CHAPTER – 1
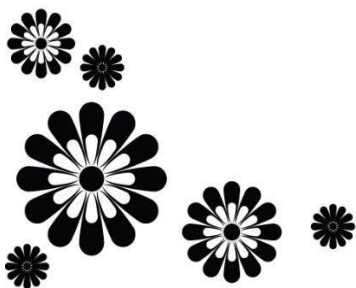
INTRODUCTION

CHAPTER - 1

INTRODUCTION

Data analytics are a key component of the field of business intelligence (BI[1]), which helps users get corporate insights for better decision-making. Numerous businesses are gathering and keeping a vast amount of data about their existing and future clients, vendors, and business partners. The companies are unable to turn the data into meaningful and helpful knowledge since it is difficult to find the hidden information in the data. Big data analytics technologies may be able to assist these businesses in extracting insights from the vast amounts of data. It assists businesses in gaining knowledge in order to automate decision-making for the achievement of their objectives.

Business intelligence solutions provide management and other departments with crucial analytical tools and critical performance indicators. It offers further advantages in terms of data quality, scalability, analytical power, and user-friendly presentation. Big data analytics and business intelligence technologies turn sales and customer data into useful information. To maximize the value of this corporate data, big data strategies work in conjunction with business intelligence technologies. This study offers an analysis of how the big data analytics tool aids in e-commerce business management.

According to Laudon & Laudon (2007), an information system is a group of interconnected components that gathers, processes, stores, organizes, retrieves, manages, and provides information to support business operations, decision-making, and performance inside an organization. It varies from information technology in this sense, which describes the tools, techniques, innovations, and standards used to create information. Information systems are crucial in assisting managers in problem-solving, visualizing difficult concepts, and developing new products (Laudon and Laudon, 2008).

1.1 BIG DATA

Massive data collections are referred to as "big data". It is described as data that, because to its volume, velocity, and variability, surpasses the processing power of typical

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[1]Business Intelligence

database management systems. Its size falls between numerous Terabytes to petabytes. There might be a huge amount of data online and in the cloud. This data contains several useful patterns and information that call for more sophisticated analysis methods. Business intelligence combines data from many sources to paint a comprehensive picture of the company's current market, consumers, issues, competitors, and development of new goods and services. It supports the creation of data-driven insights for marketing decision-making. Such a goal may be attained with the use of analytics tools, which can be used to extract or identify patterns in client behavior or massive databases.

Massive, independent sources like decentralized and distributed control systems are combined with big data. These capabilities provide a significant challenge for businesses that handle and store these enormous data collections via the traditional data processing technique. For the analysis and administration of large data, a new model must be established and the current framework must be reexamined. Applications, technologies, and processes for obtaining, reviewing, incorporating, and presenting commercial knowledge are referred to as business intelligence (BI). The main goal of business intelligence is to promote more efficient and effective company decision-making.

In order to allow more effective and reliable action plans, the strategic review of the literature must investigate the elements influencing the adoption of Information Systems (IS[2]) as a well-designed strategic diagnostic tool. By studying the possible applications of Big Data Analytics (BDA[3]) and Business Intelligence, we began by talking about key frameworks necessary for strategic excellence (BI). In the end, we would create an integrated application that serves as a strategic performance management diagnostic tool for a firm.

1.2 BIG DATA FEATURES:

Big data refers to the accumulation of information from diverse sources, characterized by five key aspects: volume, value, variety, velocity, and veracity.

Volume: This pertains to the sheer amount of data that organizations manage and process.

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[2]Information System
[3]Big Data Analytics

Value: The significance of big data lies in the insights and patterns it offers, leading to more efficient operations, enhanced customer relationships, and tangible business benefits.

Variety: Big data encompasses a wide array of data types, ranging from raw and semi-structured data to unstructured data.

Velocity: This refers to the speed at which businesses gather, store, and handle data, measured by metrics like the quantity of social media posts or search queries within specific time frames.

Veracity: Executive confidence in big data often depends on the accuracy and truthfulness of the data and information assets at hand

Figure 1.1: Big Data 5 V's
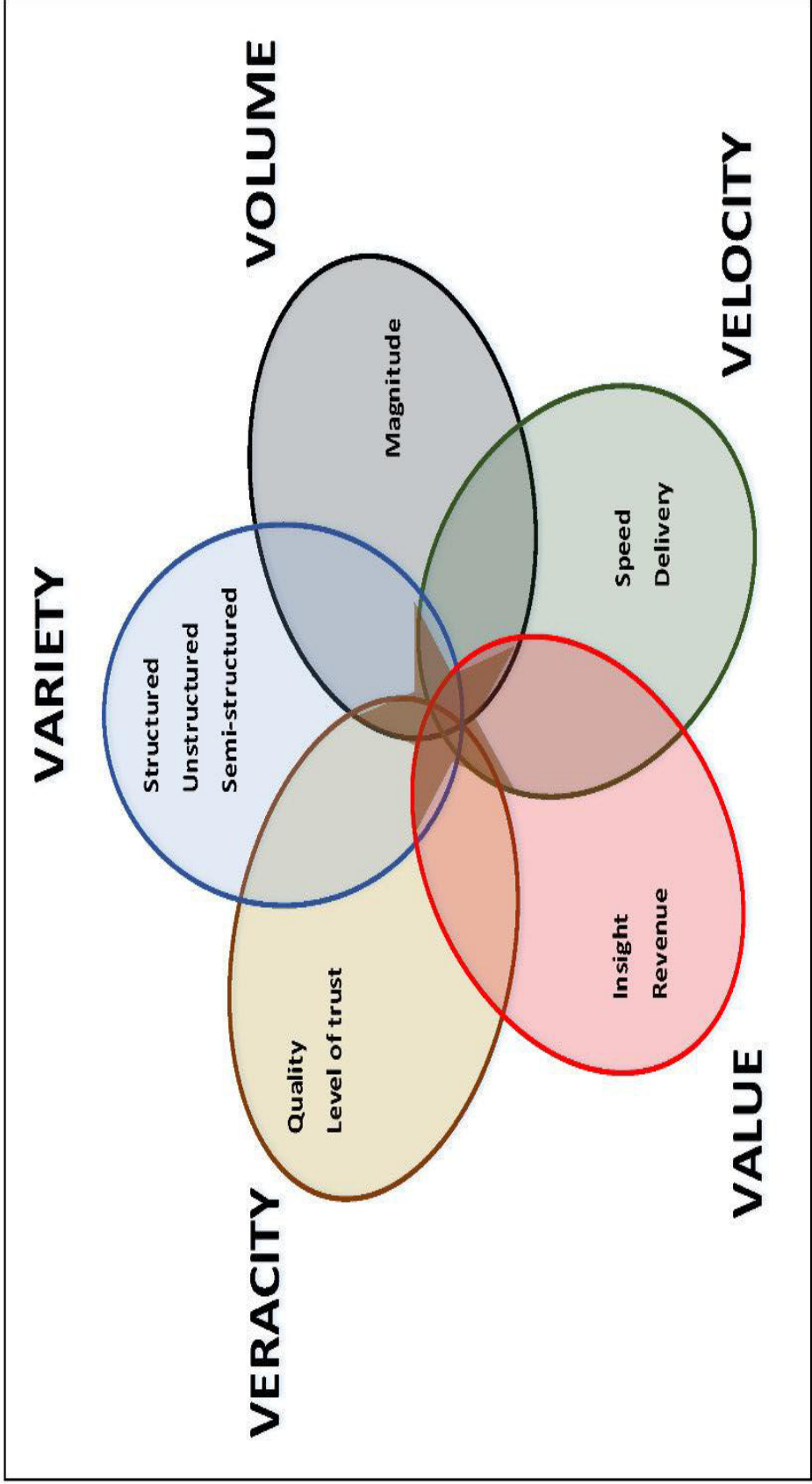
(Source: Husamaldin, Laden & Saeed, N., 2019)

