

Recent Trends in Bathroom Interiors

By
PRIYA.S
(13PIR012)

**A THESIS SUBMITTED TO
AVINASHILINGAM INSTITUTE FOR HOME SCIENCE
AND HIGHER EDUCATION FOR WOMEN,
COIMBATORE – 641 043.**

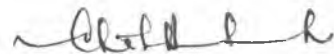
In partial fulfilment of the requirements for the Degree of
**MASTER OF SCIENCE
IN
INTERIOR DESIGN AND RESOURCE MANAGEMENT**

MARCH 2015

CERTIFIED AS BONAFIDE RESEARCH WORK



**SIGNATURE OF THE
SUPERVISOR**



**SIGNATURE OF THE
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Gratitude is the inward feeling of kindness received. Thankfulness is the natural impulse to express that feeling.

-Henry Van Dyke

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***“A thankful heart is not only the greater virtue,
but the parent of all other virtues.”***

- Cicero

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INTRODUCTION

“The home should be the treasure chest of living”

-Le Corbusier

A house is a permanent dwelling place for a particular group of individuals. It is a piece of architecture, a treasure house of personal belongings and an exhibition for display individual tastes. The words ‘home’ and ‘house’ are used as an interchangeable terms but their meanings are entirely different. ‘Home’ means more than ‘house’. House denotes only the physical construction, while ‘home’ means the family which is the social unit which comes into existence. It is an unique place, which gives joy and happiness to the members of the family (Needham and Strong, 2006).

A house is a shelter consisting of walls, floors, doors, windows, roofs in which one enjoys with family, all the happiness, affection and love for each other, health, ease and comfort, entertainment, social activities and indulgence of hobbies. It is an indisputable fact that every human being spends a good portion of her time at home.

A bathroom is an important part of the house, although small in area but a good bathroom reflects the personality of the entire house. Hence it is important to keep in mind that with little imagination and bathroom interior design tips, one can make a functional and a stylish bathroom. Now a day’s bathroom interior designing is an important part of Modern Architectural Designing. Basically bathrooms are used for necessity and comfort for everyday lives. Interior designing of bathroom adds an artistry touch to the interior design of the entire home, (Shaw 2003).

The first records for the use of bathrooms in homes dates back to 3000 B.C. During this period water had a strong religious value, being seen as a purifying element for both body and soul, and so it was not uncommon for people to be required to cleanse themselves before entering a sacred area. Bathrooms are recorded as part of a village or town life throughout this period, with a split between steam baths in Europe and America and cold baths in Asia. Communal bathroom were erected in a distinctly separate area in the village.

According to Teresi et al, (2002), the third millennium B.C. was the "Age of Cleanliness." Toilets and sewers were invented in several parts of the world. Mohenjo-Daro in 2800 B.C had some of the most advanced set up with lavatories built into the outer walls of the houses. These were "Western-style" toilets made from bricks with wooden seats on top. They had vertical chutes, through which waste fell into street drains or cesspits.

Sir Mortimer Wheeler, the Director General of Archaeology in India from 1944 to 1948 wrote the high quality of the sanitary arrangements could well be envied in many parts of the world today."Nearly hundreds of houses excavated had their own bathing rooms. Generally located on the ground floor, the bath was made of brick, sometimes with a surrounding curb to sit on. The water drained away through a hole in the floor, down chutes or pottery pipes in the walls or into the municipal drainage system. Even the fastidious Egyptians rarely had special bathrooms.

Not all ancient baths were in the style of the large pools that often come to mind when one imagines the baths. The earliest surviving bathtub dates back to 1700 B.C, and hails from the Palace of Knossos in Crete. The most remarkable about this tub is not only the similarity with the baths of today, but also the way in which the plumbing works surrounding it differ very little from modern models. A more advanced prehistoric (15th century BC and before) system of baths and plumbing is found in the excavated town of Akrotiri, on the Aegean island of Thera. There, alabastertubs and other bath fittings were found, along with a sophisticated twin plumbing system to transport hot and cold water separately. This was probably because of easy access to geothermic hot springs on this volcanic island.

Both the Greeks and the Romans recognised the value of bathing as an important part of their lifestyles. Writers such as Homer explained that his heroes bathed in warm water to regain strength. It is perhaps notable that the mother of Achilles bathed him in order to gain his invincibility. Palaces have been discovered throughout Greece with areas dedicated to bathing, spaces with ceramic bathtubs, as well as sophisticated drainage systems. Homer uses the word "baths", later to

“bathe”. The same root finds an even earlier attestation on Linear B tablets, in the name of the River Lousios as “bathing” river, in Arcadia. Public baths are mentioned by the comedian Aristophanes as Latinized as *balneum*, a “balneary” (Teresi et al,2002).

The Roman attitudes towards bathing are well documented. They built large purpose thermal baths, marking not only an important social development, but also providing a public source of relaxation and rejuvenation. It was a place where people could meet to discuss the matters of the day and enjoy entertainment. During this period there was a distinction between private and public baths, with many wealthy families having their own thermal baths in their houses. Despite this they still made use of the public baths, showing the value that they had as a public institution.

The strength of the Roman Empire remarked that; imports from throughout the world allowed the Roman citizens to enjoy ointments, incense, combs, and mirrors. In fact throughout the 16th, 17th, and 18th centuries, the use of public baths declined gradually in the west, and private spaces were favoured, thus laying the foundations for the bathroom, as it was to become, in the 20th century (Ledert, 2004)

Today’s home buyers want not only larger and more luxurious bath facilities but, even in the smaller house, they require at least one or two baths. With whatever bathroom arrangements are planned, the aim is to provide both privacy and convenience for the varied and often simultaneous uses of increasingly large families. The usual method consists of separating the bath facilities of children and guests from the parent’s master bath, but consideration must be given to such additional uses as children’s bath access from their outdoor play area .The separation of facilities for children in relation to entertainment areas, guest lavatory, and separation of facilities for children of the opposite sexes; and the provision of kitchen toilet facilities is appreciated. Larger homes have toilets for the use of part time or full time servants, even through less commonly required than in the past. (Pretty, 2000).

In the average tract house these varied requirements cannot be fully met, but efforts must be made to solve as many as possible within budget and space restrictions. The methods used involve bath location and access, interior

compartmentation and the use of dual fixtures. With a restricted number of fixtures, maximum use is achieved by locating one bathroom directly off the master bedroom, and the other convenient to the remaining bedrooms and at the same time accessible from the kitchen and living areas.

In addition, the second bath can be made to open into a play yard, a so-called “mud-room” which is provided to enable small children to remove dirty clothing and wash before entering the house. Properly located, it serves as a lavatory for guests in out-doors entertaining areas. By the use of separate water closet compartment and dual lavatories, a further step is made towards solving the problem of multiple uses (Emmons, 2000). Interior designer Ellery (2001) describes the original layout of the giant bathroom as looking like a booth in a railway station. It’s big room yet with everything squashed together in a corner. It looked dreededful and made the feel uncomfortable.

Space is always a luxury and yet as Ellery (2001) points out, the arrangement and scale of bathroom fittings in a room should be carefully considered. A few staples should be in almost every bathroom wouldn’t function without shower, tub, toilet and sink. Yet technological advances, new texture, and colour update can transform everyday bath into a heaven and make the space more functional. Whether updating a minimalist room or revamping a vintage bath, inspiration from these innovative products and styles are worth mentioning.

Most people’s idea of an imaginatively designed bathroom is for stacking towels. According to colour and arrangement with perfume bottles on the window sill not the bathrooms have come of decorating age. Bathroom is a refuge from the cares of the world, to soak and pamper ourselves with unashamed self- indulgence. To get a bathroom to spend quality time, the surroundings must be pampered. Cream white make small areas look larger. But there is no need to adhere strictly to pale colours. For example, a beach look, based upon the cool tones of a northern sea, or the saturated colours of the Mediterranean is suitable for a bathroom. Brightly coloured metal beach buckets hung from a piece of driftwood should do the trick. Wall covered with plaster stars create a mosaic splash- back of china. The view from the bath always looks better at all time (Stewart and Walton, 2001).

American families place a high value on personal cleanliness. There is no country in the world where the per capita use of soap and water is higher or enthusiastic. This gives the bathroom an important place in family living. Besides providing facilities for personal cleanliness, bathrooms also double as first aid stations and sometimes light centres, although if there is one thing that men have in common, it seems to be a dislike of seeing stockings hanging in the bathroom (Lewis, 2001).

Ideally if every bedroom would have its own bathroom and the bathroom is not financially feasible, it is due to the plumbing being a major expense. When several share a bathroom, an extra wash basin and partitions, can help in the easing the congestion. Although it's empty for hours during the day, there are times when everyone wants to use the bathroom at same time.

The design of a bathroom must account for the use of both hot and cold water, in significant quantities, for cleaning the human body. The water is also used for moving solid and liquid human waste to a sewer or septic tank. Water may be splashed on the walls and floor, and hot humid air may cause condensation on cold surfaces. From a decorating point of view the bathroom presents a challenge. Ceiling, wall and floor materials and coverings should be impervious to water and readily and easily cleaned. The use of ceramic or glass, as well as smooth plastic materials, is common in bathrooms for their ease of cleaning. Such surfaces are often cold to the touch. However, water-resistant bath mats or even bathroom carpets may be used on the floor to make the room more comfortable. Alternatively, the floor may be heated, possibly by strategically placing heater conduits close to the surface especially in cold places (Stollmann, 2005).

Electrical appliances, such as lights, heaters, and heated towel rails, generally need to be installed as fixtures, with permanent connections rather than plugs and sockets. This minimizes the risk of electric shock. Ground-fault circuit interruptor electrical sockets can reduce the risk of electric shock. These are required for bathroom socket installation suggested by electrical and building codes in the United States and Canada. In some countries, such as the United Kingdom, only special sockets suitable for electric shavers are permitted in

bathrooms, and are labelled as such. UK Building Regulations also define the specific type of electrical light fittings to be installed in the areas around and above baths, sinks and showers (Hebel,2005).

Bathroom lighting should be uniform, bright and must minimize glare, for all the activities like shaving, showering, grooming etc. One must ensure equitable lighting across the entire bathroom space. The mirror area should definitely have at least two sources of light at one foot apart, to eliminate shadows on the face. Skin tones and hair colour are highlighted with a tinge of yellow light says Rensselaer (2002).

Need for the study

Bathrooms are playing an important role in today's construction. Every house owner wants the best to be incorporated into the bathroom. People with the sound financial background do not hesitate to equip their bathroom. Hence to find out extent of importance given to this area, the study was undertaken.

Objectives:

This study is taken with the following objectives to:-

- find out the recent trends in bathroom interiors.
- study the availability of recent trend in bathroom fitting in the selected shops.
- know the family background of the selected households in Coimbatore city.
- analyse the preference of bathroom fixture preferred by the selected households.

II. REVIEW OF LITERATURE

The review of literature of the study entitled “**Recent Trends in Bathroom Interiors**” is discussed under the following headings.

1. Importance of bathroom interiors
2. Different style of bathroom
3. Plumbing systems in bathroom
4. Trends in bathroom fittings and accessories
5. Lighting effects in bathrooms

1. Importance of bathroom interiors:

A bathroom is an important part of the house, although small in area but a good bathroom reflects the personality of the entire house. Hence it is important to keep in mind that with little imagination and bathroom interior design tips one can make a functional and a stylish bathroom. Now a day's bathroom interior designing is an important part of Modern Architectural Designing. Basically bathrooms are used for necessity and comfort for everyday lives. Interior designing of bathroom adds an artistry touch to the interior design of the entire home (Shaw 2003).

Bathroom fittings play an important role in interior designing of bathroom. Hence the interior design and decoration of the homes also extend to the bathrooms. There is a huge market for bathroom interior design catering to every budget. An effective bathroom design should address all, physical and spiritual needs. Here are the most important tips to consider when considering bathroom renovations (Mendelson, 2005).

Bathroom Fittings and Fixtures- There is a wide range of bathroom fittings and accessories available depending upon the budget and the area of the bathroom. A basic bathroom fixture consists of toilet seat or commode, shower, wash hand basin, vanity unit and bath tub. One of the major bathroom design interior includes the very important plumbing and drainage system. This includes the flowing of water in and out of the house along with fluids and wastes, flush systems, hot and cold water arrangement, installation of sanitary fixtures like

faucets and taps, wash basins, roof flashings, fire prevention system and gas system.

