CHAPTER 4

INFORMATION TECHNOLOGY AND ITS IMPACT ON FASHION DESIGNING
4.1 Introduction

Information Technology (IT) is a cluster of computer technology and the communication technology. The Information Technology takes care of the hardware and software part, the Communication Technology (CT) takes care of transmission part. Conversion of information technology and communication technology brought the dramatic changes in the day-to-day life of the humanity by converting whole world in to "Human ware" with connecting each other via voice mail, electronic mail, groupware system etc without any geographical boundaries. Thus the information technology is not only a computer technology including hardware and software for processing and storing information but also a communication technology for transmitting the information from place to place, person to person, organisation to organisations.

Management of information technology became a very important factor for smooth functioning of the organisations around the world wherein the various activities are knitted with the application of information technology. Each activities of the modern society is been linked with IT application and the process of its management part calls for extra care. The management process of IT also includes the management of networks that connect the various activities of the workers in the organisations and the likes from one geographical area to another via networking or the Internet.

The ‘marriage’ of information technology and the communication technology linked with the use of computers taken us
from ‘industrial revolution’ to ‘information revolution’. This process can be declared as ‘beginning of an information wealth age’ wherein the information or the knowledge has the most important role in the story of quality production. Stewart\(^1\) mentioned that “the emergence of the information age and the sudden ubiquity of information technology are among the biggest—no, they are the biggest—stories of our time”. Today the huge knowledge is available in ‘cyberspace’. The traditional news media—the newspapers and TV news broadcast have been taken over by “information technology age” provide information on the Internet such as msnb.com, cnn.com, samachar.com and many more. Information technology also made it possible in the world in which the producers of hand-crafted goods—artisans such as potters, jewellery makers, garment manufactures, bookstores etc who market their products via long distance carrier that is internet.

Thus the information technology touched upon every aspect of activities the humanity performing today and the fashion designing and garment or the apparel-based activities are the most influenced and outperformed segments in the economies of any nation.

4.2 Trends of Information Technology in the Contemporary Context

4.2.1 Computer Systems

The development of microcomputer dating back to 1970s fuelled the information revolution. By the second half of 1990s personal computers became business support activities for the individuals and the organisations. Personal computers with multimedia, Internet ready
capabilities actually made phenomenal impact on style of functioning are of both individual and the institutions of the world. The speed of computer technology development has been so fast that the human mind cannot think of the ‘time’ of existing technology. Deutschman mentions “…it’s hard to write mind—expanding sci-fi about computers when real—world technology keeps advancing so quickly”.

4.2.2 Computer Software

The software for various activities in different discipline was so demanded that one of the World’s wealthiest billionaires by mid 1990s was the chairman and founded a software company with high name organization known as “Microsoft Corporation” of Bill Gates. Today some version of Microsoft windows software are the component parts of computers and resides in the majority of microcomputers.

There are innumerable software companies developing and competing in the software market to overtake the others, and such environment made it possible for the reach of software’s of various purposes, to the individual and the institutes.

4.2.3 Telecommunications/ Networking

The successful convergence of computer technology and telecommunication technology its application to information storage and retrievals (ISR) made the ‘global reach’ of human activities and brought tremendous wealth of knowledge for the development of research and in turn the socio-economic developments in the world over. The Internet
fuelling for the competition in the field of telecommunications industry and there are private players who entered the field made rapid network developments. By mid 1997, television broadcasters and the print advertisers regularly included a website addresses as part of their contact addresses. Today more are less almost all the institutes around the world are the part of this ‘hub of web’ and the situation gave rise to an excellent exchange of information amongst the people and the institutes for mutual developments.

4.3 Professionalism and Information Technology

The information technology development gave rise to the society of today in which “a new emphasis on teamwork and a new-anytime and anywhere work environment”. Stewart, 3 described the category of workers who deals with information and knowledge as raw materials of their work and also the product of their work such people or workers he named “knowledge workers”. These workers were called ‘white collar’ jobholders mostly attached with the Office functioning’s during industrial society, and today it is seen that such knowledge workers at shop floor level and on the industry floor. The impact of information technology and its application for day-to-day activities turn the functioning style of all levels at all disciplines tremendously. Farrell 4 mentioned “productivity gained measurably due to the diffusion of information technology”.

