Unit 26
Changing Roles of Media and ICTs on Employment

Contents

Learning Objectives

This unit will help you to understand:

- the process of evolution of mass media of communication;
- the shift in the approaches and the functioning of mass media in the globalisation era and its impact on the socio-cultural aspects of society;
- the interface between Internet and mass media and the convergence of mass media of communications with other information technologies in the contemporary period;
- the impact of convergence of information and communication technologies on employment; and
- the challenges for ICTs for better economic growth and new form of employment generation.

26.1 Introduction

The term ‘mass media’ refers to any medium of communication such as newspaper, radio, motion pictures, television, designed to reach the masses and that tends to set standards, ideals and aims of the masses. The distinctive features of any mass media undertaking is the dissemination of information and ideas to the public, or a portion thereof. The mass media may be said to include the print media of newspapers, magazines and books, the broadcast media of radio, television and movies and the comparatively newer form of media, the Internet. However latest forms of media such as Internet have not as yet made their way to a large enough area beyond major towns and cities to have significant mass impact, especially in developing countries. The traditional media has a comparatively larger reach and audience. These mediums have a good reach and can be used for entertainment or education. Mass media present the opportunity to communicate to large numbers of people and to target particular groups of people. Mass media communication is significantly different from other forms of communication in that it has the capacity to reach ‘simultaneously’ many thousands of people who are not related to the sender.

Media today has evolved into a multi-faceted entity that has become an integral part of our life. Using available technology, such as the Internet, we can now communicate with one another anywhere on Earth instantly. The technological developments of the past few decades which resulted in the convergence of information and communication technologies has affected all spheres of human life especially in the economic front. The present unit will deal with evolution of mass media, its changed dimensions in the globalisation era and its collaboration with latest developments of communication technology of Internet. The unit also deals with the impact of convergence of information and communication technologies in the economy and employment front.

26.2 The Evolution of Mass Media

If we look into the history of human communication the development of speech can be viewed as one of the defining characteristics in the transition to human civilisation. The use of pictures and writing allowed communication to move beyond the face-to-face requirements of direct speech and facilitated the development of trade and monetary exchange across large distances. The invention of printing in fifteenth century and the rapid spread of the art of printing marked the period of profound, even revolutionary change in the medium of communication around the world. Printing technology was designed for reproducing alphabetic systems. The first printed pages appeared more than 500 years ago... since then, the media has been delivering information, entertainment educative materials etc.

For centuries civilizations have used print media to spread news and information to he masses. During this period printing was the dominant information transfer medium, and for much of that time was unchallenged and so also further development of the technology was slow. Mechanical power was applied to the printing press in the 19th century and the mechanical systems entirely displaced typesetting by hand. In 20th century dramatic developments have taken place in mass media. The mechanical system was replaced by the electronic type setting and in the contemporary period the most advanced the digital type setting.

By the middle of the 19th century, newspapers became the primary means of disseminating and receiving information. The invention of the telegraph in 1844 transformed print media. The new technology enabled the transformation of information within a matter of minutes, allowing more timely, relevant reporting. During this period newspapers were appearing in societies around the world.

Broadcast radio exploded onto the media scene in the 1920s. The introduction of technologies of "mechanical reproduction" such as phonograph, photography and cinema created new opportunities for disseminating images to wider audiences with increased power and immediacy the inventions of telephony, radio and television have been even more significant in compressing time and space in communicating information to larger masses. The invention of recording and the development of telegraphy and wireless gave a vast great significance to oral communications. The invention of telephone was a great advance on telegraph, which allowed direct spoken communication. Wireless broadcasting was a great contributor to the further development of oral communications from one person to another. Different from telephone, which can be used for communication from one person to another, this could be used for communication from one person to many people provided that all of the would-be recipients of the signal had appropriate equipment on which to receive it. Wireless broadcasting of both speech and music was established in many part of the world by the first half of the 20th century and it was rapidly becoming an integral part of daily life. This gave a challenge to print in many fronts. The broadcasters could at the same time beat the printed newspapers in the immediacy of their coverage and occupy the leisure time that might

otherwise have been devoted to reading books. The term mass media was coined around 1920s with the advent of nationwide radio networks and of mass-circulation newspapers and magazines. The mass-media audience has been viewed as forming a mass society with special characteristics, notably atomization or lack of social connections, which render it especially susceptible to the influence of modern mass-media techniques such as advertising and propaganda.

The other great popular medium of mass communication during this period was cinema. Film was one of the most potent mechanisms for propaganda in the 1930s and around World War II around the globe (Feather 1998). The new medias of both broadcasting (it became "radio" in popular speech by 1960s) and cinema began to undermine the primacy of print by 1930s.

