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ABSTRACT

Information Communication and Computation Technology (ICCT) and Nanotechnology (NT) are recently identified Universal technologies of the 21st century and are expected to substantially contribute to the development of the society by solving the basic needs, advanced wants, and dreamy desires of human beings. In this paper, the possibilities of using ICCT and its underlying ten most important emerging technologies like Artificial intelligence, Big data & business analytics, Cloud computing, Digital marketing, 3D printing, Internet of Things, Online ubiquitous education, Optical computing, Storage technology, and Virtual & Augmented Reality are explored. The emerging trends of applications of the above underlying technologies of ICCT in the primary, secondary, tertiary and quaternary industry sectors of the society are discussed, analysed, and predicted using a newly developed predictive analysis model. The advantages, benefits, constraints, and disadvantages of such technologies to fulfill the desires of human beings to lead luxurious and comfort lifestyle from various stakeholders point of views are identified and discussed. The paper also focuses on the potential applications of ICCT as a strategic tool for survival, sustainability, differentiation, and development of various primary, secondary, tertiary, and quaternary industries.

Keywords: ICCT, Universal technology, Emerging trends, Information science & technology, Industry sectors, ICCT as a strategic tool.

1. INTRODUCTION :

Technology is defined as an application of science and is used to solve different problems in society with an intention to make human life comfortable and enjoyable. Many technologies have been identified as General-Purpose Technologies due to their abilities to solve problems in many sectors in the society. Such technologies are used by many branches of engineering to solve or simplify the problems of those fields [1]. General Purpose Technologies' (GPT) are developed due to the ability of killer applications in solving problems in many industrial sectors. Examples for such killer applications which have been converted into GPT's are steam engine, railroad, interchangeable parts,electricity, semiconductor electronics, material handling, mechanization,control theory(automation), the automobile, the computer, the Internet, Information Communication and Computation Technology (ICCT), and Nanotechnology (NT). But out of the above killer application technologies, only two technologies further emerged as Universal technologies of the 21st century. In this paper, we have considered and discussed the major underlying technologies of ICCT and their emerging trends of applications on the primary, secondary, tertiary, and quaternary industry sectors of the society using a newly developed predictive analysis model [2].

2. OBJECTIVES :

The objectives of this conceptual analysis paper are to study the current trends in Information Communication and Computation Technology under the following issues :

(1) To study the important underlying technologies under the umbrella ICCT and their effect on solving problems related to basic needs, advanced wants, and dreamy desires of human beings of the society.

(2) To analyse the emerging trends of applications of the above underlying technologies of ICCT in the primary, secondary, tertiary, and quaternary industry sectors of the society using my newly developed predictive analysis model.
(3) To identify the advantages, benefits, constraints, and disadvantages of such technologies to fulfill the desires of human beings to lead a luxurious and comfortable lifestyle from various stakeholders point of views.
(4) To prescribe the potential applications of ICCT as a strategic tool for survival, sustainability, differentiation, and growth & prosperity of various business models.
(5) To predict the various breakthroughs expected in the above underlying technologies and to prescribe their timeframe.

3. UNDERLYING TECHNOLOGIES OF ICCT :

Recently it is argued that information generation, communication, processing, storing, and retrieval are the parts of a single system called Information Communication and Computation Technology (ICCT) and is considered as an integrated version of Information Communication Technology (ICT) and Computer Technology (CT). It is also observed that ICCT shows all the three characteristics of GPT : Pervasiveness, Growth, and Innovation opportunity. In the 21st century, ICCT is grown and spread its roots to all industries and industry sectors from A to Z due to its pervasiveness property [2]. The Improvement and Innovation spawning properties of Information Communication and Computation Technology (ICCT) as general purpose technology are created major stake holding areas including Artificial intelligence, Big data & business analytics, Cloud computing Technology, Digital marketing Technology, 3D printing Technology, Internet of Things (IoT), Online Ubiquitous education & Training Technology, Optical computing Technology, Information Storage technology, and Virtual &Augmented Reality.

