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Advances in

Business Informatics

empowered by AI & Intelligent Systems

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Editors

P.K. Paul

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Editorial

Advancing Digital Organizations powered by ICT & Computing-*A Business Informatics Perspective*

Social and Organizational Informatics (SOI) is a dedicated in social, cultural, political, economic, and organizational structures powered by information technologies. Social and Business Informatics is an interdisciplinary area and combines with several academic fields like information science, business, philosophy, social sciences, planning, development studies, and sociology, and so on. Organizational Informatics is simply the Information Technology and Computing applications in Organization's and business related matters. The latest development of information technology in the organizations and institutions have increased effectively including their operation, elasticity and quick execution of tasks, and reduced operational costs. Organizational Informatics involves information technology related matters in an organizational setting. Organizational Informatics is come up enhanced business integration for faster and efficient and intelligent services.

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Information is power and responsible in developing and progressing many things for a comprehensive and healthy, sophisticated, and impactful information infrastructure. Once Information Science considered as manual subject for the purpose of handling information, and it is also known as Informatics in many countries. The development of the IT and Computing in other subjects and areas have developed Health Informatics, Bio Informatics, Geo Informatics, Chemical Informatics, Business Informatics, etc. These are may be called as domain-based Informatics and here, Business Informatics is the merger of Business Studies (or allied Management) with Information Science/ Technology. Therefore, Business Informatics is simply the application of IT and Computing in industries, organizations, and other emerging corporate worlds. Industries and modern organizations are gradually moving towards advanced and modern intelligent information solutions with proper and sophisticated systems therefore organizations can get timely benefits of ICT solutions in industries and companies. Technology is changing rapidly and it is modernizing and advancing different sectors for building of Digital Society. Different subjects

and fields such as Computing, Computer Science are also important in Computing and Information Processing. Information Technology is important in various jobs related to the information such as information collection, selection, processing, management, and delivery. Lot of sub technologies and segments are crucial in IT viz. Software Technology, Networking Technology, Database Technology, Multimedia Technology, Web Technology, and so on. Among the Business Informatics areas, few are rapidly growing such as E-Commerce, E-Business, Digital Marketing, Enterprise Resource Planning, Data warehousing, Data Mining, etc. Some of the areas such as IT Management, Project Management, ERP Systems, ICT Systems, Information Systems are core components of interdisciplinary Business Informatics. These days modern organizations and institutions are highly dependent on the latest information technologies and systems for proper speed, efficiency and transparency, and here among the subjects Business Informatics is very important and required. Different Information Technology components like *Database Technology, Networking Technology, Web Technology, Multimedia Technology, and traditional Software Technologies are* very important and required in advancing organizations and companies. In addition to the private houses, today government bodies are also adopting latest technologies for their advanced operation. As far as latest technologies are concerned Cloud Computing, Big data, Internet of Things, Business Analytics, Information Assurance, Cyber Security, etc. important in intelligent organizational practice. Information Technology incorporated into different Information Science areas for achieving actual role of the field, and here Artificial Intelligence, Robotics, etc. are important in many context. The rapidly growing Computing significantly changes the arena and concern of Information Science. A solid Business Informatics practice is lies on information fundamentals, psychology, and societal sciences for sophisticated IT and information infrastructure at a large scale.

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Information Technology is the most significant development in the recent past, and different subfields and technologies have emerged in recent past such as Artificial Intelligence, Cloud Computing, Big data, Internet of Things, Business Analytics, Information Assurance, and Cyber Security, Robotics for sophisticated Business Informatics practice. Such effective Business Informatics is fruitful in sophisticated information and technological services to industries and

organizations. Technology is required in various tangible and intangible product and service based organizations, businesses, and enterprises. In managing organizations role of information and content is just perfect not only for elasticity but also for the decision making including. Information Technology and its various subsystems are helpful in collection, selection, organization, processing, management, and dissemination of information and in organizational context role of Business Informatics is just booming. As it is an interdisciplinary and practice based subject impacting organizations of 21st century. This book is specially focused on Business Informatics with reference to the emergence of the latest technologies for promoting and advancing business and corporate sectors. It has discussed various emerging area specific organizational practices viz. Business, Healthcare Industries, Education sector, Aviation and Transportation. This edited volume is suitable for policy makers, decision makers, business and corporate houses as a trend and status report. Book is also going to be a perfect one for the academicians and researchers.

