhoot', written over a light blue horizontal line.

Anirudh V Dhoot

Message from General Secretary, CEAMA

The Home Appliances and Consumer Electronics sector has witnessed a substantial growth since the process of liberalization began. This sector is an important part of the economy of the country and has played a vital role in providing employment to millions of people and also improving the quality of life of people in the country.

With the current economic slowdown the sector is facing sluggish growth and all of us are feeling the pinch, but I am sure that this is a temporary phase and soon the economy will be back to 8%+ growth and the sector will be back to double digit growth. The rapid technological developments will act as a catalyst to the growth of Consumer Electronic sector and will touch the figure of USD 400 billion by the end of next five year plan.

I am confident that this research paper will serve its purpose of generating awareness in the industry about the current and future trends in Consumer Electronics & Home Appliances.

A handwritten signature in black ink that reads "Suresh Khanna". The signature is written in a cursive style with a horizontal line underneath the name.

Suresh Khanna

Message from Dr. Srini Srinivasan, Arthur D. Little



We are proud to be associated with CEAMA as their Knowledge Partner for the study on “Opportunities & Challenges in Consumer electronic & Home Appliances in India” on 14th December, 2014.

Based on our 127 years of global experience, we are confident that the home appliances sector in India will define a courageous path forward towards profitable and world-class manufacturing ecosystem. We wish the Annual Function much success.

Dr. Srini Srinivasan
Managing Director, Arthur D. Little India

ABOUT CEAMA:

Consumer Electronics and Appliances Manufacturers Association (CEAMA), was established in 1978 is an all India apex body of Manufacturers of Consumer Electronics and Home Appliances, a Rs.45, 000 crores industry. CEAMA acts as a catalyst in the promotion of Industry, trade, technology and entrepreneurship.

The membership spectrum comprises of Domestic Companies and MNCs, and includes large, medium & small-scale sectors. All leading brands in Consumer Electronics and Home Appliances viz. Videocon, Samsung, LG, Onida Panasonic, Philips, Toshiba, Haier, IFB, Whirlpool, Godrej, Lloyd, Voltas, Ahuja, Onkyo, BSH Household Appliances, are members of CEAMA.

CEAMA is an Industry Chamber which is recognized by 'Department of Electronics and IT (DeitY)' in India. Recommendations and suggestions of CEAMA are given due consideration by the Government of India in formulating union budget and implementing new policies for the Indian electronics sector. It works closely with the various Ministries / Departments of Central and State Governments on all matters related to growth and development of the sector and functions as an interface between the government and industry, manifesting industry's concern to the government and sensitizing the businessmen about the policy changes brought out by the government.

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Executive Summary

The global economic turbulence that characterised the past few years is expected to ease off by 2014. The Indian economy performed well even under economic duress and conditions improved alongside a recovering global economy. India registered a robust economic growth rate of **5%** in the financial year **2012-13** and demand for consumer appliances would continue to surge further. The steady economic growth will continue to provide consumers with higher disposable income and benefit those seeking to upgrade their lifestyles. A robust **400 million Indian middle class** with growing disposable incomes has been instrumental in driving demand of various consumer electronic devices. Price pressures due to high inflation, fuel costs, a weakening rupee and rising input prices will remain major concerns for manufacturers.

Low household penetration (well below world average) of appliances in India will provide opportunities for companies to expand their reach. Expansion of modern retail and exclusive company outlets across regions is expected to increase the penetration of Home Appliances. Appliances are expected to post strong growth even in non-metro cities (tier two & three cities & rural areas). Other factors fuelling double digit growth of consumer appliances in India are rise in double-income nuclear families, **easy availability of credit**, changing lifestyles, introduction of new models, and increasing consumer awareness.

A large number of consumer electronics and home appliances were increasingly **imported** towards the end of the year 2013. Importing products into India proved to offer good quality products, and turned out to be **more economical** than manufacturing these products within the country. As such, more manufacturers opted to continue following the import route. Better quality products were available to consumers at lower prices as the quality offered by smaller players improved substantially due to imports and prices not appreciating proportionally. Hence, smaller regional manufacturers who are mostly involved in trading of products manufactured in China are expected

to provide stiff competition to their larger national counterparts in the coming years.

However, the 2013-14 Budget had no specific proposal pertaining to the household appliance industry. The increase in **excise duty and service tax from 10% to 12%** in the Union Budget of 2012-13 had an immediate impact on end consumers across all demographics.

There is a definite lack of proper electronics eco-system in India as almost 60-70 % of the inputs in major appliances such as LED TV's have to be imported. This is a big handicap and adds to the cost of manufacturing final product. This is further exacerbated by the FTA's with ASEAN countries and the heavy taxation in India. **Unless the situation is corrected, it is likely that by 2020, the electronics import may far exceed oil imports reaching USD 300 billion.**

There are various short term and long term solutions which need to be looked into to boost the eco-system of the consumer appliances in India. This is a big handicap and adds to the cost of manufacturing final product. We need to take some concrete steps today, to define a profitable path for consumer appliances eco-system in India.

