CHAPTER III

HOME APPLIANCES- AN OVERVIEW

3.1 INTRODUCTION

Home appliances play a major role in the domestic life of the modern man. It has always had a significant place in the life of man ever since the Stone Age when man began to use tools. Today, the twenty-first century human beings use more sophisticated tools and home appliances for his daily life. The more we try to make our life convenient and comfortable, the more significant the role of appliances turns out to be in determining the life style of man.

Home appliances are electrical/mechanical appliances which accomplish some household functions, such as cooking or cleaning. Household appliances are the important appliances which are used in our household for the various day to day functions like cooking, cleaning, exercising, purifying, food preservation etc. The majority of household domestic appliances are the large machines usually used in the bed rooms, bath rooms, halls and in kitchen. The appliances which are used in a kitchen accomplish some routine housekeeping task such as cooking, food preservation and cleaning. The household appliances have a major role in the stylish appearance of any home décor. This makes the ambience of any room quite beautiful and at good appearance. An air conditioner and refrigerator are now commonly used due to the hot climate. This will give some sort of cooling and refreshment. The refrigerators help to keep the food items and vegetables fresh for a long time. The major appliances used in every household include refrigerators, mixer grinder, grinder, gas stove, pressure cooker, TVs, air conditioner, music players, home theatre, digital players, ceiling fan, air purifier, personal computers, vacuum cleaners, iron boxes, water purifier, water heater, digital clocks etc. It incurs a big investment on
purchasing these household appliances essential for the present modern life. The uptrend’s in technology and innovations made the home appliances more user friendly making the home routines as quick as possible\textsuperscript{64}.

3.2 THE STONE AGE KITCHEN

The history of man on earth is checkered with his untiring attempts to make his life worth living and comfortable. One of the essential needs of man is food. Hence, man’s history on the face of this earth is overshadowed by his physical as well as mental exercises to meet the needs related to food and survival.

Going by the Biblical tradition, the very first parents of mankind, Adam and Eve were abundantly blessed by God who left them free in the Garden of Eden so that they could eat of the fruit bearing trees of Paradise. But the overvaulting ambition of man was tempted by Satan to eat of the forbidden tree in order to make himself equal to his Creator. The consequence of this single act of disobedience caused by eating landed him into a sea of troubles. He was doomed, hence forth, to live by the sweat of his brow. Since the curse has come from his wrong and sinful means of attaining food, to this day, man’s struggle for existence has been, for the most part, toil for satisfying his hunger for food.

The Paleolithic man lived a life in close contact with nature and the objects of nature. He was not in the habit of eating his food in the hut; instead, he hunted animals and collected other food materials like fruits and vegetables from outside and ate them raw.

The invention of fire, however, revolutionized man’s habit of consuming food. He began to cook his food and eat it. The taste of the cooked food easily prompted his life to be nurtured in the civilized world of the hearth. Ever since man began to

\textsuperscript{64} www.buzzle.com/articles/household-home-appliances
gravitate towards the hearth to cook his food materials, his hearth began to transform itself to assume the dimension of a kitchen with its accessories. Thus the early man, treading his way through the slow process of civilization, began to use kitchen utensils to cook his food. The habit of cooking food in vessels and eating it from hand-made plates multiplied the need for more and more kitchen utensils.

It is man’s nature to look forward to ways and means to make his life more and more easy and comfortable. As a result, a good portion of his attempt in the process of getting civilized has been directed towards equipping his kitchen with all kinds of gadgets and devices suited to making his life and, particularly that of his better half, comfortable. Hence it is only natural that the use of sophisticated as well as simple utensils and gadgets in kitchens has become simply a part of his life style.

### 3.3 KITCHEN DESIGNING

It is the desire of every man to build a beautiful house. The beauty of the house will depend largely on how well all the rooms are designed so that the members of the family can communicate with one another in a very pleasing atmosphere. Of all the rooms, kitchen needs maximum care and attention in designing because it is the place where every member of the family more frequently comes together than in any other room. Unless we plan in advance and allot suitable place for each item in the kitchen, it is not only the beauty but the efficiency of the domestic activities that will be affected. Hence kitchen designing is an art that is to be seriously considered.

The arrangement of the kitchen can make it the most comfortable place where the whole family can come together for chatting and even to have meals together. It can, on the contrary, be the most uncomfortable place, full of scattered utensils and confused arrangement of appliances. Whatever be the nature of the kitchen, all the members of the family have to make use of its comfort or discomfort. In today’s busy
world especially, when the members of the family have little time to communicate with one another, the kitchen, where they come together at least once a day should be made communication friendly. Hence, it is essential that a kitchen be designed properly so that it becomes a palace from where the joy of comfort and ease spreads throughout the house giving peace and happiness to all the members.

3.4 THE ROLE OF APPLIANCES IN KITCHEN DESIGNING

The beauty and comfort of a house will, to a great extent, depend on how well all the household items are arranged. Since kitchen is an important room in the house, the arrangements of the kitchen appliances are a serious matter. They play an important role in kitchen designing. On the one hand, we need certain appliances to make the kitchen activities efficient and comfortable. On the other hand, these appliances have to be properly arranged to make optimum use of their presence in the kitchen.

Having all the appliances in the kitchen need not necessarily make the kitchen activities efficient or comfortable. It is here that the role of designing becomes relevant and important. Unless a suitable place is designed to each of the kitchen appliances, they can curtail the efficiency and comfort of the kitchen activities and thus defeat the very purpose for which they are bought. A beautifully designed kitchen can definitely become the most important place in the house that will bring together all the members of the family frequently to the kitchen and keep them united in the bond of domestic bliss.

3.5 KITCHEN APPLIANCES – ITS PROFILE

The modern man makes use of a number of appliances to furnish and equip his kitchen giving accent to his convenience. The manufacturers take special care to help their customers to purchase kitchen appliances that allow for more room in the
kitchen so that the customers can add appliances without knocking out a wall or doing a big remodeling job. Appliances are made in such a way that any size kitchen can contain them.

Of the various such items that furnish our kitchen, some are very common and essential for kitchen activities while some others are not essential. The five kitchen appliances that are selected for the study are generally the most common and essential. In order of their use they are Mixie, Grinder, Refrigerator, Gas stove and Pressure cooker.

3.6 KITCHEN APPLIANCES – A MAID OF HOUSEWIVES

The happiness, delight and peace of a family is generated in the kitchen and reflected in the dining room and in the whole domestic atmosphere. Women are the torch bearers of domestic peace. A man may be the head of the family or the *pater familias*. But it is the woman or the *mater familias* who brings light to the family. It is her happiness that is reflected in the whole atmosphere of a family. A woman or a mother can permeate happiness and peace in a family only if she herself is contented and happy. In the context of Indian culture, particularly, in the Kerala milieu, women are the masters of the kitchen.

It is her duty, or rather; it is the privilege of a woman to be the manager of the kitchen. It is generally the desire of any woman to be a good manager of the household activities. She can be a successful woman and a happy mother only if she succeeds in supplying good and tasty food to all the members of her family efficiently. Kitchen appliances play a major role in enhancing the efficiency of a woman in fulfilling her household mission and thereby in making her life and that of all the members of the family happy and comfortable.
There are ever so many items that fall into the category of kitchen appliances of a modern family. Starting from the stove to a dish washer, all can be considered as kitchen appliances. It is evident that every item in the category of home appliances does not have equal importance. Some are essential and important while some others might be considered not so essential and even luxuries. It all depends from person to person. What is essential for one person may be a luxury for another. However, there are some items in a modern family that are essential for the smooth functioning of the life of the members. For the efficient functioning of a woman as the manager of the house, everything about the kitchen, starting from the designing of the kitchen to its furnishing and appliances has to be taken care of.

3.7 INDUSTRIALIZATION AND DEVELOPMENT IN HOME APPLIANCES

Industrialization has ushered in dramatic as well as uneven transformation in world society. It has altered the technological pattern and work processes of the preindustrial ways of life. This socio-technological revolution has changed the domestic ways and means of dealing with food provision, clothing, cleaning and medical care.