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Dr Sushil Sharma is an Associate Provost at Texas A&M University, Texarkana USA. Previously he worked as an associate dean and a professor of Computer Information Systems (CIS) at the Miller College of Business at Ball State University. Dr Sharma also has the unique distinction of earning two doctoral degrees. He has over 25 years of administrative leadership experience and more than 30 years of experience in higher education. Dr Sharma served as the Chair of the Department of Information Systems and Operations Management (2008–2012) and Executive Director of the MBA and other Certificate Programs (2011-2013). A Leadership Fellow in Higher Education through the Management Development Program at Harvard University, he has co-authored/edited/co-edited thirteen (13) books and published over one hundred (100) refereed research papers in the most reputed national and international Management and MIS journals. In addition, he has published forty-six (46) refereed chapters in various books and has presented and published over one hundred and sixty-five (165) papers at various national and international conferences. His work has thousands of citations [Google Scholar] and has a high h-index. Dr Sharma's research has appeared in several top-ranked journals in the MIS field. Before joining the faculty at Ball State, he held the associate professor position at the

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His primary research interests are in IT adoption, information systems governance, e-Learning, e-Government, computer-mediated communications, computer information systems security, human-computer interaction (HCI), health informatics, and community and social informatics. He received three high-level outstanding awards (Outstanding Researcher, Outstanding Faculty, and Outstanding Administrator) at Ball State University. At the college level, Dr Sharma has been a recipient of the Miller College of Business Extraordinary Year Award, given by the dean of the college in recognition of excellence in teaching, research, and service for three consecutive years (2003, 2004, & 2005). Dr Sharma has been a featured keynote speaker at various international conferences, professional forums, executive development seminars, and academic conferences worldwide on a wide variety of topics. Dr Sharma has served as the editor-in-chief/co-editor-in-chief of the International Journal of E-Adoption from 2007 to 2020. He has been a guest editor, associate editor, reviewer and member of the editorial boards for several national and international journals in the area of MIS.

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Enhancing & Implementing Emerging ICT in Sophisticated Business Informatics Practice for Successful Organizations and Institutions

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Abstract

Information is power and is considered worthy in developing and progressing several things. Computer and Information System give a healthy, sophisticated, and impactful information infrastructure—all together. Previously, Information Science was known as a manual subject (non-technical) for handling information activities and became known as Informatics in many countries. The development of the IT and Computing field is emerging and its applications in Information Science and further related to other subjects and areas lead some of the subject and nomenclature viz. Health Informatics, Bio-Informatics, Geo-Informatics, Chemical Informatics, Business Informatics, etc. These may be called domain-based Informatics and here, Business Informatics is simply a combination of Business Studies (or allied Management) with Information Science and Technology or Informatics. Business Informatics is the application of IT and Computing in industries, organizations, and other emerging corporate worlds. Industries and modern organizations are looking towards advanced and modern intelligent information solutions with proper and sophisticated systems; therefore, organizations can get timely benefits of ICT solutions in industries and

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companies. This chapter is especially on Business Informatics, about the emergence of the latest technologies for promoting and advancing business and corporate sectors.

Keywords: Emerging Technologies, ICT, Computing, Business Informatics, Enterprise Resource Planning, Digital Economy

Introduction

Technology is changing significantly in modernizing and advancing different sectors and as a result, it will also help in the building of a Digital Society. Different subjects and fields such as computing, Computer Science are also important in Computing and Information Processing. Upon developing the Computer Science subject knowledge community got the opportunity of another field called 'Information Technology' which is pure of applied information processing and other activities using various information techniques and technologies. Information Technology takes the help of different subcomponents in information collection, selection, processing, management, and delivery. Among the subcomponents, a few important ones are Software Technology, Networking Technology, Database Technology, Multimedia Technology, Web Technology, and so on. Further, the field of Information Technology is also changing and incorporating other domains and fields. Informatics is concerned with information and technological applications in organizations, institutions, and sectors. Among the Business Informatics areas, few are rapidly growing such as E-Commerce, E-Business, Digital Marketing, Enterprise Resource Planning, Data warehousing, Data Mining, etc. Some of the areas such as IT Management, Project Management, ERP Systems, ICT Systems, and Information Systems are core components of interdisciplinary Business Informatics. Today Modern organizations are highly dependent on the latest information technologies for various information solutions with proper speed, efficiency and transparency, and in this context tools and systems of Business Informatics become mandatory. Various Information Technology components *(viz. Database Technology, Networking Technology, Web Technology, Multimedia Technology, and traditional Software Technologies)* are considered worthy in advancing organizations and companies. The private houses and government bodies are also employing the latest technologies and systems in their operation for developing the systems

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perfectly and advanced. Some of the latest technologies are critical and advancing the corporate houses into the smarter and these are Cloud Computing, Big data, the Internet of Things, Business Analytics, Information Assurance, Cyber Security, etc. As Information Technology is growing rapidly, therefore many technologies are incorporated into the Information Science sector radically like Artificial Intelligence, Robotics, etc. The rapidly growing computing significantly changes the arena and concern of Information Science. Even after many changes and extended attributes, it is an important and diverse field of fields having a relationship with the information fundamentals, psychology, and societal sciences for sophisticated and sustainable information infrastructure at a large scale.