Bathroom Faucets and Taps- These are the vital accessories of bathroom interior designing which gives the bathroom a unique look and feel. A wide range of taps and faucets with unique designs shapes and sizes are available in the market. There are many different types, styles and varieties of taps and faucets available in the market for different budgets. The spout and the shower heads have become an important accessory for bathroom interior designing as they are used not just for cleaning but as a spray for total body massage.

Bathroom Colours and Wall Coverings-The bathroom interior designing also contain the colours of the walls and the coverings. There is huge variety of colours available in the market to suit everybody's tastes and budgets. Every colour, textures to the walls, wall paper of different patterns has its own significance. A mix of colours of light and dark shades radically lifts the setup of the bathroom and adds beauty to the interiors.

Bathroom Floors- Keeping hygiene and comfort in mind there is a huge variety of floor materials in the market. A visit to the shop will open up many options and varieties. Bathroom interior designing includes ceramic tiles, vinyl floors, semi hard flooring like flexible vinyl and stone floors that include granite, mosaic, marble and limestone.

Bathroom Blinds and Curtains- The bathroom interior designing covers the use of curtains, blinds and drapes. The fabrics that can be easily washed and cleaned should be considered for bathroom as lot of moisture is present in bathroom. Blinds of different designs are available in the market to give bathroom a complete privacy. Bathrooms are a bit tricky place for curtains and drapes as dealing with wetness and they help in privacy and keeping the bathroom warm.

Electrical Fittings and Lights- Bathroom interior designing gives an immense importance to the electrical fittings not just to the bathrooms but the entire home. Before decorating the bathroom one has to plan for points of electrical fittings and accessories. Right placement of geysers, heated towel rails, electrical points

and switches for hair dryers and shaves and hot tub bath gives elegant look to bathroom. There are wide range of brands and designs of plugs, switches, power outlets and lights are available in the market (www.bosch-home.com).

Perfect interior designing of bathroom experiences the luxury of a dream bathroom with perfect lights, accessories, comforts and colours.

2. Different styles of bathroom

- **Traditional English style:**

Traditional English style sanitary ware is of course the starting point for a classic bathroom, although we do not need to be too pedantic about confining to a particular era. A traditional freestanding roll-top bath with gilded feet in a slipper bath or single end is ideal.

- **Country style:**

Rustic accessories distressed or aged furniture and a slightly unfinished quality gives charm to a country bathroom its charm. The aim is to create an informal, cosy room, ideal for family use and practical for children's bath times too.

- **Loft style:**

Sleek, almost clinical characterize the urban bathroom and a freestanding bath is the ultimate accessory, be it a roll-top period taps to hint at the loft's history or a chic designer double-ender with wrap around ergonomic panel and a floor- standing tap.

- **Oriental style:**

Bathing as a means of relaxation is enormously important for oriental peoples and so, for them the bathroom has become a sanctuary for ritualistic cleaning. If we love the idea of a scene scheme, this is the best bathroom style for, providing us clutter free.

- **French chic:**

Candlelit bubble baths, instantly spring to mind when imagining the ultimate Parisian bathroom. This is not a place merely to wash and get clean, it is a sanctuary in which to luxuriate, a pamper zone in which to relax and enjoy.

- **Mediterranean style:**

Practical is somewhat utilitarian, the typical Mediterranean bathroom is designed purely for cleaning in a cool environment rather than for relaxation. Low-maintenance, easy clean surface and wall-hung sanitary ware are common to both Greek and Italian homes.

- **Scandinavian style:**

As originators of the sauna, Scandinavians naturally love stream-cleaning and ultra-hygienic bathrooms. They prefer streamlined schemes that focus on natural wood and easy clean ceramic finishes, with hardly any obvious colour.

- **Ethnic style:**

Let imagination run wild in this room to create an exotic sanctuary in which to bathe while we dream of being in sunnier climates. Rough plastered walls teamed with tiles on floors, walls and shower enclosures are the most authentic starting point that piles on the colour.

- **American country style:**

As with all the other rooms, the way we decorate American country bathroom depends on which aspect of the style we choose to emphasize. Traditional bathrooms tend to be sparse and practical. A freestanding roll top bath plain square-shaped pedestal basin would be most in keeping with the look.

- **Coastal style:**

Because of its direct relationship with water, this is the one room where you really can go overboard on nautical style for a dramatic themed look with walls and quirky accessories such as model boats for fun (Kerryn, 2002).

3. Plumbing system in bathroom

Plumbing system is the most important part of the building services. It is essential that plumbing fixture should be carried out carefully and with expertise as they have the greatest tendency to leak and fail. Plumbing follows the basic laws of nature - gravity, pressure, water seeking its own level. There are dozens of fixes to home's plumbing system to save time, trouble, and money. The plumbing system in home is composed of two separate subsystems. One subsystem brings freshwater in and the other takes wastewater out. The water that comes into home is under pressure. It enters home under enough pressure to allow it to travel upstairs, around corners or wherever else it's needed. As water comes into home, it passes through a meter that registers the amount of water used. The main water shutoff, or stop valve which is typically located close to the meter. In a plumbing emergency, it's vital that to quickly close the main shutoff valve. Otherwise, when a pipe bursts, it can flood house in no time. If the emergency is confined to a sink, tub, or toilet, however, may not want to turn off entire water supply. Therefore, most fixtures should have individual stop valves (Pretty 2001).

Water from the main supply is immediately ready for cold water needs. The hot water, however, requires another step. One pipe carries water from the cold water system to water heater. From the heater, a hot water line carries the heated water to all the fixtures, out-lets, and appliances that require hot water. A thermostat on the heater maintains the temperature by turning the device's heating elements on and off as required. The normal temperature setting for a home water heater is between 140 degrees F and 160 degrees F, but 120 degrees F is usually adequate and is also more economical. Some automatic dishwashers require higher temperature water, though many of these have a water heater within them that boosts the temperature another 20 degrees F. These are the plumbing system used in bathroom such as Water inlet pipe, Water outlet pipe, Water taps-outlet, inlet, Water filter, Wall mixture, Shower-outlet, Wash basin-inlet, outlet, Bath tub-outlet, Closet-flush, sewage, tap and bath drainage (Dechiara 2001)

4. Trends in bathroom fittings and accessories:

The listed below are the recent trends in bathroom fittings and accessories.

- **Wash basin**

These vary from complete units with a pedestal base or with legs to bowls that can be wall-hung. It has become popular to set bowls into a counter top to provide generous surrounding space for soap dishes and other accessories. Bowls are available in a range of sizes, shapes and finishes. The surround can be of plastic laminate, marble, tile, or any other material that is reasonably water-resistant. Twin basin is a favourite luxury in a master bathroom (Pile, 2001).

- **Tap**

- a. Single Lever Basin Mixer**

Single lever tap bears a ceramic cartridge which may be 40 or 45 mm. We can control water flow with one lever unlike the conventional two knobs. Up position is open and down position is close. Left rotation is hot and as we rotate to the right the water temperature decreases.

- b. Basin Mixer**

Used on wash basin or counter top has two knobs; left for hot water and right for cold water. More successful over single lever faucets in areas having low pressure. Spout can be inbuilt in the body or separate and can be casted or made of pipe.

- c. Bidet Mixer**

Bidet rests on the Bidet Ceramic ware. The spout fills the bidet bowl and the pop-up is used to store or flush out water in the bowl since it controls the rubber plug installed at the base of the bidet bowl.

- d. Wall Mixer**

It can be single lever or two knobbed and can also be thermostatic. Installed at 1145mm from the ground level. The suggested legs distance of wall mixer is 160mm and the adjustment margin is 30mm both sides.

e. Bathroom Set

This set is very popular and practical in Indian conditions. Conventional wall mixer has a spout to fill bucket or bathtub and also provision to divert water to the hand shower which rests on the twin hook crutch.

f. Diverter

Diverter has two inlets for hot and cold water. The outlets can be two, three, four or five depending upon the model selected. The outlet can be attached to the spout, overhead shower, hand shower or body jets. All connections are concealed, only the diverter levers and wall plate are visible. The aesthetics of bathing area can be maintained by matching the diverter lever knobs and plate to the other faucets of the bathroom.

g. Pillar Tap

Used on washbasins or counters and has a vertical inlet. It is combination of two taps desired of both hot and cold water. Very effective in low water pressure conditions and also popular in areas of moderate climate.

h. Bib Tap

Bib tap is a single faucet installed on wall having horizontal inlet; it can either give hot or cold water. Generally used as combination of two taps for hot and cold. Installed at a height of 1145 mm from the floor in the bathing area. Long bib is used in bathing area and short bib near water closet. Very effective in Indian conditions of low pressure and water scarcity.

i. Spout

Spout has an inlet and outlet, used to fill bucket, bath tub or wash feet. Water is fed to spout by connecting to concealed valves or diverters. Spout may be installed in the bathing area at a height of 785 mm from the floor. (www.crystalbathfittings.com)

- **Bath tub**

Tubs are made in various shapes and sizes, and manufacturers have varied with one another to develop luxury units in usual shapes. Some provide a rim wide enough to serve as a seat; others suggest opulence by approaching a small pool in

size. Whirlpool Jacuzzis and hot tubs remain popular. Even the old-fashioned tub on legs continues to seem attractive and appropriate in certain settings.

Many tubs provide their own exterior front or front and end surface, while others are designed to be recessed into a constructed surround or platform. Tubs sunken into the floor require clearance below or an elevated platform into which the tub can be recessed. Materials include porcelain-enamelled iron, lighter enamelled sheet steel, and some modern units in fibreglass plastic. As the population grows to taller average heights, tub lengths beyond the standard 60 inches deserve consideration. All tubs call for safety precautions. Getting into and out the tub with wet and slippery both inside and possibly outside can be hazardous, particularly for the elderly and those with disabilities. Textured bottom surface and suitable handrails can reduce the danger of slipping (Pile, 2001).

Types of Bathtub

1. Alcove Bathtub

This tub fits in a three-walled enclosure. When the walls are tiled or fitted with panels, the enclosure can be used for a tub/shower combination. The alcove bathtub is all about maximizing our space: it's the tub with the smallest footprint. Standard length for an alcove tub is 60 inches, but can range from 53 to 72 inches. Lower end but good quality rectangular drop-in bathtubs (Golonka, 2004).



2. Drop-In Bathtub

It is the three-sided box that encloses the alcove tubs. We can have a carpenter build a deck or peninsula that fits into the room, installing the tub into that piece. Drop-in tubs come with their own rim. These tubs can be installed in an alcove, but most often are installed in a more open area. As such, the drop-in usually requires more floor space than alcoves and cost slightly.



3. Free-Standing Tub

Free-standing tubs are the type that many of us dream about and few achieve. For one, free-standing tubs tend to be significantly more expensive than alcove and drop-in tubs. For another, we need to have space for free-standing tubs. We can install one of these tubs in a three-sided enclosure. Free-standing tubs are all about freedom of movement and freedom of space. Slipper and claw foot tubs fit into this category and both convey the impression of antiquity. Thus, need a house worthy of such a tub. One major downside of free-standing tubs is the exposed plumbing. We can mitigate this by purchasing specialty plumbing parts that celebrate, rather than to hide this exposure.



4. Corner Bathtub

The corner tub is the fancy, pinky-raised type of tub. They are expensive (but interestingly enough, cheaper than free-standing tubs), eat up lots of bathroom floor space, and appear to have no practical use. Triangular tubs are actually five-sided, not three-sided, as the name implies. One downside of this tub is that they take forever to fill up. More capacity equals more water volume is needed.



5. Under mount Bathtub

In the under mount tub, the basin is mounted under a rim of another material, usually a hard, water-proof material like solid-surface (i.e., Corian), tile, or stone. Under mounts have a refined, “finished” look that distinguishes them from self-rimming tubs

such as the drop-in. Under mount tubs are the least common type of tub, and usually can also be mounted as a drop-in tub. Because they are rare, under mounts tend to run fairly high prices (Kohler, 2007).