In other words, it has affected the elements of human reproduction (productivity). With the development of mass production at the turn of the twentieth century, many traditionally male tasks were abandoned, and others were left most in the hands of women and servants. Corporate industry began providing goods and services that households had previously self-produced.

During the Pre-world war period when the municipalities developed a water system, the homes were fully equipped with running water, water heaters and indoor

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69 www.feedag.com/kitchen-appliances
bathrooms. Moreover, electricity substituted kerosene lamps, whilst other electric appliances slowly began appearing in the market (e.g. electric fans, sewing machines, washing machines, and vacuum cleaners). Telephone and automobiles also began to appear in a small number of families.

These developments consolidated and further expanded during the post-war economic growth. Indeed, after World War II, household technologies dramatically spread through all the social layers. The assembly-line production of home appliances was balanced by an increasing consumerist culture and people's adequate increasing purchasing power. It was the era of mass consumption of Mixer Grinders, grinders, fridge, gas stove, pressure cooker and many other durable goods.

Finally, as of the 1970s, the technological evolution brought the use of computers and micro-chips. This determined the massive and fast expansion of consumer electronics. At the turn of the Twenty first century, new products such as microwave ovens, compact-disc players, Mp3 players and personal computers, began to keep altering household everyday life. More importantly, the attention of producers is increasingly focused on the environmental impact of new technology. Indeed, the new frontier of technology should be capable of addressing progressively its consequent effects on human reproduction in relation to the biosphere.

3.8 IMPORTANCE OF KITCHEN APPLIANCES IN THE LIFE

Kitchen appliances and home appliances have become an inevitable part of our life. In fact, our lives are weaved into a plethora of such gadgets which are designed to make our lives more enjoyable and hassle-free. We simply cannot live without the aid of appliances like dish washers, cooking related gadgets like juicers, blenders, baking instruments, air conditioners, laundry machines and the like. A day

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66 www.articlesnatch.com/category/home-appliances
without electricity can pluck out productivity from our life as most appliances are dependeable on it for functioning.

The market of kitchen and home appliances is ranked among the forerunners in industry annals. The variety of such appliances can also astound many. There are appliances suited for multiple needs. Laundry machines and dishwashers, vacuum cleaners etc have taken out a lot of physical strain from a home maker. In this age where time is money, we cannot fuss around our kitchen and home performing daily chores throughout the day. This is where these ubiquitous creations come in handy. Kitchen appliances have made our lives infinitely easier than that of our ancestors. It’s hard to imagine getting by without using the gas stove, mixer grinder and refrigerator. But it has not always being this way. Through their history, kitchen appliances have taken years of development to perfect, and improvements are being made to all of them even today.

In the West, a modern residential kitchen is typically equipped with a stove, a sink with hot and cold running water, a refrigerator and kitchen cabinets. Many households have a microwave oven, a dishwasher and other electric appliances. The main function of a kitchen is cooking or preparing food but it may also be used for dining and entertaining.

3.9 CHANGES BROUGHT BY TECHNOLOGY IN KITCHEN APPLIANCES

Modern day technology has changed the way that we cook and eat in our kitchens. We can easily see this with the many gadgets and kitchen appliances found in the kitchens all over the world. As kitchen technology has evolved, our dependence for such innovative products has also increased. With busy daily schedules, the technology used in kitchen appliances shapes our lifestyle because of the convenience
they facilitate to prepare and cook healthier meals. The kitchen is the busiest place in our houses because this is where our daily food is being prepared and consumed. Besides the appliances such as food processors, which have made preparing foods so easy, perhaps the most revolutionary technologies are the appliances that have made cleaning up a breeze by using a dishwasher. Since the invention of the computer, there are very few kitchen appliances today that are not powered by computer programs and memory chips.

Kitchen appliances have evolved so much since the discovery of gas ovens that now new modern appliances are not manufactured just to be more efficient but designed to suite the taste of our decorative styles. The most modern day appliances we typically see now are indicators of what was lacking in the past when women needed to put extra effort on their cooking needs. Some of these modern kitchen appliances include the freezer with no frost, automatic toast makers, dishwashers, microwave ovens, sandwich makers and juice extractors. Not only do these appliances perform terrific jobs of cooking and cleaning, but we can also buy them in complete packages to match the style of our kitchen. Now the person who is in charge of the kitchen does not have to worry about doing all of the cooking, baking, grilling, grinding and washing the dishes at the same time. With the push of a button, everything is literally taken care of. As a result, technology has not only increased the values of our kitchens but it has made cooking once again enjoyable. We can now easily watch or listen to our favorite show while we enjoy preparing a wonderful meal for our family. As kitchen appliances improve, so will our time that we get to spend with loved ones.
3.10  CLASSIFICATION OF HOME APPLIANCES

Traditionally, home appliances are classified into:

• Major Appliances (or "White goods")

• Small Appliances (or "Brown goods")

The Terms, "white goods" and "brown goods" are British English.

• Brown goods are typically small household electrical entertainment appliances such as: DVD players, Televisions, Cameras etc.

• White goods comprise major household appliances and may include: Fridge, Air conditioner, Cooker, Gas stove, Mixer Grinder etc.

Some types of brown goods were traditionally finished with or looked like wood or Bakelite. This is now rather rare, but the name has stuck, even for goods that are unlikely ever to have been provided in a wooden case (e.g. camcorders). White goods were typically painted or enameled white, and many of them still are. The addition of new items to these categories shows that the categories still serve a purpose in marketing.

This division is also noticeable in the service area of these kinds of products. Brown goods usually require high technical knowledge and skills (which get more complex with time, such as going from a soldering iron to a hot-air soldering station), while white goods need more practical skills and "brute force" to manipulate the devices and heavy tools are required to repair them.

3.10.1 Mixer Grinder

The basic history of the Mixer Grinder originates from Herbert Johnson’s ideas to make life in the kitchen easier. He came up with the idea in 1908 after watching a professional baker struggle with a bowl and a spoon. Johnson, founder of Hogart Mfg, invented the first 80 quart Hogart Model Mixer Grinder in 1915.
According to ideafinder.com, this Mixer Grinder featured “planetary action,” where a single whisk spun in one direction while the bowl spun in another. While the industrial-sized 65 lb Hogart Mixer Grinders served their role initially in professional bakeries; a man named Egmont Ahrens decided to streamline the size and look of the Mixer Grinder, which in turn, reduced the price from $189.50 to $55.00 in 1936. The new design made the Mixer Grinder fit so perfectly on kitchen countertops that they decided to patent the design itself. If we take a look at the changes that have come up in the ways of cooking one gets enough to contemplate on and observe. The difference between traditional and modern kitchen seems quite vast. Earlier when there were just a few of the machines available for aid, every homemaker had to perform most of the cooking tasks on their own.

But now when one enters the modern kitchens, the kitchens are found stuffed with modern and up to date cooking appliances. Two of the modern kitchen accessories without which it becomes hard for a home maker to perform the cooking task are the Mixer Grinder and grinders. There are many upcoming brands in the market that have given a serious thought to make commendable additions and improvement in the Mixer Grinders and grinders. The latest Mixer Grinders and grinders not only are efficient in grinding the food items but are also used as juicer in kitchen. With these latest Mixer Grinders and grinders the task of chopping raw vegetables, preparing dough and getting evenly mixed vegetable mixture have become a task of seconds. Ensuring great health and taste, homemakers buy Mixer Grinders and grinders to get fresh spices and then add them to the food to make them taste better than ever. This has thus replaced the stale and packed spice containers with freshly grinded spice and flavors from the kitchen shelves. Talking about the specifications that one usually looks for order to buy these efficient and quick kitchen
performers, comes the speed setting that makes a Mixer Grinder go smooth in the
cooking process takes great importance.

In 1908 Herbert Johnson, an engineer for the Hobart Manufacturing Company,
invents an electric standing mixer. His inspiration came from observing a baker
mixing bread dough with a metal spoon; soon he was toying with a mechanical
counterpart. By 1915, his 80-quart mixer was standard equipment for most large
bakeries. In 1919 Hobart introduced the Kitchen Aid Food Preparer Stand mixer for
the home.