Introduction

Background

Consumer durables' is one of the fastest growing industry segments in India. This sector attracted significant investments even during global recession. During FY03-FY13, the industry expanded at a healthy CAGR of 13 per cent. Urban markets account for the major share (65 per cent) of total revenues in the consumer durables sector in India. Rural markets are expected to grow at a compound annual growth rate (CAGR) of 25 per cent. Also, increasing electrification of rural areas would augment the demand. 100% FDI is allowed in the electronics hardware manufacturing sector under the automatic route.

Since, India has been trailing behind ASEAN countries in terms of production, quality and export of consumer appliances, performance levels of most of factors of production such as quality manpower, capital investment, infrastructure, technology etc., need to be enhanced through conscious policy interventions and managerial action to boost competitiveness of the sector. In this context, an attempt has been made to understand the productivity and competitiveness of consumer appliances eco-system in India and recommend policy solutions to make the sector internationally competitive. The study also attempts to identify the factors hindering the progress of the sector and suggest measures for enhancing the competitiveness of the sector.

Objectives/Scope of the report

The Indian consumer durables segment can broadly be segregated into consumer electronics (TVs, Set Top Boxes and Audio systems etc.) and consumer appliances (also known as white goods) like Refrigerators, Washing Machines, Air Conditioners, Microwave Ovens and Vacuum Cleaners.

The study is carried out with the following major objectives:

- Understand the demand driver of Consumer electronics in India
- Market size and domestic production trends of some major products in the category
- Impact of WTO, FTA and government policies on the electronics manufacturing ecosystem in India
- Conclusions and recommendations based on the study

Consumer Electronics market in India

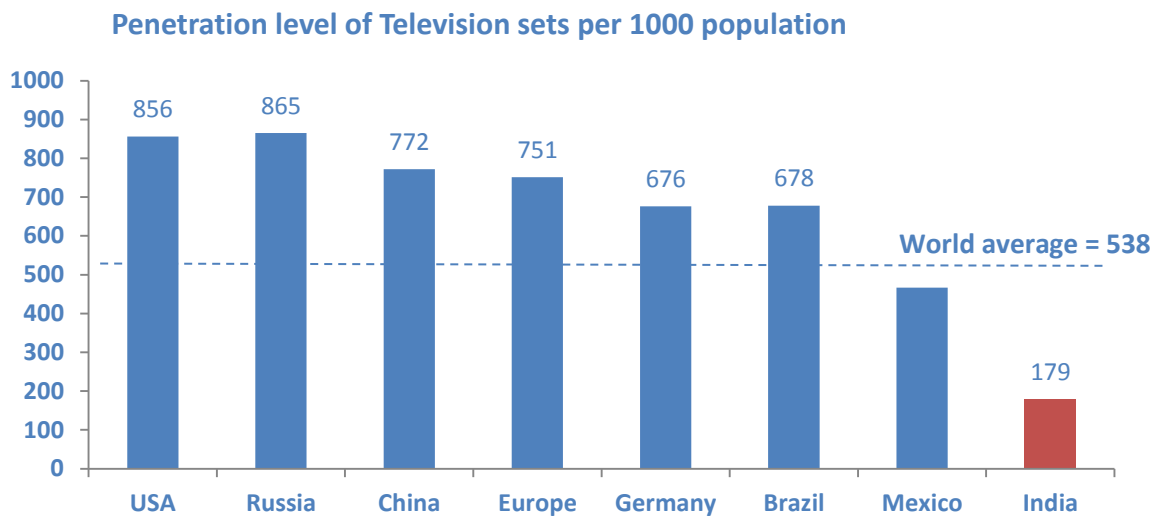
Overview

Indian Consumer Electronics market has been witnessing sustained double digit growth rate in the past few years. Increasing product awareness, affordable pricing, innovative products and the high disposable incomes have aided in the strong growth in the consumer electronics market in India. Rapidly shrinking replacement cycle for consumer durables is observed as sustaining demand in urban India. The existing low penetration rates and the increasing usage of consumer durables have catapulted rural India to the high demand generating segment. The consumer electronics market in India is characterized by technological advancements, innovative product introductions, price fluctuations and intense competition.

Penetration levels

– CTV's (Color televisions)

Indian television market is **highly under penetrated** compared to China, developed countries and world average.



(Source: Economic intelligence unit, 2013)

Figure 1: Comparison of TV penetration

Market sizes and growth rates

- CTV's

Television market in India is expected to grow at a robust rate of **19% CAGR** till 2016.