The important impact made by the information technology brought no time limit to access the organisational information and also can communicate instantly while working anywhere. Remote access to
4.4 Information Technology Cycle

Information Technology has made radical changes in all aspects of human and organisational activities and the role it played from time-to-time also can be traced. Just as finance and Human Resource Departments exists in various organisations to manage the finance and people resource of that particular organisation, the present day organisations witnessed the existence of Information Technology Departments (ITD) typically have been given the responsibility of managing the information technology resources of the respective organisation. Due to tremendous advancement in technologies the way we use and the way business competes, the role of information technology and the system undergone radical changes.

Rockart\(^6\) identified the four stages in information technology evolutions and they are;

- Accounting era (1950 to 1960);
- The Operational era (1960 to 1970);
- Application era (1970 to 1980); and
- Wired era (1980 onwards). We can supplement the next era in information technology development as “wireless era” and it can be called as fifth era.

The various stages of information technology development is presented in Figure no.4.4.1
4.5 Impact of Information Technology on Fashion Designing

The opportunities information technology brought to the doorstep to understand and apply to the field of respective individual activities are an open ended support the IT. Fashion designing is not an exception wherein the information technology revolutionised the
profession. Need is the essence of innovations and inventions and the requirements of the fashion designing were identified by the innovators and invented multifaceted software’s to facilitate the professionals to imply the developments in their field of activities. Thus came the information technology application to fashion designing and to its related areas.

Coloussy 8 argued that “fashion designers have endless opportunities to expand their creative skill. Many have found success in industrial designing, furniture designing, interior designing and some have recognised the basic need for clothing for people of all ages have succeeded in the garment industry. The foundation and elements of colour and design are similar, but what makes unique is the skills and the training the designer peruse.” Very creative individuals found that their talent reached far beyond the basic sketches. These innovators fostered their interests to learn about design, colours, textures, shapes and symmetry with the hope of using their talents in professional artistic arena. Designers have ample opportunities to expand their creative skill and the information technology a sophisticated tool entered to sharpen further the creative edge of these professionals. Understanding the need the National Institute of Fashion Technology (NIFT) integrated the information technology with its fashion design curriculum to make the young designers to practice and perform applying the concept of IT and its role to their field of activities. These individuals are filled with enthusiasm, ideas, and zeal.

In the present world each and every subject field is fully influenced by Information Technology. IT brought radical changes in the
functioning of fashion design professionals. The availability of hardware and specially designed software's together communication technology smoothen the professional activities and made them to finish the job work or their assignments based on the movement of fashion which is ever-changing according to change in seasons. To be a successful user of the available IT tools, the designer need to know the fundamental skill of the computer, as the systems are bundled with some inbuilt universal drawing tools and menus shared by almost any vector (term related to drawing programmes and the images the computer understands based on mathematical curves and lines) or raster based software (image editing programme), as computers and CAD software are an integral part of present fashion design world. Fashion became a collaborative effort by fashion designers, graphic artists, photographers and business and marketing professionals, all came together to produce the viable fashion product for the consumers. A sample screen of computer toolbox gives the options to the designers is presented in Figure no.4.5.1

![Screen of computer toolbox](image)

Figure no.4.5.1
Screen of computer toolbox

Information Technology is been utilised in every aspect of fashion designing to cope with the changing trends of the situations. IT is used and applied in the principles of designing, fashion marketing, and colour to create and render fashion through computers. The Internet facility revolutionised the sourcing part of the fashion designing through connecting the manufacturer and the creators of fashion design across the world. Information Technology also been used to simulate prints and fabrics with the provision to create own swatch book. The core areas of fashion designing such as pattern making, pattern grading, marker making, garment constructions, actual production of garments, illustrations and costing areas are touched by the information technology. A sample screen of a computer containing Fashion Pattern presented in Figure no.4.5.2

Source: Colussy\textsuperscript{10}: Fashion Design on Computer. London, Prentice Hall, 2001 Pg.459
Fashion designers' hobby is to pick up a clipping they like to take the inspirations out of the colours, the textures, or the print. They develop a swipes or the collection of pictures, not necessarily of any particular garment, but instead of the colour, shades, trims, details, embellishments or anything a designer finds interesting. According to Coluss 11 "inspiration for design can come from many influences like watching vintage movie with its larger than life icons wearing elaborate costumes, listening songs, colour of sunset, rocks, flowers, etc." These influences and stimulate designers to draw a line of the designs to target the market to coining the taste of the consumers. There are various steps involved in producing the designer outfit from the particular inspiration or the theme decided by the designers before execution of their creativity. They are listed and briefly presented in the following paras;