Objective

The present chapter entitled 'Enhancing Emerging ICT in sophisticated Business Informatics Practice for successful organizations and institutions' deals with the following aim and objectives (but are are not limited to)—

- To dig out about the basics of Business Informatics including its fundamental applications, areas, and latest technologies.
- To gather knowledge about traditional and advanced Information Technologies for business setups, organizations and institutions, and corporate houses.
- To dig out knowledge about Business Informatics related aspects including foundation, general areas, and emerging applications supported by IT & Computing.
- To find out the advantages and benefits of the latest Information Technology components for healthy, and intelligent organizational practices.

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Information Technology: Basics

Information Technology is an advanced interdisciplinary field of study dedicated to technological progress and development. For the overall development of an organization, Business Informatics is considered prime under Information Science and Technology (IST) (Paul & Chatterjee 2019). The 'Information Science (IS)' and 'Information Technology (IT)' merger resulted in the new IST domain and societal development in a different context. Information Technology

is required and useful in almost all sectors and industries, ranging from (but not limited to)—

- Education, Research, and Training
- Business, Corporate sector with Industry
- Health, and Allied Systems
- Government and Public Administration
- Social Systems
- Biological Systems and Science, etc. (Adamuthe et al., 2015; Paul & Kumar 2013; Robey 1981).

Information Technology is radically changing with the support of its various components for information activities as well as technological solutions. Information Technology is responsible for the overall and complete technological progress of an organization and institution. Information Science and Technology is a broad area and merger of 'Information Science (IS)' and 'Information Technology (IT)'. Information Technology is required and applicable in different areas such as—

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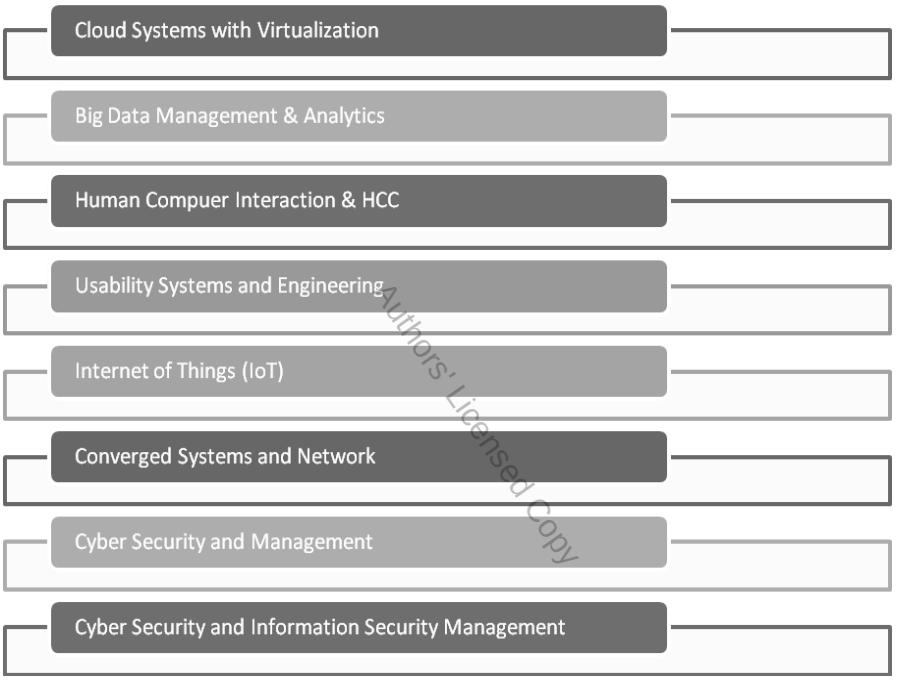
- Education, Teaching, and Research
- Business, Commerce, and Industry
- Health, Medicine, and Clinical Systems
- Government and Administration
- Social Science and Systems
- Biological Science and Systems, etc.

Information Technology domain is changing radically, supported by various sub-systems and components required in information activities and technological solutions. This subject is supported by computers and also additional Information Technology components such as network systems, database systems, infrastructure systems, etc. IT additionally encompasses various other Management and Business principles. The Information Technology industry developed during the end of the 20th century significantly, and also computing and IT-related peripheral costs were reduced at that time (Buckland 1991; Lee et al., 2015; Paul et al., 2021). Moreover, energy consumption has also been decreased, and ultimately supported by the subfield and other components such as—

- Software Systems & Technology;
- Networking Systems & Technology;

- Web Systems & Technology;
- Database Systems & Technology;
- Multimedia Systems & Technology;
- Security Systems & Technology, etc.

