UNIT 14

INFORMATION AND KNOWLEDGE ECONOMY

Structure

14.1 INTRODUCTION

The task of an economic geographer extends to define and systematise the different dynamics and forms of governance across the types evident in local, regional and international innovation systems. In addition, to differentiate such systems constructed on the basis of kinds of knowledge also forms part of their task. Science-based industries are known to function on the forms of 'analytic knowledge' whereas engineering industries is based on the application of 'synthetic knowledge'.

As opposed to these two, creative industries tend to function on the forms of 'symbolic knowledge'. It is typified by the application of creative, original, and inventive foundations and perspectives. All of such diverse forms of industries demand varying levels of local socioeconomic institutional conditions. Such categorisations of knowledge may help us to understand the complex networks of knowledge flows and the development of local, regional and international innovation systems.

Thus, it becomes imperative to comprehend the geographies of innovation to decode the processes of changing economic landscapes unleashed by the application of knowledge-centric economic activities and services. Such developments are also known to enhance the importance of the firms and

capabilities of skilled knowledge workers to shape and reshape the innovative capabilities of individuals, diverse geographical regions and localities across the globe.

In recent times, the rise of 'New Economy' has spearheaded stimulating developments in the subject matter of economic geography. However, the precise meaning and significance of the 'New Economy' is subject of debate. As such, varied interpretations of its key characteristics and spatial implications are envisaged. Towards the end of 1990s, some scholars tried to associate this concept with transient boom of internet 'dot-com' companies.

However, this concept has acquired rather more substantive, albeit debated connotations. For many, it symbolises a profound shift towards an information-orientated, knowledge-driven economy. It is characterised by constant innovation which is considered important to gain success in today's competitive global marketplace. This perspective highlights the spatialities of the creation and genesis of new knowledge within 'territorial innovation systems' and the networks by which such new knowledge flows from one place to another place.

Economic geographer's task is to determine the reasons for creation of such innovative-rich and 'learning' regions as well as to seek answer to the question as to how varied forms of knowledge are characterised by diverse range of spatial logics and dynamics. These forms of knowledge are known as codified, tacit, analytic, symbolic, and synthetic etc. In such discussions, emphasis is frequently put on local institutional, social, and cultural determinants of knowledge creation and circulation rather than global dimensions.

Section 14.2 and 14.3 describes the nuances of information revolution and information super highways. Next Section 14.4 throws light on the netocracy. Section 14.5 deals with the information overload and economies of human attention. Section 14.6 discusses the debate of traditional versus knowledge economies. Section 14.7 and 14.8 are devoted to the study of creative industries and cultural economies along with imagination age and economies. Last Section 14.9 discusses the subtleties related to digital divide and economy.

Expected Learning Outcomes

After studying this Unit, you should be able to:

- explore more about the knowledge and information economy;
- comprehend information super highways;
- state what netocracy is; and
- explain the information age and economies along with the digital divide and economy.

14.2 INFORMATION REVOLUTION

History

The information revolution is a phenomenon that challenges straightforward categorisation. Its origin is rooted in the very recent past, namely with the British codebreakers at Bletchley Park during World War II, who developed

"Colossus". It was the initial functional computer in the world. A portable calculator now surpasses that rudimentary apparatus. The beginnings of the information revolution may be traced back to the advent of the radio, telephone, and telegraph. Information has, in several respects, been diminishing the world's size since the advent of the printing press. The information revolution, as currently seen, is regarded as the most consequential worldwide shift since the industrial revolution. It significantly facilitated the transition of the world's most industrialised nations from industrial to information-based society. In information societies, citizens, businesses, and governments increasingly depend on high-speed and high-quality information to perform their everyday activities and operations. Data elements have emerged as the foundational components of various forms of human connection and activity. The revolution is most effectively exemplified by its outcomes. The velocity and capacity of computing power have surged tremendously, while expenses have significantly decreased, resulting in personal computers being present in half of all American households. The information revolution is transcending computer networks (Copeland, T.E, 2000, p. 1-2).

It is believed that information revolution carries unprecedented powers and is of multiple dimensions as far as changing nature of economic geography is concerned. It is known to provide a kind of fuel and fodder for unleashing the knowledge/information driven economy in present times. The way and the pace, information revolution is progressing during 21st century is believed to change the face of the world, both in terms of economic and social transformations.

The trend of information revolution circumvents in two directions. One is oriented towards augmenting the choices of both entrepreneurs as well as consumers in the society. Other one is related to the imbalances which it may likely generate on the economic landscape of diverse geographies and nations by reducing the demand for physical labour due to increased automation of manufacturing processes. It may affect demographically rich nations that too developing nations like India, South Africa and Brazil etc. It has ushered the path-breaking innovations into diverse spheres of economic organisations and networks, fuelled by the forces of globalisation, privatisation and liberalisation.

An Industrial Economy

Industrial economy provides the foundational base for the development of information technologies. This development is leading to a creation of an entirely new economy i.e., information economy. It is quite disparate from the industrial economy which had its roots rested on the base of an agricultural economy. The way agriculture economy thrived well with the advent of industrial revolution, similarly secondary activities or manufacturing is likely to thrive well during the time of information revolution. However, drastic reduction was anticipated in the proportion of workforce dependent on agriculture as a result of industrial revolution. In the same manner, information revolution may also reduce the importance of secondary activities or industrial manufacturing. In near future, procurement of source of information may incur the substantial proportion of financial resources. Some of the notable areas would be worker’s skills or the necessary data and its analysis to conduct business to succeed

well. The dominance of information on global economy may become evident in the form of information as ‘economic product’, albeit intangible in nature and form. In the coming times, wealth and prosperity of diverse economies is likely to rest upon the precise acquisition and fruitful application of knowledge and information.

Access to natural resources and required investment of capital provided the base for industrial economy. Besides these two factors, availability of cheap labour also determined the success of an industrial economy. For example: New York emerged as America's biggest city due to existence of best natural harbour on the East Coast and the investment capital to build the Erie Canal to the Midwest. Similarly, Pittsburgh emerged as iron capital of Russia due to its proximity to nearby coal and iron ore deposits. Vast network of rivers and lakes provided means for transportation. Thus, the success of a geographical region or a nation largely depends on the availability of natural resources and the capital to harness the same economically in a beneficial manner. Around 1900, ten of the twelve most prominent companies in America flourished on the basis of natural resources. Many countries generated their wealth by making use of available natural resources to produce marketable goods, with value addition. During the 1990s, some of the fastest-growing industries indicate the changes ushered by the information revolution. These include "microelectronics, biotechnology, material sciences, telecommunications, civilian aircraft manufacturing, machine tools and robots, and computers (both hardware and software)". These are knowledge-based industries. They have the locational advantage of establishing anywhere on the basis of required human capital or resources i.e., the educated knowledge workers.

