Importance of Fashion CAD (Computer Aided Design) Study for Garment Industry

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Abstract
The article of clothing industry is developing quickly with new systems for making design business further developed. To make due in the design business new advancements procedures are important. So as to fulfil the needs of the market, a PC supported structure (CAD) framework gives open door for Fashion to investigate more. The framework empowers to make more styles, arbitrary changes, make new plan, measurement of assortment, design age, reviewed size example, marker creation and texture cutting. For the makers, the proficiency of the store network can be improved by diminishing human endeavours, expenses, and creation time. For the clients, better fittings with quicker conveyance animate the longing of procurement and upgrade their fulfilment. This paper shows that why Fashion CAD study is significant for article of clothing industry.

Keywords
Computer Aided Design (CAD), new design, dimension collection, graded size pattern, marker creation, mass customization, Fashion CAD.

I. Introduction

Article of clothing industry contributes a high rate in the nation's all out income yet at the same time confronting numerous Challenges. Nowadays, clients have gotten additionally requesting and continually searching for new styles and examples in the market, which essentially influences the turnaround time from idea to shopper. This is putting consistent weight on the produces to do a similar procedure in time. With increment in rivalry and decentralized assembling article of clothing businesses are anticipating the distinctive programming answers for conquer their difficulties. The piece of clothing fabricating involves various stages, for example, request assortment, item create for taking endorsement from purchasers, pre-generation plan, spreading texture, Cutting, sewing, getting done with, pressing and shipment to the merchant. Item advancement is the most condemning of the piece of clothing fabricating as though the article of clothing is made accurately as far as fit, style, shading and structure at this stage, a large portion of the fight is winning. Example making is the most disparaging of all the item advancement forms. A decent flawless fit adds to the achievement of any style. This industry is totally subject to the gifted Pattern ace. Purchasers are put at far off spots and in the greater part of the cases endorsement should be finished by the purchaser.

Also, on the off chance that we get any suggestion on that specific example, design should be adjusted so doing the example once more, making the modified example and sending again for purchaser's endorsement will add to the time. Besides it includes more expense too. After each variety or amendment design ace needs to make the example over and over to see the outcome which in the long run adds to the hour of conclusive article of clothing making. In the present quick changing design world, speedy reaction is the fundamental key factor to progress. A spry mechanization framework wills licenses businesses to make a move towards the changing economic situations. Through programming, for example, CAD, the example can be made effectively and adjustment should be possible the same number of times as required, fittings or virtual prototyping can be utilized to shade article of clothing on model on the screen and liveliness assists with seeing fit and shade. The CAD framework or Smart imprint (programmed marker making) is significantly more profitable thought about then a manual strategy. These frameworks will give incredible preferences in reacting rapidly to multi-piece, multi-size requests in little amounts.Moreover, these will provide large savings as far as fabric costs are concerned. Therefore, the objective of this study is to measure the amount of time saved using Pattern Making Software at different stages of product development as compared to the manual pattern.

II. Problem Statement

CAD plays substantial role in apparel and textile industry. CAD is one of the tools being used in the fashion industry for mass customization in order to develop more design, frequent changing styles and production, making work relaxed through efficient and better quality of products. It also helps in creating more job opportunity for the students. It has created more study opportunities for aspirant professionals specially fashion design students and CAD learners as well.

III. Objectives

- To determine fashion CAD study to form a future career.
- To determine the status of CAD in fashion design industry.
- To investigate the inferences of graphic design software to the fashion industry
- To establish the relationship between the CAD study and its application to the fashion industry.

IV. Digital Pattern Making

Broadly use CAD tools, to create a normalise set of patterns for each garment designs. Either - by using the blocks provided and modifying them on-screen or by clicking photograph of an existing pattern with a good digital camera and on-screen digitizing pattern lines/shapes/curves over the top of the image pixel or creating free-form patterns on screen to required lengths.

Digital Pattern and Marker Making on CAD, digitizing paper patterns can be seen in Fig. 1 and pattern prints from plotter machine can be seen in Fig. 2.