Business Informatics is thus getting the advantages of all kinds of mentioned technologies and systems for further promotion of the organizations. There are a number of technologies dedicated and the very latest emerged and some of them have been listed here in Fig: 1.



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Fig: 1-Emerging IT components promoting Business Informatics

Emerging Information Technologies Vis-à-Vis Business Informatics Practice

Today, the success of the organizations and institutions in many ways depends on proper and effective information. It is also required for the development of the new age managers to have technological and information support (Cram et al., 2016; Robey 1981). Analysis and management of data are very important for a successful organization and business house. Critical data analysis and collection is important for finding situation and future trends for successful and sophisticated business houses. Effective IT and Computing applications in different areas leads the development of a new field of practice and study

gradually 'Informatics' *(as coined by Karl Steinbuch in the year 1957, who was a Computer Scientist)*. Perceptions may vary from country to country regarding the field 'Informatics'. And institutional observation also differs accordingly. Few institutions consider this as a '*field of study concern with computing, behaviour, algorithms, structure as well as interaction with human beings'*. In another context, Business Informatics is the combination of Management and Information Technology for better information and technological solution for organizations and business houses. Managing, and communicating (including other activities) data, information, and knowledge using Business studies, computer science, and information science is the ultimate goal of Business Informatics. Designing advanced, automated systems, and creative frameworks which are required for information solutions or intelligent solutions regarding business houses is known as Business Informatics. Designing and developing new IT-dependent organizations in many ways lies on Business Informatics, and it may help in existing processes and setup with proper marketing, sales, production, and logistics.

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Business Informatics is enhanced by various IT-related components for better and advanced business operations, supported by a lot of Information Technology subcomponents for hassle-free effective operations. Here some of the latest technologies such as Cloud Systems and Computing, Data Analytics and Management, HCI & HCC, Usability Systems, and Engineering, Internet of Things, Blockchain Technology, Converged Systems and Networks, Information, and Cyber Security considered worthy in managing sophisticated Business Informatics practices (Borko, H. 1968; Brock & Dhillon 2001; White & McCain 1998). Some of the specific areas of Business Informatics are as including E-Commerce, E-Business, Digital Marketing, etc. Here, Fig. 2 has depicted some of the close areas of Business Informatics.

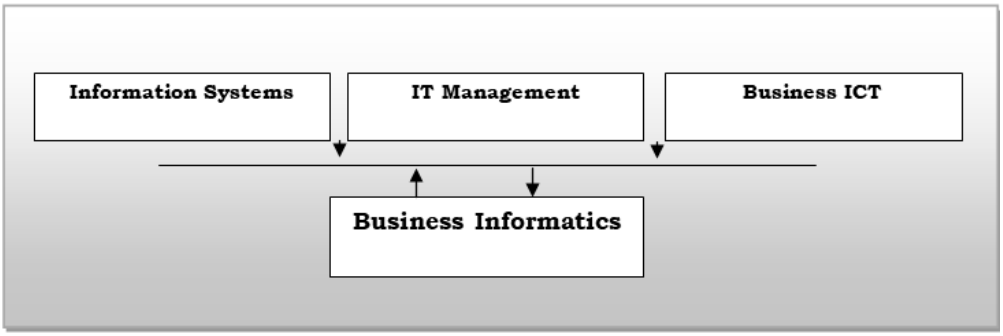


Fig: 2-Depicting some of the allied areas of Business Informatics

Cloud Computing & Virtualization in the context of Business Houses:

Within Information Technology, Cloud Computing is an emerging name and significantly applicable for the virtualization practice works from a remote place. Cloud Computing and similar technologies are considered worthy in the delivery of the Cloud Computing models like—

- Software as well as a similar system
- Sophisticated Platforms as well as Systems
- Storage and database systems
- Hardware and other physical infrastructure
- Basic information and Contents, etc. (Ellis & Nutt 1980; Gillingham 2011).

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Cloud computing is simply a data storage system lies with different kinds of Data Centres. The growth of cloud computing is significant and dimensions of such advancement are also noticeable in the areas of hardware, platform, operating systems, networking equipment, etc. for the centralized server. Various Cloud Computing categories such as Public Cloud Computing, Private Cloud Computing, Hybrid Cloud Computing, etc. are worthy and important.