Thus, availability of natural resource and role of capital alone no longer holds much importance as determining factors. Parallel to the availability of knowledge workers worldwide, capital may also be arranged from the growing influence of the world capital market operating as a commodity market. It has three mega-scale trading centres including New York, London, and Tokyo. Besides, there are many more financial centres across the world, which you will study in next Unit 15. Prominent ones are Shanghai, Beijing, Mumbai, and so on. In contemporary times, any entrepreneur laden with precise and sound business plan may establish a capital-intensive plant in any country of the world. It is slowly eradicating the difference between capital-rich and capital-poor countries as far as the issue of business establishment is concerned. Quintessentially, intangible pool of knowledge and skills of the workforce have emerged as mantra of razor-sharp competitive vantage in the information driven economic sectors.

Information-based market economy offers slight economic advantage to those producing low cost innovative products. It also rests on mastering the process technologies to assemble products at the lowest possible cost. It is fundamental skill to excel in the information economy. Quick application of information to develop and market newer products lends the economic dominance to one particular firm or a company over the others. For example, Intel Corporation is credited to produce new generation of microprocessors in every thirty-six months. Within these 36 months, a new generation of microprocessors enters the market, with an average four to five incremental upgrades. Two of the Intel's competitors, named AMD and Cyrix, often lag

behind to develop and produce such upgraded version of competitive microprocessors. The moment AMD or Cyrix brings out a competitive product, their arch rival competitor Intel starts developing newer and more capable products to meet the diverse needs of specific clienteles.

There may be more such examples; you may explore such examples of excellence in other segments or products to invigorate your thinking skill. One more current example is of smartphones (like Apple) and passenger vehicles (like Ford, Suzuki, and Toyota etc.), which has leveraged production units to low cost labour processing and assembling units like that of India, that has drastically helped to reduce the cost of a final product. There are many more such cases pertaining to electronic gadgets across the category of appliances whether it is home based or belongs to the professional world, e.g. television or laptop computers etc.

In recent times, other than the factors of investment capital and natural resources to gain economic success, a new factor seems to have taken their place i.e., - knowledge. Knowledge has emerged as powerful source to lend a business enterprise or firm a better and competitive edge and advantage over other players in the market, locally as well globally. It is recognised as a sole source of enduring and sustainable competitive advantage. However, knowledge can only be employed through individuals as it is characterised by intangible pool of soft skills and capabilities, with varying individual manifestations. The growing information economy is known to create and preserve pool of skilled and knowledgeable individuals. Unlike resource-based or location oriented industries, information-based industries are not constrained to establish its operation in any particular location within the precincts of natural resources. However, they may operate from an ideal location, where the necessary pool of skilled individuals and information infrastructure necessary to support them is available. Likewise, the mobility of individuals (skilled and intellectual capital) may provide their services where they are most valued. Their movement is of highly mobile and dynamic nature both at national and international scales. The nations that may implement elevated taxes, onerous regulations, or seek to suppress information dissemination may circumvent their insufficient intellectual capital to compete in the global marketplace of the Information Age (Hull, G. B., 1997).

Thus, information revolution has marked a perceptible transition in the overall trajectory of human life and their livelihood activities. It is omnipresent and its manifestation can be seen in the way people use to think, work professionally and move from one region to another region in digital technologically enabled human environment and world. Of course, there are wide ranging local, regional, national and global variations amongst the people of diverse cultures and nations in making use and taking vantages arising out of information revolution. It may further be seen to be varying from one socio-cultural group to another socio-cultural group within and across geographical regions and nations of the world.

SAQ I

Give a brief account of the Information Revolution.

14.3 INFORMATION SUPER HIGHWAYS

This term is indicative of its meaning. The "information superhighway" is a kind of route/passage that denotes the uninterrupted flow of information across the length and breadth of countries and continents. It was initially used by the US Administration to develop National Information Infrastructure. During contemporary times, it is often used to represent diverse fields of development that is oriented to provide large-scale, high-capacity telecommunication networks transcending physical barriers and distances. This term is used to describe the services provided by an array of advanced telecommunication networks. It helps to transmit interactive computerised services, a part of 'multimedia revolution'. Such services are basically devoted to diverse strands or areas of human spatial activities. These services are wide ranging and may include diverse areas. Some of the notable examples could include entertainment (e.g., television, videos, multiplex cinema complexes, computer games and robotics etc.), education (e.g., distance and online learning and collaborative university and autonomous research institutions), business enterprises (e.g., information interchange, video conferencing, teleworking, remote working), medicine (e.g., remote and online consultations), and many others.

Recent media commentary has generated significant misunderstanding on whether advances such as multimedia, home shopping, video on demand, and the "Internet" qualify as a "information superhighway". Despite their excitement, it is widely acknowledged that these advancements have not yet produced a genuine superhighway. Definitions vary; nevertheless, it is generally accepted that authentic superhighways must support "two-way broadband" traffic. "Broadband" denotes a high-capacity data link with a substantial bandwidth, capable of transmitting considerably more information than a "narrowband" telephone line. The term "information superhighway", or "infobahn", was prevalent during the 1990s. It was utilised to signify alphanumeric communication technologies and the Internet telecommunications network" (Lea, W. 1994).

The information superhighway or commonly known as infobahn was a kind of pervasive term during the 1990s. During the peak of the dot-com boom, Forbes magazine published an article titled 'Golden Spike', by John Steele in 2000. This article compared the development of railroad system in the United States with that of Information Superhighway. It highlights the power of information superhighways in bringing the revolution in society and economy.

The term 'Information Superhighway', helps to ascertain the impact of Internet on socio-economic, and technological changes during the 21st century in profound ways. Like space ventures, such impacts may not be seen in isolation. They may extend to diverse subjects and include diverse strands of technological, economic, political, sociological, and intellectual aspects, etc.

Information super highways are helping to reshape the economic geography and landscape of diverse geographical regions in much more profound ways than the industrial or agricultural revolutions could have done it together. As an innovation leads to increased connectivity, the railroad helped to connect the East with the West during the last century. Parallel to such kind of innovation,

the Internet is helping rapidly to connect smaller and remote village worldwide, irrespective of factors of relative remote location and geographical isolation. Over a period of last one decade or so, we have been witnessing that how Internet has ushered transformation into the life and livelihood of individuals and society. It has unleashed newer dimensions into every walk and spheres of life and spatial human activities (Chong, P. Pete et.al., 2005).