Although influential, sound broadcasting and the cinema had their limitations. The former made its impact being instananeous, the later did so by its use of powerful visual images, emotive music, and evocation of life style far beyond the reach of vast majority of its audience. Television greatest of mass media did both (Ibid).

From very tentative beginnings in 1936, television became, within little more than 30 years, the most universal and most powerful medium of communication and information ever invented. It was at once domestic, universal, instantaneous and ubiquitous. Like radio and cinema, television broadcasting also needed a complex and costly infrastructure, although in real terms the cost began to fall in 1980s as new miniaturised and digital technologies became widely available. Due to the rapidity and pervasiveness of television as communication medium very soon after its appearance in historical scene it became synonymous to mass media.

The technological revolution of today is creating new challenges and opportunities for traditional media. Never before has so much information been so accessible to so many. The amount and immediacy of information in the latest mass mediums are unparalleled. But it has not signaled the end of the traditional mediums. Newspapers in print remain a popular and powerful medium for the reporting and analysis of events that shape our lives. Taken together, the mass media of 20th century have enriched and enhanced the lives of hundreds of millions of people throughout the world. Despite the apprehensions of the moralists and the governments and the complaints of partially displaced cultural elites, mass media like radio, cinema and above all television have given more access to more information to more people than at any time in the history.

The current process of globalisation which gained an accelerated pace in 1970s and afterwords with the rapid changes in the technological and other developments had its impact on the mass media of communication also. The emergence of Internet as a networked communication and other technological advancements provided a new paradigm to mass media.

Let us learn globalisation impact on mass media.

Reflection and Action 26.1

Do you think the traditional mass media of communication such as print and radio became less significant in the current phase of technological development? Justify your answer.

26.3 Mass Media and Globalisation

During 1980s new technologies transformed the world of media. Newspapers were written, edited and printed at distance, allowing for the simultaneous editions of the same newspaper to be published form different parts of the world. Radio became increasingly specialized with thematic and sub-thematic

stations. VCRs exploded all over the world and became in many developing countries a major alternative to the official TV broadcasting. Also it provided great deal of flexibility to the use of visual media. There has been a decisive change in the nature of mass media with the multiplication of television channels. This process has been facilitated by a worldwide trend toward deregulation and privatisation of the mass media, which was till then largely under the control of the State. Development of cable TV technologies, fostered in the 1990s by fiber optics and digitisation, and of direct satellite broadcasting dramatically expanded the spectrum of transmission and put pressure on the authorities to deregulate communications in general and television in particular (Castells 1998).

The development of cross border TV stations accelerated powerfully at the end of 1980s due to the globalisation trends that was manifested all over the world. The boom in satellites, the proliferation of installed bases of dish antennae over vast regions of the world, progress in the miniaturisation of TV control rooms, cameras and small scale transmission stations that drastically reduced the distance and time in transferring communication widely lead to the success of the cross border TV transmissions. Cross border TV networks reach millions of homes around the world via cable network or collective or individual reception of satellite signals. CNN is a channel which best embodies the instant, global worldwide status of television. The channel today can reach every region around the world via a network of satellites covering the whole planet.

The growth of global mass media firms has been fueled by a parallel move toward deregulation and privatisation of mass media organisations. This is most clearly evident in the broadcasting sector, which in many countries of the world had been maintained as nonprofit, public service, state supported entities. As the forces of capitalism and entrepeneurship have emerged as the dominant model of economic organization, the state has receded as a regulator of the market place. This development has allowed the global media giants to enter into partnerships with dozens of national mass media firms around the world to produce, provide and/or disseminate news and entertainment to domestic markets. Advances in satellite broadcasting has secured the presence of the giant mass media firms in the cultural and information market place of every region of the world.

Perhaps the most significant development of the last two decades in international communication is the increasing concentration of mass media ownership within and across national borders. Concentration of mass media ownership has had two significant implications for the ways news (and other cultural products) is assembled and disseminated world-wide: First, concentration of ownership and privatisation of mass media has been accompanied by commercialisation of news and other cultural products, a trend that is characterised by aesthetic, technical, and professional standardization at the global level. And second, alliances between the international “media moguls” such as Rupert Murdoch and forces of political conservatism has led to increasingly “soft” media content. These phenomena are part of the process of globalisation.

