

# Theme based designing: A world of new opportunity for home furnishings by using CAD

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■ **ABSTRACT :** Home furnishings are one of the most demanding and emerging fields, full of scope of innovation and creativity. Consumer choices in home decoration keeps on changing from time to time, due to changing fashion trends as well as need for comfortable home environment. So there is a great demand for theme based designing. An attempt was made through this study. Ten theme based design line were created for home furnishings by using different designing software's in 2D and 3D rendering in virtual design drawing cum lounge area. Themes include Black and white (accented neutral colour scheme), contemporary with polka dots, Floral, Natural botanical, Ocean, Silhouette, Sunrise, Traditional, Tribal and Zodiac.

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**N**ecessity and usage of furnishings are not new in today's world. It is evolved and developed parallel to the needs and requirements of human beings. The form, scale, material and proportions of a furnishing are designed conveniently with the conditions of every historical period. The role of furnishing in the design history also takes part while designing interior spaces (Grimley and Love, 2007). Home textiles are one of the most demanding and emerging fields, full of scope of innovation and creativity. Today, people want modern and well-furnished homes in place of dull looking house to new theme like traditional. Therefore, they are ready to accept new and expensive home textile products that could fill colours of newness and excitement to their life (Chaudhary and Shahid, 2012). from the 19<sup>th</sup> century, home was seen as the domain of women, who were

expected to create a cozy domestic environment for their families.

Furnishings, especially for the interior spaces, load a message to make spaces personal and reflect user's personality (Kalýnkara, 2006). Furnishings turn neutral spaces into personal and create special spaces for people (URL 2). Human life has evolved in close intimacy with nature along with the basic desire for decoration and ornamentation in their mind, which leads to development of design and ornamentation not in ancillaries/accessories but also in textiles. Design has an important and social change that does not stop at creating a new or better product. Design gives an identity to an object and in all its form is a powerful tool for creativity. Designing is a rich play of elements and principle of design and creativity is alive by constantly experimenting with new media and

designing techniques (Katiyar, 2001).

Textile designs development is a choreographic device which involves the use of motifs that can be manipulated by varying the elements of art and is a key to new or renewed products and leads the way to product innovation. The time consuming process of textile designing has been made easier with the use of Computer Aided Designing software's like Corel draw, Photoshop, adobe illustrator. Introduction of modern technique of CAD is a powerful tool for product designing and development and is user friendly. These days advanced two or three dimensional software are used widely in designing sector. It allows the user to preview the image and correction can be incorporated and the final image can be corrected (Rai, 2002). Computer aided textile designing (CATD) has now given viable solution to create innovative and desired results, it is now possible to go straight from an initial idea to visual representation of fabric showing different types of designs and combination of colors. CAD has lead to better quality and flexibility in design development, increasing the efficiency and shortening the time between the design concept and actual marketing (Srivastava and Rajvanshi, 2010). Today, consumers demand for value addition, diversified product, technology refinement and innovation in home textiles. So, there is a need for innovation on the front of product development and diversification that is led by fusion of design and technology. Creative ideas concerning fashion/market trend are used to develop innovative and new products and CAD technology brings them together from virtual sense to real one with boon in technology, adaptation of IT and computer science in research's, it has been found that computer becomes an integrated tool for manufacturing and designing the world over their imagination, out of these CAD is most adaptable tool for textile designing (Tanwar, 2014).

Innovation is a dynamic art form changing constantly with many variables. It is not exclusive to high end market but can be applied very well to mass produce, low value textiles without any cost implications. The time consuming process of textile designing has been made easier with the use of Computer Aided Designing software's like Corel draw, Photoshop, adobe illustrator. Introduction of modern technique of CAD is a powerful tool for product designing and development and is user friendly. These days advanced two or three dimensional software are used widely in designing sector. It allows the user to

preview the image and correction can be incorporated and the final image can be corrected (Rai, 2002).

Modern life-styles and changing needs do demand a practical and ingenious approach to home furnishings and textiles where an emerging need for textile designers and interior designers will arise. Consumers are moving from decorating in a style or period to establishing a personality or attitude in their homes and thus moving towards theme based designing. "Theme is a unifying or dominant idea, motif, etc., as in a work of art" or "A theme is the broad idea, moral, or message, or testing to be a part of environment around. The message may be about life, society, or human nature. Home furnishing products like curtains, sofa covers, table covers, table mats, cushion covers, pillow covers, quilt covers etc. really add colour to home, create an ambiance of freshness and can change the feel of the room without having completely redecorate it. Theme based home furnishing also have their place in the new markets as now a day's fashion trends are fragile and consumer constantly demand innovative changes over existing traditional designs. Consumer choices in home decoration keeps on changing from time to time, due to changing fashion trends as well as need for comfortable home environment. So there is a great demand for theme based designing. The secret of successful home decoration is to combine careful planning and a sensible budget with self-creative flair and energy. Theme based home furnishing can have their place in the new markets as now-a-day's fashion trends are fragile and consumer constantly demand innovative changes over existing designs. Keeping the above fact and the review of literature collected, the present study has been planned with the following objective:

- Creation of ten theme based design lines by using CAD.
- Designing techniques used in created themes.
- Consumers opinions for created themes and preferential choice of created themes

## ■ RESEARCH METHODS

The present study was carried out at the Department of Textile and Apparel Designing, I.C. College of Home Science, C.C.S. HAU Hisar. Hisar and Gurgaon city of Haryana state were selected purposively. On the basis of the availability, fifty consumers including experts from each city were selected purposively, which constituted a

total sample of hundred consumers. These were the ultimate users of home furnishings. Self structured questionnaires were prepared in order to get the information of respondents.

Ten themes were developed for home furnishings in 2D using Corel DRAW, Adobe Photoshop and Adobe Illustrator. These created designs were rendered in 3D setting of virtual designed “drawing cum lounge” that is preferred area of the home for theme based designing using specific designing software *i.e.* 3D Max. The rendering effect was showing the natural drape and feel of furnished area. The created ten theme based design line for home furnishings were:

- Black and white (accented neutral colour scheme)
- Contemporary with polka dots
- Floral
- Natural botanical
- Ocean
- Silhouette
- Sunrise
- Traditional
- Tribal
- Zodiac

Ten theme based design line were created for home furnishings for the “drawing cum lounge” by using different designing software’s that is Corel DRAW, Adobe Photoshop, Adobe Illustrator and Max in 2D and

3D rendering in virtual designed “drawing cum lounge” area. Because the results showed that majority of the respondents preferred the area of home that is ‘drawing cum lounge’ ranked 1<sup>st</sup> where peoples spend more time for leisure and entertainment followed by ‘lounge area’ and ‘drawing room’. Ten theme based design lines were created comprising required set of furnishings included door curtains, window curtains, window net curtains, set of cushion covers, carpet, partition curtains, partition net curtains, *Diwan* sheet and bolster covers. The designs were created as per the theme line for different furnishing products consulting literature and through visualization and imagination using designing softwares. The collected data were coded, tabulated and analyzed using suitable statistical tools to draw the meaningful inferences.

## ■ RESEARCH FINDINGS AND DISCUSSION

This section includes information regarding creation of ten theme based design lines, designing techniques used in created themes, opinions for created themes and preferential choice of created themes.

### Creation of ten theme based design lines :

Fig. 1 and 2 showed the Creation of ten theme based design line for home furnishings for the “drawing cum lounge” was done through computer technology by using different designing software’s that is Corel DRAW, Adobe Photoshop, Adobe Illustrator and Max in 2D and

**Table 1: Designing techniques used in theme based design line for home furnishings**

Theme Nos.	Themes name	Designing techniques/features			
		Printing / Painting	Embroidery/ Stitches	Embellishment materials	Constructional features
1.	Black and white (ANCS)	Screen printing	Applique work	Fumens, tassels and ribbon	Eyelets
2.	Contemporary with polka dots	Screen printing	Machine embroidery	-	Gathers and tabs
3.	Floral	Screen printing	Applique work	Ribbon	Frill
4.	Natural botanical	Screen printing, Stencil painting	Applique work and machine embroidery	Sequins	Gathers and tabs
5.	Ocean	Screen printing and tie and die	Applique work and machine embroidery	Ribbon	Gathers and tabs
6.	Silhouette	Screen printing and tie and die	Applique work and machine embroidery	Ribbon	Gathers and tabs
7.	Sunrise	Tie and die	Applique work	Ribbon, lace and mirror work	Gathers and tabs
8.	Traditional	Screen printing, fabric printing and nozzle painting	Applique work, phulkari emb., kashida and digital emb.	Brocade lace	Gathers and tabs
9.	Tribal	Screen printing fabric printing and tie and die	Applique work	Lace	Gathers and tabs
10.	Zodiac	Screen printing and tie and die	Applique work, Machine embroidery and patch work	Lace	Gathers and tabs

3D rendering in virtual designed drawing cum lounge. Yan *et al.* (2005) examined the determinants of CAD/CAM adoption in textile and apparel industries. He observed that the term computer-aided design includes

all computer applications and hardware devices that can be used to aid digital design. CAD speeds up the design process by making it quick and easy to test and modify ideas before production starts, thus reducing mistakes



Fig. 1 : Ten theme based design lines in 2D

and cutting costs. Factors analysis was used to identify the dimensions of reasons for CAD/CAM adoption.