- **Shower**

Commonly provided with tubs, showers can also be separate units. Standard shower stalls are available as complete units, or shower areas can be custom-built from appropriate materials that must, of course, be water-resistant. At floor level, a shower stall may use a manufactured bottom pan with covered edges and centre drain, or a base can be custom-built with surface sloping spray and steam. A simple shower curtain on a rod works well but may not seem as luxurious as a sliding or swinging door. Glass enclosure, however attractive, is hazardous. In addition to spray, shower produces steam that condenses on surrounding surface, requiring special attention in material selection and detailing within the entire bathroom (Pile, 2001).

Features of shower

Advanced Rub it Technology

A feature that keeps showers clean and increases their longevity. Since the spray jets on the showers are made from elastic silicon, they ensure that no lime scale deposits stick to the shower face. Even if they do, they can be easily rubbed off by hand or flannel.

Click Position System

All multi-function showers feature the convenient click mechanism. We can feel and hear the click while changing the function of the shower sprays.

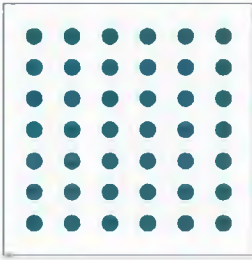
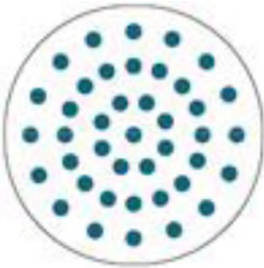
Thermo Insulation

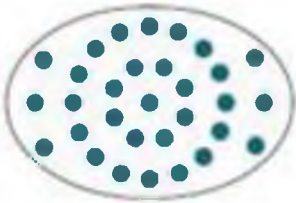
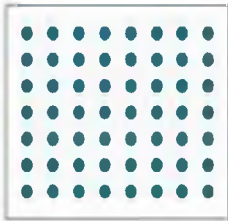
Jacquar insulated shower systems prevent scalding by not heating up the shower body.




Booster Technology

Booster Technology creates the sensation of a full shower regardless of the water pressure (homerenovations.about.com).

Shapes for shower:

Shape	Picture	Size of the shower
<p style="text-align: center;">Square</p>		<p style="text-align: center;">Overheads Shower(Square)</p> <p>150 mm dia, 200 mm dia 250 mm dia, 300 mm dia</p>
<p style="text-align: center;">Round</p>		<p style="text-align: center;">Hand Shower(Round)</p> <p>75 mm dia, 80 mm dia 95 mm dia, 100 mm dia 105 mm dia, 120 mm dia 140 mm dia, 180 mm dia</p> <p style="text-align: center;">Overheads Shower(Round)</p> <p>80 mm dia, 100 mm dia 105 mm dia, 120 mm dia 140 mm dia, 150 mm dia 180 mm dia, 190 mm dia 200 mm dia, 250 mm dia 300 mm dia</p>

<p style="text-align: center;">Oval</p>		<p style="text-align: center;">Overheads Shower(oval)</p> <p style="text-align: center;">300 X 200 mm dia</p>
<p style="text-align: center;">Rectangle</p>		<p style="text-align: center;">Overheads Shower(Rectangular)</p> <p style="text-align: center;">560 X 230 X 25 mm dia 297 X 210 X 14 mm dia</p>

Flows	Picture
<p style="text-align: center;">Normal</p>	
<p style="text-align: center;">Soft</p>	
<p style="text-align: center;">Message</p>	

Cascade	
Mist	

(www.jaquar.com/main/t>ShowersFeatures)

- **Faucet**

The faucets provide water control to the user in bathing and washbasin areas. With the help of these fixtures we can control flow of water, pressure of water and temperature of water while bathing and hand or face washing, brushing shaving etc. Certain technologies like quarter turn fittings, single levers, thermostatic fittings enhance the control and comfort of water usage (Pile, 2001).

- **Different types of accessories used in bathrooms.**

Bath accessories are as important as taps, sanitary wares and tiles. These provide comfort to the user and once we get used to these they become a necessity. Each accessory has its own utility, purpose, space of installation and should be matched with the theme of faucets and sanitary ware .The bath accessories are Door stopper, Mirror ,Storage unit ,Hand towel ,Napkin holder, Tooth brush holder, Soap holder ,Towel rod ,Hooks ,Stand ,Stool ,Plants ,Mat, Dust bin (Zelnik , 2001).

- **Tumbler Holder**

Has a tumbler in a base or ring, used to place tooth brush, paste, razor or comb. Mostly fitted near the washbasin.

- **Hand Dryer**

Hand dryers can cut costs by as much as 90% when compared to paper towels. Though involves larger initial investment but saves removal of paper waste effort. Usage of paper towel in a restaurant for 1 year equals to 9 fully grow trees being cut.

- **Automatic Soap Dispenser**

These are touch less dispensers which dispense a controlled amount of soap solution. The function is to conserve amount of soap usage and stem germ transmission. An increasing number of public locations and private installations have been incorporating touch less technology in their washrooms. Infrared sensor detects energy emitted from our hand and triggers the pump to dispense the designated amount of soap solution.

- **Toilet Paper Holder**

Used to hold the toilet paper and placed close to the WC .It is important for people with western exposure or influence (www.crystalbathfittings.com).

5. Lighting effects in bathrooms

Bathrooms, when a 19-century warehouse was carved up in the 1980's ,some of the resulting apartment were starved of natural light .The task facing architect Mather (1990) was to take a saw toothed, hip ended roof and beam light-via the upper ,penthouse floor of a duplex –into the bathroom on the floor below. An opening in the ceiling is filled with private light glass, which turns from transparent to opaque whenever electricity activates molecules in a coating –because the route for daylight from the rooftop level. Set into the maple boards on the top floor, they beam light down of the bathroom. Now it is possible to look up from the shower to see the roof terrace greenery and beyond. This allowed Mather to fulfil the client's desire to see the sky when the showered overlooked by neighbouring building in a narrow lane, the windows in the bathroom. Vital for the diffusion of light, also needed to provide privacy. Rather than block up Mather fixed opalescent glass panels over the existing windows panes, with or fluorescent strip light sandwiched (Mendelson, 2005).

General lighting is essential in a compact bath, a central ceiling may suffice. Medium size and large size and especially those with sectioned area for tub, shower and toilet will require several overhead fixture. The most critical lighting in a bath centres on the mirror area; this is the basic for good grooming. The most efficient to light up a person's face is to use three fixture, one on either side of the mirror or one overhead (Niesewand, 2000).

Lighting in the bathroom need to be safe, so fixture should be enclosed; they should provide a clear, direct light so that we can see when bathing, showing or shaving, and so that any mirror is well lit, with glare or dazzle. It is also pleasant to a soft background glow, rather than bright directional light when we have a relaxing soak in the bath, so consider installing several different circuits. Any switches should be the pull-cord type, or positioned outside the bathroom door (Walton, 2000)

Bathroom lighting should be uniform, bright and must minimize glare, for all the activities like shaving, showering, grooming etc. One must ensure equitable lighting across the entire bathroom space. The mirror area should definitely have at least two sources of light at least 1 foot apart to eliminate any shadows on the face. Skin tones and hair colour are highlighted with a tinge of yellow light (Teresietal, 2002).



Task Lighting

This is the light by which we can best see ourself. “Proper task lighting at the mirror is important,” says lighting designer Randall (2009). He recommends using a pair of scones mounted at eye level on either side of the mirror to provide shadow less illumination. This creates the best scenario for makeup application, shaving, and tooth care and so on.

Wattage for task lighting

“In the master or guest bathrooms, use fixtures that provide 75 to 100 watts’ worth of illumination,” Whitehead recommends. “We can get these wattage equivalents in a 24- to 26-watt compact fluorescent or 20- to 25-watt LED.”

Task lighting wattage in the powder room

Task lights in powder rooms can have much less wattage (i.e., 45-watt range), as this is not a space where anyone will be performing the morning ritual. Lower wattage provides a softer, relaxing ambience for guests.

Accent Lighting

If we enjoy art in bathroom, accent lighting will show it off best. Recessed directional lights provide focused illumination for each piece of art — or, in this case, for an alcove dedicated to a sculptural bouquet of flowers.

Decorative Lighting

This adds visual sparkle. Whitehead advises using a single pendant in a square-shaped bathroom for just the right touch.

Ambient Light

This acts as fill light. “In bathrooms with taller ceilings, a cove or cantilever details, ambient lighting fixtures can be installed along the perimeter of the space,” Architectural details such as these can hide the fixture and create indirect lighting. A pendant fixture with a translucent shade can be a source of both decorative and ambient light.

Putting It All Together

Interior designer Anderson (2003) transformed the dark bathroom, but one of the most significant - and most universally useful - was bringing in light. "Before, there weren't enough light sources or appropriate fixtures to layer light," Anderson says. "Moreover, there wasn't any natural light". Her mission: devise a lighting plan that would illuminate the shower, tub and sink areas evenly.

III. Methodology

The procedure adopted for the study on “**Recent Trends in Bathroom Interiors**” includes the following phases:

Phase 1: Market survey

Phase 2: Household survey

Phase 1: Market survey

Cherry (2003) states “A survey is an investigation about the characteristics of a given population by means of collecting data from a sample of total population and estimating their characteristics through the systematic use of statistical methodology”. A market survey can describe any study that gathers information directly from consumers by asking question about their preferences, habits and experiences. Market research describes the gathering and analysis of market data such as consumer preferences, trends in market prices and the presence of competing products.

Market survey was conducted by the investigator to know the availability of bathroom interiors in the market. This survey would be helpful to find out the availability of the recent trends in bathroom interiors in the market and the detailed information about the sanitary ware. These data would be helpful for the homemaker to choose better fittings for their interiors. The market survey consisted of the following steps:

- A. Selection of the Area
- B. Selection of the Sample
- C. Selection of the Method
- D. Selection of the Tool
- E. Conduct of the Study and
- F. Consolidation and Analysis of the Data

A. Selection of the Area

Coimbatore city was chosen as the area for the study. Coimbatore is the Manchester of Tamil Nadu .The life style of Coimbatore is equally high as that of the economic status of the city. The city comprises of well built buildings and residences. The important for bathroom interior is common and vast. Homemaker prefers to keep their interiors trendy and modern, since they are affluent and belongs to high income families.

The most popular and known shops in R.S Puram, Saibaba Colony, of Coimbatore city were chosen to collect the required details on the availability of different bathroom fittings for residences which have come to the market recently. These areas were selected by the investigator due to:

- Availability of varieties of bathroom fittings
- Easy accessibility to the investigator
- Best known shop with branded items

B. Selection of the Sample

Twenty shops were chosen for study. These shops were chosen because they have variety of bathroom fittings. They have the latest collections of sanitary ware which are new arrivals in the market within five years.

C. Selection of the Method

Personal Interview cum observation method was adopted by the investigator for conducting the survey. Interview method of collecting data, involves a face to face contact with people from whom the information is to be obtained. The interviewer asks them question pertaining to the problems and collects the desired information (Gupta,2006).

Observation is a research technique in which the behaviour of research subject is watched and recorded without any direct contact or interaction. The investigator asks question and observe the interviewee carefully (Bing,2008)

D. Selection of the Tool

The investigator framed interview schedule as the tool for the survey. According to John (2004), an interview schedule is a Proforma containing a set of questions and is very useful in gathering information. An interview schedule was formulated to obtain relevant and required information regarding the general information of the shops and details on the recent trend of bathroom interiors, available in various shops. The interview schedule for the market survey is given in Appendix I.

E. Conduct of the Study

“Data collection is an important aspect of any type of research study. Inaccurate data collection can impact the result of a study and ultimately lead to invalid result” states Tribbiani (2010).The accurate data gives the accurate result for the study.

The investigator chose twenty famous shops which have the recent collections of bathroom interior in the market. The shopkeepers of the selected shops were approached by the investigator. The investigator gathered information from the shopkeepers who cooperated well and helped with valuable information. Thus the investigator personally visited all the selected shops and collected information as per the interview schedule.