Like many home appliances, the standing mixer has industrial antecedents. In
the 1908, engineer Herbert Johnson was observing a baker mixing bread dough with a
metal spoon; soon he was toying with a mechanical counterpart. By 1915, his 80-
quart Hobart mixer was standard equipment on all U.S. Navy vessels, as well as in
many commercial bakeries. In the early years, retailers were slow to take on the
Kitchen Aid mixer. To counter their reluctance, Hobart established a direct sales force
made up primarily of women who went door to door offering demonstrations of the
new food preparation tool. With the creation of citrus juicer and food grinder
attachments in 1919, Kitchen Aid mixers were on the road to becoming the versatile
"food preparation tools", as they were subsequently styled. Today's Kitchen Aid stand
mixers can be converted to anything from a pasta maker to a sausage stuffer or grain
mill with the addition of optional attachments.

Kitchen Aid may have been first, but the widespread acceptance of the electric
standing mixer actually belongs to a more populist-priced appliance, the Sunbeam
Mix Master invented by Ivar Jepson's. The Mix Master caught on like wildfire.
Within six years of its 1930 introduction and at the height of the Depression the
company was selling 300,000 Mix Masters a year.
Sunbeam put out its first hand-held Mix Master in 1952. Although the Kitchen Aid standing mixer is the current market leader the Sunbeam Mix Master remains a viable rival.

### 3.10.1.1 History of Mixer Grinders

Gilbert invented the Kitchen Mixer Grinders in 1920's. This has a glass bottom and a motor built into the lid. Gradually Mixer Grinders started getting manufactured with a stand and a bowl underneath during the era of Second World War.

### 3.10.1.2 The Choice of a Mixer Grinder

The selection of a kitchen Mixer Grinder is purely dependent on one’s requirements. For simple mixing and whipping any stand or hand Mixer Grinder can do. One should consider its size and weight. Hand Mixer Grinders should be well balanced and easy to handle. Some stand Mixer Grinders weigh more than 20 pounds; so they are better utilized for commercial and bulk activities. At least three speeds are required for performing regular cooking. Some stand Mixer Grinders have even up to 16 speeds. Stand Mixer Grinders are very powerful but takes lot of space in kitchen and are heavy too. Hand Mixer Grinders are small and portable.

### 3.10.1.3 Use a Mixer Grinder

To get the best results, its correct use is most important. It is advisable to start Mixer Grinder at low speed to prevent ingredients from splashing. To start mixing one must avoid scrapping the bottom of the bowl. In the case of a stand Mixer Grinder adjust the beater level towards the head of the Mixer Grinder. After finishing the task take out the beaters wash them and immediately dry to avoid rust. Stand Mixer Grinder bowls can be kept in the refrigerator not in an oven.
3.10.1.4 Purchasing Tips

The difference between hand Mixer Grinders and stand Mixer Grinders is in their wattage and quantum of speed. Though the wattage of a mixture is an important consideration and indicates the power of its motor, it does not provide any indication of how well the Mixer Grinder mixes ingredients. While one shops for a hand Mixer Grinder one should look for simple, inexpensive, and reliable model. Some of them have wire beaters that are easier to clean. Some offer wire whisk or a dough hook that helps in preventing ingredients from splashing. The best criterion is to look for the Mixer Grinder which is easy to handle and powerful to mix the ingredients.

3.10.2 Wet Grinder

Wet grinder is a grinder used with water. Wet grinders have a wide application in industry, workshops, and commercial and domestic kitchens throughout the world. Kitchen wet grinders are very popular tools in the South Indian kitchen and are used to make paste out of soaked grains and lentils. At one time, a wet grinder consisted of a large rock with a hole in it, where a cylindrical rock with a wooden handle fit in. The grain and lentil mixture was poured in with water and the cylinder rotated by the handle on the top to grind the food together. The ground paste is used for various food items like idli, dosa, sevai and vada.

The evolution of grinders has a dramatic change in the working. The earlier form of wet grinder called "Attan Kallu" used mechanical energy in which the user had to rotate the top stone called "Kullavi" to grind the medium. The invention of electricity led to the development of electric-powered wet grinders. By this invention, the powered wet grinders have both the top and the base stone rotating. These electric models were first introduced in restaurants, and later moved into the home.
Most modern models still have stone components for the grinding action. The stone is usually granite. The old manual grinding stones used to be refinished for better results. Modern stones usually don't need refinishing, as they last much longer. Despite these advances in bringing technology into Indian kitchens, there are limitations.67

This version of the electric wet grinder was first introduced into the restaurants so that they could cut down on the amount of time that it took for them to prepare these types of food for their guests. However, the product grew in popularity until it was integrated into many households for common everyday use as well. Many of the electric wet grinders that are on the market today still use the two stones to grind down the grains, and the most common (and best) type of stone that is used in these appliances is granite.

Now those people working in kitchens everywhere are able to have more time to spare for the more important duties around the household. Plus, this reduction of time allowed for more people to be able to prepare the nutritious, culturally rich foods that they enjoy on a regular basis. It also can be cost effective because of the fact that the stones that are used in the electric wet grinders do not have to be refinished as often as the old handheld devices did. One thing that you should consider if you are looking to invest in a new wet grinder for your home is that it is a quality product. There are quite a few manufacturers that try to get by using lower quality components and stones to build their grinders, and this can cause a lot of problems and frustrations when you are trying to buy a good, modern wet grinder. Remember to do research on the company you are thinking about buying from before you make your final decision,

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and check to see if they have a consumer rating and if they are regulated by any type of government agency.

The wet grinder is a tool that has been around for many, many years. Originally it was only used in kitchens in Southern India as a means of grinding down wet grains and lentils for specially prepared dishes. The first wet grinders were made out of large rocks and there was a hole carved in the stone. A chuck of circular stone that fit into the hole was fitted with a type of wooden handle. The stone would then fit into the carved out space and the worker would grind on the wet grains using their muscles to push down on the stone while rotating the handle simultaneously. The process of grinding down the water and grain mixture was often tedious and could take a long time. The pastes that the wet grinder produced could be used in foods like dosai, vada, and idli.

However, in recent years the implementation of electricity and the mechanization of the wet grinder led to a revolution in this process in many working class kitchens that utilize this tool. The amount of time that it once took to prepare a meal has been drastically reduced and it has allowed more and more people access to these types of food. The earliest forms of these mass produced items used a sort of mechanism that rotated the two stones against each other with just a minimal amount of turning on the part of the worker, but it could still be a time consuming task.

This is probably why many of the foods that relied on the use of a wet grinder for preparation were not introduced to a large number of people outside of Southern India until the electric model of the wet grinder was introduced to the market. The
first one of these still relied on the use of stones, only now they were powered by electricity when they rotated.\footnote{Kumar, S.(2003) A study of the consumer behavior with reference to selected products. Finance India 17 (4).}

\subsection*{3.10.3 Refrigerator}

Refrigerator is a major purchase for any home. After the oven and the pressure cooker, the refrigerator is the most needed appliance in a kitchen. Considering the use and cost of the refrigerator, people take more care and time to choose a new refrigerator. Today, there are many brands, types, and options to choose from. One has to consider one’s need to decide whether one should choose a traditional refrigerator that has a freezer compartment, a double refrigerator, or just a refrigerator. Regarding the size of the refrigerator also one has to make serious thinking to choose the one that will suit the shape of the kitchen and the space needed inside the refrigerator. Depending on the needs of the people there are a wide variety of refrigerators in the market. People, who generally choose to buy a refrigerator with a freezer compartment, prefer a model that is equipped with automatic defrost. This is to save the trouble of defrosting it. According to their preferences customers choose a top mounted freezer or a bottom mount or even a side by side freezer. Power consumption is another important factor that goes in the selection of a refrigerator.

Refrigerators are one of the most sought after appliances in Indian middle class homes. The refrigerator market has two segments: Direct Cool and the relatively new Frost-Free type. The market for refrigerators in 2006-07 was about 6.5 million units. The growth of refrigerator segment is projected to be between 18 to 22 per cent over the next 5 years.
A critical success factor for the refrigerator market, given its widespread use, is deeper reach into the market and increased penetration. Recently, the market is getting reinforced by the replacement segment as well\textsuperscript{69}.

