# INFORMATION TECHNOLOGY IN APPAREL & TEXTILE INDUSTRY

**Abstract**

Information technology seems to be revolutionizing every field. It is now more apt to say that for a successful business one needs economics of pace and reach which are off shoots of Information Technology along with economics of scale. Apparel and textiles are becoming increasingly specialized with cross fertilization of divergent fields leading to specialized functions and properties integrated into their structures culminating into umpteen fashion probabilities. With the kind of changes happening in this internet era in sourcing, production, sales and customer relationship management there is a sea change in the way apparel and fashion business is handled.

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## I. INTRODUCTION

Garments are integral part of human life from cradle to grave. Gone are the days when primary role of apparel was to protect the body from vagaries of climatic conditions. IC Chips are revolutionizing the mankind in the guise of bits and bytes, not only from outside of the body but also from within the body. Textiles are now being dubbed as 'Smart Textiles'. There is a quantum leap from body essentials to self-adjusting, Interactive, intelligent and stimuli sensitive textile materials. Research is being done on fusion of fashion and function with built in electronic gadgets for monitoring bodily vital signs. The cloths are now rightly called as wearable electronics and these days' cloths are called as 'ensembles.' If these are any eye openers to the state of affairs in near future of the way textiles and fashionable attires are made and sold, then apparel industry is taking a quantum leap in technology upgradation, flexibility, human machine interface and human comfort ably supported by power of pace and reach of Internet and Digital technologies.

## II. PRESENT SCENARION IN APPAREL INDUSTRY

Today's virtual world demands networking with cross-industry partners to facilitate products and services concerning to customer's basic requirements of satisfaction and delight. Indian apparel industry contributes to more than one-fifth of the total industrial production, one third of the total export of the country. Information technology is providing well proven solutions to the in the form of electronic gadgetries, ERP solutions and E/M- Commerce. In the present era, the globalization of markets has brought in plethora of challenges to the industry all over the world. They are in terms of mass customization (contrast it with Haute-couture), resource optimization, Data warehousing, production technology, trade covenants and communication technologies. These help an organization to maintain its competitive edge. A Typical apparel organization/Industry will have two levels of information sharing: Internal (between people, between machines and man machine interface); External (from outside the organization). For efficiency of information usage both these two levels must have the flexibility built into them for seamless integration. In Apparel industry InfoTech integration is posed with challenges such as complicated processes, many different products produced at the same time and highly variable parameters. This exactly is the reason why we need to get into digitalization, process evaluation, correction and connectivity offered by Information Technology.

## III. VOLATILITY OF FUNCTIONAL FABRICS

We are in the world of fusion of fashion and function.Functional fabrics typically can be categorized into three VIZ: that protect the body, those suitable for specific activity and those which can communicate. The functions of sweat proof, dirt proof, odor proof, wrinkle freeness and U/RF protection are some examples of first category. Second category are sports and antigravity. The third category belongs to those which can communicate. Research is on to produce fabrics that carry electric current, permitting them to power any electronic gadgetry. Wearable electronics (photonics) is a fast developing area. But the challenge for designers is to make these kind of cloths to be washed/cleaned, stored in a normal way. The costumes offer mobility, convenience, desirability and meet the demands of ICE age (Information, Communication and Entertainment).It is something like people moving with a personal area network ( PAN ) within a garment ensemble.

 

## IV. INFORMATION TECHNOLOGY IN APPAREL TRADE

Technology is all pervading and apparel trade is no exception. Future is going to be embedded technology where wearable electronic gadgets technically adorn the wearer in hues to suit every mood. Future electronic clothing will have soft key pads sewn on to the fabric, thanks to conductive textiles, made possible by cross-fertilizing leading edge innovations in material science, electronics and advanced polymers. (Stimuli sensitive polymers) to produce highly functional garment ensemble. Sourcing for nearly 150 billion US dollars' market for textile and apparel is fully being facilitated by internet enabled technologies. There are software providers offering e – business which combines CAD/CAM, Virtual Reality, Augmented reality. It will enable the customers to virtual designing, internet merchandising, via digital printing and automated manufacturing process. These software solutions from concept development to retail and distribution works in the following way.
Specialized forecasting and design services for example FINS which facilitate downloading information and trends about colours, pallet,silhouette and textures from web.

Digital snaps capturing the essence of life in any part of the world can be shared in real time and be modified by local designers to suite the local environment. Even visualizing how the merchandise would look at retail stores or when the customer wears it by photo rendering.

Mass customization is here to stay and 3D body scanning technology is for accurate, fast and non-touch body measurements that result in better fit. ( Techmath, Imagetwinetc )

Product development solutions can reduce the time of development. Once the fabric print is finalized, printing of sample meterage can be done digitally and the prototype garment can be shared to prospective buyer online.

The enormous data relating to every single style from conception to shipment of product can be documented for easy and systemic retrieval (Web PDM, Style Manager) Using CAD for pattern making, Grading and market planning ( Gerber,Lectra ) Cutting costs can be done by using software 'optiplan'

Special software are used for finite capacity planning, and load balancing of machine and material flows. 'Fast react','Micar' offer solutions simulating live conditions to predict resource availability, layout efficiency etc.

Special softwares like' visionstitch' can impart training to operators. Special machine maintenance software like 'pressrite' monitors the machine performance. Softwares like ' ETON' ensure effective control over inventory, accountability ,and visibility of work in progress.

Software like 'Polaris' analyze the point of sale ( PoS) information and manage the warehouse distribution and logistics of supply chain effectively.

In a nutshell, I keep clicking my mouse to visit virtual mall, play and select clothing, orderonline, go to E-Tailor design my virtual garment delivered and pay E-cash. It is like 'Mouse's catwalk'

 

## V. INTERNATIONAL TRADE PRACTICES

In this era of alliances and acquisitions one has to understand new rules of the game. Already the gap between the product and services has blurred significantly. Winners will be those who provide an offer that is both product and service at the same time. It is E-mode of doing business that would be predominant mode on which future trade would be carried out. Recognizing these facts for for e-governance would have to be seriously thought at various stages like- Customs, ports, Airlines, Banks, Exim etc. Respective government bodies must take into consideration legal aspect of e-commerce and institute IT bills to curb crimes and adopt universal cyber laws.

## VI. FUTURISTIC

Software that design clothing is a novel effort. Tissue culturing has made remarkable advances,lab grown replacementsfor skin with carbon wafer inplants is leading to creation of ‘cyborg culture.E-Hazards of resource/gadgets needs through ivestigation.

## VII. SUMMING UP

The trends and realities very clear. It is information technologies, vision and the people. Success is not reached only by obtaining the technology but also making the right choice and establishing the right choice and establishing the right policy to run it.

Implementing information technology is not easy but we have to show patience and persistence. Whatever the package is, howsoever powerful it is, if we do not take the support of workers it will be impossible to implement leave aside smoothly running it.If all and sundry organizations can afford latest machines/tools, product mixes, teaching pedagogies and solutions to every single problem; Then how would a unique ,world-class organization differentiates itself? Definitely by its’ highly charged, enlightened and motivated human resources. Let us all be that to grow prosperity.

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