Currently there are five major corporate players in international mass communication. These giants are News Corp., Disney/Cap Cities, Time Warner, Viacom, and TCI. In addition, two other “mini-giants,” General Electric and Westinghouse have global ambitions. Of these seven firms, all but Viacom and TCI have major news components. News Corp. is the owner of or significant partner in newspapers, television stations, and satellite broadcasting systems (including STAR TV and Sky TV) around the world. Disney/Cap Cities owns ABC. Time Warner’s recent acquisition of Turner Broadcasting, which created and owns CNN, gives it a major international presence in newsgathering and

dissemination. General Electric owns NBC and Westinghouse own CBS. All of these mega-corporations but one are based in the United States; News Corp. is based in Australia (http://www.idsnet.org).

With the proliferation of a variety of channels and programmes in television networks experts opines that there is an evolution from mass society to segmented society because the new communication technologies focus more on diversified, specialised information and hence audience become increasingly segmented by ideologies, tastes and lifestyles (Toffler 1980, Ito 1991).

The impact of mass media on the socio-cultural life of people: Television and other medium of mass communication is an integration of technology, culture, commerce and politics. As a cultural product using audio-visual codes it projects the cultural values of their producers and the social realty in which they are produced. It is argued viewing television is not merely an act of consumption but is "rather complex process of decoding cultural meanings" (Wang et al. 2000:4). This increased internationalisation of media has had an impact on the economic, socio-cultural and political spheres of society, which created "imagined societies" (Anderson 1983). By the 1990s several scholars of globalisation had begun to address consumption and the formation of transnational consumption communities, as key issues and foci for media study (Griffin 2002). Post-1990s witnessed onslaught of Transnational television also referred to as "international satellite broadcasting", "television without border", "cross border television", "transborder television", "global television" or "satellite television". That lead to unique process of communication where though most audiences were located within confines of one country the media became transnational creating transnational audiences. Varied concepts like cultural dependency, cultural imperialism; media imperialism (Schiller 1976, Boyd-Barrett 1998, Lee 1980) communication imperialism, electronic colonialism etc. came into being. All these concepts dealt mainly with the flow of transnational television programs from West to the other parts of the world.

Mc Luhan (1964) visualisation of "global village" also was inspired by the penetration of alien culture into local/regional culture mediated by this process of internationalisation of mass media. His vision of a global village was the first substantial attempt to analyze the profound impact of internationalisation of cultural techniques on various dispersed societies, which are exposed to the same signals and messages. His view inspired the vision of an unknown transformation of cultures and societies into a "global village," a new cultural space of 'sameness' and 'uniformity'. In recent decades, technological developments have triggered a new complexity and diversity of globalisation, not only of a 'global culture', which is still today the central topic of the sociological globalisation debate (Tomlinson 1999), but also of political communication.

Notions of a global 'public' sphere - a new dimension of the globalisation process have gained a new awareness since September, 11, 2002 (Volkmer 2003). In the public spheres there also arose private and individual spheres. The Internet, following Manuel Castells' (1996) argument, has increased the dynamics and complexity of the political globalisation process and has created a new global "network society" or what he calls "Networked Individualism" (Castells 2001). To him although media have become indeed globally interconnected, and programmes and messages circulate in the global network, we are not living in a global village, but in customised cottages globally produced and locally distributed (Ibid). Appadurai also argued that the central problem of globalisation is the "dialectic tension" between cultural homogeneity and heterogeneity a dilemma perpetuated mainly by media. And today's 'dialectic tension' invariably affects life-worlds.

There is also a growing belief that the spread of culture through mass media is unbalanced and thus has led to the term cultural imperialism being applied in society. Tomlinson (quoted by Poux 2004) defines cultural imperialism as the use of political and economic power to exalt and spread the values and habits of a foreign culture at the expense of a native culture. Cultural imperialism theory suggests that one culture (usually the developed countries) exports cultural products (electronic/mass media productions) to another society (usually developing countries) with the goal of a) eliminating native cultural representations and b) replacing them with "alien" representations which in turn are supposed to c) transform the culture so that it loses its autonomy and becomes 'assimilated' into the global capitalist world-system. In many ways, it arises out of the critique of media and ideology from people like Herbert Marcuse. For Marcuse and others, the media are used as an instrument to promote the ideology of the ruling classes, and to perpetuate the "false consciousness" of the masses. While they argue electronic media are a threat to indigenous peoples by way of making them to give up their traditional customs, rituals, and practices in favor of the new technology, undermining the strong "oral" character of indigenous societies. Some scholars (Mander 1991) argue that television, radio, and other electronic media are allowing indigenous people to reassert themselves on the global stage and have their voices heard.

Reflection and Action 26.2

Discuss the role of mass media in accelarting the pace of globalisation process.

