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Role of Information Technology in Apparel Sector

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Abstract:
In most recent few decades, complexities and aggressiveness has expanded many overlay in the attire business. Data innovation (IT) assumes a key job in the field of material industry. It speeds up by trading information in close to continuous, lessen stock and increment deals volume by satisfying client necessities all the more successfully and efficiently. This has built up a requirement for arrangements which go for time and endeavors sparing, coming about into improved operational proficiency and viability. Here mechanical headways and its applications assume a definitive job. PC applications in CAD, ERP, mailing, Voice talking and Online Fitting Approval and so forth have been utilized since years yet with a constrained extension. With the time, IT applications have taken a quantum bounce and we saw various territories where IT has demonstrated to be a distinct advantage and it has developed as a key operational constituent to the whole attire production network. IT has opened new skylines via consistent connecting of various parts of clothing business directly from style guaging to item advancement to conveying the correct item to customer at ideal time. Buyer has come nearer to the specialist co-ops and supply chains are contracting and getting snappier to reaction. In this paper creator examines a couple of such significant IT based specialized mediation which have changed the clothing producing business internationally.

Keywords: 3-D Scanning, 3-D simulation- Online fit,Computer Colour Management Digital Printing, Virtual Print

1. INTRODUCTION

Computers and Information innovation (IT) have upset our lives in a way which was never thought of. Data innovation has become a necessary piece of each segment and there is nothing left without a noticeable impact of IT. The equivalent is valid with attire industry moreover. IT has changed the way clothing industry works in numerous viewpoints.

In the period of quick changing buyer requests in style, Product life cycles are contracting ordinary thus the business elements and rivalry as well. The fruitful endurance relies upon how rapidly and how well one can cook clients request by keep up least working expense. Year on year, worldwide challenge is developing multi-overlap bring about ever high strain to perform better, quicker, improved quality norms and working in most ideal expense. Since years, PCs have been utilized in attire fabricating units to improve the exhibition, blunder sealing, decrease

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throughput time, endeavors and labor sparing. As of late, Information innovation and its applications have gotten a lot more extensive in scope than simply utilizing PCs. IT has advanced as a key operational constituent of clothing manufacturing1.

IT applications in attire industry have an obvious effect be it the territory of design determining and new item advancement, mass assembling of merchandise or conveying the correct item to purchasers at ideal time. The new advances are empowering the mass customization productive and organizations can hold onto the client faithfulness, increment income and focused edge2. IT applications have been very helpful in improving efficiency, successful asset usage, and snappy reaction to client needs by distinguishing necessities absolutely and making an incentive to customers3.

The paper examines not many key IT based systems and instruments which are critical in changing the business practices to improve the inventory network and give brisk reaction to prerequisites.

2. Clothing Supply Chains and Information Innovation

In the ongoing years, design cycles have gotten shorter and industry has gotten significantly more powerful. The time between recognizing the patterns to the item conveyance to the last buyer is contracting to meet necessities of quick fashion4. The challenge has moved from "Organization versus Organization" to "Inventory network versus Store network", and the key spotlight is on the advances which can streamline and help the stockpile chain5.

With the expanded utilization of innovation (particularly data innovation) with advanced condition, the shoppers are expecting administrations anyplace and at whenever. The brands are being made a decision by their capacity to convey and offer high an incentive in the item or administrations which matches with the purchaser expectations6.

To pick up the upper hand, it's imperative to measure the client necessity before building up the item. Decrease in item plan and improvement time results into the quicker conveyance to the shopper. Utilization of innovation combined with data is the way to progress which results into less item advancement time, wiping out tooling costs and streamlining the generation process7. The material chain begins with fiber fabricating, improvement of yarns and textures, clothing fabricating lastly appropriation of the item to purchasers by retailers. Market requests are

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profoundly unstable with noteworthy item varieties. Thinking about the dynamic idea of design and to dispense with the open door cost, products should be recharged every now and again as conveyance volumes are inflexibly coupled to real end customer demand8. Speed to advertise, item improvement, tight estimating and profitability are four essential focuses for progress to any organization. This has prompted a self-governing control combined with IT intercessions at practically every one of the degrees of clothing inventory network directly from style gauging to the conveyance of completed items to the purchasers.

Various IT arrangements are being utilized at various levels to improve efficiencies, viability with improved straightforwardness. IT empowered style gauging instruments, 3-D recreations and structuring devices, advanced printing utilizing PC shading the board (CCM) while item improvement, endeavor asset arranging (ERP) and ongoing information observing utilizing radio recurrence distinguishing proof (RFID) while assembling and Product lifecycle the executives (PLM) are some of such significant apparatuses.