Table 1 : ICCT underlying technologies, their objectives, and ultimate goal

S. No	Underlying Technologies of ICCT	Objectives	Ultimate Goal
1	Artificial Intelligence Technology	Performing by thinking and doing things better than human beings	Ideal artificial brain & connecting brains with computers
2	Big data and Business Analytics	Developing effective information using hidden patterns, unknown correlations, market trends, and customer preferences to help organizations for making better business decisions	Ideal Business prediction
3	Cloud Computing Technology	Using computer infrastructure at cost effective and optimum level from ubiquitous location	Ideal Computer [3]
4	Digital Business & Marketing	Ubiquitous mobile business and e-marketing using digital and internet technology	Ideal Business [4, 5]
5	3D printing Technology	Preparing three dimensional structures from a digital file. This is achieved using additive processes using less material than traditional *manufacturing methods*	Ideal Production of components & Devices
6	Internet of Things (IoT)	Interconnection and integration of the physical world and the cyber space remotely to control the devices from distance	Ideal interconnection & Control
7	Online Ubiquitous Education & Training	Education for everybody irrespective of location, age, economic level using technology	Ideal education system [6, 7]

8	Optical Computing Technology	High speed data processing	Ideal Computers [8, 9]
9	Information Storage Technology	Huge amount of information storage in a small region using suitable technology	Ideal storage system
10	Virtual Reality& Augmented Reality	Virtual reality is an immersion experience which gives the physical world feelings	Ideal virtual experience [10]

Table 2 : Basic needs and ideal solutions

S. No.	Basic Needs of the society	Best solutions	Supporting Technologies
1	Nutritious Food	Artificial Food	Cellular agriculture, 3D food printing, Artificial photosynthesis etc.
2	Drinking water	Potable water	Nanotechnology
3	Transportation	Zero cost transportation	Solar technology, Energy storage technology, Nanotechnology, Virtual reality, etc.
4	Energy	Free energy from renewable sources	Solar technology, Energy storage technology, Nanotechnology, etc.
5	Shelter	Low cost, safe, and durable shelter called smart home	Nanotechnology, IoT, 3D printing, etc.
6	Education	Ubiquitous education	Wireless technology, Multimedia, and Internet technologies.
7	Health	Quick solutions to all health related deceases	AI, IoT, Nano & Bio Technology.
8	Long life	Prolonged life span of individuals	Bio-technology, Genetic engineering, etc.

3.1 Artificial intelligence Technology:

Artificial intelligence (AI) is an area of computer science which focuses on the creation of intelligent machines which can mimic the decisions of human beings. The primary objective of AI technology is to develop machines which can think and do things better than human beings.The main functions of artificial intelligence machines are to recognize the environment such as speech recognition, Learning, Planning, Problem solving, and hence decision making. Artificial intelligence machine mimics cognitive functions of human beings associated with other human minds, such as learning & memorising and decision making for problem solving. ICCT has created a platform for AI to be introduced and developed for adding intelligent thinking components in electronic systems used in any industrial sectors [11]. Artificial intelligence has its applications in almost all industries in primary sector, secondary sectors, tertiary sectors and quaternary sector.

3.2 Big data & business analytics :

The emerging subfield of ICCT named big data and business analytics focus on handling huge amount of data continuously generated in any business or data capturing process and analyses it using various quantitative analytical techniques and mathematical models to study the pattern and descriptive information, predictive information, and prescriptive information for supporting the decision makers to take optimum decisions to the problems related to future aspects of the business. Predictive analytics in various functional areas like Marketing analytics, Retail Analytics (Customer Analytics / Supply Chain Analytics), Pricing Analytics, Financial analytics, Social media analytics, sports analytics, and Healthcare analytics are finding importance in the business environment for effective decision making. Further Prescriptive Analytics for optimizing the decisions with multiple objectives / portfolio analytics, optimizing complex decisions / sales force analytics, and Retail Analytics etc are also have futuristic impact on effective business decisions [4-7].

3.3 Cloud computing :

Cloud computing is one of the advances in computer technology and is uses information communication technology as well. Due to the ubiquity of cloud computing facility with flexibility in scaling it has become an important topic of research and provides the value for computing processes in the business. The cloud computing model also provides a most important application called Business Intelligence (BI) for effective decision making in business processes via the Internet. Cloud computing model provides its clients both hardware as well as software to process the data and information online as a rental service. Cloud computing model has three variations as Software as a Service (SaaS), Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) to provide ubiquitous computing service solutions to the business. The cloud computing solution used by any business will allow companies to reduce their investment cost, maintenance cost, and hence business cost without compromising to have access to BI solution which will give the business an edge on their competition. Could computing is a subfield of the Information Communication and Computation Technology (ICCT).