In nutshell, it has helped to provide information related to the educational and economic opportunities at much faster pace irrespective of place of residence and type of settlement. A resident of a small village, town, city or a metropolitan city may access the required information just at a click of mouse, with Personal Computer (PC) or Smartphone and access to the World Wide Web. It has helped to break many kinds of stereotypical barriers and prejudices just at a click of mouse across the binaries of rich and poor, urban and rural, men and women etc. It has become a kind of level playing field for one and all to access the required piece of information and make use in best possible manners within the precincts of socio-economic, institutional and other factors.

However, it doesn't mean that each and everyone are able to transform her/his life and livelihood equally as comfortable as possible. There are marked variations between the countries of global north and south on the one hand and diverse segments of society on the other hand.

SAQ 2

Define Information Superhighway.

14.4 NETOCRACY

The term 'netocracy' was coined by the editorial board of the American technology magazine named Wired in the early 1990s. It refers to a combination of 'Internet' and 'Aristocracy'. This term was used to describe a theoretical (hypothetical) global upper class. This upper class is believed to have an edge over the bourgeoisie. And bourgeoisie class is believed to have lesser and lesser prominence as far as technology and networking abilities are concerned. In their book titled "Netocracy - The New Power Elite and Life After Capitalism", two scholars named Alexander Bard and Jan Söderqvist later drew their attention to this idea and tried to reinterpret with contemporary perspectives. This book was initially published in Swedish language in 2000, and later in English in 2002. Richard Florida's idea of the creative class has been linked to netocracy. These two scholars have also defined an underclass a one that rejects democracy, referring to it as the consumerist class.

Globalisation is a fundamental notion that influences the contemporary world as a reality. It significantly transforms the technology sector as it affects other domains. The technological underpinnings of globalisation stem from two distinct revolutions: communication and information. The telephone represents the automobile of the communication revolution, while the computer serves as the vehicle of the data processing revolution. The advancement of laptops and smartphones has initiated a new revolution in information, communication, and

technology. This revolution has resulted in the most profound changes and transformations in the information industry. Technology has instigated a significant transformation in the creation, transmission, and acquisition of information. The knowledge society, sometimes referred to as the information society, represents both the material expression and social counterpart of this transformation. Multiple methodologies exist about the knowledge society and information society. The first acknowledges the knowledge society as generating more information than tangible goods. Secondly, it characterises the information society as an information explosion. Third, it delineates communication and information technologies within the framework of the information society (Sezgin and Yolcu, 2017).

In addition, network society is the term used to characterise the new social structure revealed by the Internet. Regarding Pareto's assertion that "History is a cemetery of aristocracies", it is evident that the Internet has established new governing elite while displacing the existing aristocracy. This indicates how the network society saw/witnessed the development of new aristocratic class. Brad and Söderqvist envisioned this group as netocrats. They assert that this arrangement resembles "a living democracy, yet it is a contrived spectacle for the populace". The essential principles of democracy, especially the concept of participation, are at odds with the dominance of a specific group in shaping public policy. A new democratic paradigm has emerged in this context. Although it may not appear so, it indeed encompasses the issues of traditional democracy.

According to Brad and Söderqvist, the resulting system is termed netocracy. They assert that this system is an unavoidable reality. The consequence of resisting this inescapable truth is the exclusion from the information economy. They highlighted the transition challenges faced by this class by introducing fundamental functions to netocrats, which they designate as the new elite in the network society. A consumer class individual will merely augment his income by collaboration with netocrats, however he will not get netocrat status.

They elucidated this nascent social order with an analogy: **"The spectators merely vacated their seats and exited the theatre".** The elderly capitalist stood alone on stage, questioning why no one heeded his sagacious remarks with growing indignation. The noise emanating from the entryway is increasing progressively. The crowd is now engaging in communication with one another. Some provide beverages and dance; music emanates from the speakers at the corners. Curator, network virtuoso who throws this unplanned party, is the next great star blazing in this dimly-lit nightclub world. They also affirmed the destruction of the capitalist system in this new social framework. They believe that informationalism represents the contemporary era. Netocracy is the political system established by the contemporary netocrats of the aristocratic class in this era. Although, this arrangement seemingly a fresh political structure, critiques democracy by emphasising the shortcomings in the implementation of pure democracy (Sezgin and Yolcu, 2017).

While discussing the changing paradigms of the information society, a scholar named Storozhenko in an article has outlined it in the following manner. “We can tentatively consider the beginning of the XXI century as the beginning of the formation of a new type of society – the period when communication

technologies acquired mass status and became accessible to the majority of the population, regardless of their national and religious affiliation, social status, political views or cultural values. Today, we are experiencing a transitional stage of civilizational development, during which the capitalist system has not yet lost its significance and influence, and the new one has not yet been fully formed, and therefore does not meet the urgent needs of society" (Storozhenko, L, 2022). This article highlights the transitional phase and distinguishes between the capitalist system and the emergence of new one being shaped by the communication technologies in the era of information society.

Thus, the term Netocracy seems to be no longer a virtue of internet and aristocracy. It is not defined by the societal origin, class and colour rather by the more intangible traits of an individual. Such traits could be social, emotional and technical intelligence to capture the imagination of people in profound ways. It seems to be crafted by the new clan of neo-economic and political order and its nuances, driven by the utilisation and consumption of myriad of goods and services arising out of economic vantages.

14.5 INFORMATION OVERLOAD AND ECONOMIES OF HUMAN ATTENTION

A Brief History of Information Overload

The phrase "information overload" was introduced by Bertram Gross, a Political Science Professor at Hunter College, in his 1964 publication, titled 'The Managing of Organisations'. Nonetheless, it was popularised by Alvin Toffler, the American author and futurist, in his 1970 publication "Future Shock". Gross characterised information overload as follows: "Information overload occurs when the volume of input to a system surpasses its processing capacity". Decision-makers require enhanced cognitive processing power. As a result, information overload is likely to diminish the quality of decision-making. The notion of information overload predates the term itself; even in the 3rd (or maybe 4th) century BCE, the author of Ecclesiastes 12:12 lamented that "of making books there is no end". Historically, grievances of knowledge overload have arisen, notably throughout the Renaissance and the Industrial Revolution. The advent of the information era and the availability of efficient, low-cost automated data collection have provided us with unprecedented access to information. The management of information in everyday life is no longer confined to a privileged few but rather a challenge encountered by practically all individuals. Social media, email, websites, mobile applications, and similar platforms continuously inundate our lives with data on a regular basis (https://www.interaction-design.org/literature/article/information-overload-why-it-matters-and-how-to-combat-it).