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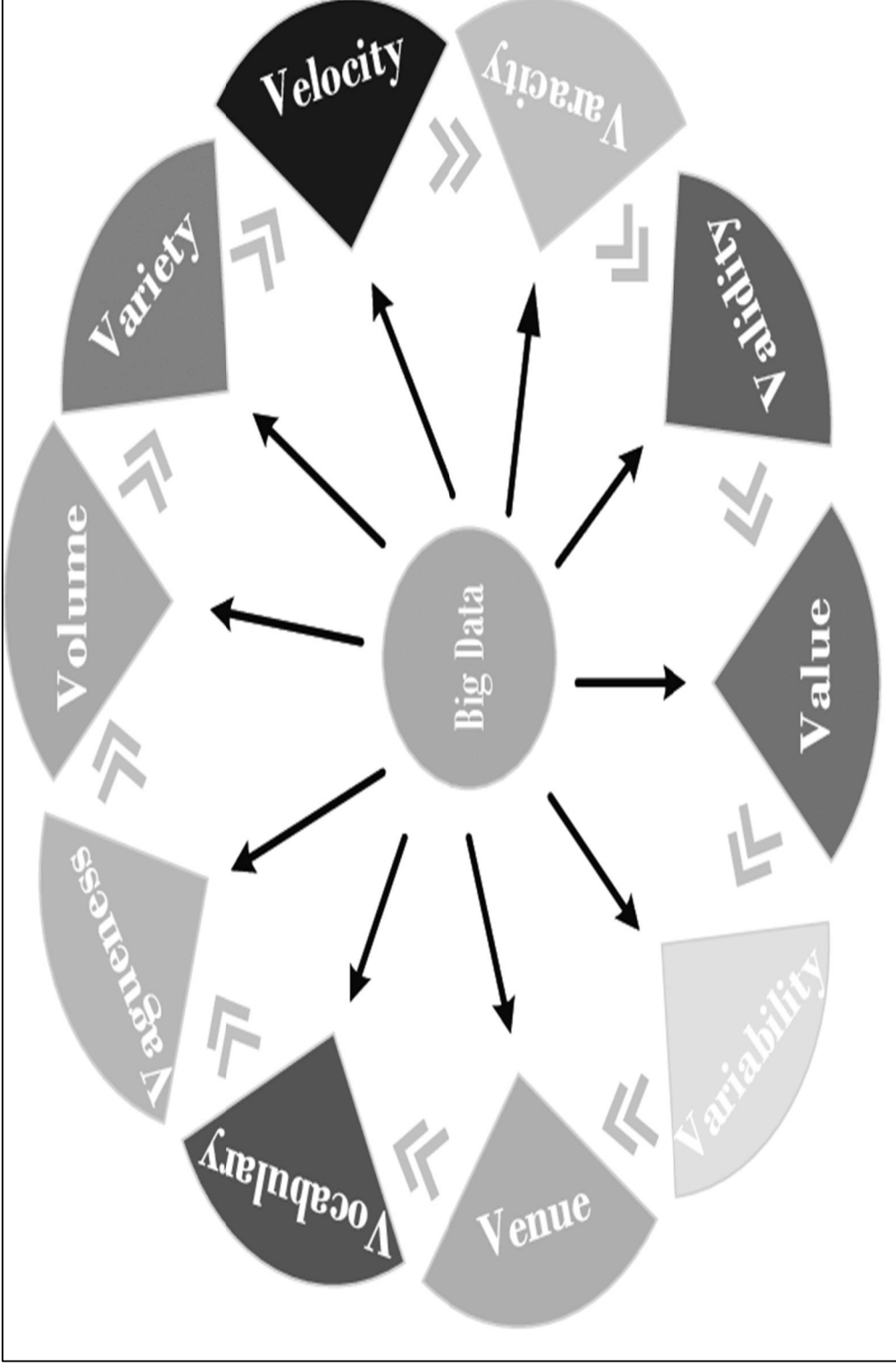
(Source: Bhat, Showkat & Huang, Nen-Fu, 2021)

Figure 1.2: Big Data 10 V's

1.3   BIG DATA ANALYTICS:

Analytics is a systemic method of thinking in which subjective, quantitative, and mathematical computer tools and tactics are employed to dissect knowledge, gather data, enlighten, and enhance decision-making. Complicated research may employ a variety of techniques, including as indicative, predictive, prescriptive, and optimization frameworks. Market and data analysis are both relevant research categories. The Market Analytics is a systemic method of thinking in which subjective, numerical, and mathematical computing tools and tactics are utilized to dissect knowledge, gather data, enlighten, and enhance decision-making.