Plate 1
Market survey

F. Consolidation and Analysis of the data

Consolidation is the process of processing data from the raw information. The Collected information is then arranged in a systematic and organised order. This process is called as tabulation. The data thus collected were consolidated and analysed and are presented under Results and Discussion

Phase 2: Household survey

Sundaram defines survey as “A method of sociological investigation that uses question based or statistical surveys to collect information about how people think and act”. A household survey is any survey that is administered at the household and the individuals living in those household levels. It collects information about the household and the individuals living in those households. The household survey is the collection of data on gender, income and geographic inequalities in education access, progression, attainment and expenditures (Pannerselvam,2005).

A household survey was conducted to find out the extent of use of interior finishes by the selected homemakers. It includes the following steps:

- A. Selection of the Area
- B. Selection of the Sample
- C. Selection of the Method
- D. Selection of the Tool
- E. Conduct of the Study and
- F. Consolidation and Analysis of the Data

A. Selection of the Area

Coimbatore is the area selected for the household survey. The samples were high income families residing in Coimbatore mostly in individual houses and bungalows. The style of the house constructed in modern and uses of sanitary fixture used in the house are trendy and modern. People go for cosy finishes for bathroom interior in spite of the cost and so the investigator chose Coimbatore City for the study.

The areas Saibaba colony and R.S.puram, in Coimbatore city were selected for the study. These areas were chosen because high income families are located in this area which was easily accessible to the investigator, for conducting the study.

B. Selection of the Sample

Purposive sampling method was adopted to collect the data. According to Kothari (2007), sampling is the process of obtaining information about an entire population by examining only a part of it. High income family group is the category of people who earns and invests a huge income in business and other occupations. The income group ranging from ₹ 50,000 to ₹ 5, 00,000 were taken as sample for the study. Those are group of people who lead exclusively luxurious life with lavish life.

Fifty households belonging to the high income group were selected based on purposive sampling method. In this method the choice of sample items depends exclusively on the purpose of the investigator. The investigator chose those household which were,

- Individual houses
- Constructed between 2007 to 2010 within a period of five years from the study period
- Owned by High Income Group Families

The investigator preferred this group as only these groups would have better awareness about the recent fittings in the market.

C. Selection of the Method

Direct personal interview method was chosen for conducting the study. Chakraborty (2008) opines that in case of direct personal investigation the interviewer has to collect the information personally from the sources concerned. The investigator must be on the spot, conduct the study and collect data from the samples.

D. Selection of the Tool

The tool used for the study is an interview schedule. An interview schedule is a set of questions used to get data from the samples by the interviewer. It is a research tool or an instrument for collecting data (Gupta,2006).

An interview schedule was formulated to obtain relevant and required information regarding the general information of the dwellers of the residence, their socio – economic background, details of the houses and preference of interior finishing materials for bathroom.

The interview schedule was pretested and finalized by conducting a pilot study among the families. Pilot study helps in improving data collecting routines. They sometimes were viewed as part of the planning phase as it may bring about changes before the actual data collection commences (Brink,2006). The revised interview schedule is given in Appendix II.

E. Conduct of the Study

Data collection is a systematic gathering of data for a particular purpose from various sources including interview schedules, interviews, observation, existing records and electronic devices. The process is usually preliminary to statistical analysis of the data (Geller,2009).

The investigator approached the homemakers personally and explained about the purpose and need for the study. The interview was done with the interview schedule .The method used in collecting data was direct personal interview and observation method. Data personal interview and observation method was considered advantageous for collecting data

(Pannerselvam, 2006). The interaction was effectively carried out by the investigator. Thus the investigator met all selected 50 households and collected the data. Plate 2 shows the details of the household survey.

F. Consolidation and Analysis of the data

The collected data are interpreted and analysed. The combining and arranging of collected data is called as consolidation of data. The consolidated data is then organised to get a systematic conclusion by tabulating it (Raj, 2011). They were consolidated, tabulated, analysed and presented in Results and discussion.



Plate 2
Household survey

IV.RESULTS AND DISCUSSION

The findings of the study on “Recent Trends in Bathroom Interiors” in selected households of Coimbatore city are discussed under the following headings:

Phase 1: Findings of the market survey

Phase 2: Findings of the household survey

Phase 1: Findings of the market survey

This phase of the findings present the data collected from the selected 20 shops. The data are presented under the following topics:

- A. General Information of the Shops
- B. Details of the Brand in the market
- C. Sanitary ware and accessories available in the market
- D. Ranking criteria for the shop

A. General Information of the Shops

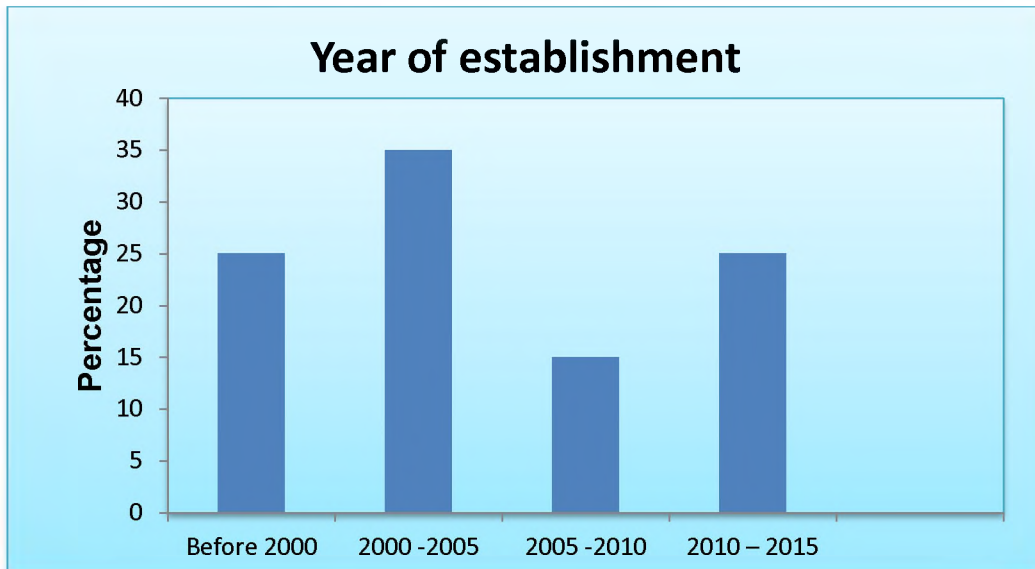
This includes the general details about the shops which deal with bathroom interiors of residences in Table 1 and figure 1.

Table 1

Year of establishment of the shop

Year of establishment	Percentage (N:20)
Before 2000	25
2000 -2005	35
2005 -2010	15
2010 – 2015	25

All the selected shops were private shops owned by joint partnership. Eighty per cent of the shops have been functioning since ten years whereas 20 per cent since 2006. Majority of the shop were established in the year 2000-2005, twenty five percent were before 2000 and 2010-2015, and 15 percent were established in the year 2005-2010.



Year of establishment

Figure 1

B. Details of the Brand in the market

The standard brands available in the market for sanitary ware and accessories are given in Table 2 and discussed below.

Table 2

Brands of sanitary ware and accessories

Materials	Brand	Percentage (N:20)	
Sanitary Ware	Kajaria	25	
	Cera	25	
	Queo	20	
	Isenberg	20	
	Hindware	20	
	Grohe	15	
	Gessi	15	
	Gural	10	
	Duravit	10	
	Dellta	10	
	Aquent	10	
	American standard	10	
	Accessories	Cata	20
		Schell	10
Geberit		10	

In the selected shops there were more brand and varieties in the shop for both sanitary ware and accessories. For the sanitary ware majority of the shop has Kajaria and Cera (25 percent), Isenberg, Hindware and Queo (20 percent). Grohe and Gessi (15 percent) were available in the shop. Gural, Duravit, Dellta, Aquent and American standard were available 10 percent of the shops. Sanica ,Ravak ,Metro, Parryware ,Laufen ,Daniel and Colston were available in 5 percent of the shops . Even for the bathroom accessories there are more brands in the shop Cata (20 percent) were available in the shop. Geberit and Schell were available in 10 percent the shops. Walter,Tangent ,Sharlo, Picasso ,Olay ,Lineabeta, Kaya ,Estella ,Caryier ,Camry and Alca plast were available less in number.

C. Available Sanitary ware and accessories in the market

The availability of all sanitary ware and accessories in the market is discussed in Table 3 and Figure 2

1. Sanitary Wares available in the market

Table 3 and figure 2 gives the sanitary ware used for bathroom

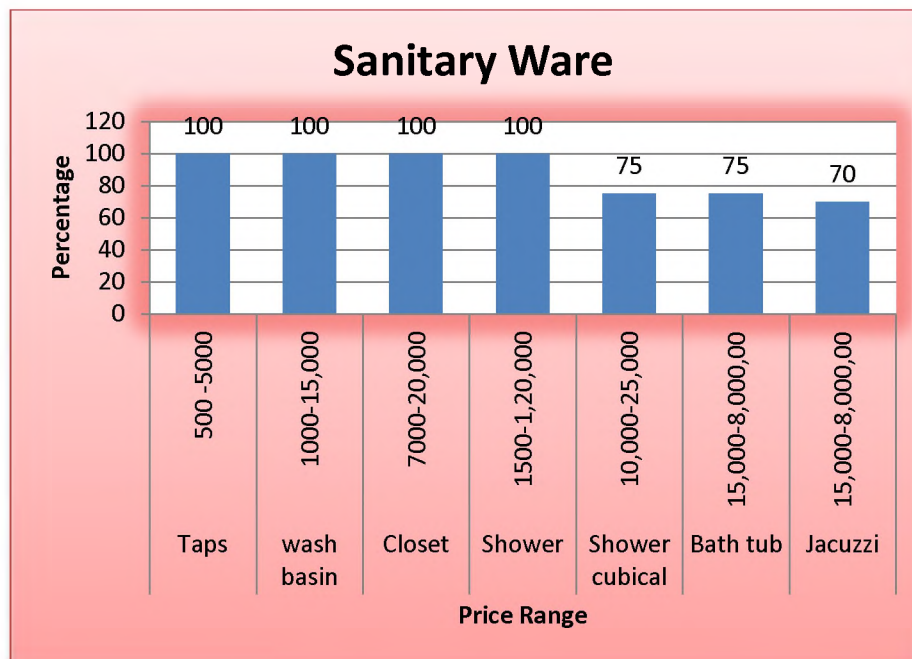
Table 3
Sanitary Wares available in the market

Sanitary ware	Price Range in (₹)	Percentage* (N:20)
Taps	500 -5000	100
Wash basin	1000-15,000	100
Closet	7000-20,000	100
Shower	1500-1,20,000	100
Shower cubical	10,000-25,000	75
Bath tub	15,000-8,000,00	75
Jacuzzi	15,000-8,000,00	70

***Multiple Responses**

All the selected twenty shops had all the sanitary ware like taps, wash basin, shower cubical, faucet, bidets, bath tub, closet, Jacuzzi, shower etc. In each selected shop they had three to four brands in the shop. Each brand had different kinds of sanitary ware. In Taps they have Single Lever Basin Mixer, Basin Mixer,

Bidet Mixer, Wall Mixer, Bathroom Set, Diverter, Pillar Tap, Bib Tap, and Spout. In wash basin, they have both wall Mounted and table top. In the shower cubical they have more semi-framed. In the market, framed and frameless shower cubical were also available. In the Jacuzzi they had many feature like TV, jet, hand shower, telephone etc. On the other hand sanitary wares were available with more designs in the market. Each and every brand had price range from lower end to higher end.



Sanitary Wares available in the market

Figure 2

2. Accessories available in the market

Table 4 gives the accessories available in the market

Table 4

Accessories available in the market

Accessories	Price Range In(₹)	Percentage (N:20)
Tumbler holder	300-1000	75
Towel rod	100-3000	75
Tooth brush holder	100 -1000	75
Soap holder	100-1500	75
Paper holder	100 -2500	75
Napkin holder	200 -3500	75
Mirror	500-7,500	75
Liquid soap dispenser	100-1500	75
Hooks stand	1000-1500	75
Hand towel	100 -1000	75

In the selected shops all the accessories are available in 75 percent of the shops. These are functional accessories in the bathroom interiors that were available in the market. These accessories are available in all ranges.