3.4 Digital Business &Marketing :

ICCT created a new business model called E-business/ M-business model. This model consists of ubiquitous selling proposition. *Digital marketing* is the *marketing* of products or services using *digital* technologies as per such new business model using mainly on the Internet, but also including mobile phones, display advertising, and any other *digital* medium. At a high level, *digital marketing* refers to advertising delivered through *digital* channels such as search engines, websites, social media, email, and mobile apps. Digital marketing is emerged as an essential future marketing activity using ICCT general purpose technology.

3.5 3D Printing :

3D printing is an ICCT application where various materialsare joined or solidified using various processes under the control of computer to create a three-dimensional object. In 3D printing, an object is created by laying down successive layers of material until the object is created. 3D printing can be divided into metal, fabrics, bio and a whole host of other industries with many applications in many industries worldwide.3D printing is a variant of ICCT general purpose technology and has wide scope in various industrial automation and home automation processes. 3D printing technology is expected to revolutionise the material fabrication processes. 3D printing comprises of many other technologies along with ICCT. Some of the 3D printers make use of nanomaterials and nanocomposites for anything, anywhere manufacturing.

3.6 Internet of Things :

It is a network of various electronic, computing, and optical devices/objects including human beings connected virtually by means of internet or intranet for enabling them to send and receive data and information. These objects are provided with unique identifiers (UIDs) and are capable to transfer data and information over a network without requiring human-to-human or human-to-computer interaction by using IoT technology. Such a connection of physical things/objects to the Internet makes it possible to access remote sensor data and to control the physical world from a distance. The mash-up of captured data with data retrieved from other sources, eg, with data that is contained in the Web, gives rise to new synergistic services that go beyond the services that can be provided by an isolated embedded system. Internet-of-Things (IoT) is not in any new disruptive technology but is the pervasive deployment and innovation of ICCT.

3.7 Online Ubiquitous Education :

To provide education to everybody, transformation of traditional campus based education system into Massive Online Open Courses (MOOC) system is essential. Even though initially MOOC is considered as complementary to traditional campus based education. HE system, as time progress, may replace campus based HE system completely. Higher education focus on enhancing knowledge, skills, experience, and hence confidence to make innovations and better decisions can be offered equally effective through online using wireless video channels. Ubiquitous online education offered through multidisciplinary areas using simulation may out pass the traditional laboratory based education in HE system. The other underlying ICCT technologies also support online ubiquitous education system to make it more effective, efficient and easily accessible system for everybody without their geographical locations and economical conditions. Some of such growing brands include
EDX, COUSERA, NPTEL, SWAYAM, etc.

3.8 Optical computing :

High speed computers based on optical signal switching and optical signal processing are expected to breakthrough with their full potentials and capabilities using optical logic gates and flip-flops fabricated by nanocomposites are expected to breakthrough in this century. High speed computation and data storage using nanotechnology based optical computers are going to revolutionize the entire computer industry. Optical computation is joining both general purpose technologies of Nanotechnology and ICCT through the processes of design & production as well as operation & applications respectively.Various optical principles like photo-refraction, optical spatial solitons, and optical logic gates are under considerations for building all-optical computers.

3.9 Information Storage Technology :

Information storage technology supports to develop devices to store & retrieve information in digital format. The trend in this field is to enhance the capability of devices to store huge amount of information in a small region at high speed and low cost. Various storage devices used and under consideration include Semiconductor Storage, Hologram Storage, Optical Storage, DNA Based Digital Storage, etc. which should have capability to store information in Terabytes, Petabytes, Exabytes, Zettabyte, and even Yottabyte in order to cater the forthcoming information storage applications.

3.10 Virtual & Augmented Reality :

Virtual reality is an artificial environment that is created with the help of computer-based software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, virtual reality is primarily experienced through two of the five senses: sight and sound. Currently, the virtual reality is mainly developed and used in simulated training and education as well as the simulated game environment. But it may further find its applications in many other areas including business as augmented reality and may enter the group of general purpose technology.

4. ICCT UNDERLYING TECHNOLOGIES IN INDUSTRY SECTORS :

ICCT has many applications in the many Industries and Industry sectors. Almost all Industries and industry sectors belonging to Primary, Secondary, Tertiary, and Quaternary Industry Sectors are basically supported by and get benefits from ICCT. In this section, some of the applications of ICCT in different industry sectors are discussed.