Thus, information overload is identified as mismatch between the amounts of input information that can be processed by the cognitive capacity of a human being. It is known to affect the decision-making capacity related to particular information as well. In addition, the promotional schemes related to the field of investment (in real estate, policies, etc.) and entertainment (multifarious activities related to tourism, well-being and partying culture) etc., are also

adding and messing up the life of denizens to some extent, primarily through phone calls and emails etc.

The term "attention economy" was initially used by Herbert A. Simon in the late 1960s, who described the issue of information overload as an economic challenge. Nonetheless, the idea has gained prominence due to the proliferation of the Internet, resulting in an abundance of readily accessible content, while attention has emerged as the constraining element in information intake. Although, the availability of accessible information has surged - digital data about doubles every two years - the desire for knowledge is constrained by the limited attention we can allocate. The total available attention is constrained by the number of individuals seeking knowledge, the limited hours in a day, and competing demands on our time and focus. Davenport and Beck (2001) initially articulated the "economics of attention" as a framework for information management that regards human attention as a limited resource and using economic principles to address diverse information management challenges. We are progressively residing in an "attention economy" as opposed to an "information economy" (https://www.un.org/sites/un2.un.org/files/attention_economy_feb.pdf).

SAQ 3

What is Information overload?

14.6 TRADITIONAL VERSUS KNOWLEDGE ECONOMIES

History and Definitions

Initiated in the late 1950s and early 1960s as a consequence of research by Drucker (1959/1994) and Machlup (1962), the concept primarily concentrated on the emergence of innovative industries and their influence on economic transformations. Nevertheless, the newly formed phrase presented challenges in establishing a broadly agreed meaning. Druker (1998) characterises a knowledge economy (KE) as the emergence of knowledge management and knowledge workers, at the expense of manual labourers, signifying a shift from 'brawn to brain'. Numerous economic forums and institutions have shown their interest in the knowledge economy (KE) and the developments associated with it.

Traditional economy is defined as that part of the economy based on primary activities (like agriculture and its allied activities). On the contrary, knowledge economy is defined as a mode of production based on generating new knowledge (with characteristics of cutting-edge competitiveness) along with accessing and processing appropriate information. Knowledge economy is believed to come into practice since 1990s. It recognises knowledge as a key resource whereas learning as a key process for concerned individual professionals, institutions and organisations, firms or companies etc.

“The idea of a knowledge economy was derived from Drucker’s (1969) account of the role of the ‘knowledge workers’ in manufacturing industries and

it has been developed through knowledge based views of the firm and arguments about the centrality of knowledge to the competitiveness of national economies" (Dictionary of Human Geography, p. 116). It signifies the concept of a post-industrial society constructed on the foundations of delivery of knowledge-centric goods and services against manufacturing based goods and services in industrial societies.

Some of the notable example may include provision of cheap and competitive health services in India, which attracts clients from foreign countries, although from less developed parts like West Asia. In addition, India also holds immense potential to add newer range of services such as financial services, consultancy services (probably in engineering) and many more by channelising and harnessing the talent accruing from its rich demographic dividend. For instance among financial services, India is estimated to have largest proportion (approximately 40 percent) as far as volume of UPI transactions across the world is concerned. It has helped to define a new definition of digital literacy. It has enabled even an illiterate person who is running a small shop (fruit and vegetable, coconut or tea and snacks shop or newspaper vendor) to accept monetary transaction with the help of QR code, an incredible by-product of digitalisation of economy.

The growth in service sector is growing exponentially across the world and India has also witnessed and followed this modern digital technologically enabled trajectory of growth, since last two decades. It also indicates towards the assumptions of role of diverse parts of the world in this complex dynamics of production and delivery of goods and services. It tacitly assumes that developed parts of the world including Western Europe, North America and South East Asia may act as important players in knowledge economy whereas less developed nations of the world may act as manufacturing units. Puri and Misra (2021) highlights that Like Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO) is emerging as an important high value offshore service to strengthen the global value and knowledge chain of Indian market in the world. BPO services include data entry, data conversion, medical transcriptions, insurance claims, call centres, database services etc.

The Organisation for Economic Cooperation and Development (OECD) (1996) and Asia-Pacific Economic Cooperation (APEC) (2000) regard it as integral to the high skills, high performance, and high value-added paradigm for enterprises and nations to compete in a globalised economy. A contrasting perspective, mostly held within the scientific and technical community, is to define the knowledge economy narrowly as pertaining exclusively to knowledge-intensive businesses where knowledge constitutes the fundamental skill. The latter is commonly observed in software, internet enterprises, and the healthcare industry.

In 1996, OECD officials described the knowledge-based economy as "economies that are directly founded on the production, distribution, and utilisation of knowledge and information". Individuals who acquire, utilise, and disseminate information are vital in the knowledge economy. Consequently, individuals, expertise, and technology must be coordinated and synergised to augment value at the organisational, community, and macroeconomic levels. The concept of knowledge-based societies has gained significant relevance in

discussions surrounding globalisation and the operations of prominent international agencies. Enhancing awareness of its significance for social and economic advancement and cultivating such a society is a worldwide goal, with globalisation emerging as a defining feature of the knowledge economy. It pertains to the dissemination of information across all domains associated with culture and economy. It also signifies a substantial shift in thinking and attitude, accompanied by suitable forecasts throughout all socio-economic systems (Hadad, S, 2017).

A contrastive analysis of the knowledge economy and the conventional economy reveals the following distinctions:

- The KE signifies plenty instead of scarcity, as was the case in the old economy. Consequently, whereas resources may have been depleted in the past, in the Knowledge Economy, information and knowledge do not decline; rather, they may be disseminated and augmented via their use.

- The issue of location in the KE has been resolved. Consequently, all aspects will transition to a virtual and global paradigm, provided that suitable technology and methodologies are employed. Furthermore, time is no longer a constraint.

Implementing regulations at a national level poses challenges. Global rules should be advocated, especially considering that knowledge and information disseminate in direct correlation with the biggest demand and the lowest obstacles.

- items or services characterised by low knowledge intensity are unable to seek relevant prices for comparable items with greater knowledge intensity.

The context is crucial for the KE. Consequently, price and worth vary considerably based on the specific timeframe and individual perspectives. Equivalent information or knowledge may possess distinct financial valuations in different settings.

- Human capital skills enhance corporate value; nevertheless, organisations seldom assess capabilities in their annual reports.

In addition to the aforementioned distinctions, Brinkley (2006, p. 13) has delineated further significant contrasts between conventional and knowledge economies: KE represents "a subtle discontinuity from the past".

- KE encompasses all areas of the economy.

- ICT is an essential notion in KE, in conjunction with trained labour.

- The conventional economy posits that capital can alone be elucidated in financial or physical terms. In the new economy, traditional capital, confined to financial or physical characteristics, transforms into intangible capital.