"The information obtained on the occasion of fascination through perception, measurement, or trials" is coordinated by data analysis. The goal of data analysis is to separate out as much data as may be expected to be useful for the relevant topic. Additionally, according on the level of analysis, the entire area of big data analysis has been categorized into three levels: descriptive analysis, predictive analysis, and prescriptive analysis.
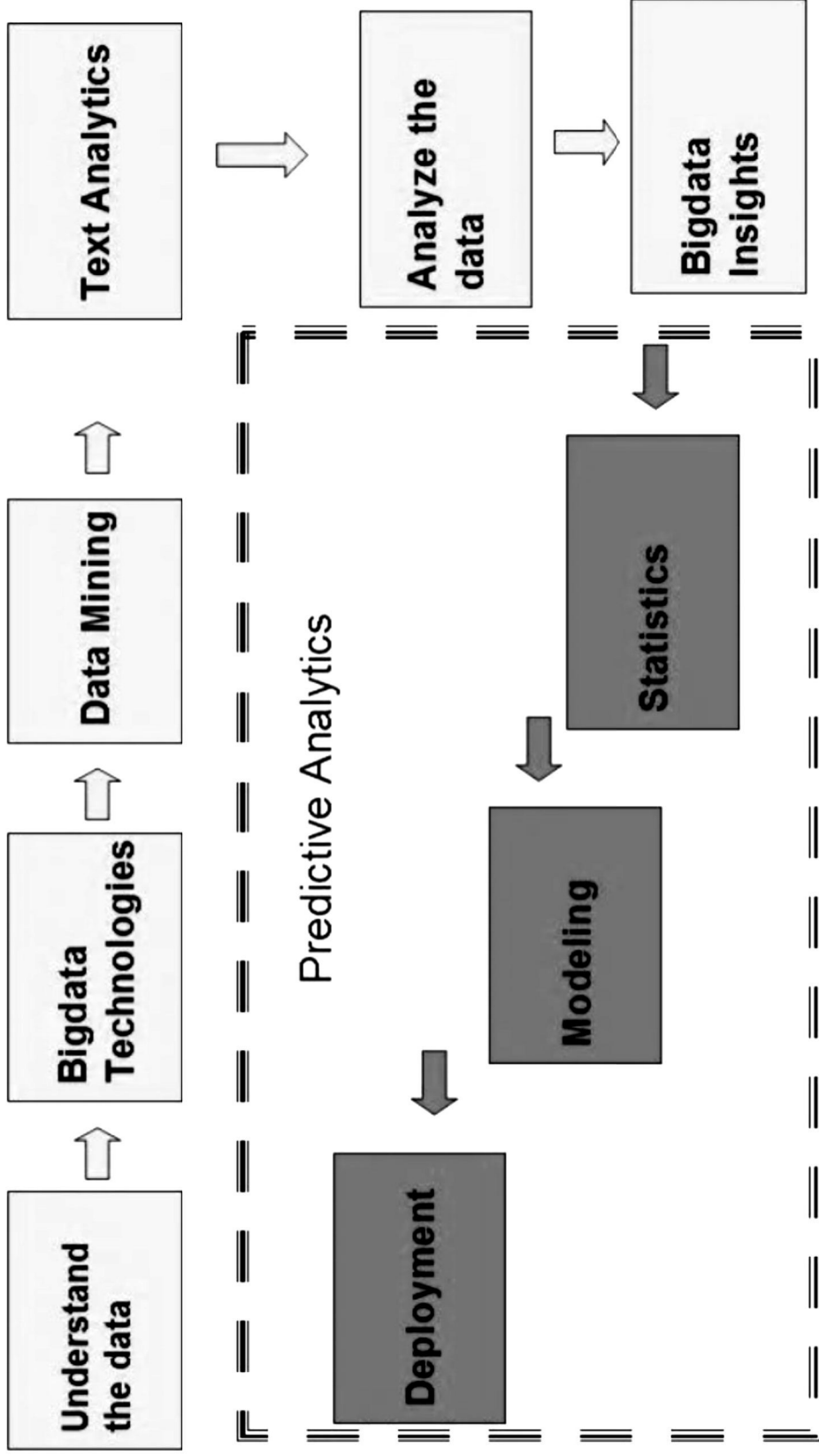
Descriptive analysis:

It uses documented evidence to depict what occurred. For example, a relapse may be used to detect simple patterns in databases, while the representation merely introduces the data and the data demonstration is used to record, store, and cut data intelligently.

Predictive analysis:

It focuses on predicting future trends and probability. Predictive displaying, for example, uses factual strategies like straight relapse and coordination's to obtain inclines and estimate future results, whilst data extraction separates models to provide information and expectancies.

Prescriptive analysis:

Integrity and decision-making are covered here. Regeneration, for instance, is used to examine complex systems to learn more about system behaviour and to distinguish between issues, and optimization techniques are used to find the best arrangements based on particular needs.

Understand the data → **Bigdata Technologies** → **Data Mining** → **Text Analytics** → **Analyze the data** → **Bigdata Insights**

Predictive Analytics

Deployment ← **Modeling** ← **Statistics**

(Source: https://www.predictiveanalyticstoday.com)

Figure 1.3: Big Data & Predictive Analytics

Big data analytics is the use of sophisticated analytical methods on large data collections. Big data is prepared by advanced analytics so that users may make wise judgments. To help them make better judgments, the analysts compare historical data from the data warehouse. Big data analytics deals with data diversity as well as data volume. The tools for big data analytics include RDBMS, data warehouses, data mining, clustering, association, OLAP[4], BPM[5], ETL[6], regression, classification, analysis, genetic algorithms, multivariate statistical analysis, and heuristic research. Big data offers a significant advantage for making decisions by giving customers useful data, giving business analytics advantages, and giving advantages to certain analytical applications. Despite the advantages, there aren't many obstacles to using big data analytics for decision-making. These obstacles typically include a lack of business support, inadequate employees to handle complex analytics for decision-making, and recurring issues with database software.