4.1. ICCT Underlying Technologies in Primary Industry Sector :

Industries and Industry sectors in primary sector are expected to get benefit from ICCT in to produce raw materials for other sectors. Some applications of ICCT in Primary Industry Sector are listed in table 3.

Table 3 : Some applications of ICCT in Primary Industry Sector

S. No.	Underlying technologies of ICCT	Applications in Primary Industry Sector
1	Artificial Intelligence Technology	AI based autonomous robots to handle essential agricultural tasks such as harvesting crops at a higher volume and faster pace than human labourers, to monitor crop and soil health, to study the environmental impacts on crop yield such as weather changes, precision farming, yield management etc. are seen as a weapon in doubling farmer income in near future [12].
2	Big data and Business Analytics	Smart farming, Precision agriculture, Big data analytics on reduction in fertilizer, cost savings, yield optimization, Seed quality management, Accurate crop prediction, Automated agriculture, Environmental awareness, Risk management, Food safety and spoilage prevention, etc [13-14].
3	Cloud Computing Technology	Smart agriculture in which Agriculture-Cloud and IT offers expertise service to farmers regarding cultivation of crops, pricing, fertilizers, disease detail method of cure to be used etc. Scientists working at Agriculture research stations can add their discoveries, suggestions regarding modern techniques for cultivation, usage of

		fertilizers, can obtain cultivation history of the region, etc[15-17].
4	Digital Business & Marketing	E-marketing of agricultural products, Digital advertisements on global reach, Engage and interact with target audience and customer base [18].
5	3D printing Technology	Used in agriculture, forestry, and fishing industries for 3D printing based Food fabrication, Wood fabrication, recycling of fishing nets & ropes, etc [19-22].
6	Internet of Things (IoT)	Smart agriculture model, Environmental Monitoring and Control, Improving Agricultural Operations, Waste management, For fresh agricultural products, etc[23-25].
7	Online Ubiquitous Education & Training	Agricultural education, Farm management, etc [26].
8	Optical Computing Technology	Precision fish farming, High speed processors for information processing
9	Information Storage Technology	Enhanced data storage for high speed processing.
10	Virtual Reality & Augmented Reality	Agriculture farm management using Augmented reality, AR and VR for Cultivating the Garden etc. [27]

5. ICCT UNDERLYING TECHNOLOGIES IN SECONDARY INDUSTRY SECTOR :

Industries and industry sectors in secondary sector are expected to get benefit from ICCT for manufacturing the goods (Table 4).

Table 4 : Some applications of ICCT in Secondary Industry Sector

S. No.	Underlying technologies of ICCT	Applications in Secondary Industry Sector
1	Artificial Intelligence Technology	Intelligent manufacturing, Smart manufacturing, Industrial automation leading to Industry 4.0, etc [28].
2	Big data and Business Analytics	Industrial big data analytics and cyber-physical systems, Cleaner manufacturing, Supply chain management, Cyber manufacturing, fault prediction for shop floor scheduling [29].
3	Cloud Computing Technology	Opportunities, challenges, and determinants of cloud computing adoption in manufacturing, Enhancing the product realization process with cloud-based design and manufacturing, Ubiquitous manufacturing system based on Cloud computing technology, and Cloud computing services usage in manufacturing processes [30-34].
4	Digital Business & Marketing	Digital technology and E-business in manufacturing sector, and use of Web analytics for digital marketing, etc [35-37].
5	3D printing Technology	3D technology is used for additive manufacturing, Smart manufacturing, 3-D printing in the construction industry,and is considered as an industrial revolution for 21st century. [38-42]
6	Internet of Things (IoT)	Internet of Things as roadmap for manufacturing, IoT based manufacturing for emerging Industry 4.0 concept of manufacturing[43-46].
7	Optical Computing Technology	Next-generation optics manufacturing technologies, Reconfigurable manufacturing systems [47-48].
9	Information Storage Technology	Digital manufacturing for enhanced storage with small, reliable, and cheaper systems [49].
10	Virtual Reality & Augmented Reality	Virtual reality in automotive manufacturing, Augmented Reality in Aerospace Manufacturing, etc [50-54].

6. ICCT UNDERLYING TECHNOLOGIES IN TERTIARY INDUSTRY SECTOR :

Industries and industry sectors in tertiary sector called services sector are expected to get benefit from ICCT. Table 5 lists some of the services sector gets benefit from underlying technologies of ICCT.