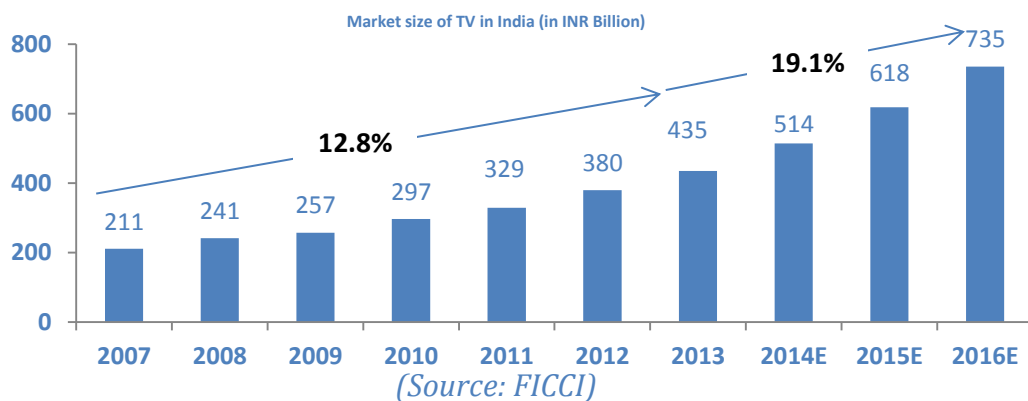


Figure 2: Market size of TV in India

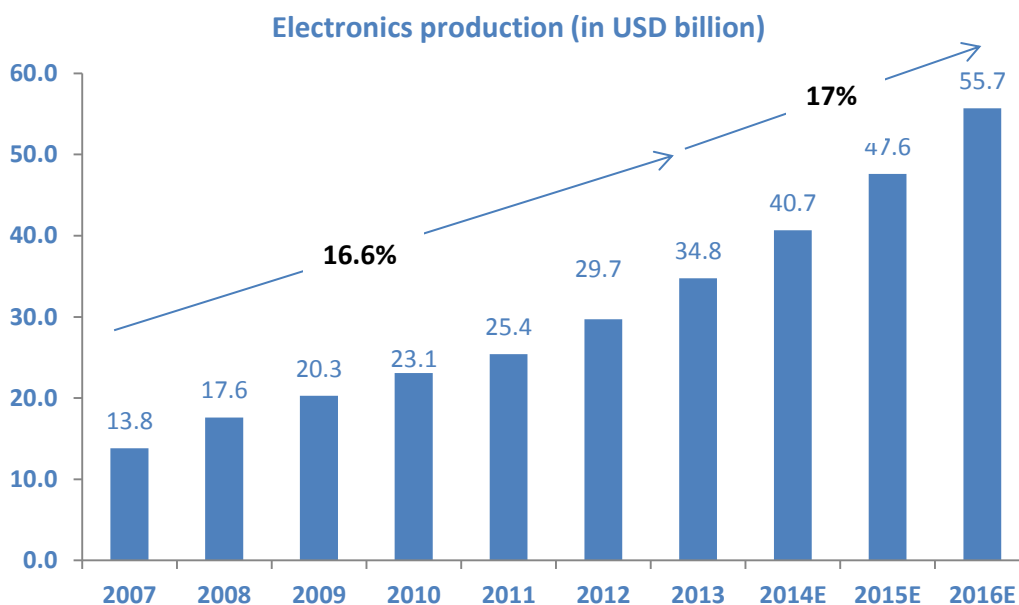
- Set top boxes

The set-top box (STB) market is growing rapidly, due to the expansion of DTH and introduction of digitalisation of Cable TV networks in metros & tier II cities. The DTH market was worth **USD 2.2 billion in FY13**; the subscriber base reached **51 million** from 23 million during 2010-13, subscriber base is expected to reach **200 million by 2018**, thereby making India one of the world's largest DTH markets. Evaluating the present market scenario, around 80% of the total cable TV subscribers are still on analog based networks, which is expected to be covered under the 3rd and 4th phase of digitalization.

The Indian STB manufacturers are facing a disadvantage due to anomaly in the tax structure. The disadvantage is arising out of the business model practiced by Direct-To-Home (DTH) and Main Service Operators (MSO) Operators, who provide content to subscribers through a Set Top Box, pay Service Tax only on the content provided and not on the Set-Top Box which is packaged as activation charge, with tax being charged on installation alone. Since the STB is not being supplied against a charge or deposit, DTH and MSO operators are not paying VAT and hence are unable to issue Form 'C'. This makes the landed cost of domestically manufactured products more expensive versus imports, since Indian manufactures have to pay CST equivalent to local VAT (which is 12.5%-14% without 'C' form). Indian manufacturers are therefore unable to compete with imported equivalents.

Manufacturing of consumer electronics in India

Electronics production in India was valued at **USD 34.8** billion in FY13. Production expanded at a **CAGR of 16.6** percent since FY06.