Today most houses have fridge or refrigerator or a freezer in them. The fridge is mainly used to prevent food spoiling. The fridge prevents food from spoiling by cooling the food.

Even early man had made attempts to preserve food from spoiling in earlier days food was salted and then dried in the sun or smoked to prevent it from decaying. It was mainly meat and fish that were presented this way. This practice was common in China, India and Egypt by the 17\textsuperscript{th} century in our country even today we get fish that has been dried and by the 18\textsuperscript{th} century people began to use ice to preserve food. They would dig a hole into the ground into which large cylinder were put food placed in these and then ice was scattered on top. Later wooden boxes covered in either tin zinc were used and sawdust was sprinkled with ice.

It was in the 19\textsuperscript{th} century that the idea fridge came into being in 1748 itself a Scotsman William had found that certain materials could be called by the cooling of some liquids but he was not aware of how this principle could be practically used the wait for the modern Fridge ended only in 1805 when it was invented by an American named John Gorrie developed it into a device\textsuperscript{3} that used ice to cool the air this was based on the same fridge that even has invented after this poisonous gases like ammonia methyl chloride sulphur dioxide began to be used.

3.10.3.1 History of Refrigerator

Before the mechanical refrigeration systems were introduced, people cooled their food with ice and snow, either found locally or brought down from the

\textsuperscript{69} Sathyaraju A.(1992) A study on Refrigerator market in Kerala. School of Management studies, Cochin University of Science and Technology, Cochin:
mountains. The first cellars were holes dug into the ground and lined with wood or straw and packed with snow and ice: this was the only means of refrigeration for most of history.

Refrigeration is the process of removing heat from an enclosed space, or from a substance, to lower its temperature. A refrigerator uses the evaporation of a liquid to absorb heat. The liquid, or refrigerant, used in a refrigerator evaporates at an extremely low temperature, creating freezing temperatures inside the refrigerator. It's all based on the following physics - a liquid is rapidly vaporized (through compression) - the quickly expanding vapor requires kinetic energy and draws the energy needed from the immediate area - which loses energy and becomes cooler. Cooling caused by the rapid expansion of gases is the primary means of refrigeration today. Keeping the ideal refrigerator temperature is crucial for maintaining the quality and safety of the food. The primary goal of a refrigerator is to preserve food from the spread of bacteria while maintaining its taste and texture.

3.10.3.2 Keeping Refrigerator in Ideal Temperature

In an ideal world, all food would be frozen to stop bacteria growth in its tracks. Many foods, however, suffer from freezing temperatures and must be kept slightly warmer. The refrigerator helps slow down the spread of bacteria by keeping temperatures slightly above the freezing mark. The expiry date on many food products is based on the assumption that the food will be stored within a narrow temperature range. Here’s how to make sure that the refrigerator is keeping the food safe and fresh:

The right number: For the best results, the refrigerator should be set between 36 and 40 degrees (F). One may need to adjust the temperature of one’s appliance to compensate for cold or hot spots, but try to keep the overall temperature in this range.
An accurate reading: Very few refrigerators come with thermostats. The only way to get an accurate reading of the refrigerator is with a thermometer. You can buy a simple freezer/refrigerator thermometer at most grocery stores or home centers. Place the thermometer near the middle of the refrigerator compartment, between two items like cartons of juice or milk. Placing the thermometer near the front of the refrigerator can lead to an inaccurate reading.

The best time to check: If you’re using a thermometer to check the temperature of refrigerator, leave it in place for several hours. A thermometer left in place over night and checked first thing in the morning will give the most accurate reading.

Making adjustments: Many refrigerators feature arbitrary adjustment controls with “cooler” and “warmer” at the extremes. To adjust the temperature of refrigerator, move the dial or slide one mark in the desired direction and wait 24 hours. Check the temperature with a thermometer and continue to adjust as required. Specialty items like wine require warmer temperatures than most refrigerated foods. If store wine in quantity, consider a separate refrigerator that will keep the bottles at the correct temperature.

3.10.3.3 Configurations of Refrigerator

There are refrigerators with either wire or glass shelves. The latest models have acrylic shelves which look just like glass. Though these glass or acrylic shelves are comparatively more costly, they are capable of holding temperature better and can keep spills contained without allowing them to drip to lower shelves. Some refrigerators have wine racks or bottle holders which are useful for customers who drink to keep their bottles. Most refrigerators have an egg and butter storage area and shelving in the door to contain small bottles and jars.
There are also spacious refrigerators with large storage areas in the doors to accommodate milk containers and soda bottles as well. A sharp marketing manager takes hours to take into consideration all these factors when he tries to sell his products. For a costly kitchen appliance like a refrigerator, the customers usually look for not only his convenience, but also the durability of the appliance which he cannot buy often and therefore, would want to use for a long time.\footnote{Sathya Sundaram, K.R.I (2002). Washing machineries opportunities. Facts For You. Vol. 21 (9).}

### 3.10.4 Gas Stove

Ever since man invented the fire, he began to cook and eat his food. Until the second half of the twentieth century, man had been using various methods other than using the gas stove to cook his food. The invention and use of gas stove is a comparatively recent phenomenon. It is to be noted that the introduction of gas stoves in our kitchens have revolutionized the cooking culture. It has helped man to save time, energy and money and increased the efficiency of cooking.

There are different varieties of gas stoves. The traditional gas stoves have two burners that are ignited with the help of a lighter or even a match box. There are, however, stoves with four or more burners. The lighting of burners depends on the kind of burners we choose. Some burners have automatic ignition feature, where the burner will ignite as the knob is turned. With some other models, we need to press the ignition button as we turn the knob. Some models that have automatic ignition have a feature that will reignite the burner if it is blown out and some others have a safety feature where the gas valve will be turned off if the flame is blown out. Thus there are different models of stove that we can choose according to our need and choice. Most professional cooks and chefs seem to prefer gas stove to another variety of stoves because of the amount of control they have over the heat level which makes cooking
even delicate dishes much easier. The most popular set of these burners is one large, two medium burners and one small simmer burner. There are some stoves with work burners or one for fish kettles. Generally stoves are about 60 to 70 cm wide.

The gas stoves have several advantages. Besides saving time, money and energy, they offer you instant control over the heat level. One can choose the burner with the right kind of flame needed for cooking food materials of various kinds needing different levels of heat and control the heat level as is needed. Therefore gas is cheaper more convenient than any other fuels used for cooking.

3.10.4.1 History of Gas Stove

Cooking food was once accomplished over an open fire or in a fireplace. The invention of the kitchen stove allowed heat to be retained within a concentrated space and greatly changed how food could be prepared. Heated through the centuries by wood, coal, gas or electricity, these appliances have become an indispensable part of the modern kitchen.

3.10.4.2 Functions of Gas Stove

A kitchen stove is a heat-producing appliance that is used for cooking. While it has undergone a number of incarnations through the centuries, the basic function remains the same: cooking food in an enclosed oven or with burners on the top of the device.

3.10.4.3 Features of Gas Stove

The gas stove became popular in the 1880s, as gas lines were more widespread. Utilizing propane, natural gas, butane or propane, a gas kitchen stove will ignite through the use of a pilot light or an electric ignition.
3.10.4.4 Technology of Gas Stove

In practically all American households by the turn of the 20th century, their work was done on cast iron stoves that burned wood or coal. A few people mourned the passing of fireplace cooking—"The open fire was the true center of home-life," wrote one wistful observer of the changeover in the middle decades of the 19th century—but the advantages of a stove were overwhelming. It used substantially less fuel than a blaze in an open hearth, didn't require constant tending, didn't blacken the walls with soot, didn't spit out dangerous sparks and embers, and, if centrally positioned, would warm a kitchen in winter much more effectively than a fireplace. It was also versatile. Heat from the perforated fire chamber was distributed to cooking holes on the top surface and to several ovens; some of it might also be directed to a compartment that kept food warm or to an apparatus that heated water. But the stove could be exasperating and exhausting, too. The fire had to be started a new each morning and fed regular helpings of fuel—an average of 50 pounds of it over the course of a day. Controlling the heat with dampers and flues was a tricky business.

Touching any part of the stove's surface might produce a burn. Ashes were usually emptied twice a day. And a waxy black polish had to be applied from time to time to prevent rusting. In all, an hour or more a day was spent simply tending the stove.