Table 5 : Some applications of ICCT in Tertiary Industry Sector

S. No.	Underlying technologies of ICCT	Applications in Tertiary Industry Sector
1	Artificial Intelligence Technology	Artificial Intelligence technology is used in many areas of service industry sector including tourism, telecommunications, citizen services, Banking sector for loan decisions, retail sector, etc[55-59].
2	Big data and Business Analytics	In Supply chain management, Banking sector, Tourism sector, health sector, financial & insurance sector, fashion industry, etc [60-64].
3	Cloud Computing Technology	Financial service industry, Education industry, Security industry, Brokering service, Healthcare, Gamming industry, Supply-chain industry, Telecommunication industry, etc [65-67].
4	Digital Business & Marketing	Digital Marketing and customer relationship in all kind of industry including hotel industry, tourism industry, health industry, etc [68-69].
5	3D printing Technology	Health sciences, Forest industry, etc [70-71].
6	Internet of Things (IoT)	Service innovations are possible using IoT. Smart city services including Tourism, Healthcare, Telecommunication, Logistics, Transportation, Retail, etc [72-76].
7	Online Ubiquitous Education & Training Technology	Education industry, Library services, Retail banking, Healthcare services, etc [77-79].
8	Optical Computing Technology	Optical technology based high speed computers are essential in future Retail industry sectors, Logistics & Supply chain industry sectors, Telecom industry sector, Information security industry, etc [80-81].
9	Information Storage Technology	All services industry sectors where huge amount data and information related to the business are to be stored and retrieved at high speed in small device.
10	Virtual Reality & Augmented Reality	Education & Training, Tourism, Travel industry, Finance, etc [82-84].

7. ICCT UNDERLYING TECHNOLOGIES IN QUATERNARY INDUSTRY SECTOR :

Table 6 : Some applications of ICCT in Quaternary Industry Sector

S. No.	Underlying technologies of ICCT	Applications in Quaternary Industry Sector
1	Artificial Intelligence Technology	Artificial intelligence technology is used in IT industry to automate software development, code writing, software testing, IT security monitoring, etc [85-89].
2	Big data and Business Analytics	Big databased IT-enabled services can be developed and improved [90-92].
3	Cloud Computing Technology	Cloud computing based IT as a service, Cloud computing-software as a service. Impact on mobile software development using cloud computing, etc [93-95].
4	Digital Business &	Supply of software products, implementation support and

	Marketing	maintenance using online digital technologies.
5	Internet of Things (IoT)	Using Internet of Things for innovations in software development and providing IT Enabled services efficiently[96].
6	Virtual Reality &Augmented Reality	Education and training in software industry using virtual reality and augmented reality model.

8. ICCT AS STRATEGIC TOOL :

Information Communication and Computation Technology can be used as a strategic tool for doing the business of a company in a given industry. Table 7 summarizes various strategies used by companies in any type of industries and the possible ICCT underlying technologies which can support for realizing such strategies.

Table 7: Various organizational strategies and the possible ICCT underlying technologies as a strategic tool

S. No.	Organizational Strategy	ICCT underlying Technologies as strategic tool
1	Survival Strategy or Black Ocean Strategy [97]	Artificial Intelligence Technology, Cloud Computing Technology, Internet of Things (IoT), 3D printing Technology,
2	Sustainability Strategy or Green Ocean Strategy [98]	Artificial Intelligence Technology, Big data and Business Analytics, Digital Business & Marketing Cloud Computing Technology,
3	Differentiation Strategy or Red Ocean Strategy [99]	Artificial Intelligence Technology, Big data and Business Analytics, Internet of Things (IoT), 3D printing Technology,
4	Monopoly Strategy or Blue Ocean Strategy [100]	Artificial Intelligence Technology, Cloud Computing Technology, Internet of Things (IoT), 3D printing Technology, Optical Computing Technology, Virtual & Augmented Reality,
5	Development Strategy or Yellow Ocean Strategy or White ocean Strategy [101]	Artificial Intelligence Technology, Cloud Computing Technology, Internet of Things (IoT), 3D printing Technology, Online Ubiquitous Education & Training Technology, Optical Computing Technology, Virtual & Augmented Reality,