In economically developed nations, nearly 50 percent of the gross domestic product is derived from a knowledge-based economy. This results from the staff's intellectual capital and professionalism.

- Innovations are essential in KE.

- Knowledge economies rely on knowledge management to manage, store, and disseminate information.

14.7 CREATIVE INDUSTRIES AND CULTURAL ECONOMIES

Creative Industries

Initially, the innovative theme of 'creative economy' came into existence through the efforts of The United Nations Conference on Trade and Development (UNCTAD). It was created to cater to the demands of world economic and development agenda during modern times. The role and value of creative economy gets augmented in a world characterised by imaginative and artistic or geographical perspectives. In such contexts, the role of audio-visual mediums such as pictures, sounds, texts, and symbols are becoming increasingly important. The idea of creative economy has an intrinsic component to provide a platform where creativity, culture, economics, and technology can intersect with each other in newer forms and dimensions.

During cotemporary times, it has become one of the fastest-growing economic sectors across the world. The creative sectors are offering the platform to converge as diverse domains as arts, culture, commerce, and technology together. It has added advantage of providing highly skilled creative endeavours not only to venture into trade and commerce, but also provides avenues to acquire intellectual property rights, with ingenuity and innovative ideas. Keeping into consideration its rising value and significance in the economy, UNCTAD has defined the twin concepts of creative industries and creative economies in the following manner (UNCTAD Report, 2008):

UNCTAD's definition of the creative industries:

• are the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs;

• constitute a set of knowledge based activities, focused on but not limited to arts, potentially generating revenues from trade and intellectual property rights;

• comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives;

• are at the cross-road among the artisan, services and industrial sectors; and

• constitute a new dynamic sector in world trade.

UNCTAD definition of the creative economy

The creative economy is an evolving concept based on creative assets potentially generating economic growth and development.

• It can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development.

• It embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives.

• It is a set of knowledge-based economic activities with a development dimension and crosscutting linkages at macro and micro levels to the overall economy.

• It is a feasible development option calling for innovative, multidisciplinary policy responses and interministerial action. At the heart of the creative economy are the creative industries.

Thus, creative industries signify knowledge-based or driven plethora of economic activities revolving around the dimensions of creative and innovative pursuits as opposed to manufacturing. Such industries are envisaged to have immense potential to open up avenues of employment at various levels and scales. The intent of creative industries seems to orient and shape the ever-mounting needs and aspirations of current as well as trying to align towards the aspirations of future generations, primarily based on demands of consumer-centric valuable products.

Besides, creative industries also seem to be adhering to the tenets of sustainable and green economy to keep the bounties of nature unspoiled in tune with the 'Millennium Development Goals' (MDGs) as envisaged by United Nations. It may help the growing economies of the world also to take care of the problems of pollution and environmental degradation (and many other topical issues such as scarcity of potable water and outbreak of diseases etc.,) to a considerable extent.

Cultural Economies

Cultural economy has been defined "at its most simple, that part of the economy dealing with cultural goods and services: film, TV, radio, photography, advertising and so on" (Dictionary of Human Geography, p. 116). This definition highlights that it is a kind of economy that has entertainment, image-building and symbolic orientation. "The cultural economy can be defined as a group of sectors (cultural-products industries) that produce goods and services - including jewellery, live theatre, music recording, film production - whose symbolic value to consumers is high relative to their practical purpose" (Knox, et. al. 2014). Nowadays, with increasing purchasing power parity of populace across the world coinciding with the rising culture of consumption and identity-making in society, the demand for such valuable products seems to be soaring. Another strand of niche segments of delivery of services (having health and spiritual values) may be thought to be a relative part of cultural economics.

Rural and urban areas in Western Europe are increasingly utilising cultural markers as essential resources to achieve territorial development goals". The markers encompass cuisine, languages and dialects, crafts, folklore, visual arts, drama, literary allusions, historical and prehistoric places, landscapes, and related flora and wildlife. The endeavour of rural regions to localise economic authority - to enhance a locale via its cultural character - is referred to as the cultural economy approach to development. The term 'economy' denotes the interconnections among resources, production, and consumption. Simultaneously, 'culture' seeks to encapsulate the reconfiguration of

economies, at least in part, inside the spatial framework of local cultural regions. 'Culture' might be regarded as synonymous with 'territorial identity'. It differs from the fluctuating political-administrative boundaries established at any given moment, since it reflects how individuals construct and subsequently interpret spatial distinctions, although across overlapping levels. Conversely, 'culture' indicates a shift in perspective towards production and consumption rather than location; specifically, it reflects a transition towards a post-industrial, consumerist economy. The cultural economy in rural regions serves to supplant the agricultural economy based on primary output (Ray, C. 2001).

The idea of a cultural economy is mainly believed to stem from three sources. These are as under:

1. the evolving characteristics of post-industrial consumer capitalism;
2. the direction of EU rural development policy; and
3. the spread of regionalism throughout Europe and the world.

Numerous politicians and scholars, especially in Europe and Latin America, employ the notion of "cultural economics" or the phrase "economy of culture" when addressing the economic dimensions of cultural policy. Furthermore, several artists and intellectuals express discomfort with the focus on commercial considerations in discussions surrounding the creative industries and, consequently, the creative economy. "Cultural economics" use economic analysis to examine the creative and performing arts, heritage, and cultural sectors, regardless of ownership status, whether public or private. This sector encompasses the conduct of producers, consumers, and governments, as well as the financial framework of the cultural industry, alongside welfare economics, public policy, neoclassical economics, mainstream radical economics, and institutional economics. This unit's theoretical and economic analysis is grounded in the ideas of cultural economics as a field of study. The objective is to enhance comprehension of the dynamics of creativity and its linkages with the global economy, encompassing its interdisciplinary aspect where cultural policies intersect with technical and trade policies (https://unctad.org/fr/system/files/official-document/ditc20082cer_en.pdf).

How They Are Interrelated

Adorno (German Philosopher) introduced the phrase 'culture industry' to highlight sectors of the economy that were mass-producing what he deemed substandard culture. In the 1980s, French Media and Communications scholars radically reinterpreted the concept, advocating for a serious acknowledgement of the 'Culture Industry' as a legitimate cultural expression characterised by pluralism and diversity, subsequently renaming it 'the Cultural Industries'. This concept has been examined in the UK (and widely replicated worldwide) and forms the foundation of the cultural regeneration plans implemented by UK urban authorities in the 1980s. Two primary lines of emphasis have emerged from this foundation: first, those that highlight the textuality of cultural industries, closely aligned with Media and Communications studies; and second, those that scrutinise the production system of cultural products and services, more closely associated with Economic Geography. A new phrase has lately gained traction among

policymakers: the creative industries; despite significant variations in its meaning, practical usage tends to coincide. The production system approach of cultural industries is vital for policymakers; it aims to address both the 'breadth' of culture (activities to be included: film, television, literature, video games, theatre, music, etc.) and the 'depth' of cultural production (activities necessary for producing cultural outputs: manufacturing, distribution, and consumption) (Gloria Gomez-Diago, 2016).