Text Analytics:

Document representation, enterprise search systems, and search engines play a crucial role in the digital landscape. User models and the relevance of feedback are essential components in enhancing the efficiency of search processes. For instance, Google processes billions of searches from customers seeking specific products, indicating their intention to purchase. Similarly, websites like Amazon utilize this information to recommend products to customers during their subsequent visits. This strategy significantly improves the likelihood of customers making purchase decisions, a technique also employed by various other e-commerce firms such as Jet Airways.

Audio and Video Analytics:

Audio analytics technology swiftly processes audio data within seconds, primarily for safety applications in various organizations. It effectively monitors a broad spectrum of sounds in the surrounding environment. On the other hand, video analytics is employed

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[4]Online Analytical Processing
[5]Business Process Management
[6]Extract Transform Load

across diverse fields and industries to analyse videos. This process aids in extracting pertinent events that are valuable for making operational decisions.

Web Analytics:

Amazon, the online retail giant, employs data mining techniques to extract valuable insights from vast datasets including click streams, web searches, and order histories. This intelligence enables Amazon to make informed decisions about product promotions. By analysing previous purchase patterns, Amazon establishes connections between historical purchases and potential new products. This correlation is then leveraged through digital channels such as emails, Facebook, and notifications on Amazon.com to identify new buyers and market a variety of products to them.
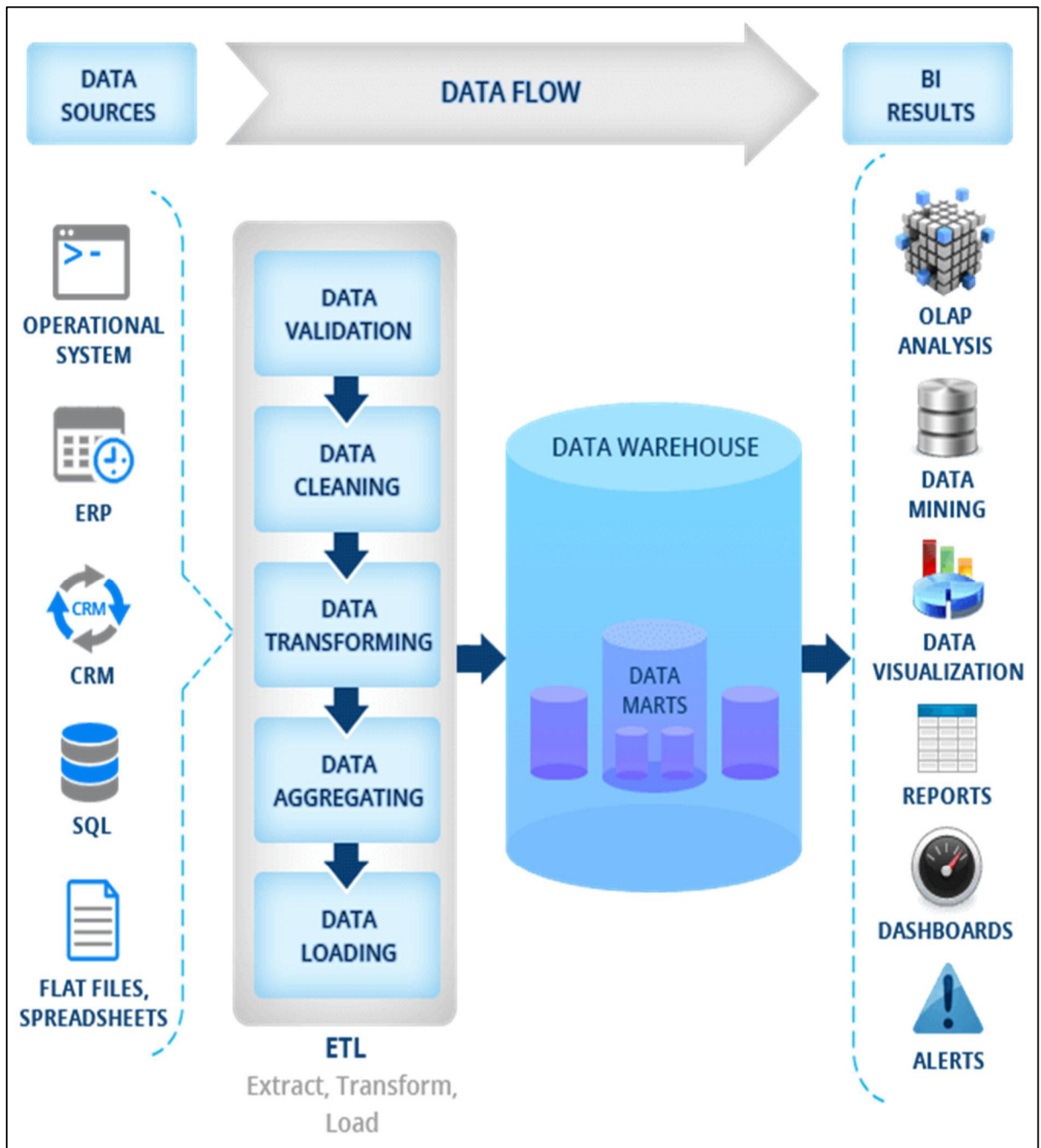
Network Analytics:

Network analytics gives data on the network-connected devices and their interactions with one another. With the aid of this information, network policies can be created and decisions that can really be implemented to increase productivity and cut costs may be made.

Business intelligence systems integrate operational data with analytical tools to provide intricate and competitive information to decision-makers and planners. The primary objective is to enhance the timeliness and quality of decision-making inputs. Business intelligence is instrumental in understanding a company's capabilities, staying abreast of current trends, and anticipating future developments in markets, technology, and regulatory landscapes. It also offers insights into the competitive field and its implications for competitors. The introduction of data warehouses as robust repositories, advancements in data purification methods, improved hardware and software capabilities, and the evolution of web architecture have collectively ushered in a more sophisticated business intelligence environment than previously achievable.