3. Recent trends in the market

The modern Sanitary ware available in the market are listed as follows:

A. Colour LED Flash Light Bathroom Shower Head

- Ultra quiet, water powered and no batteries required
 - Easy Installation .The handle of the shower head connects directly into shower pipe
 - Item Colour: Silver
 - Surface treatment: Electroplating
 - LED Emitting Colour: Red, Deep Blue, Green
 - LED Quality: 6pcs
 - Colour change time: every second
 - Installation: Screw Thread
 - Fit for 20mm diameter screw handle bar
 - Nozzle: 78mm
 - Length: 215mm
 - Thickness: 40mm
 - Weight: 230g
-
- Powered by impellers or turbines, a LED (light-emitting diode) shower head will light up shower with no other power but the water flow.
 - Often, LED shower heads will light up shower water with a blue glow when the water is cold and red glow when the water is hot.
 - It's a great way to see whether the shower is up to temperature, without risking burning or being shocked by the cold. After we owned it for a while, it should be able to recognize the exact shade of colour that matches perfect shower temperature. Finding a good quality, long lasting LED head can be

tricky. This resource will guide in the right direction to add a splash of colour to great shower.



LED Shower

B. Portable Wash Basin

There is a wide demand for these basins by our customers. These basins are very reliable and made by using latest technology and professional knowledge of our experts. They offer the customers a gamut of variety in this field. These basins are available in variegated cuts, designs and attractive colours. Furthermore, they offer these basins at pocket friendly rates in market.

Features:

- Variegated designs
- Latest range
- Highly qualified

Specifications:

- Material: all
- Size 18x24 Counter
- Counter S. S. Stand
- Portable wash basin
- Bottle Trap Cover



Portable wash basin

D. Ranking criteria of the factors preferred by customers

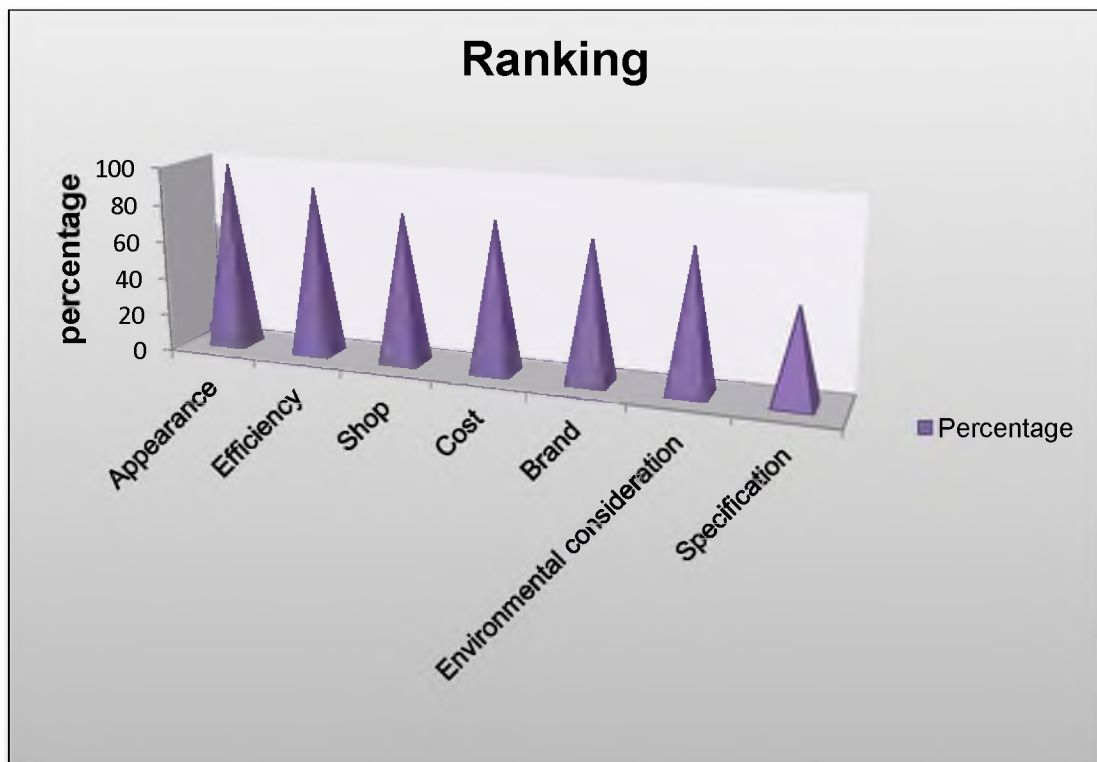
The factors listed in the table were preferred by customers and they were ranked in order of preference.

Table 5
Ranking criteria

Ranking	Percentage (n:20)
Appearance	100
Efficiency	90
Shop	80
Cost	80
Brand	75
Environmental consideration	75
Specification	50

Majority of the people preferred brand the shop and 90 percent people go for the appearance to the shop. Environmental consideration also plays an

important role as it takes 75 percent. In the entire selected shop cost was the prime criteria preferred by 75 percent of the people.



Ranking criteria for the shop

Figure 3



Plate 3

Recent Trends of Bathroom Interiors

Phase 2: Findings of the Household Survey

This phase of the findings present the data received from the selected 50 households. They are presented under the following topics:

- A. General Family Background
- B. Details of the House
- C. Details of the Bathroom Interiors
- D. Lighting Used for Bathroom Interior

A. General Family Background

The use and preference of bathroom interiors in the home differs with each household with regards to age, sex, education, occupation and income. The details on the general family background of the selected families were found out during the survey.

1. Age, Educational qualification and Occupational status of the families

The age, educational qualification and occupational status of the family members are included under this heading and discussed in Table 6 and Figure 4

Table 6**Age, Educational Qualification and Occupational Status of the Families**

Details	Percentage (N:50)	
	Homemakers	Heads of families
Age (in years)		
21-30	50	26
31-40	24	34
41-50	20	28
51-60	6	12
Educational Qualification	Homemakers	Heads of families
High School	16	20
Higher Secondary	6	10
Under Graduate	54	26
Post Graduate	24	44
Occupational status	Homemakers	Heads of families
Businessmen/business women	16	46
Teachers and professors	14	-
Doctors	6	22
Engineers and Architects	10	32
Homemakers	54	-

a. Age of the homemakers and heads of the families

Among the surveyed households a majority of 50 per cent of the homemakers were in the age group of 21-30 years and 34 per cent of the

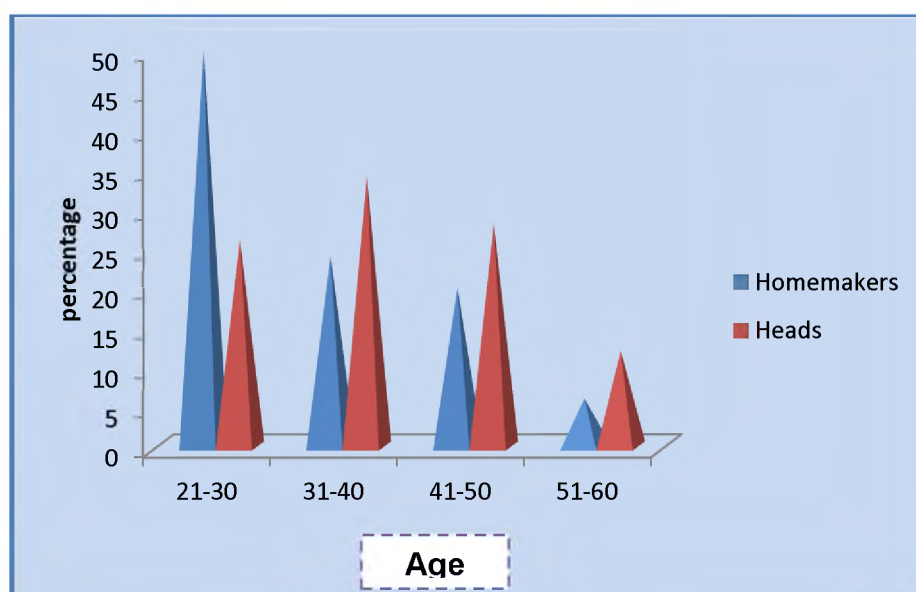
heads of the families were in the age group between 31 and 40 years. Sixty per cent of the children were in the age group of 10-16 years, 30 per cent were in between the age group between 6 and 10 years and 10 per cent were in the age below five.

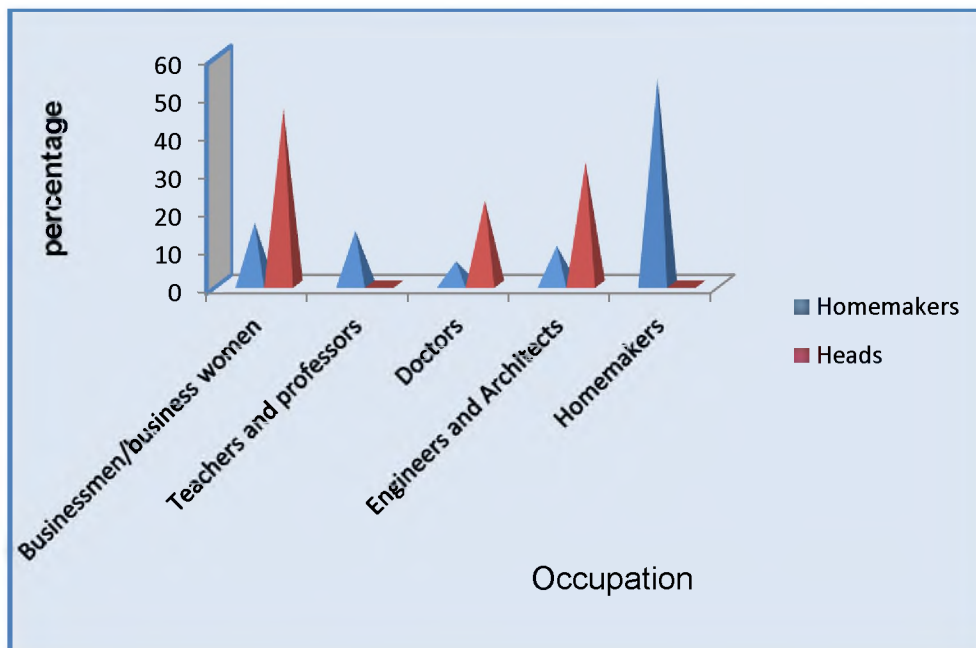
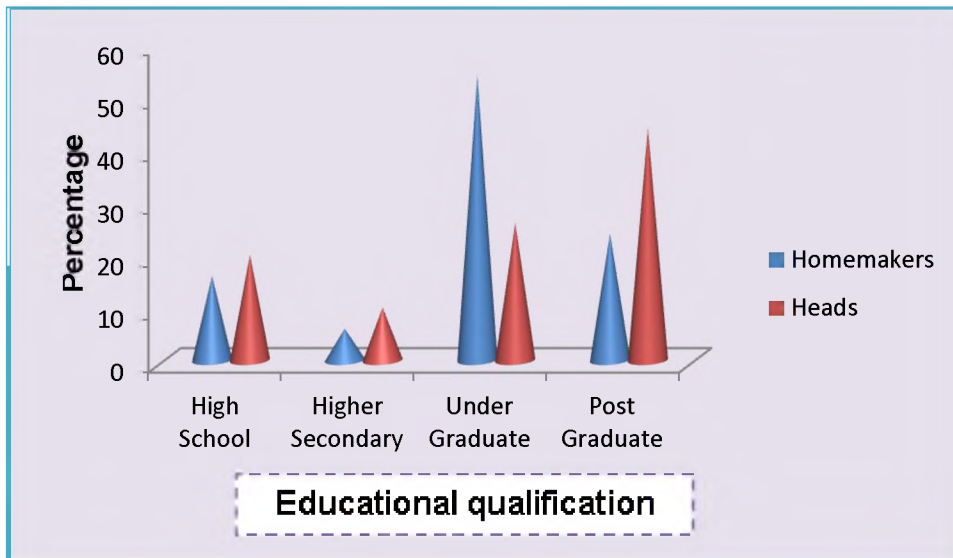
b. Educational qualification of the homemakers and heads of the family

A majority of 54 per cent of the homemakers were under graduates and 24 per cent were post graduates. Forty five per cent of the heads of the families had completed post graduates by qualification.

c. Occupation of the homemakers and heads of the families

The occupation of the homemaker and the heads of the families is more important which determines the income of the family, their status in the society and their style of living. Among the selected families a maximum of 54 per cent of them were full time homemakers and 46 per cent of the heads of the families were business by occupation. The other professions chosen by the homemaker were business (16 per cent), teacher and professors (14 per cent), doctors (six per cent) and engineers (10 per cent). This shows majority of the head of the families were earning good enough so that the majority of women were homemakers.