Therefore, creative industries, cultural economies and creative economies all indirectly as well as directly seem to be influenced and mushroomed by the advent of digital technologies.

SAQ 4

Name any two sources from where the idea of cultural economy came into existence.

14.8 IMAGINATION AGE AND ECONOMIES

Basically, imagination age refers to intangible pool of ingenuous talent. It helps to imagine the unimagined ground reality of a mass number of human beings to translate it into a product of consumption, which may ensure tangible economic benefits. Imagination is not bound to any particular person belonging to a particular nation, society, and economy on the one hand and binaries of elite v/s non-elite, capital v/s socialist, developed v/s developing and male and female etc. It may occur to anyone and may take shape anywhere in the world. Imagination is innate and innermost trait of a person to imagine and manifest his or her ideas in a more profound manner which may help to derive tangible economic benefits. Some of the important traits of an imaginative individual may include ingenuity, inventiveness and originality. In geographical language, imagination may come into operation with the help of the application of knowledge through the consistent interplay of percepts and concepts, which provide a platform to develop fresh ideas and formulate objectives and hypothesis.

The term imagination age was widely discussed by Charlie Magee in his 1993 paper titled “The Age of Imagination: Coming Soon to a Civilization Near You”. It described the theorised assumptions that imagination age will create a society of comprehensivists. “The Information Age is almost over and we aren't ready for the changes coming our way” (Magee, C., 1993).

The Imagination Age is considered as a successor of the Information Age. Creativity and imagination are major characteristics of Information Age whereas analysis and critical thinking of that of Imagination Age.

As well-known, since time immemorial, it is believed that human civilisations have passed through several distinct Ages. First and foremost significant Age was known as Agricultural Age, characterised by the invention of rudimentary agricultural tools and implements (as known to all of us) on the one hand and domestication of draught and milking animals on the other hand. It is known to give birth to an agrarian society that lasted for nearly 10,000 years, who often

lived in close harmony with the bounties of natural resources without afflicting its quality and quantity. Second important one is known as ‘Industrial Age’ heralded by the invention of machines that helped to produce items of consumption at mass scale. It unleashed major milestone and also brought negative consequences in the course of human history, which lasted for approximately 200 years.

In the 21st century, we are grappling with such negative consequences as a result of industrial age, further fuelled by the processes of urbanisation, globalisation, privatisation and liberalisation etc., since last couple of decades across the world. After this, the Information Age began coinciding with the development of computers, for a span of nearly more than last four decades.

“Multiple terms are in circulation, with the most prevalent being the Imagination Age”. In the 1970s, novelist and futurist Alvin Toffler coined the phrase "Third Wave" to characterise the Information Age. Michael Cox, Chief Economist of the Federal Reserve of Dallas, asserts that the fourth wave of societal transformation is under progress. Cox says that we are currently in the Imagination Age (Silver, L. 2009). Such hierarchical manifestation represents the layered structure of human’s intangible pool of talent.

Notable individuals amassing wealth include Jeff Bezos (Amazon.com), Michael Dell (Dell Computers), and the founders of Google. They are withholding information; Ted Turner is responsible for it. These individuals are employing their creativity to produce something that previously did not exist. This observation is equally applicable to Mark Zuckerberg (Facebook) and Jack Dorsey (Twitter), who have employed their creativity to engage ours. The significance of imagination and concepts cannot be exaggerated. In a recent interview on Radio New Zealand, Sir Martin Evans, a Nobel Prize laureate in stem-cell research, succinctly stated: 'I believe ideas drive progress more than any other factor'. Assume you lack comprehension and are unable to execute it. If you own the concept, a substantial amount of labour may be produced (Silver, L. 2009).

In present times, emergence of technologies encompassing virtual reality, and YouTube are transforming the landscape of interpersonal interactions. In turn, it is also leading to the formation of economic and social frameworks or structures with fresh dimensions and perspectives. Such imaginative endeavours may enhance the significance of some of the professional fields (like those having imaginative inputs) more than others. It may include designers, artists, videographers, and actors etc.

Due to globalised nature of economy and technological interventions, labour is equipped with more sophisticated skills that may generate better economic prospects. Currently, such competencies entail creativity and social-emotional intelligence that carries the potential to outperform analysis and interpretation (traits of information age).

All such changes are leading to transformation in the employment landscape on large scale, albeit with regional and spatial variations. The Imagination Age is beginning to manifest itself in such types of change in employment creation and innovative opportunities and market at local, regional and global levels. Such changes are further augmented by the globalisation and increasing rate

of automation and age of big data. Nowadays, skilled pool of labour laced with more advanced skills are available and accessible to create to do value addition in imaginative ways, to unleash newer horizons into the economic landscapes.

Quintessentially, the harnessing of such skills largely depends on the quotient of or combination of imaginative, social and emotional intelligence. In other words, it refers to a kind of unique psychological trait that demands highest order of thinking, analysis and representation to make it a reality at grassroots level, the one which is being most sought after by the consumers in the market and society.

Furthermore, advancement in latest state-of-the art technologically driven fields spanning Artificial Intelligence, Machine Learning, Big Data are further fuelling the boundaries of imagination age and information driven economies.

14.9 DIGITAL DIVIDE AND ECONOMY

Digital divide has been defined as “The differential access to computers, information, the internet, and telecommunications, globally, regionally, nationally, and locally, that also comprises unequal access to job opportunities, resources and training” (Dictionary of Human Geography, p. 136).

The term **“digital divide”** is often employed to explain the disparity in opportunities available in current times. It is related to access and use of the information and communication technologies (ICTs) and the Internet for varied purposes. Primarily on account of socio-economic disparities, it tends to significantly differ among the people, families, and diverse social groups across the binaries of varying geographic locations. Such disparity is evident from the level of development and growth among diverse comity of nations across the scale and space. Thus, it signifies the potential of Internet that may be useful for individuals, institutions, organisations and companies. It may differ across the binary of developed, developing and underdeveloped regions.