1.4   BUSINESS INTELLIGENCE AND ANALYTICS

Platforms that provide access to analytics and provide greater business value are disrupting traditional BI market share leaders. BI executives should monitor how

traditionalists turn their investments in futuristic products into a fresh energy and better customer experience.

Figure 1.4: Business Intelligence & Analytics

The BI and analytics platform industry is going through a major transformation. The majority of BI platform expenditures over the past 10 years have gone into IT[7]-led consolidation and standardization initiatives for big systems-of-record reporting. These have a history of being highly regulated and centralized, with production reports written by IT being sent to a wide range of information consumers and analysts. More business customers are now seeking access to interactive analytical methods and insights from advanced analytics, without the need for IT or data science expertise. The IT industry seeks to meet the increased demand from business customers for ubiquitous access to data discovery capabilities without compromising governance.

Business intelligence (BI) is a strategic approach focused on improving business processes and performance by delivering relevant information and decisions to individuals when they require them. It serves as a conceptual framework encompassing different software, data structures, big data concepts, and algorithms. Similar to other data interpretation methods, BI revolves around data as its core element, following standard procedures like data collection, storage, processing, and extraction of valuable insights. Following pre-processing, the data kept or choices made in this manner are displayed in various reports, graphs, summaries, charts, etc. The decisions made by BI have a direct impact on how businesses operate, as well as their working strategies and tactics. Therefore, businesses and organizations alter how they operate and adopt new techniques. Hence, ensuring the decisions are reliable and accurate is crucial, as they shape the fate of the company and empower the management to make informed choices in comparison to their counterparts.

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[7]Information Technology

Figure 1.5: Business Intelligence Reporting

1.5 ROLE OF BIG DATA IN BUSINESS INTELLIGENCE:

According to Balakrishnan (2018) data is the fundamental component of business intelligence. Big Data refers to the quantity of sources' gathered organized and unstructured data. The amount of data depends on the sources used, the company's position in the market, the short- and long-term objectives it has set for itself, its understanding of client needs, its business strategy, etc. Three simple words—variety, velocity, and amount of data—can easily describe big data. Big data involves four fundamental data-related tasks: data gathering, storage, and integration.

Collection

The methods used by businesses to acquire data have undergone several changes. The feedback method is now a dated strategy. Today, the customer's needs are discovered simply by watching them, without even revealing the process to them. These few methods include deploying very sensitive cameras with precise motion detection, monitoring a user's online shopping behavior, observing online transaction data, etc.

Storage

Expanding the storage facility is imperative due to the increasing volume of gathered data. With the anticipated size of big data ranging from dozens of terabytes to petabytes, the storage area might need to be twice as large as initially projected. Various methods, such as Hadoop and MapReduce (commonly used for analysis with tools like SAS, Splunk, and SAP HANA), Edge Computing (requiring expanding storage for simultaneously generated data), multi-Cloud solutions (offering online computing options via public cloud platforms), and Storage Intelligence (software managing the necessary storage space), are employed to store extensive datasets.

Integration

This process involves connecting closely related processed data based on their relevance. However, several challenges need to be addressed during this stage. Some of these obstacles include poorly managed extracted information, determining appropriate placements for data within big data systems, synchronizing data sources, a shortage of skills in managing data while integrating them into technologies, and other unforeseen miscellaneous challenges.

1.5 METHODOLOGY:

The world has witnessed significant changes since the information revolution, transforming the way businesses operate. Big data plays a crucial role in providing firms with a competitive edge through various analytical techniques. These techniques enable the extraction of insights, patterns, correlations, and associations that were previously inaccessible with traditional small datasets. Big data supports the decision-making process for business executives, utilizing sources such as social media data, competitive intelligence, cost and time reduction strategies, supply chain analytics, and web analytics. Companies that understand the importance of big data and build products around this valuable resource have reaped substantial rewards in recent years. Many organizations now integrate analytics into nearly every aspect of their operations, harnessing the benefits of data-driven decision-making strategies.

The research project aims to explore a conceptual framework for establishing analytics capabilities and assess how this evolving knowledge can empower businesses of varying

sizes small, medium, and large to compete effectively with limited resources. Small adjustments tailored to their specific business domains and models allow these companies to adopt this framework. Additionally, this framework serves as an initial point for further analysis, improvement, and future research prospects. Given the ongoing digitization across society and business sectors, the rapid generation of high-speed, high-volume data is anticipated to persist. This ongoing trend presents a valuable opportunity to leverage analytics for informed decision-making.

Previous researches were restricted to lesser geographical coverage area. There are very few studies which are related with the impact of big data analytics & business intelligent system on decision making in Indian perspective, as the concept of big data analytics is recent in India, to fulfill the gap of limited number of investigations in the area of big data analytics & business intelligent systems in India, the present topic is selected. Very less research work is done related to the design of modern business intelligent system having capabilities of handling big data.