26.4 Internet as a Mass Media

For much of the last one hundred and fifty years the most striking features of the development of the communication technologies have been the capacity to convey information to an ever-expanding range of audiences with a speed that now makes communication instantaneous. The speed of both broadcasting and interactive communication technologies has helped to compress dramatically all kinds of relationships across both time and space. The media in all its forms became a central influence in the creation of individual, communal and national identities in the postindustrial societies. The emanicipatory potential of new information and communication technologies has been further strengthened by the emergence of the Internet as a decentralised, interactive, comparatively more democratic network that created virtual communities and multiple realities.

From modest beginnings as a showcase for the technology and its commercial possibilities for image advertising, the Internet has had a role in expanding the media environment. The Internet fundamentally depends on telecommunications capacity. It is widely predicted to produce "digital convergence, in which computing, telecommunications, and broadcasting all merge into a single stream of discrete bits carried on the same ubiquitous network. In this transformation of mediated communication into a more vernacular, more interactive, more nearly "natural" channel, the Internet stands out for expanding participation in whatever it touches.

Some scholars have argued that the Internet has become a mass medium used mostly by relatively passive consumers, and as such major content providers will dominate it (Margolis R). There is another view, which argue that Internet is not a mass media. According to them since Internet is giant network that interconnects innumerable smaller groups of linked computer networks and considering the three functions of Internet namely i) electronic mail or e-mail (transmission of messages to addressee or multiple addressee), ii) bulletin board (like ordinary bulletin board) and iii) World Wide Web (documents stored in Internet carrying varied information), it is evident that it is available only to the owner of a computer which is connected to network of computers and

hence it cannot be considered as a mass media. They view Internet for transmitting messages to the owner of the computer and it does not transmit message or information to the general public as mass media does.

There had been attempts to compare Internet and other mass media in terms of audience. Baran and Davis charecterise mass communication as a process involving i) an organised sender ii) engaged in the distribution of messages iii) directed towards a large audience. They argue broadcasting fits into this model. Internet, which is considered as an interactive pipeline that excludes the possibility of broadcasting, it may not have audience in the traditional notion. Unlike traditional broadcasting Internet communities does indeed include the possibility of interactivity and niche communities. In that sense the so-called audience of Internet is limited and specified.

Morris and Ogan define the Internet as a mass medium because it addresses a mass audience mediated through technology (Morris and Ogan 1996). They divide producers and audiences on the Internet into four groups:

- One-to-one asynchronous communication (e-mail);
- Many-to-many asynchronous communication (Usenet and news groups);
- One-to-one, one-to-few, and one-to-many synchronous communication (topic groups, construction of an object, role-playing games, chat rooms);
- Asynchronous communication (searches, many-to-one, one-to-one, one to-many, source-receiver relations) (Morris and Ogan 1996)

Thus, according to them some Internet communication qualifies, as mass communication while some does not it is too slippery to define the audience of this medium.

As the World Wide Web (WWW) makes pre-packaged content the norm, the Internet increasingly resembles a traditional mass medium (Rosco). Timothy Roscoe argues that the main focus of the World Wide Web is not the production of content (and, hence, the fulfillment of the Internet's democratic potential), but rather the presentation of already produced material: "the dominant activity in relation to the Web is not producing one's own content but surfing for content" (Ibid). He concludes that if the emphasis is on viewing material, the Internet will become a medium similar to television.

Some scholars, when discussing new media of communication, longer even refer to audiences. They speak of users or consumers (Pavlik and Dennis 1998). The logic of the marketing model lies in the changing revenue base for media industries. Advertising-supported media revenues have been dropping since the early 1990s while user-supported media such as cable, satellite, online services, and pay-per-view have been steadily growing (Ibid). In the Internet-based media landscape, the audience is a revenue stream and a source of consumer information and in that sense Internet is a mass medium.

The Internet is the first medium that allows access to unedited material or information about events to be delivered to an audience with neither the time constraints of broadcast media nor the space limitations of the traditional press. This is often cited as one of the characteristics that set the Internet apart from other media. This feeds the idea of the Internet audience as a participatory, democratic public. For example, it is often claimed that the Internet can foster democratic participation by providing voters with uninterrupted information about candidates and issues (Selnow).

26.5 ICTs — The Convergence of Information and Communication Technologies

Convergence in communication technologies means that different kinds of communication technologies are coming closer to each other. During the past few decades of rapid technological advancements the boarders between

telecommunications, the Internet and mass media are receding. The convergence of communication technologies means one terminal device, for example a mobile telephone or a digital television can be used for various different services.

In order to survive in the digital era most of the mass media sources find ways to get involved with the new technology, Internet. Due to the high demand for the new media called Internet, other sources of media such as newspapers and other TV channels started taking advantage of this source and began to make their homepages on Internet sites. The difference between the Internet and other media sources is that Internet provides Information technology, such as digital recording system, voices, images and broadcasting media etc. all in one medium.