Age, Educational Qualification and Occupational Status of the Families

Figure 4

2. Monthly income and Type of family system

The monthly income and type of family system of selected families are discussed under this heading.

a. Monthly income

Table 7 shows the monthly income of the selected households

Table 7
Monthly Income of the Families

Monthly income (₹)	Percentage (N:50)
50,001-60,000	10
60,001-70,000	12
70,001-80,000	4
80,001-90,000	10
90,001-1,00,000	24
1,00,001-2,00,000	4
2,00,001-3,00,000	16
3,00,001-4,00,000	8
4,00,001-5,00,000	12

All the selected families belonged to high income group ranged from monthly income of ₹50, 001- ₹60,000. A majority of 24 per cent of the families earned an income between ₹90, 001- ₹10,000 and 16 per cent of the households belonged to the income range between ₹2, 00,001 and ₹3, 00,000. The lowest income group of ₹50, 001 – ₹60,000 was found in 10 per cent of samples and the highest income group between ₹4, 00,001 and ₹5, 00,000 was found in 12 per cent of the samples. This indicates high income families were residing in Coimbatore city.

b. Other source of income of the families

A maximum of 47 per cent of the surveyed families earned interests from savings and deposits whereas 24 per cent were getting an additional income from mutual funds and 10 per cent earned rent from properties. The remaining families had no other sources of income.

c. Type of family system of the families

Among the selected households, 62 per cent were living as a nuclear family. Thirty eight per cent of the family of which 22 per cent were joint families with members above 15 including in-laws, two or three co-sisters and 16 per cent were joint families having more than 10 members including in-laws and one co-sister.

B. Details of the house

The details of the house includes plinth area of the houses, year of construction of the house ,style of construction, number of storey in the house, details of rooms, expenditure incurred in finishing the interiors of houses.

1. Plinth area of the selected houses

Table 8 details the plinth area of the selected houses.

Table 8

Plinth Area of the House

Plinth area (in sq.ft)	Percentage (N:50)
1,001 - 2,000	24
2,001 - 3,000	32
3,001 - 4,000	18
4,001 - 5,000	15
5,001 - 6,000	6
6,001 - 7,000	3
7,001 - 8,000	2

A maximum of 32 per cent of the selected houses had a plinth area between 2,001 - 3,000sq.ft. A meagre two to three per cent of the houses had even a vast

plinth area of 7,001 - 8,000sq.ft and 6,001 – 7,000sq.ft respectively. The rest of the houses had an average of 3,000 – 6,000sq.ft (39 per cent). This shows that the sample houses were neither big nor small.

2. Year of construction of the selected houses

Table 9 and figure 5 presents the year of construction of the selected houses

Table 9

Year of construction of Houses

Year of construction	Percentage (N:50)
2007 – 2008	24
2008 – 2009	6
2009 -2010	28
2010 – 2011	34
2011 -2012	8

All the surveyed houses were constructed between the time period 2007 and 2012. A maximum of 34 per cent of the selected houses were constructed between the years 2010 and 2011, 28per cent (2009 – 2010) and 24 per cent (2007 and 2008) respectively. A minimum of eight per cent of the houses were constructed within the years 2011 – 2012 and five per cent (2008 – 2009).

Seventy two per cent of the houses were constructed by the present owners whereas 28 per cent of them were bought from the previous owners and were remodelled according to the choices of the present inmates.



Year of construction of Houses

Figure 5

C. Details of the Bathroom Interiors

It consists of number of bathroom in the house, material used for various finishes in the bathroom, plumbing system, sanitary ware, accessories, electricity fixture, money invested for all bathroom interiors including designing aspect.

a. Number of bathrooms in the selected Houses

Table 10 and figure 6 illustrates the number of bathrooms in the selected houses

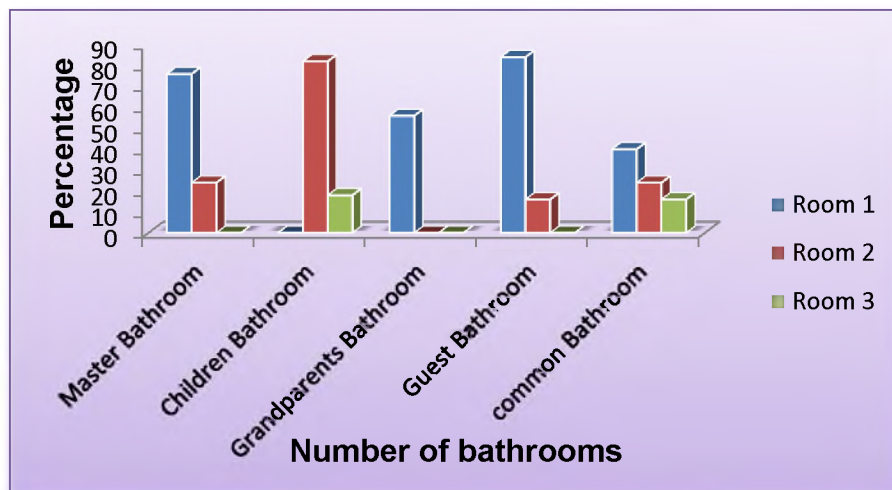
Table10

Number of bathrooms in the houses

Bathroom	Percentage*		
	(N:50)		
	1 Room	2 Room	3 Room
Master Bathroom	76	24	-
Children Bathroom	-	82	18
Grandparents Bathroom	56	-	-
Guest Bathroom	84	16	-
Common Bathroom	40	24	16

*** Multiple Responses**

In the selected houses most of houses had attached bathroom. Most of the bathrooms were attached bathrooms with the master bedroom or kid's room. Majority of 76 percent of the bathroom was master bathroom and 24 percent of them had two bath rooms including master bathroom. Eighty two percent of them had Children bathroom.



Number of bathrooms in the houses

Figure 6

b. Preference of various finishes in the Bathroom

Table 11 details the Preference of various finishes used in the Bathroom.

Table11:

Materials used for Bathroom

No of bathrooms	Percentage* (N:50)			Percentage* (N:50)			
	Floor			Storage unit			
	Tiles	Marble	Mosaic	Plastic	Wood	Steel	Acrylic
Bathroom 1	80	8	12	-	60	40	20
Bathroom 2	76	10	12	8	74	10	8
Bathroom 3	90	4	6	10	68	12	10
Bathroom 4	100	-	-	6	80	8	6

*** Multiple Responses**

In the selected house maximum of bathroom use tiles, marble and mosaic for the floor. For the storage unit the material used are plastic, wood, steel and acrylic for the house. Mostly in the high income family they all have four bathrooms at least in the house.

i. Bathroom 1: Tiles were preferred by 80 percent for the floors, marble were preferred by 8 percent for the floors and mosaic was 12 percent for the floors. Most of the house preferred wood 60 percent, steel 40 percent and 20 percent acrylic.

ii. Bathroom 2: Tiles were preferred by 76 percent for the floors, marble were preferred by 10 percent for the floors and mosaic was 12 percent for the floors. Most of the house preferred plastic 10 percent, wood 68 percent, steel 10 percent and 8 for acrylic.

iii. Bathroom 3: Tiles were preferred by 100 percent for the floors. Most of the house preferred plastic 6 percent, wood 80 percent, steel 8 percent and 6 for acrylic.

iv. Bathroom 4: Tiles were preferred by 76 percent for the floors, marble were preferred by 10 percent for the floors and mosaic is 12 percent for the floors. Most of the house preferred plastic 8 percent, wood 74percent, steel10percent and 8 for acrylic.

c. Details about the plumbing system:

In all the selected houses plumbing system is must for the bathroom. They are Water inlet pipe, Water outlet pipe, Water taps – outlet ,inlet, Water filter, Wall mixture, Shower – outlet, Wash basin – inlet ,outlet, Bath tub –outlet, Closet – flush and Bath drainage

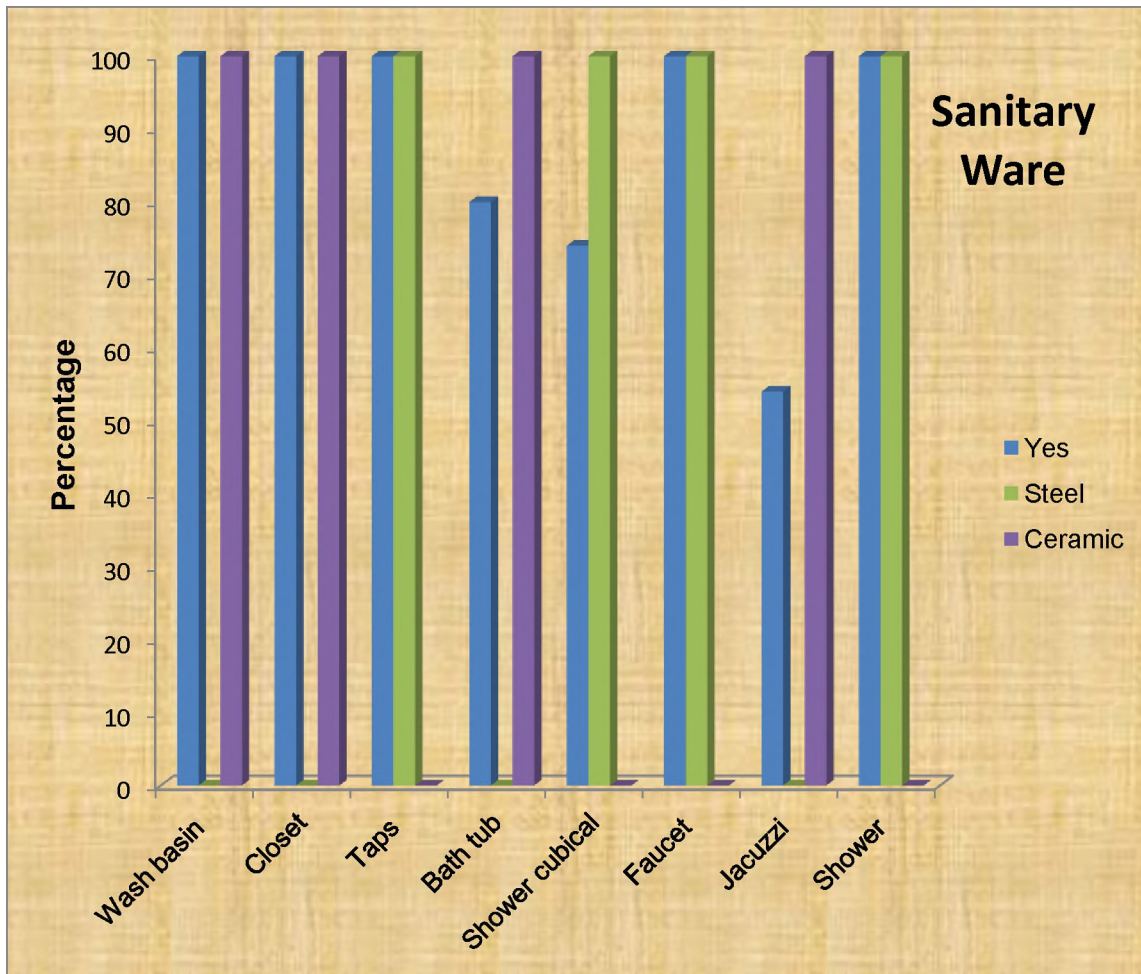
d. Details about the sanitary ware

Tables 12 and figure 7 the sanitary ware in the selected house

Table 12
Details of the sanitary ware

Sanitary Ware	Percentage (N:50)		Percentage (N:50)	
			Material	
	Yes	No	Steel	Ceramic
Wash basin	100	-	-	100
Closet	100	-	-	100
Taps	100	-	100	-
Bath tub	80	20	-	100
Shower cubical	74	26	100	-
Faucet	100	-	100	-
Jacuzzi	54	46	-	100
Shower	100	-	100	-

A majority of the houses were having sanitary ware like taps, wash basin, closet, shower and faucet. Bath tub was preferred by 80 percent of the houses. Shower cubical was preferred by 74 percent by the households. Jacuzzi was preferred by 54 percent only and of the sanitary ware materials preferred by steel and ceramic.