Fig. 1: Digitizer (Digitizing Paper Patterns)

Fig. 2: Plotter Machine (Marker Paper Prints)

V. Advancement of Digital Pattern Making

With the influence of Fashion CAD, advancement in Pattern Making arose in many areas which are described below:

A. Reducing gap between Buyer/Designer and Pattern Maker

Product or sample development involves close relation between buyer and designer. For the right product or sample development it is important that there should be good communication between different departments but, in most of the cases designers are not in direct contact with the designer or pattern maker, so designer sends samples to the buyers for the various approvals or expecting feedback. This recruits the need of automation or advancement in product development so that lead time can be decreased. CAD is used for making patterns, creating different size of patternthrough which makers can save time and also makes many repetitive patterns in reduced time. Pattern can directly send by email instead of courier or any other way and time can be saved. Approval can be done in short period of time or in an hours instead of days or weeks. Different style can be replicated with virtual drape and fit of the garment can be seen and send to the buyer for approval. Time can be saved in both physically making of sample and sending it through courier.

B. Costing

In the fashion industry important task is costing of fabric consumption for the particular order. Earlier designer used to give design sheets to the pattern masters and get the patterns made, grading done and creates marker. This process normally used to take 4-5 days. CAD has made overall process extremely easy and faster through which master, can made the pattern in lesser time or can also retrieve the similar pattern see the grading and marker of that style and quote the approximate pricing.

C. Optimization Marker Making

Before the involvement of the CAD in Pattern Making and Marker Making, masters used to take longer hours to do the marker planning. It was a crucial job and was unable to use the fabric optimally. With the immersion of software (CAD), marker planning has become a few minutes job. Now as the time reduced so much, masters can work on many markers with less time and get the better efficiency than before. Fabric can be sorted out and different markers can be made for different group of fabric width and can increase their saving on fabrics, utilize the time increase more profits.

D. Digital Method

1. On the initial stage, Technical sheets of particular garment were given to CAD Experts for making.
2. Main size pattern were designed on CAD and at that stage time was recorded for the same.
3. The main size pattern updated to test the fitting and stitching details was given to the style.
4. Mentioned detailing of name, style, stitch, allowances, drape and fabric etc. Again, time was recorded in doing the complete process.
5. Fit has been checked on the virtual draped garments.
6. Patterns were graded in different sizes by the CAD experts and time was recorded.
7. File order was given for marker planning.
8. Marker planning was done and time recorded for the same.

VI. Results

The following results have been derived from the above analysis:-

- CAD is more constructive in quick change of any design and possible to use more application on garments.
- In pattern making of main size patterns, no significant difference has been found for the simple style patterns but as complexity of styles increases CAD method is more favourable. Also very much reliant on the personal skills and productivity.
- CAD definitely saves time and it does not any tailor material etc. The virtual sample made by the CAD can be sent to the buyer by email where as physical sample needs to be sent through courier, which will again affect the time.
- Since grading different sizes patterns and making arrangements former to marker because of which making process in case of manual needs requires morelabour and time, it is only natural for the CAD systems to be beneficial in these all steps by reducing labour and time.
- During marker-making preparation and plotting procedures, again CAD method was found to be superior.
- In assessing the total times for all stages, the level of significance between the manual and digital way, CAD is always favourable.

VII. Conclusion

In design making, obviously in basic style designs time distinction in both Manual and CAD strategy is insignificant however as the basic style of the examples expands, the CAD is increasingly helpful regarding manual planning and it is likewise efficient. As we have seen that example can be made in less time by utilizing CAD, which takes the huge time of testing, so we can presume that lead-times can be diminished by utilizing CAD for design making in item advancement. Additionally with the propelled example stockpiling used to be a major issue with the manual examples and after a specific timeframe you have to wreck the examples because of space requirement and with such a large number of examples. It is hard to discover any example if get any recurrent request after significant stretch of time. Making designs on CAD has more advantage that enormous measure of information can be put away on the PCs, can be recover effectively and adjustments can be made whenever. Computer aided design examples can be effectively sent to the purchasers by email for their remarks. It has been seen that acknowledgment for design making programming has expanded and numerous organizations are needy to do their first example in the CAD.

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