Public Cloud Computing is responsible for developing virtualization, i.e., simply the remote-based services, and basically run by third-party systems, and it is also available in multiple locations. Though *Private Cloud Computing* is just the opposite of Public Cloud, it is simply developing in-house cloud-based solutions and services. Such solutions and services are mainly established, as well as executed by the concerned organizations for sensitive business systems as well as organizations (Paul and Aithal 2018; Stivers & Beard 1987). The

combination of public and private cloud computing results in Hybrid Computing with the following advantages,—

- Elasticity as well as Scalability
- Sophisticated and Proper Services
- Cost Effectiveness and money-saving models
- Healthy and smart Remote Based services
- Collaborative and multiple Sharing
- Dependency and security, etc.

Today organizations and business houses are highly adopting Cloud Computing services in different types of business and therefore various vendors also using newer and more effective cloud-based solutions are meaningful.

Big Data Management and Data Analytics in Industries

Big Data is dedicated to complex data management and various analytical tools and technologies are being used. During the 1990s, Big Data term was first coined and gradually become popular in the 1990s and gradually come to today's shape. There are many basic major developments noticeable in Big Data and Analytics area and among these few important are Tera Data Corporation, Seisent IMC, Google, Apache, Oracle, IBM, EMC, DELL, etc.

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Data is important and significant in almost all sectors including Healthcare and medicine, Government and administration, Business and Management, Agriculture and horticulture, Management and Commerce, Education and Training, etc(Brock & Dhillon 2001; Brookes 1980). The growing amount of data management, particularly complex data management is called Big Data Management, and this is helpful in managing information proliferation, particularly in all sorts of Information Management-related activities in different formats, mediums, and ways. Big Data also refer to Big Data Management, however, according to the expert 'Big Data' may be considered a concept, while 'Big Data Management' is managing large and complex data management using different tools and techniques. The applications of different analytics techniques and technologies are applied in Business houses, and therefore 'Business Analytics' have developed separately as a field of practice. Though Big Data and Analytics in different areas have created different nomenclature like 'Health Analytics'*(Big Data Applications in Healthcare and medical areas)*, The application of Big Data in education, teaching, and learning is called 'Educational Analytics'

or 'Learning Analytics'. Similarly, Big Data and Analytics applications in other areas are noticeable such as Transportation, Governance, Education, Business, Manufacturing, etc (Ghose 2001; Holdstock 1998).

Corporate world & Need of Human-Computer Interaction, Usability Engineering & UXD

Human-Computer Interaction (HCI) and allied areas such as Usability Experience Designing, Usability Engineering, Usability Systems, and Man-Machine Interaction are responsible for electronic products and computing systems design, development, and implementation and its jurisdiction is beyond interface designing and development and involve other electronic systems development. Human-Computer Interaction uses lots of tools and technologies, even psychology and philosophy. Human-Computer Interaction was first coined in 1980 but later in the year 1983 it became popular through a book entitled 'Psychology of Human-Computer Interaction' Stuart K Card and Newell first introduced the concept of HCI which belongs to Carnegie Mellon University. Gradually, the concept of Human-Computer Interaction become popular and considered solid in developing usable computing systems. The field of Human-Computer Interaction growing rapidly within Computer Science, Information Science, Information Technology, etc. Today in many subjects such as applied psychology, Designing, Architecture, Sociology, Philosophical Studies, Engineering Science, Management, Mechanics, etc. Human-Computer Interaction become an important area and at the same time, HCI and allied subjects depend on such subjects. Usability Engineering is related to HCI for the purpose of studying, evaluating, designing, as well as developing various kinds of interfaces for smart gadgets and electronics products viz. computers, ATM monitors, display boards, etc. It is also vital in LCD, LED, websites, and portal design. In collecting data and information from the retrieval systems also, Usability Engineering may be considered worthy. The smartphone design and the interface of the Information Kiosk also lie in Usability Engineering and other areas. *User Experience Designing* is a part of Usability Engineering and is associated with various designing-related principles, as well as methods (Paul et al., 2021). Different computer graphics tools and modelling and principle of animation are also treated as vital in this regard. Similarly, *User-Centric Design* deals with processes, frameworks and guidelines; therefore it is also required

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particularly in developing feedback systems, and evaluation system development also. Today organizations and business houses including Industries and other corporate sectors are using indirectly HCI, Usability Engineering, User Experience Design, etc. in support of their ICT uses. As in every business house website is common therefore a common example of HCI is web development and portal development of the concerned business setup.