The peculiarity of the emerging information society also is that both information and communication technologies such as telephone, computer, cable television and other media technologies are all merging together to form one entity working for the effective communication of information compressing time and space to almost nil. Digitization, convergence of technologies, and networking (all the specialities of post modern technologies) lead to a transformation in the nature and expectations of mass media (Cunningham and Turner 2002). These technological advancements made mass media more interactive. For example SMS voting became popular in the present times and increased audience interactivity in the case of both print (such as newspaper) and broadcasting media (such as television and radio). The convergence of media technologies and the digital forms of access and delivery offer even more ways for the audiences to engage with the media. The convergence of wireless form of communication allows the audience to a higher interactive platform. For example an IGNOU student sitting at the study center can engage in a discussion with the subject expert at the University center also by viewing him on the TV screen. Another example is how some official web sites invite audience to vote and decide what is being broadcasted or a viewer can a ask a question to the anchor of a programme while it is being broadcasted either in TV or radio.

It is important to state that the convergence seems to be a condition of all contemporary media and the media technologies; all contemporary media can be associated with other media forms and the boundary between them are getting less clear as new technology developments enters the market. New technologies that allow convergence between televisions and computers have been developed. Experts even predict a total convergence of television and Internet where Internet is available through TV sets (Deery 2003).

26.6 ICTs Boosted Service Economy

One of the striking aspect of the convergence of communication and information technologies and the resulting technological revolution is the emergence of the use of this technologies for application in different areas of economic activities with significant implications. The claimed benefits of these new information and communication technologies are i) it improves the quality of life by eliminating the repetitive and dangerous work, ii) it increased efficiency and productivity, through better decision-making and cost effective procedures (Abrol and Jain 1990). There has been a considerable growth in service economy compared to other economic activities such as agriculture and industry in the past few decades of rapid technological development. This was mainly because the activities related to service economy become less expensive and more convenient to the consumers with the help of new information and communication technologies. Although service sector was the most important sector to feel the impact of the new information and communication technologies, surveys of international experience clearly shows that the impact of ICTs differs from country to country and sector to sector and the impact

is determined to large extent by the way the country uses it. It is also evident that the introduction of ICTs demands a fundamental change in the work content. Work that previously required combing perceptions and the use of senses with cognitive processing is now largely dependent on cognitive processing with automation taking over the other elements of the work process (Ibid).

Now let us examine why the emergence of the ICTs aided the growth of service economy. We have already seen in unit 22 what service economy is and its different categories. Here too we will see briefly the features of service economy.

According to Distributive Trade Statistics in India, Service Sector covers a wide range of economic activities. It includes services related to wholesale and retail sale such as such as hotels and restaurants, real estate, machinery renting and leasing, data processing, advertising, motion pictures, broadcasting, photography repairs and some personal services. Besides the sectors of trade, hotel and restaurant, transport, storage, communication, real estate & ownership of dwellings, banking and public administration, it also covers the sectors of business services and 'other services'. Business services include business accounting, software development and data processing, business and management consultancy, advertisement and other business services. The sector 'other services' comprises education, research & scientific services, medical and health services including veterinary services, sanitary services, religious and other community services, recreation and entertainment services and personal services like domestic, laundry, dyeing and dry cleaning and barbers and beauty shops. If we take it on the basis of performance of the service economy we can see that the rapid employment growth in services sector of several OECD countries over the past decade results from the strong performance of certain market services, notably telecommunications, transport, wholesale and retail trade, finance, insurance and business services. Over the past decade these services accounted for around 60% of all employment created in the OECD area. Moreover they are charecterised by growing use of productivity-enhancing technologies such as ICTs (OECD 2005). Among the services, while the share of telecommunications and business services is 60% the remaining 40% are from community, social and personal services including health and education (Ibid). In Inida as per the data released by Central Statistical Organisation, in the first half of year 2005-2006 there is a spurt in the service sector. Among services, the highest growth was seen in trade, hotels, transport and communication 12%, whereas francing, insurence, real estate and business services grew by 9.9% (HT, 1st Dec. 2005).