Details of the sanitary ware

Figure 7

d. Details about the accessories

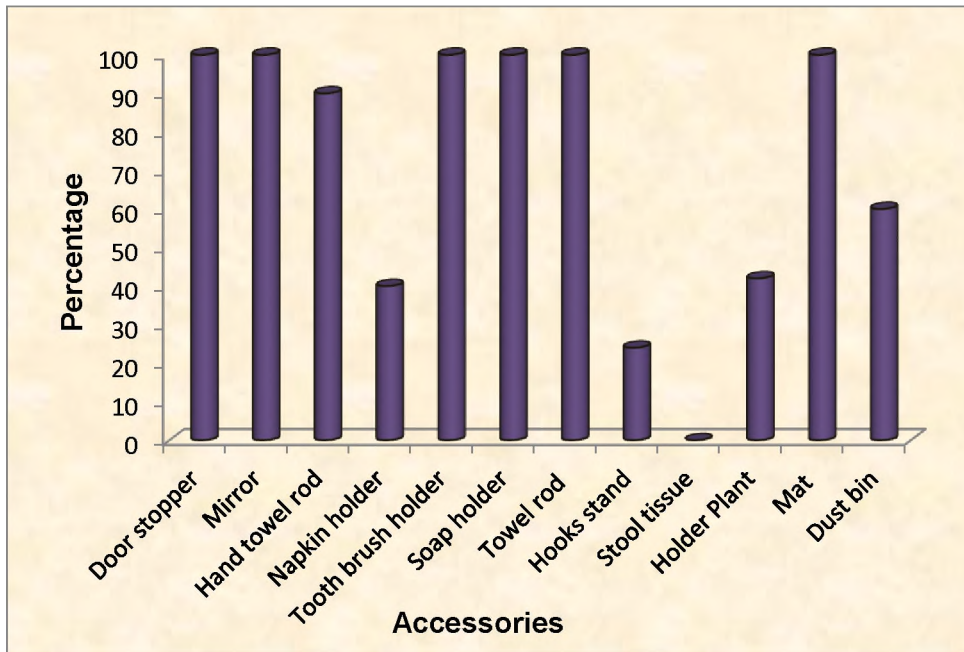
Table 13 and figure 8 the accessories of the selected house

Table 13
Details of the accessories

Accessories	Percentage* N:50
Door stopper	100
Mirror	100
Hand towel rod	90
Napkin holder	40
Tooth brush holder	100
Soap holder	100
Towel rod	100
Hooks stand	24
Stool tissue	-
Holder Plant	42
Mat	100
Dust bin	60

***Multiple Responses**

Normally the high income families are more sophisticated bathroom accessories. Maximum of the bathroom have door stopper, mirror, tooth brush holder, soap holder, towel rod and mat. Hand towel rod was used by 90 percent, napkin holder by 40 percent, hooks stand 24 percent, and holder plant is used by 42 percent and Dust bin 60 per cent.



Details of the accessories

Figure 8

e. Details about the Electricity Fixture

Table 14 details about the electricity fixture for the selected house.

Table 14

Details about the electricity fixture

Electricity fixture	Percentage* (N:50)
Exhaust fan	58
Fan	40
Heater	30
Hair dryer	-
Hand dryer	4
Television	8

*** Multiple Responses**

In the selected households electricity fixtures used were Exhaust fan (58 percent), fan (40 percent), heater (30 percent), hand dryer (4 percent) and television (8 percent).

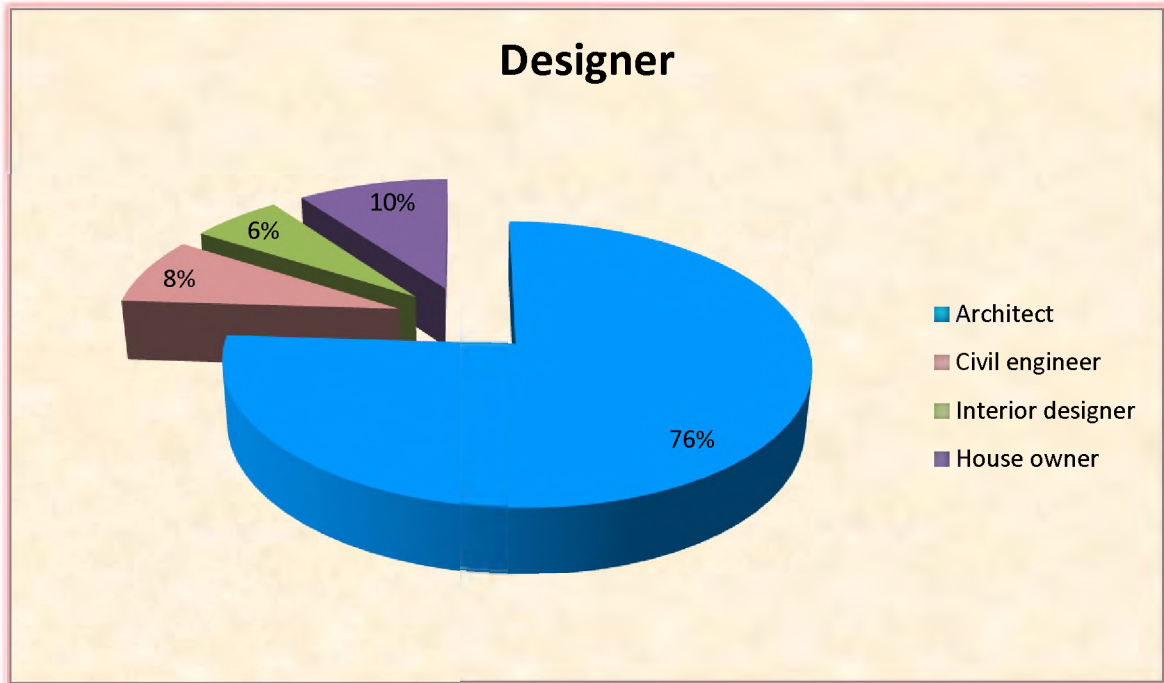
f. Designing aspect of the bathroom

Table 15 and figure 9 illustrates designing aspect of the bathroom for the selected houses.

Table 15
Designer of the bathroom

Designer	Percentage (N:50)
Architect	76
Civil engineer	8
Interior designer	6
House owner (own creativity)	10

The entire surveyed houses were designed by different people. A maximum of 76 percent of the selected house were designed by architect, 8 percent of the selected house were designed by civil engineer, 6 percent of the selected house were designed by interior designer and 10 percent of the selected house were designed by house owner.



Designer of the bathroom

Figure 9

D. Lighting used for bathroom Interiors:

1. Type of lighting used in bathrooms:

Table 16 depicts Lighting used for bathroom interiors in the selected houses.

Table 16

Type of lighting

Light	Percentage (N:50)	
	CFL	Fluorescent
Spot light	64	36
LED light	54	46
Mirror light	100	-
Shower light	36	-

All the surveyed house of bathroom were illuminated by CFL only, spot light (64 percent), LED light (54 percent), Mirror light (cent percent) and Shower light by 36 percent. For the fluorescent, LED light (46 percent) and spot light (36 percent) were preferred by most of the households. LED lights should be preferred by all household in order to reduce the consumption of power and save the electricity charges. Therefore awareness should be given to the urban households to go for the LED lights.

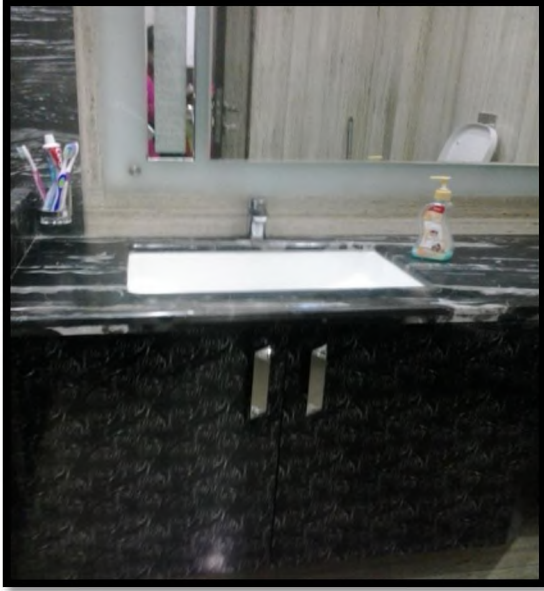


Plate 4
Household Bathroom Interiors

V. SUMMARY AND CONCLUSION

A house is a permanent dwelling place for a particular group of individuals. It is a piece of architecture, a treasure house of personal belongings and an exhibition for display individual tastes. The words 'home' and 'house' are used as an interchangeable terms but their meanings are entirely different. 'Home' means more than 'house'. House denotes only the physical construction, while 'home' means the family which is the social unit which comes into existence. It is a unique place, which gives joy and happiness to the members of the family

Bathrooms are playing an important role in today's constructions. Every house owner wants the best to be incorporated into the bathroom. People with the sound financial background do not hesitate to equip their bathroom. Hence to find out extent of importance given to these areas, the study was undertaken. This study is taken with the following objectives to

- find out the recent trends in bathroom interiors
- study the availability of recent trend in bathroom fitting in the selected shops
- know the family background of the selected households in Coimbatore city.
- analyse the preference of bathroom fixture preferred by the selected households.

The investigator chose twenty famous shops which have the recent collections of bathroom interior in the market. The investigator framed interview schedule as the tool for the survey. Coimbatore is the area selected for the household survey. The samples were high income families residing in Coimbatore mostly in individual houses and bungalows. Fifty households that belonged to the high income group were selected based on purposive sampling method. In this method the choice of sample items depends exclusively on the purpose of the investigator.

Phase 1: Findings of the market survey

A. General Background of the Shops

- All the selected shops were private shops owned by joint partnership. Eighty per cent of the shops have been functioning since ten years whereas 20 per cent since 2006.
- Majority of the shop were established in the year 2000-2005, twenty five percent were before 2000 and 2010-2015, and 15 percent were established in the year 2005-2010.
- In the selected shops there were more brand and varieties in the shop for both sanitary ware and accessories. For the sanitary ware majority of the shop has Kajaria and Cera (25 percent), Isenberg, Hindware and Queo (20 percent). Grohe and Gessi (15 percent) were available in the shop. Gural, Duravit, Dellta, Aquent and American standard were available 10 percent of the shops. Sanica ,Ravak ,Metro ,Parryware ,Laufen ,Daniel and Colston were available in 5 percent of the shops . Even for the bathroom accessories there are more brands in the shop cata (20 percent) were available in the shop. Geberit and Schell (10 percent) were available in the shop. Walter,Tangent ,Sharlo, Picasso, Olay, Lineabeta, Kaya, Estella, Caryier, Camry and Alca plast were available less in number.
- All the selected twenty shops had all the sanitary ware like taps, wash basin, shower cubical, faucet, bidets, bath tub, closet, Jacuzzi, shower etc. In each selected shop they had three to four brands in the shop. Each brand had different kinds of sanitary ware.
- In Taps, they have Single Lever Basin Mixer, Basin Mixer, Bidet Mixer, Wall Mixer, Bathroom Set, Diverter, Pillar Tap, Bib Tap, and Spout. In wash basin, they have both wall Mounted and table top. In the shower cubical they have more semi-framed. In the market, framed and frameless cubical shower were also available. In the Jacuzzi they had many features like TV, Jet, Hand shower, Telephone etc.