(Source: FICCI industry report, 2013)

Figure 3: **Consumer electronics production in India**

SWOT analysis of the Consumer electronics sector in India

| Strengths | Weaknesses | Opportunities | Threats |
|--|--|--|---|
| Presence of established distribution networks in both urban and rural areas. | Demand is seasonal and high during festive season. | In India, penetration level of white goods is lower as compared to other developing countries. | High import duties on raw materials. |
| Presence of well-known brands. | Demand is dependent on good monsoons. | Unexploited rural market. | Cheap imports from ASEAN at 0% or concessional import Duty & imports from China |

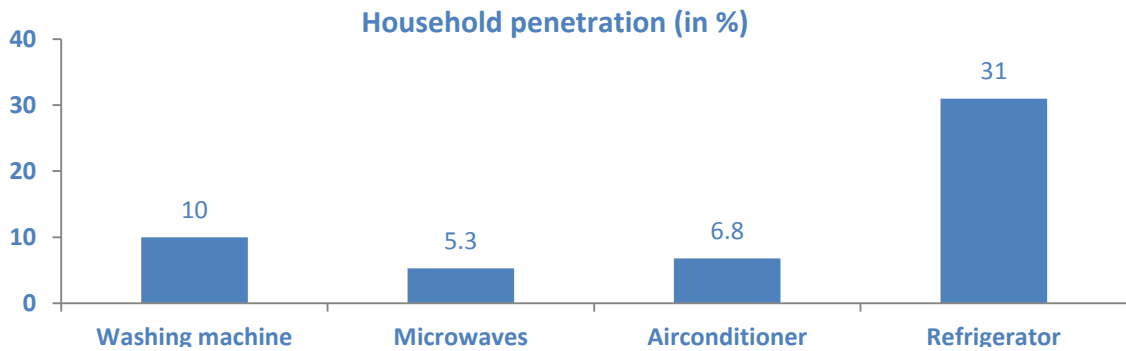
Home appliances

Overview

Demand in urban markets is likely to increase for products such as LED TVs, laptops, split ACs and, beauty and wellness products. In rural markets, durables like refrigerators as well as other home appliances are likely to witness growing demand in the coming years. The rural market has recently experienced around **30 per cent growth rate** in demand for electronics and home appliances. Urban growth is likely to be driven by new technology/innovative products, lifestyle products and replacement demand.

Penetration levels

Refrigerator has the highest penetration in India of **31%**

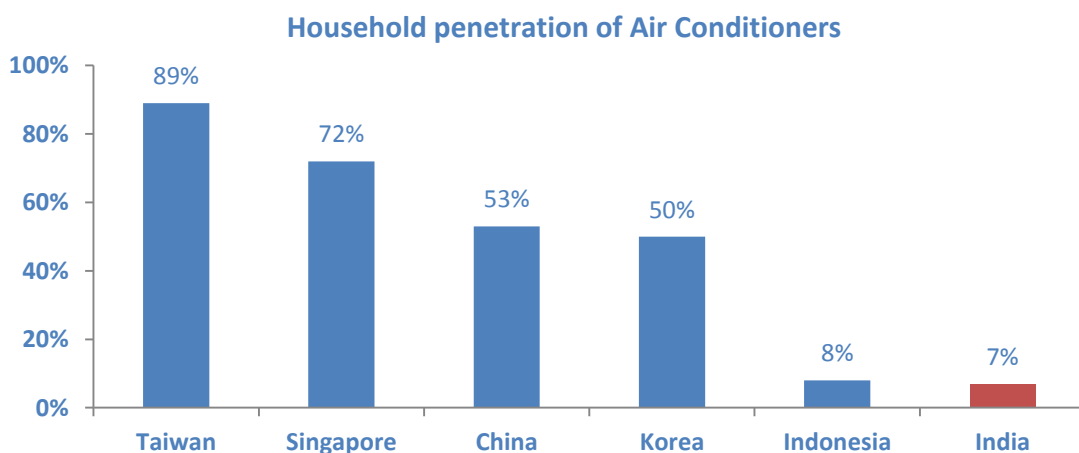


(Source: Euromonitor India consumer appliance report, 2013)

Figure 4: Household penetration of home appliances

- Air Conditioners

The Indian AC market accounted for sales of **3.6 million units in 2013**. AC's are perceived as high-end products; current penetration stands at 6.8 per cent including Window and Split AC. The segment had a **13.0 per cent share (2013)** in the consumer appliances market. High income growth and rising demand for split ACs are the key growth drivers. The room air-conditioning market represents approximately 50% of the total market, with the other 50% comprised of central and specialist air-conditioning systems. The room AC market can again be divided into two sub-segments. On the one hand the residential segment which now constitutes a majority 60% market share and on the other hand the commercial segment which represents a smaller 40%.