Flow of the Research Work:
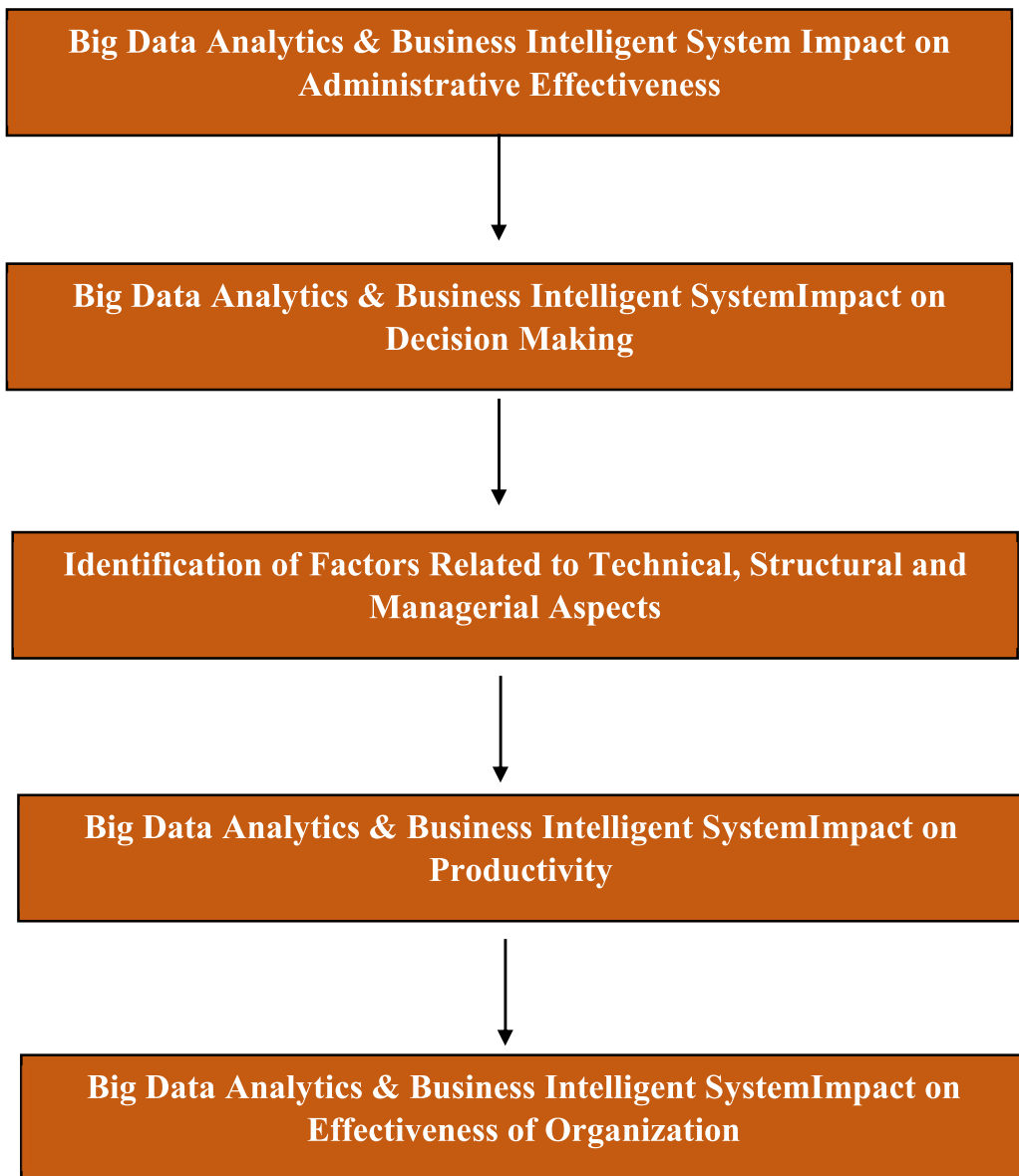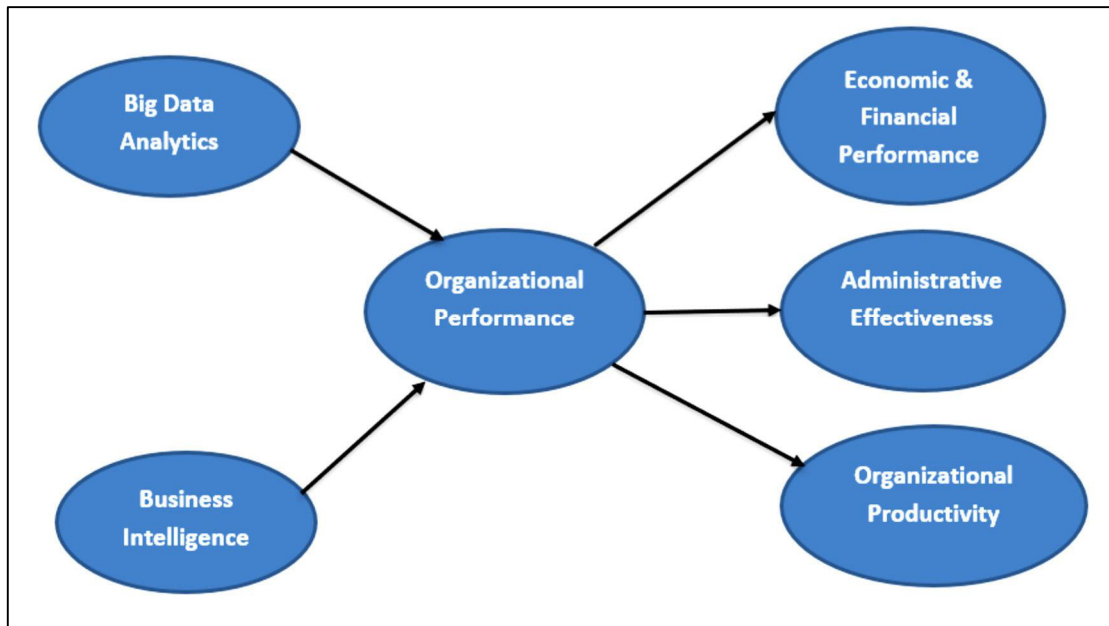

Figure 1.6: Flow Diagram

The proposed model as shown in the figure below tries to find the association between the following:

Big Data Analytics & BI ⟶ Organizational Performance

Big Data Analytics & BI ⟶ Organizational Effectiveness

Big Data Analytics & BI ⟶ Organizational Productivity

Figure 1.7: Model (Relationship between BDA, BI & Performance)

1.7 APPLICATIONS OF BIG DATA & ANALYTICS:

In the contemporary environment, there is an abundance of data. Major corporations leverage this information to facilitate the expansion of their businesses. Examining this data proves invaluable in making informed decisions in various situations:

"Tracking Customer Shopping Behaviour":

Large retail management teams, exemplified by companies like Amazon, Walmart, and Big Bazar, are tasked with gathering extensive data on customer spending behaviors. This data includes details on the products customers purchase, their preferred brands, and the frequency of their purchases. Additionally, the management teams analyze shopping patterns and identify customers' favorite products to ensure these items are consistently

available in their stores. By closely monitoring which products are being searched for or sold most frequently, these retailers determine manufacturing and inventory rates for those particular products. In the banking sector, consumer spending habits serve as valuable insights. Banks use this information to provide discounts or rewards to customers who use their credit or debit cards to buy specific products they prefer. This personalized approach involves sending tailored offers to individuals at the opportune moment, enhancing customer engagement and satisfaction.