The technological innovations, particularly in the area of ICTs, that have underpinned the birth of the information society were sparked in OECD countries. An analysis of economic development of the OECD countries shows among other factors ICTs plays an important role in the transformation of service sector. It is seen that ICTs can help services firms to introduce new business models, develop new applications, improve and re-invent business processes, enhance customer services and raise efficiency throughout the value chain. It also shows much of the ICTs use is in service sector. With ICTs revolution people can have their bank account balance sent to them by text message, get pensions and benefits paid straight into their bank accounts, and can pay their taxes online. Such ICTs innovations have been embraced widely by organisations in all service sectors as a way of transforming the way they work. There are four main reasons why ICTs can add value to such organisations. It a) changes transactions b) changes interactions c) enables sharing of information across boundaries d) overcomes spatial constraints. All these four factors if applied give value added advancements to all economic sectors especially to the service sector. ICTs is also seen as critical to improving the efficiency of transactional services, the back office and the 'productive time' of staff. It is seen as vital to offering 'choice' of delivery channel – face-

to-face, phone or online – and as enabling transformation of long-established working practices, for example by giving social service workers remote access to electronic information, thus enabling them to stay 'out and about' and see more people for longer. ICTs add value by allowing users to operate within faster, larger and more interactive networks. These lower transaction costs and speed up innovation because people and markets are better connected, whether in sharing knowledge or trading goods. Firms use ICTs to improve efficiency and reduce costs.

Reflection and Action 26.3

Examine the reasons why there is a higher growth in service sector in ICT age?

In a case study conducted by Australian Government's Department of Communication, Information Technology and Arts found that it is advantageous to adopt information and communication technologies by Non-profit organizations and communities in enhancing operational efficiency and capability, delivering services and support; and building communities, networks and connections.

- ICTs helped enhancing operational efficiency and capability in terms of
- Improvement in work processes in administrative and financial operations. This results in reduced processing time, less waste and reduced costs or reallocation of resources.
- Improved business information management, resulting in increased capacity, continual improvement of service delivery and decision making.
- Improvement in the organisational culture surrounding the use of ICTs and there is better use of information. This helps empower staff to be innovative.
- A planned or architected approach to ICTs implementation and management, such as centralisation of ICTs operations or using open or interoperable systems, facilitates:
- greater alignment of ICTs with overall strategic and organisational objectives;more robust, portable and flexible ICTs applications; and improved connections and engagement with external agencies.
- Collaboration, directly or through an intermediary, enables greater sharing of ICTs resources, training and knowledge and cost sharing.

In delivering services and support ICTs helped in terms of

- Creating new opportunities such as improved relationships with members or clients. It also enhances an organisation's capacity for online engagement and access to a wider audience and interagency coordination, collaboration and networking.
- Providing wider community benefits, for example volunteers skills transfer, and enhances the role of nonprofit organisations as trusted intermediaries in the community.
- Overcoming social and geographic isolation and exclusion so there is greater access to and availability of information, services and support for clients and members.
- Better access to ICTs facilities, training and support can empower clients.
- Improved outcomes for members such as the ability to keep in touch and share knowledge or skills with other members through online community networking.

- Voluntary member-driven organisations can provide ICTs training that is appropriate and relevant to their client group.
- With support, community organisations that previously felt overwhelmed by ICTs issues are developing confidence that they can move forward without losing control.
- Ability of small organisations to collaborate and take advantage of economies of scale by, for example, jointly develop new services or applications, such as online donations.
- The capacity for ICTs can not only provide direct benefits to organisations but also enable a multiplier effect, extending benefits to wider networks and communities.

  In building communities, networks and connections (such as bonding bridging and linking social capital) ICTs helped in terms of

- ICTs can be effectively built into equity strategies targeted at the needs and interests of particular groups.
- Mixed models which combine face-to-face and online interaction can act as a transition strategy in communities with low levels of ICT skills and use.
- ICTs can be used as a tool to connect individuals to a range of community types, both wired and virtual, primarily designed to increase bonding social capital providing a sense of belonging, inclusion and community.
- ICTs can be used to create bridging social capital between geographically or socially diverse individuals forming a basis for collaborative work and understanding

  At the same time they also encountered certain common barriers and challenges. The most common barriers and challenges encountered are:

- costs and lack of resources;
- level of ICTs skills, knowledge and awareness by staff, management and board members;
- ensuring sustainability;
- lack of experience with ICTs (or ICTs readiness) within particular sectors and smaller organisations; and
- the need for specific skills such as negotiating a contract, system implementation and change management present a significant challenge for many organisations. (http://www.dcita.gov.au/ie/community)

Although these findings are related to the social sector services it is applicable to other service sectors too.

26.7 ICTs and Employment Opportunities

ICTs can contribute to employment and income generation and poverty reduction. It enables people and enterprises to capture economic opportunities by increasing process efficiency, promoting participation in expanded economic networks, and creating opportunities for employment.