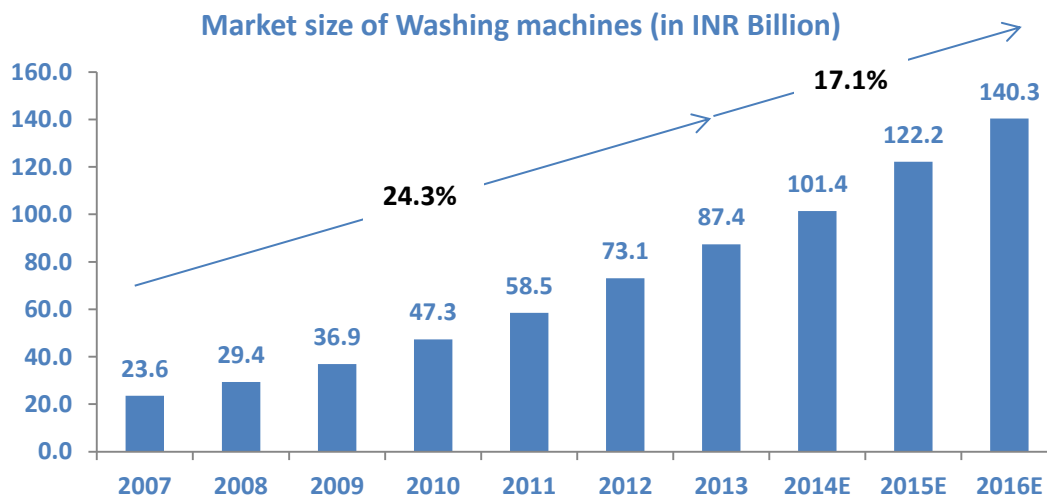
(Source: Capitaline analyst report, 2013)

Figure 5: Household penetration of air conditioners

Market sizes and growth rates

– Washing machines

Washing machines are the second largest contributor to the consumer appliances market (after refrigerators); in FY 2013 total sales was around **7.5 million units**. Fully automatic washing machines are garnering an increasing share of the market due to reduction in prices and higher disposable incomes. **LG Electronics** continued to be the leading player in home laundry appliances in India with a share of **25% in 2013**, followed closely by Samsung Electronics (23.2%). The major chunk of this growth is expected to be driven by newer households purchasing washing machines, as well as a greater number of households replacing their semi-automatic washing machines with fully automatic washing machines. **6-9.9 Kg** is the most popular category in India with 72.2% share in the total sales.



(Source: Euromonitor India consumer appliance report, 2013)

Figure 6: **Market size of washing machines**

– Microwave ovens

Due to the convenience of mobility and ease of operation, freestanding microwaves continue to dominate the Indian market in 2013, accounting for almost all volume sales. LG Electronics continued to be the market leader in 2013 with a volume share of 32%. Samsung Electronics ranked second with a 22% share followed by Whirlpool with just over 11% and Bajaj Electricals with 10%.

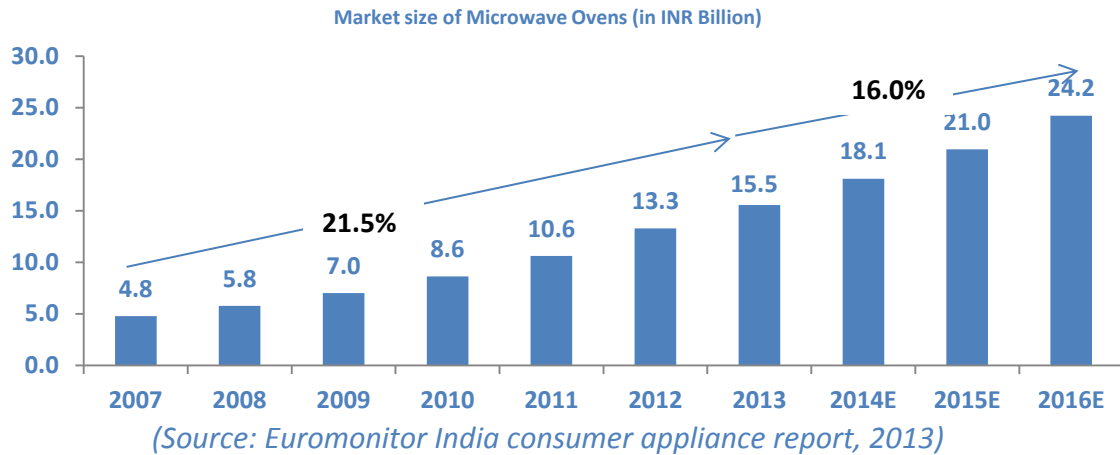
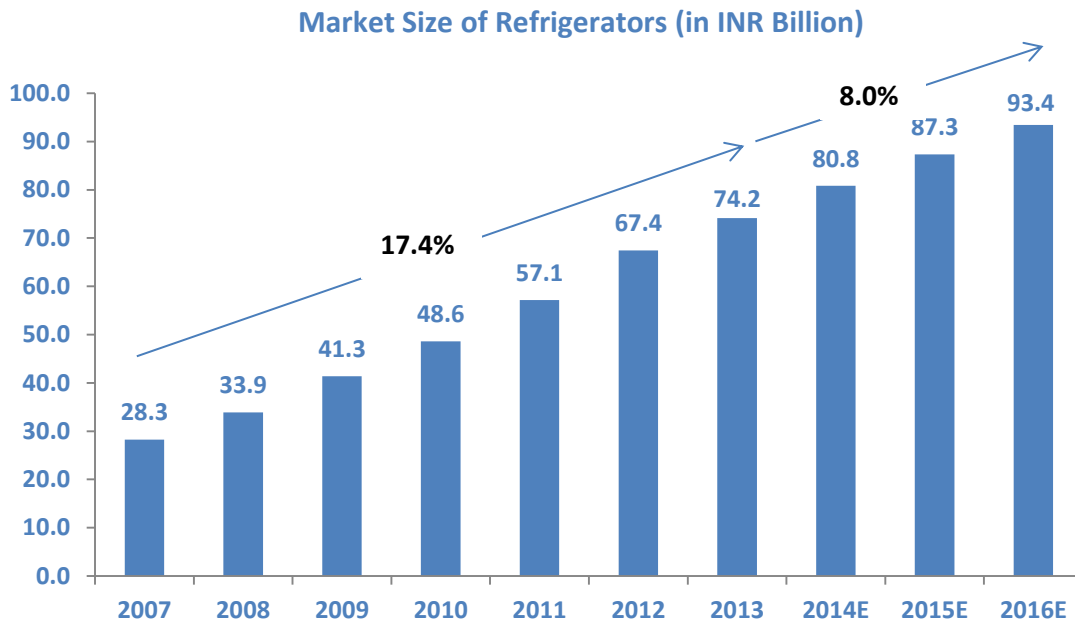