**Designing techniques used in themes :**

On the basis of visualization and to get the desired effect of the theme, different designing techniques were



Fig. 2 : Ten themes in 3D setting of virtual designed “drawing cum lounge” room

**Table 2 : Opinion of the respondents regarding created themes on various parameters**

Sr. No.	Parameters	Respondents n=25 F (%)	Hisar Cons. n=25 F (%)	Hisar Experts n=25 F (%)	Total n=50 F (%)	Gur. Cons. n=25 F (%)	Gur. Experts n=25 F (%)	Total n=50 F (%)	Total n=100 %
1.	Eye catchy	21 (84.0)	22 (88.0)	43 (86.0)	24 (96.0)	24 (96.0)	48 (96.0)	91.0	
2.	Creative designing	23 (92.0)	22 (88.0)	45 (90.0)	22 (88.0)	20 (80.0)	42 (84.0)	87.0	
3.	Motifs and designs fit to the theme	19 (76.0)	21 (84.0)	40 (80.0)	21 (84.0)	24 (96.0)	45 (90.0)	85.0	
4.	Color combination	21 (84.0)	22 (88.0)	43 (86.0)	24 (96.0)	23 (92.0)	47 (94.0)	90.0	
5.	Clarity	23 (92.0)	22 (88.0)	45 (90.0)	20 (80.0)	21 (84.0)	41 (82.0)	86.0	
6.	Suitability to home furnishings	21 (84.0)	23 (92.0)	44 (88.0)	23 (92.0)	24 (96.0)	47 (94.0)	91.0	
7.	Overall harmony	24 (96.0)	20 (80.0)	44 (88.0)	23 (92.0)	21 (84.0)	44 (88.0)	88.0	
8.	Create ambience of theme	23 (92.0)	24 (96.0)	47 (94.0)	25 (100.0)	25 (100.0)	50 (100.0)	97.0	
9.	Market potential	22 (88.0)	22 (88.0)	44 (88.0)	24 (96.0)	23 (92.0)	47 (94.0)	91.0	
10.	Easily prepared	13 (52.0)	17 (68.0)	30 (60.0)	17 (86.0)	19 (76.0)	36 (72.0)	66.0	

Multiple responses, Figures in parenthesis indicate percentages

worked out as per the themes elucidated in Table 1. The techniques were: painting, printing, embroidery, embellishment materials and constructional features. According to Kaur (2004) described that embroidery and appliqué work were preferred as surface embellishment technique for decorating jute articles. It was revealed that innovative articles made by reusing jute fabric and decorated with appliqué and embroideries are commercially viable even in economic terms. Srivastava and Rajvanshi (2010) were investigated the textile designs from Phad Paintings for fashion apparels in different colour ways using textile designs software. Developed designs were printed on fashion apparels using screen printing. The findings of present study revealed that the created designs were very innovative, creative and as per the current market need and were highly appreciated by the judges. Pile (2009) stated that window coverings were started to use increasingly common with trimmings (like a window drapes) and tassels (used for decorative purposes for the draperies). Trimmings and tassels are used for decorating the window coverings.

### Opinion for created themes :

The data related to opinion of the respondents regarding created themes on various parameters such as theme designing, colour combinations, suitability, overall harmony etc. is presented in Table 2. The overall data of both the cities highlighted that majority of the respondents (above 90%) perceived the designed themes as 'create ambience', 'eye catchy', 'suitable to home furnishings' and will have 'market potential' due to

creative designing. Sixty six per cent respondents perceived that these products are 'not easily prepared' at small scale or at home. Mathur and Hira (2002) in their article 'Textiles in Home Furnishing' depicted that the household textile industry is regionalized; the tastes and preferences of consumers vary depending upon their culture, their interests and likings and geographical area. Hence, the end product varies considerably with respect to design, style, size and performance.

### Conclusion :

The result of the present study revealed that Theme based home furnishings has good market potential as consumers have become conscious and very particular about improving the ambience of home as home reflects the owner's personality, personal values, life-styles and life stages. Home textiles or furnishings are one of the most demanding and emerging fields, full of scope of innovation and creativity. Computer aided textile designing (CATD) has now given viable solution to create innovative and desired results, it is now possible to go straight from an initial idea to visual representation of fabric showing different types of designs and combination of colours. Hundred per cent respondents highly appreciated all the created themes in terms of overall appearance, design, colour combination and designing features. It can be concluded that theme based home furnishings and CATD is one of the emerging field with huge potential in the textile industry. It will serve as a guideline for home decorators and students to develop theme based designs.

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