ICTs enhance the economic productivity across region and geographic location. For instance ICTs can enhance rural productivity. ICTs enables solution sharing between local people and communities, providing access to practical

information on small business accounting, weather trends and farming best practices, for example. Timely access to market information via communications networks also helps farmers make appropriate decisions about what crops to plant and where to sell their produce and buy inputs. In Chile, for example, an Internet network among farmer organisations has dramatically increased farmers' incomes by providing information about crop status, weather, global market prices and training. ICTs also provide unprecedented access to rural finance service. The financial and information service network provided by Pride Africa offers micro-finance opportunities for local people and small enterprises that previously had no access to flexible financing due to rigid banking regulations and the information monopolies of government and large businesses (http://www.opt-init.org).

ICTs enable improved business process efficiency and productivity. Businesses can reduce operational costs by decreasing material, procurement and transaction costs, resulting in lower prices for intermediate and finished goods, and they can also use more and better information to improve the value of their output. ICTs, for example, provides an e-trading platform to utilities companies, which may help both sellers and buyers by simplifying their procurement processes and thereby reduce costs. In another example, a number of companies in developing countries are using the Global Technology Network, provided by the US Agency for International Development (USAID), to find comparable small and medium-sized US companies to share business solutions that satisfy their existing technological needs (Ibid).

ICTs facilitate global connectivity, resulting in new ways of creating and delivering products and services on a global scale. New business models and market configurations enabled by ICTs, including business process outsourcing, value chain integration and disintermediation, provide developing countries with access to new markets and new sources of competitive advantage from which to drive income growth. Through PEOPLink's global artisans trading exchange, for example, local craftspeople in developing countries are increasing their incomes not only through access to new markets, but also because the wholesaling intermediaries for their produce have effectively been removed. Local craftspeople can now receive up to 95 percent of the selling price for their produce where previously they received only 10 percent (Ibid).

ICTs have lead to massive job generation in some of the OECD countries. For instance in Japan, more than 2 million jobs were created by IT between 1990 and 1999 (Bamber et al 2004). ICT can contribute to better employment opportunities in developing countries also both through improved labor market facilitation and direct employment. Using electronic job marketplaces, employers and employees can match labor skills and availability to satisfy their demands. For example, TARAhaat, a portal designed to serve villages in rural India, provides job opportunity information on local web sites in local languages. In addition, the establishment of local telecenters in countries such as Bangladesh, India and Senegal has created direct employment for thousands of local women and men.

Reflection and Action 26.4

What are the new employment opportunities created by the proliferation of ICTs?

ICT favoured job opportunities for Women: Information and communication technologies have created new types of work that favour women because the technology enables work to be brought to homes and allows for better accommodation of work and family schedules. Women have also been able to capture a large proportion of jobs in ICTs-enabled services because of the worldwide shortage of skills necessary for work in this sector.

Thus far, the most promising potential for women is in the creation of new jobs at call centres and in work involving data processing (Swasti Mitter 2001). The ILO reports that "telecentres and fax booths have created a quarter of a million jobs in India in the last four years alone, a huge proportion of which have gone to women" (www.ilo.org).

Internationally outsourced jobs, such as medical transcription work or software services, do make a considerable difference to the lives and career paths of women in developing countries. In software, women enjoy preferences on a scale that they never experienced in any other field of engineering and science. Women in India occupy 27 per cent of professional jobs in the software industry, which is worth 4 billion US dollars annually. Women's share in the employment total in that industry is expected to rise to 30 per cent in 2001.

Although impressive, the prospects for women, as recent research and projections indicate, lie more in Information Technology Enabled Services (ITES) than in software services. The worldwide demand for ITES is expected to grow at a dramatic rate in the coming decade, to USD 671 billion by the year 2005 (http://www.usaid.gov/wid/pubs). With revenues of USD 870 million from ITES (also called Remote Services) in 2000-2001 and an annual growth rate of 66%, India currently has the potential to target a large part of the market. In 1999, NASSCOM projected that by 2005 employment figures in ITES in India could reach 1.1million. Although there are no gender-disaggregated statistics according to the Confederation of Indian Industries (CII), at least 40% of these newly created jobs are taken by women (http://www.indiainfaline.com).

The ILO Report cites several examples where ICTs have enabled women to tap global markets for their products and raised incomes. New technologies and networking are new means by which women are empowered to improve their economic and social status. Examples of this include:

The Grameen Bank Village Phone project, which provides mobile cell phones to its mostly female members in Bangladesh, demonstrates not only the employment-generating impact of the women who collect fees for the usage of their mobile phones, but other positive spill-over effects as well. Mobile phones and access to the Internet have given rural Bangladeshi women access to learning, created new opportunities for autonomy and improved their position in community and public life.