Figure 7: Market size of Microwaves in India

– Refrigerators

Refrigerator sales stood at **~14.0 million units in 2013**. This segment makes up 18.0 per cent of the consumer appliances market. The market share of direct cool and frost free segment is 76.3 per cent and 23.7 per cent respectively. Key growth drivers are lower prices and rising demand for frost-free refrigerators. Fridges with a capacity range of **142-340 litres dominated** fridge sales over the review period, representing 74% of total volume sales. In fact, the 165-litre fridge was the standard in almost all households until the arrival of competition and the need to differentiate, coupled with economic development, which led to the development of higher capacities. Over the review period, fridges with 341-540-litre capacities continued to gain momentum to account for 20% of total fridge volume sales in 2013. Market share of **LG is 24.50%** and Samsung is 20.60% in 2013.



(Source: Euromonitor India consumer appliance report, 2013)

Figure 8: Market size of Refrigerators in India

SWOT analysis of the Consumer home appliances sector in India

| Strengths | Weaknesses | Opportunities | Threats |
|---|---|---|---|
| In recent years, organized sector has increased its share in the market vis a vis the unorganized sector. | Poor government spending on infrastructure. | Rapid urbanization | cheaper imports from China & Concessional duty imports under FTA from ASEAN Countries are forcing threat to local manufacturing |
| Easy availability of finance. | Low purchasing power of consumers. | Increase in income levels, i.e. increase in purchasing power of consumers | Poor infrastructure; Non-Availability of regular power supply, which is imperative for consumer electronics product |

Impact of WTO and FTA's

Electronic components which form the basis of any electronic products is low volume, low weight, cheap and easy to transport across the globe. Moreover, under the **Information Technology agreement-1 (ITA-1)** of the world trade organization, which came into force in 1997, a large number of electronic components and products are bound with zero tariffs making trade unrestricted across international borders. Also, electronics manufacturing is characterized by high volume and low margins. All these factors have resulted in the electronics hardware industry being globally integrated with few large global players catering to a large part of the world demand.

In the current WTO regime, India is a party to the “Trade Related Aspects of the Intellectual Properties (TRIPs) Agreement” and has accordingly, amended most of its IPR Acts and Rules to conform to the said Agreement. The Indian Copyright Act 1957 was amended in 1999; the patent Act 1970 was amended in 1999 & 2003 and Trademarks and Merchandise Marks Act 1959 was overtaken by a new Trademark Act 1999. The Industrial Design Act 1911 was effectively replaced by The Design Act 2000, and the Layout Design of Semiconductor integrated Circuit Act 2000 was enacted.

WTO regime resulted in zero customs duty on imports of all telecom and electronic equipments. 217 IT/electronic items were covered under the Information Technology Agreement (ITA) of the WTO for complete customs tariff elimination by 2005. Out of these 217 items, several items were already at NIL customs duty. In fact, IT/electronics was the first sector in India to face complete customs tariff elimination. The ITA-1 has resulted in intensifying competition as more imported products are easily available at lower prices.

Free Trade Agreements (FTAs) with the ASEAN Countries

According to statistics by the Asian Development Bank, currently India tops the list of ASEAN countries with **30 FTAs**, followed by Singapore with 26, China and Korea with 22 each, and Japan (19). The total number of FTAs that Asian countries have entered into is 134. Out of India’s 30 FTAs, **eight** are with the integrating Asian region, while 22 are outside of Asia.