"Smart Traffic System":

Information about traffic conditions on different roads is collected through various methods, such as cameras positioned at city entry and exit points, as well as GPS devices installed in vehicles like Ola and Uber cabs. This data undergoes thorough analysis, enabling the identification of routes that are either congestion-free or less prone to jams and can be traversed in less time. Leveraging big data analysis, cities have the opportunity to establish smart traffic systems, optimizing commuting experiences for residents and visitors alike. One significant advantage of implementing such a system is the reduction in fuel consumption. By guiding drivers through efficient, jam-free routes, vehicles spend less time idling in traffic, leading to lower fuel usage and reduced emissions. This not only benefits individual commuters by saving them time but also contributes to environmental conservation by decreasing overall fuel consumption and pollution levels in the city. Additionally, the data-driven approach ensures that traffic flow is managed intelligently, promoting smoother transportation and a more sustainable urban environment.

Secure and Protected Air Traffic System":

Flight systems are equipped with sensors located at different points, including propellers, that capture essential data such as flight speed, humidity, temperature, and environmental conditions. Analysis of this data enables the configuration and adjustment of internal flight parameters. By assessing the data generated by the flying machine, it becomes feasible to predict the duration for which the machine can operate smoothly before it necessitates replacement or repairs.

Big data analysis plays a pivotal role in enabling autonomous vehicle functionality. Sensors are strategically placed at locations where car cameras are utilized, capturing

crucial information like nearby vehicle sizes and distances from obstacles. After collecting this data, complex calculations are performed, determining factors such as the necessary degree of rotation, appropriate speed, and the ideal timing for stopping. These computations facilitate automatic actions, guiding the autonomous vehicle's movements effectively.

"IoT":

Manufacturing companies embed IoT sensors within their equipment to collect operational data. By analysing this data, these companies can predict how long a machine will function normally before requiring maintenance. This proactive approach enables corporations to take necessary measures before the equipment encounters significant issues or stops functioning entirely, potentially eliminating the need to replace the entire system. In the healthcare sector, big data plays a vital role. Patient data is collected to enhance care through big data tools, enabling doctors to provide improved medical services. IoT technology, in particular, can identify early signs of diseases within the body, allowing for timely interventions. Sensors placed near patients or newborn infants continually monitor various health indicators like blood pressure and heartbeat. If any parameter exceeds the safe limit, an alert is sent to the doctor, enabling swift and remote action.

Education Sector:

Providers of online educational courses utilize big data to identify potential candidates interested in their offerings. For instance, if someone searches for a tutorial video on a specific topic on platforms like YouTube, organizations providing online or offline courses related to that topic will send targeted online advertisements to that individual. This approach ensures that the right audience is reached based on their specific interests and needs.

Energy Sector:

Smart electric meters monitor electricity consumption every 15 minutes and transmit the data to a central server for analysis. This data allows for the identification of periods when the city's power demand is at its lowest. Utilizing this information, manufacturing facilities or households can receive recommendations to operate heavy machinery during

off-peak hours, typically at night, when electricity demand is lower. This strategic approach helps in reducing electricity costs effectively.

The media and entertainment industry:

Media and entertainment service providers such as Netflix, Amazon Prime, and Spotify analyse the user data they collect. This data is assessed to shape their upcoming business strategies. They gather and evaluate information regarding the types of videos and music consumers engage with, as well as the duration of their website visits. This analysis aids these companies in making informed decisions about their content offerings and user experiences.

1.8 PROBLEM STATEMENT

The primary focus of this study is to assess the impact of big data analytics and business intelligence systems on the decision-making processes within Indian companies. Specifically, the research aims to understand the influence of these systems on decision making in both private and public sector organizations, examining their roles in strategic, tactical, and operational decisions. Additionally, the study seeks to identify the underlying factors related to the technical, structural, and managerial aspects that affect the implementation of these systems. It also aims to investigate how the utilization of big data analytics and business intelligence systems contributes to improved decision-making by managers. Furthermore, the research explores whether organizations employing these systems demonstrate enhanced economic and financial performance, increased productivity, and overall effectiveness in the Indian context.

1.9 OBJECTIVES:

The primary goals of the intended research are:

1. To find out the effect of big data analytics & business intelligent system on administrative effectiveness of private and public sector organizations in India

2. Identify the role of big data analytics & business intelligent system in making strategic, tactical and operational decisions.

3. Identification of factors related to technical, structural and managerial aspects for implementation of big data analytics and business intelligent system.

4. To examine how big data analytics & business intelligent system led to better decision-making by Managers.

5. To find out that organization which use big data analytics & business intelligent system have better economic and financial performance.

6. Identify that firms which use business analytics & business intelligent system have higher productivity than others.

Determine the impact of business intelligent system on the effectiveness of organizations in Indian perspective.

1.10 RESEARCH GAP:

1. Previous researches were restricted to lesser geographical coverage area.

2. There are very few studies which are related with the impact of big data analytics & business intelligent system on decision making in Indian perspective, as the concept of big data analytics is recent in India, to fulfill the gap of limited number of investigations in the area of big data analytics & business intelligent systems in India, the present topic is selected.

3. Very less research work is done related to the design of modern business intelligent system having capabilities of handling big data.

4. Industry-Specific Investigations: Many studies focus on general applications of big data analytics and business intelligence. There is a need for research that delves into industry-specific use cases and assesses how these technologies can be tailored to meet the unique requirements of different sectors, such as healthcare, finance, manufacturing, and retail.

5. Ethical and Legal Implications: With the increasing use of big data analytics, there's a lack of comprehensive research on the ethical and legal implications of collecting, storing, and analyzing massive amounts of data. Investigating issues related to data privacy, security, and compliance can help organizations navigate potential risks.