Internet of Things and Business Effectiveness

Among the emerging technologies and systems within Information Technology, an emerging and alarming one is 'Internet of Things' (IoT) which concern with various objects and sensors to collect and share data. Therefore, it is applicable in diverse sectors and industries. During the 1990s, Kevin Ashton, an entrepreneur, conceptualized the idea of IoT. As it is governed by built-in sensors; therefore various internet technologies play a leading role supported by IP address due to its implications in various sectors such as Hospital and Health Systems, Transportation, Business, Agricultural, Education and Research, Government and administration, Manufacturing including Infrastructure, etc. (Brookes 1980; Paul et al., 2021). Here, Internet-connected embedded sensors are also important (Refer to Fig: 3). IoT normally have the following advantages—

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- Internet of Things (IoT) using different internet and allied technologies for the collection of data and information.
- Internet of Things (IoT) also takes the help of various sub-components of IT, viz. Cloud Computing, Data Analytics, human-centred Computing, etc.
- Internet of Things uses 'monitoring sensors' for information collections considered worthy and important.

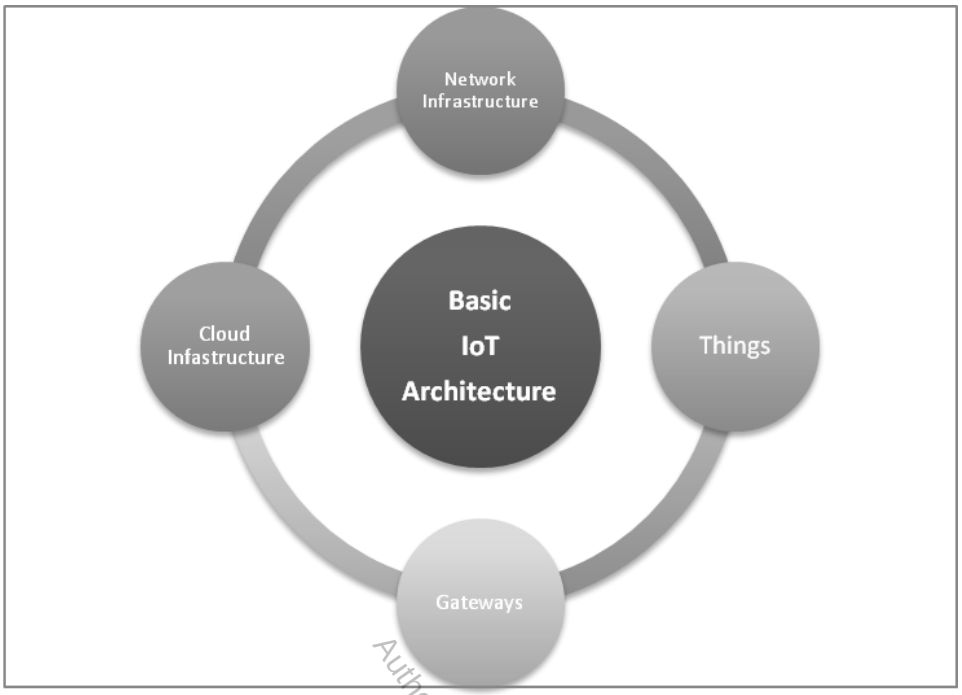


Fig: 3-The Basic IoT Architecture

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Converged Network Systems in Smart Business development

Computer Network is the system and mechanism of different electronic devices connected together such as computers, servers, and printers, and a 'converged network' is an emerging technology within Network Technology, further in this technology telephone, video, and data communication are basically driven by the latest technology. Next-generation and advanced communication are possible with the help of Internet protocol (Cornelius 2002; Paul 2018). Furthermore, a converged network may minimize the usage cost and also promotes multiple benefits like reducing calls of long-distance and international communication using VoIP. It also extends superb flexibility as well as scalability of the network users and services.

A converged network is simply the convergence of various communication systems together, viz. Ethernet, Wi-Fi, mobile, VoIP, and other electronic devices are responsible for communication system development. With this kind of service by a single converged network, an organization can be able in getting all types of services. 'Different types of networking-based services over the same network' is the ultimate benefit of a converged network. Ultimately, such a

network provides consistent performance and universal security. Here, a convergence network, large corporate houses, big ventures, and bodies additionally can implement firewall systems and rules, intelligent and automated antivirus, scanning of the malware, and different security measures, enhanced data connections(Al-Mamary et al., 2014; Arch-int & Batanov 2003).

Therefore, a 'converged network' offers organizations and companies intelligent communication systems of various data formats and ultimately helps in enhancing the systems and organizational development; directly and indirectly(Buckland 1999; Kelton et al., 2008).