- On the other hand, sanitary wares were available with more designs in the market. Each and every brand had price range from lower end to higher end.
- In all the selected shops all the accessories are available in 75 percent of the shops. These are functional accessories in the bathroom interiors that were available in the market. These accessories are available in all ranges.
- It's a great way to see whether the shower is up to temperature, without risking burning or being shocked by the cold. After we owned it for a while, it should be able to recognize the exact shade of colour that matches perfect shower temperature. Finding a good quality, long lasting LED head can be tricky. This resource will guide in the right direction to add a splash of colour to great shower.
- Portable wash basins are very reliable and made by using latest technology and professional knowledge of our experts. They offer the customers a gamut of variety in this field. These basins are available in variegated cuts, designs and attractive colours. Furthermore, they offer these basins at pocket friendly rates in market.
- Environmental consideration also plays an important role as it takes 75 percent. In the entire selected shop cost was the prime criteria preferred by 75 percent of the people. Majority of the people preferred brand as important criteria and 90 percent people preferred appearance and purchasing in shop.

Phase 2: Findings of the household survey

A. General Family Background

- The use and preference of bathroom interiors in the home differs with each household with regard to age, sex, education, occupation and income. The details on the general family background of the selected families were found out during the survey.

Age of the Homemakers and Heads of the families

- Among the surveyed household a majority of 50 per cent of the homemakers were in the age group of 21-30 years and 34 per cent of the heads of the families were in the age group between 31 and 40 years. Sixty per cent of the children were in the age group of 10-16 years, 30 per cent were in between

the age group between 6 and 10 years and 10 per cent were in the age below five.

Educational Qualification of the Homemakers and Heads of the family

- A majority of 54 per cent of the homemakers were under graduates and 24 per cent were post graduates. Forty five per cent of the heads of the families had completed post graduates by qualification.

Occupation of the Homemakers and Heads of the families

- All the selected families belonged to high income group ranged from monthly income of ₹ 50,001 to ₹60,000. A majority of 24 per cent of the families earned an income between ₹90,001 to ₹10,000 and 16 per cent of the households belonged to the income range between ₹2,00,001 and ₹3, 00,000.
- The lowest income group of ₹50,001 to ₹60,000 was found in 10 per cent of samples and the highest income group between ₹4,00,001 and ₹5,00,000 was found in 12 per cent of the samples. This indicates high income families were residing in Coimbatore city.
- The occupation of the homemaker and the heads of the families is more important which determines the income of the family, their status in the society and their style of living. Among the selected families a maximum of 54 per cent of them were full time homemakers and 46 per cent of the heads of the families were business by occupation.
- The other professions chosen by the homemaker were business (16 per cent), teacher and professors (14 per cent), doctors (six per cent) and engineers (10 per cent). This shows majority of the head of the families were earning good enough so that the most of women were homemakers and taking care of the families.

Other source of income of the families

- A maximum of 47 per cent of the surveyed families earned interests from savings and deposits whereas 24 per cent were getting an additional income from mutual

funds and 10 per cent earned rent from properties. The remaining families had no other sources of income.

Type of family system of the families

- Among the selected households, 62 per cent were living as a nuclear family. Thirty eight per cent of the family of which 22 per cent were joint families with members above 15 including in-laws, two or three co-sisters and 16 per cent were joint families having more than 10 members including in-laws and one co-sister.

B. Details of the house

- A maximum of 32 per cent of the selected houses had a plinth area between 2,001 - 3,000sq.ft. A meagre two to three per cent of the houses had even a vast plinth area of 7,001 - 8,000sq.ft and 6,001 – 7,000sq.ft respectively. The rest of the houses had an average of 3,000 – 6,000sq.ft (39 per cent). This shows that the sample houses were neither big nor small.
- All the surveyed houses were constructed between the time period 2007 and 2012. A maximum of 34 per cent of the selected houses were constructed between the years 2010 and 2011, 28 per cent (2009 – 2010) and 24 per cent (2007 and 2008) respectively. A minimum of eight per cent of the houses were constructed within the years 2011 – 2012 and five per cent (2008 – 2009).
- Seventy two per cent of the houses constructed by the present owners whereas 28 per cent of them bought from the previous owners and were remodelled according to the choices of the present inmates.

C. Details of the bathroom

- In the selected houses most of houses had attached bathroom. Most of the bathrooms were attached bathrooms with the master bedroom or kid's room. Majority of 76 percent of the bathroom was master bathroom and 24 percent of them had two bath rooms including master bathroom. Eighty two percent of them had Children's bathroom.
- In the selected house maximum of bathroom used interior finishes like tiles, marble and mosaic for the floor. For the storage unit the material used were plastic,

wood, steel and acrylic for the house. Mostly in the high income families they all have minimum four bathrooms in the house.

Details about the plumbing system:

- In all the selected house plumbing system is must for the bathroom. Plumbing should be done carefully in order to prevent leakages. Water inlet pipe, Water outlet pipe, Water taps – outlet ,inlet, Water filter, Wall mixture, Shower – outlet, Wash basin – inlet ,outlet, Bath tub –outlet, Closet – flush and Bath drainage are some of the plumbing fixtures.
- A majority of the houses were having sanitary ware like taps, wash basin, closet, shower and faucet. Bath tub was preferred by 80 percent of the houses. Shower cubical was preferred by 74 percent by the households. Jacuzzi was preferred by 54 percent only and materials preferred were steel and ceramic for the sanitary wares.
- Normally the high income families are more sophisticated bathroom accessories. Maximum of the bathroom have door stopper, mirror, tooth brush holder, soap holder, towel rod and mat. Hand towel rod was used by 90 percent, napkin holder by 40 percent, hooks stand 24 percent, holder plant used by 42 percent and Dust bin by 60 per cent.
- In the selected households electricity fixtures used were Exhaust fan (58 percent), fan (40 percent), heater (30 percent), hand dryer (4 percent) and television (8 percent).
- The entire surveyed houses were designed by different people. A maximum of 76 percent of the selected house were designed by architect, 8 percent of the selected house were designed by civil engineer, 6 percent of the selected house were designed by interior designer and 10 percent of the selected house were designed by house owner itself.
- All the bathroom of selected houses were illuminated by CFL only, spot light (64 percent), LED light (54 percent), Mirror light (100) and Shower light (36 percent). LED light (46 percent) and spot light (36 percent) were preferred for fluorescent.

CONCLUSION

A bathroom is an important part of the house, although small in area a good bathroom reflects the personality of the entire house. Hence it is important to keep in mind that with little imagination and bathroom interior design tips one can make a

functional and a stylish bathroom. Now a day's bathroom interior designing is an important part of Modern Architectural Designing. Basically bathrooms are used for necessity and comfort for everyday lives.

A basic bathroom fixture consists of toilet seat or commode, shower, wash hand basin, vanity unit and bath tub. One of the major bathroom design interior includes the very important plumbing and drainage system. This includes the flowing of water in and out of the house along with fluids and wastes, flush systems, hot and cold water arrangement, installation of sanitary fixtures like faucets and taps, wash basins, roof flashings, fire prevention system and gas system. Perfect interior designing of bathroom experiences the luxury of a dream bathroom with perfect lights, accessories, comforts and colours. The household should be aware of innovative designs in the market and enjoy the luxury to lead a comfortable life.

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APPENIDX-I

AVINASHILINGAM INSTITUTE OF HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN, COIMBATORE-43

Interview schedule to elicit information on recent trends in bathroom interiors

1. Name of the interviewer :
2. Name of the interviewee :
3. Name of the shop:
4. Address:
5. Year of establishment:
6. Website id of the shop:
7. Sales person in the shop:
8. Item supplied:
9. Place of purchase:
10. Do you have any other franchise, give detail?
11. Nature of business:
 - a. Retail
 - b. Wholesale
 - c. Both
12. Available brands for bathroom fittings:
13. Available brands for accessories:
14. What is the recent trends in bathroom interiors?
15. What is the material frequently sold in your shop?
16. List of the materials used for different areas?

Different area	Material used
Floor Wall Storage cabinet	

17. What kind of customers do you have?

- a. Business
- b. Professional
- c. Govt employees
- d. Executive

18. Do you provide any installation/credit facility in your shop for the bathroom interiors?

- a. Yes
- b. No

19. How are the sales during discount period?

- a. Minimum sale
- b. Maximum sale
- c. Moderate sale

20. For which type of bathroom fittings you give maximum discount?

21. Do you give any incentives bathroom fittings and accessories?

If yes, what type of is given?

22. . What is the reason for selling the particular brand?

23. What brand did the architect and civil engineers suggest?

24. List of sanitary fixtures available in market:-

Item	Type	Dimension	Price (in Rs)
Wash basin			
Closet			
Taps			
Bath tub			
Shower cubical			
Faucet			
Jacuzzi			
Shower			

25. List of Accessories available in the market:-

Name of accessories	Price (₹)
Door stopper	
Mirror	
Hand towel	
Napkin holder	
Tooth brush holder	
Soap holder	
Towel rod	
Hooks	
Stand	
Stool	
Tissue holder	
Plants	
Mat	
Bust pin	
Tumbler Holder	
Towel Ring	
Towel Rail	
Towel Rack	
Toilet Paper Holder	
Hand Dryer	
Automatic Soap Dispenser	
Others	

26. Rank the criteria based on which people prefer bathroom fitting products:

- a. Cost
- b. Brand
- c. Specification
- d. Function
- e. Appearance
- f. Efficiency
- g. Shop
- h. Environmental consideration

27. Others specification available in your shop:

APPENIDX-II

**Avinashilingam Institute for Home Science and
Higher Education for Women, Coimbatore-43**

**Interview Schedule To Elicit Information on bathroom interiors of selected
households**

I.GENERAL DETAILS

1. Name of interviewer :
2. Name of interviewee :
3. Address :

S.No	Relationship	Age	Education	Occupation	Income/ Monthly
1.	Head of the family				
2.	Home maker				
3.	Son				
4.	Daughter				
5.	Grand Parents				

II. INFORMATION ABOUT THE HOUSE

1. Size of house (in sq.ft) :
2. Type of house : a. apartment b. Individual c. Twin house
3. Nature of ownership: a. rented b. owned
4. Type of family : a. joint b. nuclear
5. Year of construction of the house :
6. Is it remodeled after construction?
If yes, year of remodeling?

III. Details of the bathroom:

1. No of bathrooms in the house?
2. Is there a separate bath area in the house?
 - a. Yes
 - b. No
3. Is there lavatories in the house?
 - a. Yes
 - b. No
4. List of material used for various areas in the bathroom:

No of bathrooms	Floor	Storage unit
Bathroom 1		
Bathroom 2		
Bathroom 3		
Bathroom 4		

5. Details about the plumbing system:

S.no	Name	Yes	no
1.	Water inlet pipe		
2.	Water outlet pipe		
3.	Water taps –outlet, inlet		
4.	Water filter		
5.	Wall mixture		
6.	Shower –outlet		
7.	Wash basin –inlet, outlet		
8.	Bath tub –outlet		
9.	Closet –flush,		
10.	Sewage, tap.		
11.	Bath drainage		

5. Detail about the Sanitary fixture:

S.no	name	Yes	no	Material used
1.	Wash basin			
2.	Closet			
3.	Taps			
4.	Bath tub			
5.	Shower cubical			
6.	Faucet			
7.	Jacuzzi			
8.	shower			

7. Will the shower also be used as a steam shower?

- a. Yes
- b. No

8. How private should the bathroom is from the rest of the house?

9. Do you need a separate makeup area?

- a. Yes
- b. No

10. Details about the accessories:

S.no	Name	yes	No
1.	Door Stopper		
2.	Mirror		
3.	Storage unit		
4.	Hand towel		
5.	Napkin holder		
6.	Tooth brush holder		
7.	Soap holder		
8.	Towel rod		
9.	Hooks Stand		
10.	Stool Tissue		

11.	Holder Plants		
12.	Mat		
13.	Dust bin		

11. What are the other decorative accessories used in your bathroom?

12. Details about the electricity fixture:

S.no	Name	yes	No
1.	Exhaust fan		
2.	Fan		
3.	Heater		
4.	Hair dyer		
5.	Hand dyer		
6.	TV		

13. Money invested on all bathrooms interior:

14. Who designed the bathroom?

- a. Architect b. Civil engineer c. Interior designer

15. What are the lighting used in your bathroom?

- a. LED lights
b. Spot light
c. Mirror light

16. What type of lighting is used in your bathroom?

- a. CLF
b. LED
c. Fluorescent

17. Whether there is a separate bathroom for the elderly people?

- a. Yes b. No