6. User Experience and Adoption: While there's a focus on the technical aspects of implementing these systems, research could explore the user experience and adoption challenges. Understanding how users interact with these tools and identifying barriers to adoption can lead to more effective implementations.

7. Real-time Analytics: As businesses increasingly require real-time insights, there's room for research into real-time analytics using big data. This includes investigating technologies, algorithms, and best practices for processing and analyzing data in real-time or near-real-time.

8. Data Quality and Data Preparation: Big data analytics heavily depends on the quality of data. Research on data cleaning, data preparation techniques, and data quality assessment in the context of big data can be valuable for organizations aiming to derive reliable insights.

9. Cost-Benefit Analysis: Assessing the cost-effectiveness of implementing big data analytics and business intelligence systems remains an area with potential research gaps. This includes examining both the direct and indirect costs and the return on investment associated with these technologies.

10. Integration with Emerging Technologies: Exploring how big data analytics and business intelligence systems can be integrated with emerging technologies like artificial intelligence, machine learning, blockchain, and the Internet of Things to create innovative solutions and drive business value.

11. Cross-Cultural and Global Studies: Conducting cross-cultural and global studies to understand how cultural differences and geographic factors impact the adoption and effectiveness of intelligent systems in different regions and industries.

12. Sustainability and Environmental Impact: Investigating the environmental sustainability of data centers and infrastructure used for big data analytics, along with ways to minimize the carbon footprint associated with these technologies.

Human-AI Collaboration: Research on how humans and artificial intelligence can collaborate effectively with big data analytics, addressing issues of trust, decision-making, and transparency.

1.11 BIG DATA ANALYTICS AND BI TOOLS:

Big data analytics and business intelligence (BI) tools are essential for extracting insights, visualizing data, and making informed decisions from vast and complex datasets. The BDA-BI tools were being classified into following categories:

1. Spreadsheet-Based Tools:

- Microsoft Excel with Power Query and Power Pivot
- Google BigQuery with Google Sheets
- Apache Zeppelin
- Jupyter Notebooks
- Databricks Community Edition
- Trifacta
- Dataiku DSS Community Edition

2. BI Planning/Reporting Suites:

- Tableau
- Power BI
- QlikView
- Qlik Sense
- MicroStrategy
- Sisense
- Yellowfin BI
- IBM Cognos Analytics
- SAP BusinessObjects
- Zoho Analytics
- Oracle Analytics Cloud
- Pyramid Analytics
- TIBCO Spotfire

3. Data ETL/Management Solutions:

- Apache NiFi
- Microsoft SQL Server Integration Services (SSIS)

- Apache Kafka

- AWS Glue

- Google Cloud Dataflow

- IBM InfoSphere DataStage

- Oracle Data Integrator (ODI)

- Apache Beam

- Apache Flink

- TIBCO BusinessWorks

- Matillion

4. Data Visualization Tools:

- Tableau

- Power BI

- QlikView

- Qlik Sense

- Looker

- MicroStrategy

- Sisense

- Yellowfin BI

- Google Data Studio

- D3.js

- Plotly

- Highcharts

- Chart.js

- Google Charts

- FusionCharts

- RAWGraphs

- Visme

5. Data Mining Suits:

- IBM SPSS Modeler

- SAS Enterprise Miner

- RapidMiner
- Weka
- Oracle Data Mining
- Knime
- Microsoft SQL Server Analysis Services (SSAS)
- Python
- R- Programming
- MATLAB
- Orange
- Rattle
- ELKI
- Apache Mahout
- BigML
- Rexer Analytics

6. Advance Statistical Suits:

- SAS (Statistical Analysis System)
- SPSS (Statistical Package for the Social Sciences)
- Stata
- Minitab
- R (R Project for Statistical Computing)
- MATLAB Statistics Toolbox
- Statistica
- SYSTAT
- GraphPad Prism
- XLSTAT
- PSPP (Free alternative to SPSS)
- GENSTAT

7. BD /High Performance Computing Tools:

- Apache Hadoop
- Apache Spark

- Apache Flink
- Apache Storm
- Google Bigtable
- Google Cloud Dataflow
- Amazon EMR (Elastic MapReduce)
- Cloudera
- Microsoft Azure HDInsight
- IBM BigInsights
- Apache Drill
- HBase
- Cassandra
- Impala
- Kubernetes

8. AI Enabled BI Tools:

- Einstein Analytics (Salesforce)
- Cognitive BI (Microsoft Power BI)
- IBM Cognos Analytics
- Qlik Sense
- Tableau
- Yellowfin BI
- Domo
- Zoho Analytics
- SAS Visual Analytics
- Looker
- GoodData
- Pyramid Analytics
- SiSense AI

9. Automated system in Organization for data Gathering:

- Zapier
- Microsoft Power Automate

- Integromat
- IFTTT (If This Then That)
- UiPath
- Blue Prism
- Automation Anywhere
- Kofax
- Pega
- WinAutomation
- AutoIt
- VisualCron
- Apache Airflow
- Apache Nifi
- Microsoft Flow (now part of Power Automate)
- WorkFusion
- Matillion ETL
- SnapLogic

1.12 THESIS ORGANIZATION:

The thesis work is being organized into five chapters introduction, review of literature& research methodology, big data analytics and business intelligent system impact on decision making, interpretation, results and discussion and findings, recommendations & conclusions.

In Chapter first "Introduction" various big data technologies were being discussed, business intelligence system functions, flow of research work, role of big data in business intelligence and applications of big data & analytics were being covered.

Chapter second "Review of literature" covers study of various previous research work being done related to big data analytics & business intelligent system impact on administrative effectiveness, decision making, identification of factors related to technical, structural and managerial aspects, big data analytics & business intelligent system impact on productivity and overall organizational effectiveness.

The chapter third discuss the "Research Methodology" being adopted in the thesis which includes research design, sampling technique, sample size, population, research gap, hypotheses and statistical tools & techniques being used.

Chapter fourth covers the respondents' profile, interpretation, results, and discussion related to big data analytics & business intelligent system impact on productivity and overall organizational effectiveness.

Finally, chapter fifth includes findings, recommendations, conclusions and future scope of the study.

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