Blockchain Technology and its Emergence in Business

Blockchain Technology supports encrypted records of data, works in a distributed database and closely works with a transaction, and contracts. Blockchain lies on independence, as here digital ledger plays a significant role. Furthermore, it is accessible on different platforms, and also not bound to a particular place. Blockchain helps in various financial activities and services, and therefore it is promoting digital currency, viz. bitcoin transactions. With the support of blockchain, the tracking of tangible and intangible assets is possible and recordable within the network and ledger of Blockchain. This is a very significant tool, technique as well as procedure for financial management as well as various modern business transaction management. Blockchain Technology in recent past developed as a field of study and rising rapidly in proper financial transaction management without any help of third-party requirements. As there is no third-party involvement in this system; therefore Blockchain Technology keeps all the data encrypted, and here participants do not need to share any personal data; therefore it supports encryption as well. Data breach is another benefit of Blockchain, which significantly reduces data breaches (Cornelius 2002; Maxwell & Watkins 2003). This technology also has some challenges due to its multiple numbers of sharing in the same database; therefore, organizations also need to look into said matters. Here, Fig:4 shows the basic applications and emergence of blockchain technology in the financial sector and other business systems.

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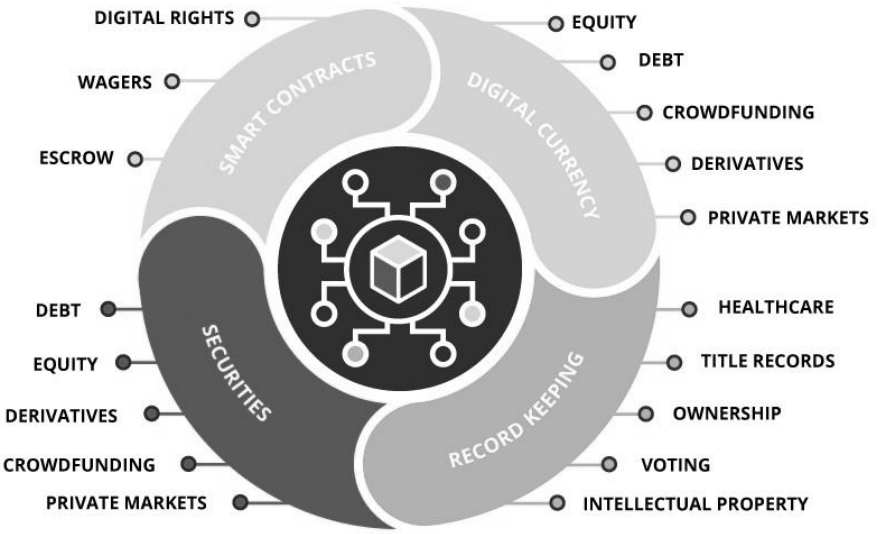


Fig: 4-Different applications of Blockchain for effective Business Informatics practice

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Cyber Security Systems & Information Assurance: The Corporate Perspective

As far as networking technology is concerned, Cyber security is an important technology within networking and its role also growing rapidly in different business houses. As far as security systems are concerned, various electronic gadgets such as computers, servers, and mobile devices are considered important in managing threats and attacks. Cyber security is the broader area with respect to security-related subjects *(viz. Computer Security, Cryptography, Network Security, Database Security, etc.)*, however, it is smaller than Information Technology Security or Information Assurance, In organizations and industries Information Assurance is important for dealing managerial aspects, policy framing, governance of the security (McCune 1994; Mingers 1995; Paul et al., 2021). Cyber security or IT Security is therefore considered important in organizations, business houses, and management. It is worthy and important to take a note of regarding allied security-related concerns in an organization or business house. Here additionally few other securities-related areas are also important as far as business houses are concerned.

- Network Security is very important in designing, developing as well as managing security systems in the IT System of an organization from attackers, also from malware as well as other vulnerabilities. In

developing and framing healthy as well as sophisticated secure network systems, it has become important and worthy. Moreover, Application Security is also very important in developing and designing proper security systems for secure software. Today, business houses as well as other organizations have a security-related concern.

- Database is vital in any organization for storing data and information, and therefore its design, development, and management are also important. Here, robust security is the need of the hour. Business houses can avail the benefits of the systems with proper website designing, development, and management (Paul 2018; Stivers & Beard 1987). Software Security in the context of the database is also important for proper, secure database system development.

Information Assurance deals with the aspects related to the principles, techniques, tools, and practices of security and privacy for developing secure networked infrastructure and deals with security policies, and risk analysis. Information Assurance and its real practice is the need of any organization, and it is very much required in modern business houses supported by IT Infrastructure and proper Technology. The need for applied knowledge with security skills is essential in Server, Web, Database, and Networks Systems. In addition to these, proper communication skills are also important to bring in better healthcare practice. As Information Assurance is a broad as well as complex deal with digital and manual information security, therefore in the organization it is well recognized and required for the time being. Assurance is an important aspect of Information Science, and it guarantees and pledges information on various related matters viz. collection, organization, processing, management, and obviously dissemination.