“Another major trend over the past 25 or so years has been the increased information exchange between people and organisations located in different parts of the world. Where once letters, telegraphs and the occasional telephone calls were the principal means of communication, now social media, mobile telephone calls, text messages and e-mail are dominant in the business world, and increasingly outside it, in education, commerce, entertainment, leisure and social life” (Potter et. al., 4th Edition, 2018). In this study, the scholars dealing with the development studies have described the power of globalisation and resultant information society and the growing digital divide between haves and havenots. They have also ponied out that “despite the role which mobile phone systems can play, the evidence suggests that without stronger and more all-embracing intervention, the digital divide is likely to exacerbate further the differences between the world’s haves and have-nots although there is huge potential where the infrastructure is provided”.

Understanding the Digital Divide

The phrase "digital divide" implies the difference between those with access to reasonably priced, dependable internet service and those without, as well

as the devices and skills required to make the most or best possible use of such access.

"When the term was first used in the late 20th century, it described the gap between those with cell phone access and those without. This is a problem in many nations, as people living in rural areas are far more likely than those in cities to be disconnected from digital technology. There is also a barrier between continents and countries. It also occurs between males and females. In 2022, 62 percent of men worldwide used the Internet, compared to 57 percent of women, a decrease over the previous ten years" (https://www.investopedia.com/the-digital-divide-5116352).

The Global Digital Divide

The worldwide digital divide has been considered a result of economic growth. It was widely believed that as nations and people become more prosperous, they will invest in digital infrastructure and gadgets, causing the digital gap to gradually shrink.

Although incomes have risen worldwide over the past two decades, accessibility to Internet service has remained incredibly limited, particularly in developing countries. This is frequently due to the requirement for more resources for Internet infrastructure.

"Citizens may have internet-enabled devices but still no connection to the World Wide Web. The internet penetration rate still varies widely among continents. In 2022, 80 percent of Europeans had internet access, compared with just 22 percent of Africans" (https://www.investopedia.com/the-digital-divide-5116352). Such difference may be because of their economic well-being on the one hand and economic backwardness on the other hand.

However, those statistics hide many differences among nations and geographical regions. Even though they may be less developed overall, large countries bordering the ocean often have far greater internet connectivity. For this reason, based on overall data from the developing world, the International Telecommunication Union (ITU), the United Nations Organisation for information and communication technology, began to publish data on tiny island developing nations and landlocked developing countries.

The Impact of the Digital Divide on Society

The digital divide has further contributed in deepening the already existing social stratification, increased segregation and widened disparities. Thus, it is essential for different organisations, governments, and other institutions to prudently invest in digital literacy initiatives to minimise such increasing gaps aimed at improving individual outcomes.

- **Loss of Social Opportunities**
- **Deepening Stratification**
- **Barriers to Digital Literacy**

The Educational Impact of the Digital Divide

According to the joint report by United Nations Children's Fund (UNICEF) and International Telecommunication Union (ITU), 1.3 billion children between the ages of three and seventeen cannot access the Internet at home. Thus, absence to digital access may adversely affect the chances of school-age children to access internet services. It means that this proportion of children is devoid of accessing the same opportunities and educational resources as opposed to children who are having digital access to internet services.

- **Remote Learning during the COVID-19 Pandemic**
- **Access to Educational Resources**

Economic Impact of the Digital Divide

The digital divide may adversely affect the economic opportunities for those disadvantaged and disconnected individuals of diverse geographical origins. However, those individuals who are capable in digital skills may increase their chances of seeking better remuneration in job markets, locally as well as globally. The nations having access to relatively feeble broadband connections may encounter problems and challenges as far as the issue of economic development is under question.

Therefore, it becomes imperative for each and every nation to wisely and succinctly make requisite investments to create information infrastructure for augmenting digital access. Such steps may help to wind down or narrow the digital divide and increase economic opportunities at international levels.

- **Access to Job Opportunities**
- **Barriers to Economic Development**

The digital divide is believed to continue to affect diverse society, people and nations. It may create further barriers in the near future amongst the nations with good access on the one hand and nations without access on the other hand. Governments, organisations, and institutions worldwide must develop solutions to bridge such inequalities and encourage greater access to digital technology across the spectrums.

Examples of the Digital Divide

There are several instances to show as to how the digital divide may impact prospects of people to take vantages from digital age. Such instances of the digital divide may pertain to accessibility, availability of devices along with the quality of digital connections. There are few common instances of the digital divide. These may exert their influence to the digital divide in more than one ways. These are discussed as under:

1. Digital Literacy Competencies

Insufficient exposure to technology might result in a deficiency in digital literacy. Such deficiency may impact individuals in diverse ways. Individuals from older generations may encounter difficulties with digital literacy due to their lack of exposure to connected electronic gadgets. Children from

underprivileged section of the society may lack access to digital resources. During present times, most of the jobs demand digital literacy and competencies. Therefore, it is crucial component of one's skills to secure good employment.

2. Access to Technology

Lack of digital devices in individual households may further intensify the digital divide. Digital economy demands the access to technological gadgets and resources. Besides, the cost of such devices may also hinder the prospects and increase disparity in digital connectivity among individual households.

It may pertain to several devices like desktop computer, Smartphone's, and laptops etc. The households with low income groups may not be able to afford to buy and access such devices.

3. Disparities in Healthcare

During contemporary times, technological innovations has tremendously revolutionised the health care sector. It has enabled us to remotely obtain health related information and schedule telemedicine sessions online as well. Such trend has further been accentuated by Pandemic like situations recently (outbreak of COVID in 2019).

Digital access is very important not only to access but also to manage medications. However, it is pertinent to note that digital divide may hinder the capability of disadvantaged people from accessing health technologies, especially from poor segments of the society across the world.

4. Disparities in Education

In present times, students are anticipated to utilise digital gadgets for academic tasks, even at the elementary schooling level. Like access to health care information, the trend of online classes has been increased by the outbreak of pandemic like situations. In general, the students of underdeveloped and developing countries may lack access to appropriate gadgets as compared to the students of developed parts of the world. It may affect the educational opportunity and generate disparity at individual and community level (particularly socio-economically underprivileged groups). Such disadvantages and disparities may affect all layers of education (right from primary, middle and higher education).

5. Economic Inequalities

Nowadays, it has become very crucial to have access to digital mediums to prepare one for better employment avenues. Besides, it is equally important to obtain precise piece of information as well. It helps an individual to remain competitive and up-to-date in the information/knowledge driven economy.

In addition, digital equality is also considered important to ensure equitable opportunities for one and all. This has emerged as a crucial aspect to remain updated and competitive in today's' global economy. The digital divide may impact diverse facets of one's daily life as well as capabilities to be proficient individually and professionally. Thus, digital inclusion is important to ensure

the same. It may be achieved through equitable access to technology, and good connectivity. Besides, digital literacy may also foster gender, social and economic equality. To bridge such kind of barriers remains an important task for governments, firms/companies, and institutions/organisations.