Problems with the current structure

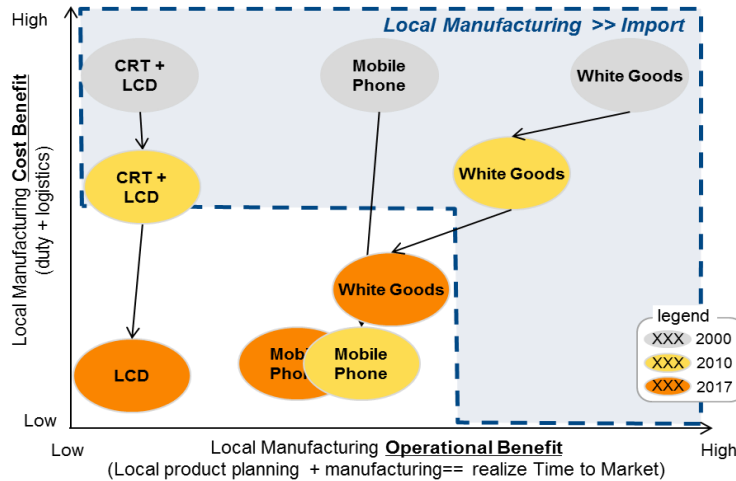
Domestic demand of electronics in India is expected to reach **USD 400 Billion** by **2020**. At the current rate of growth domestic production can cater to a demand of USD 100 Billion in 2020 as against a demand of 400 Billion USD and the rest would need to be met by imports. This aggregates to a demand supply gap of **USD 300 Billion by 2020**. **Unless the situation is corrected, it is likely that by 2020, the electronics import may far exceed oil imports**. There is a need to transform India into a global hub for electronic system design and manufacturing (ESDM) so as to meet the growing domestic and global demand. There are many challenges to advance the same - infrastructure gap, tax structure, supply chain and logistics, inflexible labor laws, limited R&D focus, in adequate funding and limited value addition

| | 2000 | 2010 | 2017 (FTA with ASEAN) |
|-----------------|--|------|--------------------------|
| Mobile Phone | 16%-30% High Duty | 0% | 0% |
| PC | | 0% | 0% |
| CRT | | 10% | 0% |
| LCD/LED TVs | | 10% | 4%, 0% with Thailand |
| AC | | 10% | 7% |
| Washing machine | | 10% | 7% |
| Refrigerator | | 10% | 2.5% |

(Source: Arthur D. Little analysis)

Figure 9: The customs duties reduction due to FTA’s

Heavy taxation in the country is one of the challenges for the players. At its present structure the total tax incidence in India even now stands at around **25-30 per cent**, whereas the corresponding tariffs in other Asian countries are between **7 and 17 per cent**



The local manufacturing benefits of all the major consumer appliances in expected to decrease by 2017 when the FTA's with the ASEAN countries are fully implemented

(Source: Arthur D. Little analysis)

Figure 10: Manufacturing Competitiveness of Consumer appliances in India

| As of 2013 | | LCD (CCFL & LED) 19" – 40" | LCD (CCFL & LED) 42" and above |
|-----------------------------|------------|---------------------------------------|--|
| LCD Panels | | Imported as finished LCD panel | |
| Panel Cells | | Import | Import |
| Panel Driver | | Import | Import |
| Back light | CCFL | Import | Import |
| | LED | Import | Import |
| Electrical Parts | | | |
| IC | Processors | Import | Import |
| | memory | Import | Import |
| | Others | Import | Import |
| RF tuner | | Import | Import |
| Bare PCB board | | import | Import |
| SMPS board | | Import (completely mounted) | Import (completely mounted) |
| Mechanical Parts | | | |
| Metal Chassis | | Import (inbuilt with LCD panel) | Import (inbuilt with LCD panel) |
| Other Metal Parts | | Local manufacture: outside supplier | Local manufacture: outside supplier |
| Plastic Parts | | Local manufacture: outside supplier | Font panel is imported, back panel: outside supplier |
| Power cable | | Local manufacturing: outside supplier | Imported |
| Instruction Manual, Package | | Local manufacturing: outside supplier | Local manufacturing, outside supplier |

(Source: Arthur D. Little analysis)

Figure 11: Import of key components for TV manufacturing in India

Impact of 2013 Budget:

The Budget had no specific proposal pertaining to the household appliance industry. A tax credit of Rs 2,000 for a person with income up to Rs 5 lakh per annum, introduced in the Union Budget 2013-14, will result in higher disposable income in the hands of people coming in the lowest tax bracket. But, this is unlikely to translate into any meaningful impact on the demand.

Customs duty on set top boxes in 2013 budget was **increased from 5% to 10%** to encourage local manufacturing. Given the deadline for full digitalization by 2014, this move also has not benefited the industry much and resulted only in increase in cost of the STB for end user.

Conclusions and recommendations

Possible solutions

1. There is a need to have a relook at FTAs with Thailand/ASEAN as far as Consumer Electronics & Home Appliances sector is concerned. As an immediate measure Product Specific Rules should be made applicable for consumer appliances sector products. Critical inputs such as Open Cell for LED TVs should be made in the country of Origin.
2. Due to implementation of FTAs, CE&HA sector is facing inverted duty structure, where the final product is being imported at 0/concessional import duty, whereas inputs attract 10/7.5% duty. We recommend that import duty on inputs, which are not made in the country, be brought down to 0%. It will boost indigenous manufacturing.
3. Since there is very high degree of Electronics involved in Home Appliances and also since the imports of these products is resulting in

heavy outflow of foreign exchange and as it is an employment intensive sector, Home Appliances should be treated as Electronic Products & extended benefits of MSIPS, EMCs etc.