As a heat source for cooking, gas began to challenge coal and wood in the closing years of the 19th century. At that time piped gas made from coke or coal was widely available in cities for illumination, but incandescent lights were clearly the coming thing. To create an alternative demand for their product, many gas companies started to make and market gas stoves, along with water heaters and furnaces. A gas stove had some powerful selling points. It could be smaller than a coal- or wood-
burning stove; most of its surface remained cool; and all the labor of toting fuel, starting and ending the fire, and removing the ashes was eliminated. The development of an oven thermostat in 1915 added to its appeal, as did the increasing use of natural gas, which was cheaper and less toxic than the earlier type. By 1930 gas ranges outnumbered coal or wood burners by almost two to one.

3.10.5 Pressure Cooker

A pressure cooker is a sealed cooking pot from which water vapor cannot escape to the atmosphere. Since water vapor cannot escape at the boiling point, it results in the increase in pressure and temperature. Therefore, food cooks faster in a pressure than in any other cooking device. Hence, the fast moving modern man finds it as an essential kitchen appliance that he necessarily should have in his kitchen.

3.10.5.1 The History of the Pressure Cooker

The first pressure cooker was invented by Denis Papin in 1679. He called it a “steam digester”. It had a large cast iron vessel with a lid that can be locked. With this cooker, cooking temperature can be raised by 15 percent over boiling. This reduced the cooking time. In those days these cookers were mainly used by commercial canneries. By 1905 these steam digesters evolved with some modifications into a new type of cooking device known as canner retorts. In 1938, Alfred Vishchler introduced another variety known as the Flex-Seal Speed cooker designed for home use. The new model received wide reputation. In fact, it became a source of inspiration to manufacturers in America and Europe to make brands of pressure cookers to keep up with the growing popularity.

By 1950 European and Asian manufactures started investing money for developing new pressure cookers better size and model with multiple safety features.

71 www.feedag.com/kitchen-appliances
Thus the modern pressure cookers of the kind that we use today began to appear in the market. There are pressure cookers of various sizes available in the market. Depending on the size of the family, a family can choose pressure cookers of any size. In kerala pressure cookers are used mainly to cook rice. Pressure cookers are also used to cook curry and other items of food including dishes and desserts. But, the size of the cooker varies depending on the nature of the food item. Therefore a family may need more than one pressure cooker at home.

It is the skill of the marketer to make available to the consumer suitable varieties of cookers so that more and more of his products will be sold and the strategy of making a variety of cookers will help the marketer to meet the needs of the customers. Thus while the marketer is capable of selling more products and make more profit, he will also be able to satisfy the customers and thereby attract them frequently to his products and this in turn will enhance his business achievements.

Home appliances are that without which a modern home is considered incomplete, especially in urban areas. In metro cities and big towns, appliances are regarded as a boon, as they are instrumental in cutting down the time involved in most of the domestic chores. Home appliances products like TV, refrigerator, air-conditioner, washing machine and microwave are taken for this study. The Consumer Durables industry consists of durable goods and appliances for domestic use such as televisions, refrigerators, air conditioners and washing machines. Instruments such as cellphones and kitchen appliances like microwave ovens are also included in this category. The sector has been witnessing significant growth in recent years, helped by several drivers such as the emerging retail boom, real estate and housing demand, greater disposable income and an overall increase in the level of affluence of a significant section of the population. The industry is represented by major
international and local players such as BPL, Videocon, Voltas, Blue Star, MIRC Electronics, Titan, Whirlpool, etc.

The consumer durables industry can be broadly classified into two segments: Consumer Electronics and Consumer Appliances. Consumer Appliances can be further categorised into Brown Goods and White Goods. The key product lines under each segment are as follows.

3.10.6 WASHING MACHINES

Washing machines made their mark in the Indian market in the eighties. Videocon was the first company in India to introduce washing machines. Over the years, it has remained a market leader, with an overall market share of 35% by adopting flexible strategies, which are modified as and when the need arises. Initially, the challenge was to wean away home makers from their traditional methods of washing clothes. But then, owing to high prices, the market appeared to be limited only to upper income urban households.

The 1990s saw a change in the socio-economic scene in the country. Rapid growth, increase in the number of working women, changing life styles and higher aspiration levels with exposure to satellite television and easy consumer finance meant that demand for consumer goods rose phenomenally. Sales of semi-automatics outstrip those that in the fully automatic segment. This has been due to a variety of factors, price being one of them. As semi-automatic washing machines are cheaper than the fully automatic ones.

The sales of washing machines has grown from about 780,000 units to 1,948,000 units during the period, fiscal year 1999 to 2007, registering a near 12.2 per cent annual growth rate. The washing machine market may be segmented into semi-automatic and fully automatic machines. Semiautomatic washing machines enjoy a
dominant share of 85 per cent. Fully automatic washing machines have been gaining share as a consequence of product improvement, competitive pricing and resultant convenience. However, semi-automatic machines will continue to play a major role in the Indian market for quite some time. Fully automatic washing machines have been the growing at 44.5 per cent and semi-automatic segment, at about 18 per cent. The entry of MNCs has widened the range to more than 10 brands with a proliferation of models, while ensuring technology upgradation. A visible impact of this churn has been the exit of a few established players from the market.

3.10.7 VACUUM CLEANERS

Vacuum Cleaners are an emerging segment in the Indian market, still at a nascent stage. The drivers for demand have been the improvement in life style and higher aspirations of urban middle class and the top income brackets. While the market has been growing, this segment is not expected to reach significant volumes soon. Part of this could be attributed to the lifestyle compatibility of Indian customers with the product. In the large majority of Indian houses, for instance, floors are not carpeted and the product will have to meet dual requirements of sweeping and mopping. Another impediment to the adoption of vacuum cleaners has been the availability of cheap domestic help in most cities.

3.10.8 TELEVISION

History on television is a vast enterprise, spanning commercial and public networks, corporate and independent producers. As we rapidly enter the twenty-first century a significant increase in historical programming exists on television screens throughout the United States mostly in the form of biographies and quasi biographical documentaries which coincides with a marked rise of interest in history among the

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general population. This introduction will explore some of the parameters and implications of television as historian propose seven general assumptions about the nature of this widespread phenomenon, and end with some concluding observations concerning the enduring relationship between Professional history and popular history as well as the challenges and opportunities this linkage poses for television and history scholarship in the future. Television is the principal means by which most people learn about history today.

More and more people set up networks until there was a time in 1995-96 when an estimated 60,000 cable operators existed in the country. Some of them had subscriber bases as low as 50 to as high as in thousands. Most of the networks could relay just 6 to 14 channels as higher channel relaying capacity required heavy investments, which cable operators loathe making. American and European cable networks evinced interest, as well as large Indian business groups, who set up sophisticated head ends capable of delivering more than 30 channels. These multi-system operators started buying up local networks or franchising cable TV feeds to the smaller operators for a fee. This phenomenon led to resistance from smaller cable operators who joined forces and started functioning as MSOs. The net outcome was that the number of cable operators in the country has fallen to 30,000.

Television must be understood and seldom is as the primary way that children and adults form their understanding of the past. Just as television has profoundly affected and altered every aspect of contemporary life from the family to education, government business, and religion the medium’s nonfictional and fictional portrayals have similarly transformed the way tens of millions of viewers think about historical figures and events.
The fundamental principles of television were initially explored using electromechanical methods to scan transmit and reproduce an image. As electronic camera and display tubes were perfected, electromechanical television gave way to all-electronic broadcast television systems in nearly all applications.

At the dawn of television history there were two distinct paths of technology experimented with by researchers.

Early inventors attempted to either build a mechanical television system based on the technology of Paul Nipkow's rotating disks; or they attempted to build an electronic television system using a cathode ray tube developed independently in 1907 by English inventor A.A. Campbell-Swinton and Russian scientist Boris Rosing. Electronic television systems worked better and eventual replaced mechanical systems.

3.11 DOMESTIC ELECTRICAL APPLIANCES

Brown goods or domestic kitchen appliances are indicators of the changing consumer scenario in post-liberalisation economic environment. The major products constituting the brown goods market are mixers, grinders, irons, microwave-ovens, rice cookers, water heaters or geysers, electric fans and exhausts.