8.1 ICCT for Organizational Survival Strategy :

A company may struggle for survival due to catastrophes in internal and external environments. These catastrophes may be due to a sudden decrease in demand for the company products or services by means of various reasons, sudden discontinuation of supply of resources used for doing business, use of obsolete technology, Political and regulatory reasons, Non-coping with people's perception, and many other reasons. Such problems may lead to organizational bankruptcy and hence closure. In such cases, the organizational leaders should plan a strategy to survive at any cost even by following black ocean strategy, if essential. The black ocean strategy consists of all activities or decisions which temporarily gives relief to the problem for organizational survival. Black ocean strategy may consist of any activity

including, influencing, lobbying, bribing, or other activities which need not come under business ethics. Here, survival at a turbulent time is only the focus. Apart from the mentioned activities, organizations can also use better survival strategies using technologies which can quickly solve the problem using their killer application or general purpose nature. For example, artificial intelligence, Cloud Computing Technology, Internet of Things (IOT), and 3D printing Technology can be used to overcome labour threat, cost enhancement, quality degradation, wastage, employee turnover, customer dissatisfaction, customer switching to other products etc as shown in table 7. Black ocean or survival strategies should be used once while, and not as a permanent strategy to avoid black-listing of the organization from the public. Once an organization is survived from catastrophe, organization should follow other improved strategies.

8.2 ICCT for Organizational Sustainability Strategy :

Creating a culture of sustainability is a challenge for many organizations due to changes in the internal and external environment. Organizational strategy and leadership should provide long term sustainability in the business. Various sustainable or green ocean strategies used in organizations focus on sustaining green environment by decreasing their contribution to environmental pollution. The technology adoption strategy like use of Artificial Intelligence Technology, Big data and Business Analytics, Digital Business & Marketing, and Cloud Computing Technology, etc., as listed in table 7, for longer period of time in organization for improving the product or service quality, supplying the products and services well in time, and actions for customer satisfaction leads to customers satisfaction and retention, which further leads to sustainability of organization.

8.3 ICCT for Organizational Differentiation Strategy :

Organizations follow different competitive strategies to differentiate themselves while doing business. These strategies may convert themselves either into low cost player or value creator through developing certain core competency within the organizational processes. Differentiation strategy can be also developed by adopting new breakthrough technologies like Artificial Intelligence Technology, Big data and Business Analytics, Internet of Things (IoT), and 3D printing Technology as listed in table 7. These technologies provide organizations to enhance their competitive edge. The organizational differentiation strategy is also called red ocean strategy.

8.4 ICCT for Organizational Monopoly Strategy :

Many organizations follow a monopoly or blue ocean strategy in order to develop and prosper. Many times, monopoly is an outcome of their investment in research and Innovation leading to owning proprietary technology through patent or any other form of intellectual property right (IPR). The underlying technologies of ICCT like Artificial Intelligence Technology,Cloud Computing Technology,Internet of Things (IoT),3D printing Technology,Optical Computing Technology,Virtual & Augmented Reality, as listed in table 7, if adopted innovatively provides support to an organizational monopoly in doing business.

8.5. ICCT for Organizational Growth & prosperity Strategy :

Once an organization reaches its sustainable stage, it should focus on further growth for prosperity. This can be achieved through international standardization of their products and services, through business expansion, new emerging technology adoption, offering super speciality products/ services, etc. using new emerging technologies. ICCT underlying technologies like Artificial Intelligence Technology, Cloud Computing Technology, Internet of Things (IoT), 3D printing Technology, Online Ubiquitous Education & Training Technology, Optical Computing Technology, and Virtual & Augmented Reality, (as listed in table 7) are predicted as effective technologies of the 21st century for organizational growth and prosperity. The organizational growth and prosperity strategy is also called Yellow ocean or sometimes called White ocean strategy. White ocean strategy comprises of all other strategies in mixed form for optimum performance of the organization.

9. CONCLUSION :

It is observed that Information Communication and Computation Technology (ICCT) is having applications in many areas of society to solve problems of society as Universal general purpose technology of 21st century. The ICCT underlying technologies are expected to support various business organizations in many industry sectors. The emerging trends of applications of the above underlying technologies of ICCT in the primary, secondary, tertiary and quaternary industry sectors of the society

are reviewed, discussed, and analysed. The progress of ICCT underlying technologies areexpected to solve basic needs, advanced wants, and dreamy desires of Human beings as well as to adopt various strategies in organizations for surviving, sustainability, differentiation, monopoly, and development through growth & prosper.

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