Besides digital divide, it has provided a fertile ground for the proliferation of rising social and economic divides/gaps/disparities as well. Now, it seems to be acquiring a different form altogether, i.e., online/digital crime to illegally extract the money on false pretexts and putting the life of a victim at greater risk, both physiologically as well psychologically.

SAQ 5

Explain the impact of the digital divide on the economy.

14.10 SUMMARY

In this Unit, you have learnt the following:

- The critical component of a knowledge economy is greater reliance on intellectual capabilities than physical inputs or natural resources.
- The information revolution is bringing people of different backgrounds from around the world into a global information superhighway. The Internet provides an international platform connecting thousands of networks around the world.
- Brief about the netocracy.
- Brief about the information overload and economies of human attention.
- Brief about the traditional versus knowledge economies.
- Brief about the creative industries and cultural economy.
- Nuances related to the imagination age.
- Important aspects related to digital divide and economy briefly.

14.11 TERMINAL QUESTIONS

1. Discuss the information revolution in detail.
2. Differentiate between the traditional economy and the knowledge economy.
3. Define creative industries.
4. Give a detailed background of the imagination age.
5. Discuss the global digital divide.

14.12 ANSWERS

Self-Assessment Questions (SAQ)

1. The information revolution discusses information discovery, its importance after the Industrial Revolution, and its impact on society.
2. Information superhighway refers to advanced telecommunication networks that transmit interactive computerised services as part of the multimedia revolution.
3. Information overload refers a condition when the amount of input to a system exceeds its processing capacity.
4. These are the direction of EU rural development policy and the spread of regionalism throughout Europe and the world.
5. The digital divide may harm economic opportunities for disconnected individuals and geographies.

Terminal Questions

1. Refer to Section 14.2.
2. Refer to Section 14.3.
3. Refer to Section 14.6.
4. Refer to Section 14.8.
5. Refer to Section 14.9.

14.13 REFERENCES AND FURTHER READING

1. Bard, A., Soderkvist Y. (2004). *Netocracy.* New ruling elite and life after capitalism.
2. Büyükalaca, A.A.S. and Yolcu, T. (2017). *Political View of Informationalism: Social Media and Netocracy*, Intermedia International e-Journal, Spring - June - 2017 4(6), pp. 95-109.
3. Chong, P.P., et. al., (2005). The Information Superhighway: The Golden Spike of the 21st Century. International Journal of Innovation and Learning 2(3).
4. Copeland, T.E. (2000). Report on '*The Information Revolution and National Security*'. Strategic Studies Institute, U.S. Army War College.
5. Diago, G.G. (2016). *The Role of Shared Emotions in the Construction of the Cyberculture: From Cultural Industries to Cultural Actions - The Case of Crowdfunding*, Emotions and Technology.
6. Foray, D. (2004). *The Economics of Knowledge*. In The MIT Press eBooks. https://doi.org/10.7551/mitpress/2613.001.0001
7. Hadad, S. (2017). Knowledge Economy: Characteristics and Dimensions, *Management Dynamics in the Knowledge Economy,* Vol. 5, No.2, pp. 203-225 (Retrieved from https://core.ac.uk/download/pdf/228448325.pdf)

8. Paganetto, L. (2004).*Knowledge Economy, Information Technologies and Growth.* Routledge. https://www.routledge.com/Knowledge-Economy-Information-Technologies-and-Growth/Paganetto/p/book/9781138356306?srsltid=AfmBOoodJlxmn3wyb2jOui-gcTFJE-IbasTdwiNQoT7SqSiM3m-wjgV6

9. Knox, P., Agnew, J. and McCarthy, L. (2014). *The Geography of the World Economy*, 6th Edition, Routledge: London and New York.

10. Lea, W. (1994). https://ntouk.files.wordpress.com/2015/06/1994-information-superhighway.pdf.

11. Magee, C. (1993). Second International Symposium: National Security & National Competitiveness: Open Source Solutions Proceedings, 1993 Volume I - https://web.archive.org/web/20110727132753/http://www.oss.net/dynamaster/file_archive/040320/4a32a59dcdc168eced6517b5e6041cda/OSS1993-01-21.pdf

12. Mayhew, S. (2015). *Dictionary of Geography,* 5th Edition, Oxford University Press, Great Britain.

13. OECD (2001-01-01), "Understanding the Digital Divide", OECD Digital Economy Papers, No. 49, OECD Publishing, Paris. http://dx.doi.org/10.1787/236405667766.

14. Potter, R, Binns, T., Elliott, J., Nel, E. and Smith, D. (2018). *Geographies of Development*, 4th Edition, Routledge: London and New York.

15. Puri, V.K. and Misra, S.K. (2021). *Indian Economy*, Himalaya Publishing House Pvt. Ltd: Mumbai.

16. Ray, C. (2001). *Culture Economies: A Perspective on Local Rural Development in Europe,* Centre for Rural Economy.

17. Silver, L. (2009). The Information Age is Dead. Long live the Imagination Age. (2009). McGuinness Institute. Think Piece 11. Retrieved from https://www.mcguinnessinstitute.org/wp-content/uploads/2018/04/20180411-Think-Piece-11-10.36-am.pdf.

18. Storozhenko, L. (2022). *Netocracy as a Form of Information Society Management*, Scientific Journal of Polonia University. 55 (2022) 6.

Web Links

1. https://www.govinfo.gov/content/pkg/GOVPUB-D101-PURL-LPS11783/pdf/GOVPUB-D101-PURL-LPS11783.pdf

2. https://apps.dtic.mil/sti/pdfs/ADA331261.pdf

3. https://dergipark.org.tr/tr/download/article-file/399706

4. https://www.interaction-design.org/literature/article/information-overload-why-it-matters-and-how-to-combat-it

5. https://www.un.org/sites/un2.un.org/files/attention_economy_feb.pdf

6. https://www.ncl.ac.uk/media/wwwnclacuk/centreforruraleconomy/files/culture-economy.pdf

7. https://sci-hub.se/https://doi.org/10.1016/B978-008044910-4.00146-2

8. https://unctad.org/fr/system/files/official-document/ditc20082cer_en.pdf
9. https://www.oecd-ilibrary.org/docserver/236405667766.pdf?expires=1709056236&id=id&accname=guest&checksum=E01B7A234BF178734CB725B0B685FF06
10. https://www.investopedia.com/the-digital-divide-5116352
11. https://ctu.ieee.org/impact-of-the-digital-divide-economic-social-and-educational-consequences/
12. https://www.files.ethz.ch/isn/104586/Information_Revolution_National_Security.pdf
13. https://www.unicef.org/press-releases/two-thirds-worlds-school-age-children-have-no-internet-access-home-new-unicef-itu