The branded brown goods market has expanded at a significant pace and is expected to retain the momentum into the future as well. The market has been transformed by the entry of over a dozen new brands, moreover competition has intensified. While focus on price competency remains a key priority, players have also started focusing on other product features such as safety and total cost of ownership of the device. Goods, like the rice cooker have been continuously growing in a slow and steady manner over a significant period of time, while microwave ovens have grown exponentially after the initial period of customisation to local requirements.
The electrical iron market can be divided into two segments: heavy and lightweight. The market is also segmented into two sub-segments: steam and non-steam irons. India being a tropical country, electric fans are an essential utility for more than six months of the year in most parts of the country. The present market size is estimated at around 11.6 million pieces. The market is divided among ceiling, pedestal, wall and table fans. Industrial and exhaust fans are another important segment. The major players include Orient Fan, Crompton Greaves, Jay Engineering, Bajaj Electricals, Polar, Khaitan and Alsthom. The electrical appliances industry, which had been focused on the urban market, is now reaching out to semi-urban and rural markets as well, because of the shift in living style of the population, increasing electrification of villages and relatively higher purchasing power of consumers. As the market penetrates into the core middle class segment in both urban and rural areas, it is expected to expand phenomenally, offering large volumes to the industry.

3.12 BRANDS OF HOME APPLIANCES

A major appliance, or domestic appliance, is usually defined as a large machine which accomplishes some routine housekeeping task, which includes purposes such as cooking, food preservation, or cleaning, whether in a household, institutional or industrial setting.

Major appliances are differentiated from small appliances because they are large, difficult to move, and generally fixed in place to some extent. Another frequent characteristic of major appliances is that they may have substantial electricity requirements that necessitate special electrical wiring to supply higher current than standard electrical outlets can deliver. This limits where they can be placed in a home. Major appliances have become more technically complex from the control side recently with the introduction of the various Energy Labeling rules across the world.
This has meant that the appliances have been forced to become more and more efficient leading to more accurate controllers in order to meet the regulations.

Most of the segments in this sector are characterized by intense competition, emergence of new companies (especially MNCs) and introduction of state-of-the-art models, price discounts and exchange schemes. MNCs continue to dominate the Indian consumer durable segment, which is apparent from the fact that these companies command more than 65 per cent market share in the color television segment.

3.12.1 PHILIPS

Apart from initiating new marketing and distribution programmes, Philips will also be launching a range of new products during the rural initiative. They have specially designed value-for-money products specifically targeted at the semi-urban and rural consumer in India, across our CTV and audio product range. The pricing for these products has been structured to make it affordable for their target audience. Other new models to be introduced will include features such as a new 'Eye-fit' technology which allows picture improvement under any cable signal condition, economy in electricity consumption and on-screen display in the regional language, among other things.

On the distribution front, Philips claims to have the biggest distribution network (as compared to other consumer electronics companies) and a high degree of penetration even in the rural and semi-urban areas. The company has carried out an extensive product-wise mapping exercise over 540 districts across India. Keeping in mind the objective of extensive physical reach of 80 per cent plus, they have developed a second line of activity in their distribution set-up, so that there is a focus on improving relations, trade with these retailers, and catering to their needs. These
steps have helped them in developing our volume reach, geographical reach and counter share significantly. Philips is hoping that its innovative rural marketing initiative coupled with the high growth in the rural market will boost its market share. It is targeting to increase the percentage.

3.12.2 VIDEOCON

Videocon has become a house hold name as most upper middle and middle class people identify its products, thanks to its huge spending in advertising and its strategies to Penetrate into semi-urban and rural areas in a big way. That it has achieved a market leader position in both audio and video equipment and also remained in that position for a considerable period (almost five years) bears testimony to the success of its strategies to attract the customers. In other product lines like washing machines also it witnessed a growing rate of success until 1997. The company believes that the only strategy for survival in a competitive market is to ensure customer satisfaction and leadership through quality and innovation, technology and performance.

3.12.3 KELVINATOR

In an effort to promote its new product launches, Electrolux Kelvinator Ltd is planning to launch a slew of marketing initiatives and promotions, targeted at trade partners and consumers in the year 2003-04. In addition, the company also plans to restructure its existing distribution system and consolidate its business operations. On the company’s new marketing initiatives they have launched new range of Electrolux Kelvinator products with a new brand positioning such as ‘Nurturing Hopes, Nourishing Life’, the world’s first - Life Nourishing System. This system is a superior technologically advanced system with new features. As part of its retailing strategy, the company has set up various shop-in-shop outlets, and it is also planning to launch
its customer relationship management (CRM) initiatives, at the retail-end. Electrolux is a market leader in refrigerators with its three brands Electrolux Kelvinator, Electrolux and Allwyn. Every year, customers in more than 150 countries buy more than 55 million Electrolux Group products for both consumers and professional use.

3.12.4 GODREJ

The Rs 7,200-crore Godrej Group has finally unveiled its brand new corporate identity and branding strategy at its headquarters in Mumbai. The group’s strategy outlined a roadmap to invest in a renewed Godrej master brand and corporate identity to support the targeted revenue growth of 25-30% compounded annually, for the group.

The 111 year old Godrej Group had appointed global brand consultancy firm Interbrand to reposition its master brand with a makeover that makes the group identity modern as well as contemporary. Unveiling the group’s brand strategy, The Indian consumer now has a more demanding and youthful mindset. At Godrej, they have always been at the helm of changing and redefining the marketplace and this will now be reflected in a marketing and branding strategy that accelerates profitable growth.

On the group’s makeover strategy, the revitalized corporate identity is a result of a detailed analysis of product, service and business portfolio. Using the Godrej brand as a unifier of businesses and people made sense because it is most valuable asset, it cannot be replicated and it spans all their business.

3.12.5 SAMSUNG

The Rs.1,350-crore Samsung India Electronics Ltd is charting out an aggressive marketing strategy to promote its home appliances range in the New Year. According to Mr. Ravindra Zutshi, vice-president (sales and marketing), Samsung
India Electronics, and the company plans to invest Rs 25 crore towards developing new moulds for its home appliances range.

Samsung commenced its operations in India in December 1995, today enjoys a sales turnover of over US$ 1 billion in just a decade of operations in the country. Samsung design centres are located in London, Los Angeles, San Francisco, Tokyo, Shanghai and Rome. Samsung India has its headquarter in New Delhi and has a network of 19 Branch Offices located all over the country. The Samsung manufacturing complex housing manufacturing facilities for Colour Televisions, Colour Monitors, Refrigerators and Washing Machines is located at Noida, near Delhi. Samsung ‘Made in India’ products like Colour Televisions, Colour Monitors and Refrigerators are being exported to Middle East, CIS and SAARC countries from its Noida manufacturing complex.

The company is in the process of rolling out 14 new colour television models this year with new marketing and promotional initiatives. To announce the new range, the company will be releasing an advertising campaign very soon. They plan to invest Rs 85 crore on mass media campaigns for Samsung’s entire range of products this year. In the home appliance business, target is to garner a 19 per cent growth this year. Samsung India currently employs over 1600 employees, with around 18% of its employees working in Research & Development.

3.12.6 WHIRLPOOL

Whirlpool was established in 1911 as first commercial manufacturer of motorized washers to the current market position of being world's number one manufacturer and marketer of major home appliances. The parent company is headquarter at Benton Harbor, Michigan, USA with a global presence in over 170 countries and manufacturing operation in 13 countries with 11 major brand names
such as Whirlpool, Kitchen Aid, Roper, Estate, Bauknecht, Laden and Ignis. Today, Whirlpool is the most recognized brand in home appliances in India and holds a market share of over 25%. The company owns three state-of-the-art manufacturing facilities at Faridabad, Pondicherry and Pune. In the year ending in March ’2006, the annual turnover of the company for its Indian enterprise was Rs.13.75 billion. According to IMRB surveys Whirlpool enjoys the status of the single largest refrigerator and second largest washing machine brand in India.