4. Treat Set Top Box in the same category as telecommunication network equipment and thereby allow MSOs/DTH Operators to issue form 'C' even without reselling the product. With this step at least half of the demand of 100 million Set Top Boxes will be met through domestic manufacturers in next 2 years, potentially generating employment to more than 5000 people. Alternatively the import duty on Set Top Boxes is raised to 15% to provide level playing field to indigenous manufacturers.
5. Presently the Inputs for the Consumer Electronics & Home Appliances sector are not available through indigenous sources and have to be imported. This is a big handicap and adds to the cost of manufacturing final product. Greater emphasis should be laid by Govt. to encourage component Industry. If the inputs are available, at competitive price indigenously, it will help in growth of CE&HA industry. It will also result in greater value addition within the country, building the right eco system for the country and creating huge employment opportunities.

Recommendations for sustainable growth

Infrastructure development

Lack of adequate physical infrastructure such as roads, ports, airports, electricity etc., are adversely affecting the competitiveness and productivity of the domestic home appliances industry in India. Uninterrupted power supply is a necessary condition for operation manufacturing units as power fluctuations can lead to major losses to the manufacturing processes. Moreover, the demand of home appliances such as Air Conditioners, Refrigerators, Washing

Machines, Microwave Ovens and Vacuum Cleaners are driven by the electrification of homes and uninterrupted supply of electricity in the already electrified areas. Indigenous manufacturing in the entire value chain of ESDM is needed for economic development. Attractive fiscal incentives across the value chain of the ESDM sector through a modified special incentive package scheme (M-SIPS) provided by government to eliminate the disability costs in manufacturing on account of infrastructure gaps relating to power, transportation etc. is a step in right direction.

Incentives provided for setting up of 200 Electronic manufacturing clusters (EMC's) with world class logistics and easy to do business facilities should help. The benefits of National manufacturing policy and National investment and manufacturing zones (NIMZ) are available to EMCs.

Raw Material, Components & Machinery

Weak supply chain network and lack of vendor support also affects the quality, productivity and competitiveness of the sector. There should be hassle free import of raw material and components by streamlining the import policy and and through the simplification of procedures.

Skill Development and Training of Manpower

In the context of achieving the necessary '*scale*' and '*speed*', the following solutions could be the way ahead in providing a conducive environment for India to meet its skill development goals:

- Targeting skill development at all levels of the '*skill pyramid*'
- Implementing Vocational Education in schools
- Creating a large talent pool through Modular Employable Skills

To significantly enhance the availability of skilled manpower in the ESDM sector, a special focus for augmenting post-graduation is required

Encouragement should be given for setting up of skill oriented courses and training programs along with hands on laboratories enabling graduates from other disciplines to mitigate to EDSM.

R&D and Technology Up gradation

Indian manufacturers are not able to compete with global majors due to the **high level of technological knowhow** and R&D content required for indigenous manufacturing. Technology transfer, R&D and IPR creation should be incentivized by government through friendly tax regime. A vibrant and sustainable ecosystem of R&D, design and engineering and innovation is required to enhance manufacturing capabilities of electronic raw materials, components, sub-assemblies as well as products.

Productivity Enhancement for Raising Profit Margins

To tackle the factors hindering the productivity and competitiveness of the sector, a number of strategic initiatives need to be taken up by Industry Associations, manufacturers and Government. In order to become competitive in the domestic as well as world market, consumer appliance manufacturing units need to formulate strategies based on market intelligence, product development, R&D, demand forecasting and competitive pricing productivity estimations based on Labour and Total Factor Productivity Growth rates have been found quite low in the light electrical sector particularly home appliances segments, there is a need for substantial up gradation of skill levels and technological knowhow (R&D activities) in this sector for further value addition at the domestic level.

Contract manufacturing

Labour policies in India are not favourable for manufacturing as compared to other competing countries such as China. Therefore, there is requirement of **flexible** labour policies to enable manufacturers to restructure labour force in response to the market demand.

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Arthur D. Little, founded in 1886, is a leading in management consulting company; linking strategy, innovation and technology with deep industry knowledge.

We offer our clients sustainable solutions to their most complex business problems. Arthur D. Little has a collaborative client engagement style, exceptional people and a firm-wide commitment to quality and integrity.

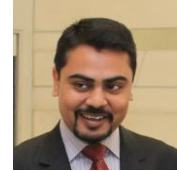
Having completed 125 successful years, Arthur D. Little has over 30 offices world-wide and regularly engages and assists numerous Fortune 100 companies on various issues and growth strategies.

For further information please visit: www.adl.com

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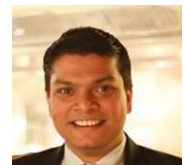
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