SEWA, India's self-employed women's organization, which has been organizing women in the informal sector since 1972, and has a membership of over 215,000, was one of the first organizations in India to realize the potential of harnessing ICTs for the productive growth of the informal sector. By organizing computer awareness programmes and imparting basic computer skills to its team leaders and association members, SEWA has enabled many of its members to launch their own Web-sites and to sell their products in the global virtual market place.

These examples illustrate how technology can improve the lives of poor women by opening up opportunities they were previously excluded from. Electronic networking between women has led to new social and economic phenomena, such as e-inclusion, e-campaigns, e-commerce and e-consultation. The empowerment of women via technology in this way enables them to challenge discrimination and overcome gender barriers (Source: http://www.opt-init.org).

However, even in ICT age with a higher job opportunity for women, studies show that there exist gender disparity to a great extend in employment in terms of status sector and wage/earnings (ILO 2005). ILO studies show that wome are also likely to earn less than men for the same type of work. Most of the new job opportunities are found in the informal sector of the economy where there is little social security and high degree of volatiility.

26.8 Challenges for ICTs for Better Application in Service Economy

It is very clear that the ongoing development of ICTs in all its forms and applications is driving radical change in our lives, with the constant creation of new products and services, new ways of conducting business, new markets and investment opportunities, new social and cultural expressions and new channels for citizens and government to interact. To maximise the potential benefits of ICT to the economic development, especially the service economy certain things need to be taken into account.

Let us see what are the essentials needed for the success of the service economy. OECD case studies of some international services firs show that a number of factors are common to their success. These factors are i) open markets ii) innovation and ICTs (innovation either in terms of processes or products and introducing ICTs and developing applications) and ii) work organization and human resources (organisation of work, motivation and skills of workers, and the company culture). ICTs are particularly important for service sector innovation, as this enables the firms in a variety of services industries to engage in process innovations throughout the value chain, develop new applications, and raise productivity. While service sector has been widely transformed by ICTs, there are certain challenges that have to be tackled with successfully.

The development of efficient, low-cost and broadly diffused networks remain a high priority for the wide spread ICTs application in service sector. This will require continued efforts to improve competitive conditions for tele-communications services. Broadband networks are particularly important, as they will offer new opportunities for many services, including health, education and government. It had been seen that privacy and security concerns remain among the key barriers to ICTs use. Hence it is required to develop regulatory frameworks and technological solutions that can enable electronic business and digital delivery of services like health, financial services, tourism, distribution or logistics etc. that foster the culture of security.

ICTs are only a tool for development and these tools can be used for acceletating development. It is clear that for maximum gains to emerge, the development of essential ICTs skills, including software development is necessary. Without such skills, the technologies can neither be maintained nor adapted to local usages, from which greater economic advantages are obtained. Literacy and education are vital for reaping greatest advantages for the emerging digital/ ICT era. The promotion of education and literacy in general, and digital literacy in particular, is a challenge facing all countries. Educational differences underlie the different rates of ICTs penetration in different societies.

The adoption of ICTs in enterprises is creating two types of skill needs. The first relates to a variety of foundation skills, such as the ability to learn, to communicate, and to analyse and solve problems, all of which are essential to work environments that rely on rapid innovation, and the interpersonal exchange and creation of knowledge. Also required are the technical skills that related to ICTs itself, the need for which extends well beyond the ICTs sector to the economy as a whole.

26.9 Conclusion

The present unit begins with a brief introduction to the evolution of mass media. Print was the main medium of mass communication till the middle of 20th century. With the invention of broadcasting and wireless transmission other medium of mass communication posed challenge to this. With the invention of new technologies and introduction of television, things started changing dramatically in the field of mass communication. With globalisation getting accelerated pace and more and more privatisation and liberalisation of

mass media of communication, the transformation was tremendous. The convergence of information and mass media communication technologies and the networked communication technology of Internet drastically compressed the twin concept of time and space in terms of communication of information across societies. This convergence of ICTs reflected in the economic, social, cultural etc. spheres of human life. All these aspects have been elaborated in this unit. The unit also briefs on the ways in which ICTs boosts service economy and also challenges in applying the advanced technologies for the further expansion of service economy.

26.10 Further Reading

Feather, John 1998. *The Information Society*: *A Study of Continuity and change*. Library Association Publishing: London

Georgios, I. et al 2004. *Social and Economic Transformation in Digital Era*. Idea Group: U.K.

Crede, Andreas and Robin, Monsell 1998. *Knowledge Societies in a Nutshell: Information Technology for Sustainable Development.* IDRC: Canada