3.12.7 GODREJ

Godrej India was established in 1897, the Company was incorporated with limited liability on March 3, 1932, under the Indian Companies Act, 1956. The Company is one of the largest privately-held diversified industrial corporations in India. The combined Sales during the Fiscal Year ended March 31, 2006, amounted to about Rs. 58,000 million (US$ 1,270 million). The Company has a network of 38 Company-owned Retail Stores, more than 2,200 Wholesale Dealers, and more than 18,000 Retail Outlets. The Company has Representative Offices in Sharjah (UAE), Nairobi (Kenya), Colombo (Sri Lanka), Riyadh (Saudi Arabia) and Guangzhou (China-PRC).

3.12.8 SONY

Sony Corporation, Japan, established its India operations in November 1994. In India, Sony has its distribution network comprising of over 7000 channel partners, 215 Sony World and Sony Exclusive outlets and 21 direct branch locations. The company also has presence across the country with 21 company owned and 172 authorized service centers.\(^7\)

3.12.9 Industry Size, Growth and Trends

The consumer durables market in India was estimated to be around US$ 4.5 billion in 2006-07. More than 7 million units of consumer durable appliances have been sold in the year 2006-07 with colour televisions (CTV) forming the bulk of the sales with 30 per cent share of volumes. CTV, refrigerators and Air-conditioners together constitute more than 60 per cent of the sales in terms of the number of units sold. In the refrigerators market, the frost-free category has grown by 8.3 per cent while direct cool segment has grown by 9 per cent. Companies like LG, Whirlpool and Samsung have registered double-digit growth in the direct cool refrigerator market. In the case of washing machines, the semi-automatic category with a higher base and fully-automatic categories have grown by 4 per cent to 526,000 units and by 8 per cent to 229,000 units, respectively. In the air-conditioners segment, the sales of window ACs have grown by 32 per cent and that of split ACs by 97 per cent. Since the penetration in the urban areas for these products is already quite high, the markets for both CTVs and refrigerators are shifting to the semi-urban and rural areas. The growth across product categories in different segments is assessed in the following sections.

3.13 CONSUMER ELECTRONICS

The CTV production was 15.10 million units in 2006-07 and is expected to grow by at least 25 per cent. At the disaggregated level, conventional CTV volumes have been falling while flat TVs have grown strongly. Market sources indicate that most CTV majors have phased out conventional TVs and have been instead focusing more on flat TVs. The flat segment of CTVs now account for over 60 per cent of the total domestic TV production and is likely to be around 65 per cent in 2007-08. High-end products such as liquid crystal display (LCD) and plasma display CTV grew by
400 per cent and 150 per cent respectively in 2006–07 following a sharp decline in prices of these products and this trend is expected to continue.

The audio/video player market has seen significant growth rates in the domestic market as prices have dropped. This trend is expected to continue through 2007-08, as competition is likely to intensify to scale and capture the mass market.

3.14 BRAND AND BRANDING

3.14.1 Concepts

The American Marketing Association (1994) defines brand as a “name, term, sign, symbol or design, or a combination of them intended to encourage prospective customers to differentiate a producer’s product(s) from those of competitors”. A primary function of the brand is to provide convenience and clarity in decision making by providing a guarantee of performance and communicating a set of expectations thereby offering certainty and facilitating the buying process.74

On the emotional side, the function of a brand is to evoke a set of associations and furthermore symbolize the consumer’s persona through brand imagery. However, this and other definitions of a brand fail to capture the essence of what branding involves or achieves (Marketing in a Global Economy Proceedings, 2000)75.

Broadbent and Cooper (1987) in their study noted that, if the brand is to be successful, images and symbols must relate to and indeed exploit the needs, values and lifestyles of consumers in such a way that the meanings involved give added values, and differentiate the brand from other brands.76

75 Marketing in a Global Economy Proceedings (2000). The brand as a strategic asset, Griffith University, Australia, p. 337.
Phillips (1988) in his study has described that a brand can be described as a "trademark that communicates a promise".  

Park et al., (1996) in their article stated that, brand is symbolic and functional attributes that the market place associates with the brand. Symbolic attributes are those that satisfy internally generated needs for self-enhancement, role position, group membership or ego identification, whereas, functional brand attributes solve an externally generated consumption related problem.

Ambler and Styles (1996) describe two different views of defining a brand. The first is the product plus view, when the brand is seen as an addition to the product, and in this view a brand is also called an identifier. The second is the holistic view that communicates the focus on the brand itself that is considered to be much more than just the product. The brand is said to be the sum total of all elements of the marketing mix.

Keller (2002) in his study said that the brand is the sum total of all elements of the marketing mix. Brands can also be explained based on their elements - “... those trademark-able devices that serve to identify and differentiate the brand (e.g.; brand names, logos, symbols, characters, slogans, jingles and packages).

De Chernatony and MacDonald (1998) in an attempt to emphasize the increased value that accrues to the consumer by buying the established brand rather than a generic or commodity product, offer the following definition of a brand: “A successful brand is an identifiable product, service, person or place, augmented in

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77 Phillips (1988), "Buying a brand: what you can't see can hurt you". Design Management Journal, winter, pp. 43-46.
such a way that the buyer or user perceives relevant, unique added values which match their needs most closely. Furthermore its success results from being able to sustain those added values in the face of competition.”

Rogers, 1995; Mason, 1990 in their study explained how consumers form preferences for various goods and services using theories of adoption.

3.14.2 Factors Affecting Brand Preference

Brand adoption or preference has been receiving increased attention in extant literature. Cooper (1993) noted that most new innovations come with high risks as most of them failed in the marketplace creating the need for marketers to have a clear understanding of success factors in brand adoption. Theories of adoption have often been used to explain how consumers form preferences for various goods and services (Rogers, 1995).

Generally, these theories emphasize on the importance of complexity, compatibility, observability, triability, relative advantage, risk, cost, communicability, divisibility, profitability, social approval, and product characteristics in brand preference (Wee, 2003). The relative importance of each factor depends on the nature of industry under consideration, location and social characteristics of the consumers of the different brands. Consumer choice behaviour has also been studied using the five-step process step (need–information search–evaluation of alternatives–purchase–post-purchase evaluation) problem solving paradigm or through the progression of consumer choice from a product class to brand choice (Dorsch et al.,

Discrete choice models (Chintagunta, 1999\textsuperscript{87}) or neural networks to model selection decisions (Papatla et al., 2002) have also been used in brand choice research\textsuperscript{88}. Wee (2003) conducted a study to identify the factors affecting adoption of new product innovations in the consumer electronic industry of Singapore using qualitative (focus group discussions) and quantitative research techniques (survey with 151 respondents in the 16 - 35 year age group). The researcher considered two brands, the Mini Disc and the MP3 Portable player. Using factor analysis, seven factors were identified as critical in effecting adoption of a player: relative advantage, perceived risk, complexity, compatibility, observability, image and trialability. Of these factors, relative advantage conferred by the player was the most important factor that consumers valued in their adoption decisions\textsuperscript{89}.

Li and Houston (1999) employed a sample of 1200 consumers in Taiwan to determine factors underlying choice of market innovations. Price level, product variety and marketing communications factors were identified as promoters of choice. The promotional (marketing communications) mix has various elements advertising, sales promotion, direct marketing, exhibitions sponsorship, personal selling, word of mouth, merchandising, public relations, relationship marketing, corporate image and reputation etc\textsuperscript{90}.

Karjaluoto et al. (2005) investigated the consumer choice in the context of the mobile phone industry in Finland using a sample of 196 respondents. Twenty-four questions were used to assess consumer motivations in mobile phone choice. Seven

\textsuperscript{89} Tan Tsu Wee T (2003). Factors affecting new product innovation in the consumer electronic industry, Singap. Manage. Rev
\textsuperscript{90} Li Ho-Shui and Houston, JE (2001). Factors affecting consumer preferences for major food markers in Taiwan, J. Food Distrib. Res. pp: 1-3
estimated factors influencing mobile phone choice were: innovative services, multimedia, design, brand and basic properties, outside influence, price, and reliability. He explains that these accounted for about 70% of the total variance. Some of the important product decisions in any marketing context are product, variety, product performance, product features, product design, product presentation, sizes etc (Doyle, 2002). Consumer surveys often reveal that quality is one of the most important decision factors for consumers, if not the most important (Keller, 2000). Product quality stands for the ability of a product to perform its functions (Kotler, 2003). Given that literature on brand choice in the dairy products is relatively sparse, the relevant research hypotheses were guided by the above studies. It has been hypothesized that choice or preference of a dairy brand is influenced by:

1. Price of brand
2. Product quality
3. Brand design (packaging)

According to Mokhlis and Yaakoop (2012) there are countless factors that influence the way a consumer perceives a particular brand and prefers it over the others. Meyer and Kahn (1991) describe that the extensive attention has been paid to understanding the relative influence of the factors which affects the choice of consumers between various substitute brands of products and services that are purchased frequently.