4.5.3 Fashion Design

On taking the inspiration to build the line, computers play their role in assisting the designers to further their journey, which is the scene of the new millennium. The computers provide the tools the designer needed to bring the life for the design vision. The computer provides the palette colour options, required style of fonts, create or enhance the graphic. It serves as image-maker for the designers. The Computers are called as "brain centre" by the design paternity are used them in following areas

- Create Logos;
- Select Colour ways;
- Render Concept;
- Ideas to a tangible product by sketching;
- Determine the silhouette;
- Determine the textile to be used;
- Sourcing the fabrics, findings;
- Develop mood boards;
- Fine-tune work boards;
- Generate costing;
- Grading patterns and marking;
- Modifications, if any;
- Prepare Presentation boards for the production unit of the industry; and
- Design and Prepare catalogues.

A computer screen with fine tuned pattern sample presented in Figure no.4.5.3.1
4.5.4 Fashion Sourcing

According to Frings, the focus of the U.S fashion industry shifted away from manufacturing towards marketing and information. These have been fostered by the advances made by computer technology. With deriving assistance in finalising the design concept,
4.5.6 Fashion Sales and Marketing

The success of a designer lies in marketing the fashion product he or she designed. The designer’s visions in sales presentations, marketing plans, promotion vehicle like advertisement etc., are assisted or taken care by the modern technology. Technology is able to the designer’s philosophy and vision for that particular product applying the modern technology in presentation boards, on-line catalogue and websites that are interactive and dimensional stimulation of garments. These tools are of great assistance of today’s sales and marketing in the field of on-line fashion business. A sample profile of Fashion catalogue presented in Figure no.4.5.6.1

The original Computer Aided Designing (CAD) software designed for specific hardware systems, and each of these systems with their own CAD programmes were included and supplied to the Textile and Apparel industries. These systems were called as “turnkey” system (one turn of the key) was designed to create, produce, and operate the production end of designing. These systems are the luxury leaders of the industries in India due to the cost factor. Today wide varieties of software are available in the market for the design purpose. Amongst the them Ned graphics Inc, GT (Gerber Technology), Monarch, Colorado, StyleKlick and Lectra. The National Institute of Fashion Technology (NIFT) Centres in India are using the Lectra software to train the fashion design students. A sample profile of a design using GT technology presented in Figure no.4.6.1


Alongwith the variety of software, the technology opened more opportunities now than ever before. Many computer hardware firms
always on and accessible resulting the personal empowerment, which is a most fundamental paradigm shift in fashion design technology of the day.

The website http://www.fibercomputing.net pointed out that “the goal of wearable computing is to produce a synergistic combination of man and machine, and in extended period of time, the wearable computer create an intimate bondage which result in a synergy often called humanistic intelligence or smart clothing”. A sample profile of intelligent costumes are presented in Figure no. 4.7.1

![Futuristic-looking Garment](image1.jpg)  ![Spacesuit](image2.jpg)

Figure No. 4.7.1

Intelligent costumes

New fibres, textiles and miniaturised electronic components have enabled the creation of truly usable “smart clothes”. Garments embedded with optic fibres in monitoring the wearer’s condition, and transmit the data wirelessly. Soldiers, astronauts, airline pilots, and others whose vital statistics are of critical importance can wear such clothes. These intelligent clothes provide assistance in various critical situations according to the designed applications.

In medical context, the intelligent clothing plays its predominant role in transmitting the condition of the distant Doctor-Patient relation in treatments. Such clothes are designed with the polymer optical fibres that are woven as databases. These garments are embedded with the fibre and data disk, which are used as plug-in sensors to wearer’s vital signs. The following websites also give the information on intelligent fashion

- www.wearable.ethz.ch
- www.join_iswc4@iswc.gatech.edu
- www.media.mit.edu/wearables
- www.ewee.com
- www.clarityqst.com
- www.wired.com
- www.orang.otang.com

To conclude, the technological advancement, as it influenced the other subject areas, the fashion design technology also derived its share and the forthcoming developments may further the influence and may bring the miracle in the days to come. Research in to wearable technology can open up a vast new globe of possibilities. Costumes made of fabric that can convey data to a centralised system will be the next best development in fashion design technology.
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7. Ibid, Page 47


9. Ibid, Page 146

10. Ibid, Page 459

11. Ibid, Page 8

12. Ibid, Page 486-487


17. www.wearcam.org

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20. www.wearable.ethz.ch

21. www.join_iswc4@iswc.gatech.edu

22. www.media.mit.edu/wearables

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