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Therefore, different Information Technology components are considered valuable in developing better and more intelligent Business Informatics practices. Organizations and corporate bodies irrespective of private, government, or public-private partnership categorized require Business Informatics as a vital requirement to take the proper initiative from the respective organizations, ministries, business associations (Refer Fig: 5),

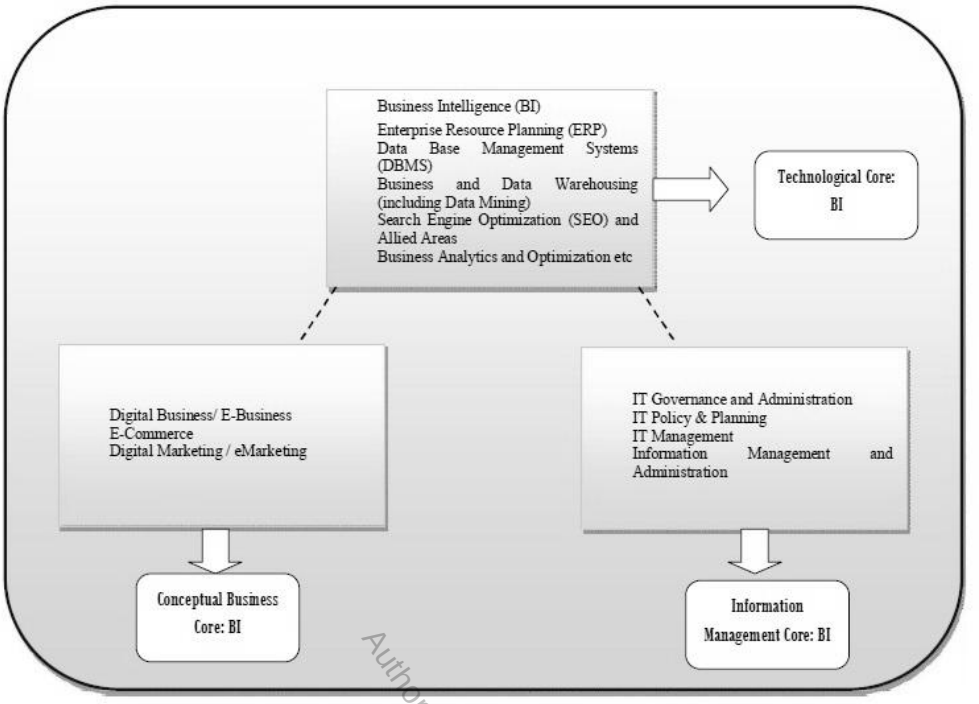


Fig: 5- Business Informatics practice for sophisticated organizational development
P.K.Paul et al., 2018

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Edge Computing & Modern Business Development

Edge Computing is an emerging IT and Computing area and lies on distributed information systems of architecture. Further here clients are basically processed in the periphery of the network, though traditional computing depends on virtual data flood here data models are restricted to centralized systems. Furthermore, the obstacle of bandwidth limitations, latency issues, and unpredictable networks are possible to solve by the edge computing architecture. In certain cases, services and portions are allowed in the edge system, and it is also made closer to the source data (Nunamaker Jr et al., 1990; Stivers & Beard 1987). After generating data in Edge Computing, it doesn't transfer data to the central data system, though it does the operations in the place where data is being generated. Edge computing is reshaping IT and business computing and offering the influence of the cloud, edge use cases, tradeoffs and implementation considerations. Edge computing is considered to become important in almost all types of business houses and organizations whether private, public or merged.

Conclusion

Information Technology and its development is the most significant development in the recent past. Another close field of study, Information Science is also having different subfields and technologies such as Artificial Intelligence, Cloud Computing, Big data, Internet of Things, Business Analytics, Information Assurance, and Cyber Security, Robotics and also offers significant roles in Business Informatics practice. Business Informatics helps in proper and sophisticated information and technological services to industries and organizations. Technology is helping towards integrating tangible and intangible matters for healthy organizations, businesses, and enterprises. Newer technologies are important in managing information for decision-making, including developing business houses faster and more efficiently. Information Technology is supported by various subsystems and components therefore; it helps in the collection, selection, organization, processing, management, and dissemination of information. Business Informatics is an interdisciplinary and practice-based subject, growing rapidly internationally and impacting organizations of the 21st century.

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