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Rogers (1995), Tornatzky and Katherine (1982), Mason (1990) and Charlotte (1999) in their studies observed that various factors influence the consumers when they are making a choice among alternate brands. These factors consist of price, perceiver risk, compatibility, triablity, relative advantage, complexity, image and observability. In this research article, the influence of following factors on brand choice has been measured: price, quality, features, family and friends’ recommendations, brand image, innovative features, promotion effectiveness, celebrity endorsement, user friendliness, stylish appearance, post-purchase services\textsuperscript{95}.

The price has a vital role in consumer’s purchase decision or in other words, we can say that most of consumer buying behavior and choices are determined by price. It can act as a dominant and, in fact, the most important factor affecting the decision making and purchase process. For youths, price can be a key factor of attraction. When selecting out of varying mobile phone models, consumers usually prefer such brands with which they have familiarity. Price of the mobile phone has been identified as a key factor in the choice of mobile phones, especially among the young consumers. The product’s price may vary based on economic conditions and perceptions of the consumers. It may affect the brands’ perceived value. Price is used by many of the consumers as an indication of the brands’ quality which is a vital factor in the purchase decision (Nilson, 1998; Kotler and Amstrong, 1989)\textsuperscript{96}.

How a consumer perceives the quality of a brand is a crucial factor that affects the brand choice. Product quality frames the products’ ability to carry out its functions. According to Sardar’s (2012) research study, Indian people give much higher value to brands. In India, a brand is due to quality because the unbranded products have huge varying quality. Consumer surveys often show that quality is one


of the most important decision factor for the consumers, if not the most important. He also explored that the aesthetic appeal of a product, which also symbolizes packaging and the product quality, is the main differentiating feature of the successful brands. The mobile phone features are basically the set of competencies, services and applications that are offered to the users. These can be Bluetooth, camera, dual SIM, video-recorder, MP3 player, memory card reader, WiFi connectivity and so on and they vary from brand to brand.\(^\text{97}\)

Isiklar and Buyukozkan (2007) carried out a study on users’ preferences by evaluating the mobile phone options. Different mobile features namely physical features, functionality, technical characteristics, brand choice and ‘customer excitement’, were compared as a multi-criteria approach for decision making. The results showed that functionality was the most dominant factor among all three phones under consideration while the ‘customer excitement’ and the basic requirements were found to be least influencing factors.\(^\text{98}\)

The results of the study of Mack and Sharples (2009) also pointed out the significance of features in predicting mobile phone choice. Their experimentation indicated that usability is an important element in choice of a mobile phone but not as much as the users believed it would be. In reality, other such attributes especially features, visuality and cost might be of top priority when making a product choice.\(^\text{99}\)

Another research study conducted by Han et al. (2004) on 65 design features for 50 different mobiles. Regression models were developed by them to relate the design features with satisfaction and luxuriousness, attractiveness and harmoniousness. It


was found that various design features have a contribution as size and weight of the phone, its material, color, shape of buttons and interface features (Vu, 2012). Friend and family recommendations are becoming an increasingly significant factor influencing the consumer brand choice and purchase decision. According to Schiffman and Kanuk (1997), friends’ options and preferences are an important influential factor in determining the products or brands selection, especially for a single individual who lives alone. Asch (1973) and Venkatesen (1973) found that peers, who are present at the time of purchase, play a crucial role in choosing a specific brand, especially with concern to product and rational impacts. Brand image generally describes the set or bundle of beliefs which a customer holds regarding a particular brand. It conveys the overall image or impression of a brand in customers’ mind that is created from different sources. Brand image actually reflects the overall brand content which includes brand name, reputation, functionality and overall value. The study by Kohli et al. (2005) on new brand names evaluation explained that as compared to non-meaningful names, the meaningful brand names are more favorably evaluated.

Today, innovation has become one of the most fundamental ways to differentiate a firm’s product from that of the competitors. It allows the company to constantly improve and update its products to meet the varying needs and demands of the customers. Hence, innovativeness is a key part of the firm’s success that not only ensures the survival of the firm in such an advanced and competitive environment but it also makes it possible for the company to position itself against its competitors. As stated by Saaksjarvi (2003), such technological innovations as cellular phone and digital televisions have gained the interests of marketing researchers as a concern to their process of adoption. The research findings of Liu (2002), Karjaluoto et al. (2005)
and Mack and Sharples (2009) suggest that in students’ choice process of mobile phones, the innovative features of products are most significant. This can possibly be related to the fact that mobile phones are now widely accepted as an important element of fashion accessories, particularly among the youths. Thus, innovation in features and designs of mobile phones has become a priority in consumers’ mobile phones choice.

Promotion is a way of communicating the information, regarding a product, between the buyer and seller so as to establish the brand profile and brand values (McCarthy and Pereault, 1984). Various promotional tools like advertising, word-of-mouth, publicity, sales promotion etc., can be used by a company to create and strengthen its brand position in the customers’ mind. A company uses such brand promotion techniques as a constant reminder to tell their customers about their special brand offerings and for establishing long term and stronger identity. Effective promotion not only gives identification to the brand and the company, but also facilities in building loyal customers through brand familiarity and awareness. Erdem and Keane (1996) highlighted the influence of user experience and advertising content on the brand choice, especially when the consumers are forward-looking. In recent years, celebrity endorsement has become much more common and is used as a part of a company’s marketing strategy for their brand communication by resorting to different celebrities who play the role of presenters of a particular brand or in other words, act as a spokesperson for a specific brand. Celebrities, because of their special characteristics such as personality, good looks, special skills and classy lifestyles have a leading role in public’s decision making. Smita (2006) in her research study examined the significance of celebrities in advertisement and came up with the conclusion that in order to add glamour and excitement to their brands, advertisers use
celebrity endorsers. Various studies have indicated that using celebrity endorsers generates a more positive response and higher purchase intentions than non-celebrity endorsers (Byrne et al., 2003). The study of Agarwal and Kamakura (1995) showed that celebrity endorsement is used in about 20% of the advertisements as a promotional strategy.

According to Jordan (1998) usability appears as the influential factor regarding whether people build a negative or positive belief about a product. The eye catching display of stylish and uniquely designed mobile phones has a great appeal to young consumers. Having stylish mobile phones has become a fashion statement and status symbol for youths and teenagers. The decision making of youths regarding the brand choice of mobile phones can also be seen to be largely influenced by the stylish outlook mobiles\textsuperscript{100}.

Yun et al. (2003) by means of “look-and feel” consumer survey explored 50 distinct mobile phones. All the 78 participants assessed the mobile phones design based on a scale of perceived image/impression attributes including attractiveness, texture, luxuriousness, colorfulness, rigidity, simplicity, harmoniousness, delicacy, salience and overall satisfaction. The image/impression qualities of the products were found to be closely related to human-product interface measurements along with overall product shape. Post-purchase services, also known as after-sale services, mean any assistance which the seller provides to a buyer after a particular product is sold. It is a viable and important means of building brand loyalty through customer satisfaction and generating repeated customer purchase behavior. It basically involves the warranty or guarantee package offered to the customers based on the periodic or

required maintenance or repair of the equipment (product) by its manufacturer during the time period of warranty.$^{101}$

According to Wilson et al. (1999) after-sale services may include six activities namely: routine maintenance, installation, parts supply, training, emergency repair and software services.$^{102}$ Marketers have found that after-sale services are one of the way through which they can enhance the customer perception about product quality Levitt (1983)$^{103}$.

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