Regions of Information innovation intercessions in Apparel chain

- **Fashion Forecasting** - As expressed prior, design cycles are getting shorter, style business watches 10 to 12 assortments for every years9. It obviously demonstrates that purchaser requests should be seen a long time before the contenders do it. Also, therefore right item should be accessible to the shoppers inside scarcely any weeks. IT assumes a basic job in knowing the market pointers and future trends4. For instance creators have simple access to the global patterns and other style world exercises utilizing pattern entries on web. This sets aside a great deal of cash and time devoured while heading out to various pieces of the world1. They can set up their work, (for example, item outlines and other material structures), thoughts and talk about with different specialists of the field from the workplace itself with assistance of web and data innovation.
- **3-D simulation** -3-D Designing and its simulation is very important to develop new products. Earlier it was used in Aeronautics and defense but now a day's used in fashion design .It helps to reduce the cost reduction, enhanced creativity and good communication. In past time, this technology is used only for visualization and its help in visual merchandising. As the time changed and this technology has grown in scope

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and now doing complete simulations and providing the fit solutions in entire virtual environment. Today Designers and product developers facing different fitting issues from the customers. It is very tough task to match the fitting requirements to the customer specifications. As in the culture of export houses we develop the sample and sent to customer for fitting approvals and after their feedback the necessary corrections were made by the designers but its time taking, expensiveand still not perfect.To make one single sample cost between USD 250 to USD 1000 and design development charges is extra. After that if rejection is more then also its increase the cost. 3-D simulation which is introduced by IT is much simpler ,easy and cost effective solutions .By using this 3-D simulation the physical samples are totally removed and controlled time,efforts and resource saving.

By scanning the 3-D body of any human being, the Virtual Avatars can be created. These virtual Avatars is aware or incorporated with all fabric properties like weave, color , drape and pattern. Using this kind of Avatar is completely eliminates the process of fabric development, cutting and stitching of the garments. If customer needs some modification then it is done by virtually and simulations can be done again and again if required or depends on customer's feedback. This is really too much time saving in any kind of modifications and always gives precise results.

As now a day's 3-D Simulation become more advanced, The new Avatars are more dynamic in nature ,it means the simulation is done in different postures such as bending of body and walking. It is now very easy to wear garment and by walking and bending you can judge that how garment is looking and comfortable. We can get all idea of fitting, prints and color before cut the physical samples.

The Optitex give one Avatar name Tim, it is 10 years old Avatar and change the size and dimensions of different body parts up to 18 years.Some Avatars are able to do catwalk and create virtual fashion show.The samples which is made by virtual environment has become much accurate and fast. In the pattern developer creates 2 D pattern considering the fabric quality and requirements of garment, then the patterns are apply on the virtual and software change in 3-D virtual Model like a thermal image .Software suggest the modifications in 2-D pattern and it is applicable only close fitting garments only.

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New generation now a day's prefer online shoppingand individuals can create their virtual identities (Avatars) using 3-D body scans and check the fitting

Optitex, lectra and Tukatech is the big companies which are providing such kind of facilities of 3-D Simulation.

- **Virtual Print Development** – This is much faster and significant to develop the print on Computer screen virtually .The designer can make the corrections accordingly very faster and give better result in print development. They can use their own prints on the fabric with wide range of Knits and woven.Some further modification of already done designs also done easily by scanning that designs. By changing the drape or fall of fabrics the structure is easily change on Computer screen.
- **Digital printing and Computer color management**–Digital Printing is very important now a day. Thedesign is prepared on computer and directly gives command for the printing in digital print machine. This gives faster results and significant flexibility to do color change in different color options. Different no. of shades and color option we can get in a seconds on paper or a cloth, This techniques is very benefits of small run companies, there is no need to make screen and prepare dye and color .The color resolution is good and fast, we can easily get the idea of color on fabric and take final decision of garment making.Digital Printing is totally Eco-friendly, it's totally work on zero wastage, Water and Chemicals usage is almost zero and waste treatment is not required. To go for long process of screen making and develop the prints on fabric by screen printing is suitable now days,by the digital printing the required texture is develop and sent to buyer for the approvals.

Dupont, Kodak and lectra are good companies of digital printing.

- **Computer color management (CCM)**–In the digital printing CCM plays good role ,By this different color options is developed and sent to buyers for approvals and necessary changes is made by the designers in quick way. Instead of making the physical samples this is very good to go with CCM. Sometime the color shades is sent to buyer in particular light or shade, it is very lengthy process and time taken .Through the CCM; it's

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done by electronic exchange which is very fast and accurate.Clariant is big Company of CCM.

3. CONCLUSIONS

The Information Technology in Apparel Sector is widely used and its create a concept of On-Demand marketing. The consumer is friendly with Internet and has latest information about the fashion, design and demand in the market .The producers have their own creative team which use the IT in apparel sector very efficiently and friendly .They provide customize services. By the visualization of garments with the support of IT gives fun experience to many consumers. By the help of Information Technology the apparel industry is moving much faster.

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