

# The Future With Advanced Analytics: A Sequential Analysis of the Disruptive Technology's Scope

Varsha. R<sup>1</sup>, Siddharth M Nair<sup>2</sup>, Amit Kumar Tyagi<sup>3,4</sup>[0000-0003-2657-8700], Aswathy S U<sup>5</sup>, RadhaKrishnan R<sup>6</sup>

<sup>1,2</sup>School of Computer Science and Engineering, Vellore Institute of Technology,  
Chennai Campus, Chennai, 600127, Tamil Nadu, India.

<sup>3</sup>Research Division of Advanced Data Science, Vellore Institute of Technology, Chennai, 600127, Tamilnadu,  
India.

<sup>4</sup>School of Computer Science and Engineering, Vellore Institute of Technology, Chennai, 600127, Tamilnadu,  
India.

<sup>5</sup>Department of Computer Science, Jyothi Engineering College, Thrissur, Kerala, India

Department of civil engineering, Mangakam College of Engineering, Kottayam, India  
varsharamesh82@gmail.com, siddharthmani2000@gmail.com, amitkrtyagi025@gmail.com,  
aswathy.su@gmail.com, radhakrishnanr707@gmail.com

**Abstract.** Today every application like e-healthcare, agriculture, etc., is connected through smart devices to reduce workforce and enhance productivity. Many applications like defences, banking and utilities, media and entertainment, transportation, banking, retail, agriculture, education, manufacturing, etc., are using smart devices in their working-structure to improved growth of a business/ production. These applications are generating a lot of data, which called as “big data” and this data is increasing at a huge rate. For example, most of the data (90%) is generated in last decade only. Together this, we required modern tools to analyses this data for generating useful results. But in near future, this analytics process may shift towards automation. How these automated analytics by deep learning (by robots/ machines) will change future forever. Also, with this automated/ advanced analytics process we need to provide a disruptive environment which is more towards to protecting nature. This article provide detail explanation regarding “how machines can be useful in learning process through its automate learning process” and “how machine/ Artificial Intelligence (AI) can be useful in detecting vulnerabilities/ intrusion without much human interaction instantly” and so on. In 21<sup>st</sup> century, most of tasks will be completed by machines or artificial intelligences. This work discusses several useful terms, scenarios (with many examples in several applications), tools, open issues with opportunities towards automated analytics, i.e., with discussing that “How AI will change near future”.

**Keyword-** *Big Data, Modern Analytics, Future with, Disruptive Technology, Advanced Analytics, Smart Solutions with Automated Tools.*

## 1. Introduction

Data is on the boom. Analytics solutions are rapidly innovating to keep pace with the influx. Artificial Intelligence (AI) is at the centre of the breakthrough [1]. Since AI analytics is a relatively new technology, discerning its true benefits, or even the extent to which it deviates from more traditional analytics, can be difficult. Now, Analytics terms with its types is classified as:

- **Traditional Analytics:** Traditional data analytics usually focus on visualizations consisting of dashboards. Such dashboards are focused on popular market problems, which are well pre- defined. Answering a new question requires time and technical skills, usually several days (or weeks), and a data analyst or scientists help. A conventional data analytics department utilizes concise and exploratory analytics approaches in order to uncover output outcomes and identify trends. Researchers prefer to rely on present and historical evidence and will not create assumptions about potential behavioural trends.
- **Modern Analytics:** The new era of business intelligence strategy has arrived, with a focus on data analysis[2]. Organizations have often felt left behind by the increasing acceptance of analytics. Issues such as workforce size, client base, and operations were just too small to justify the investment. Modern Analytics allows organizations of all sizes to easily access data, empower users and drive business decisions. Business intelligence using modern cloud analytics is a cost-effective way to make strategic use of data and we can help create, maintain and monitor your organization.
- **Automated Analytics:** Automated Analytics takes it a step further than traditional analytics systems. Automated Analytics detects valuable patterns in huge data volumes and provides actionable data. This technology can be applied in a number of industries, but we focus on e- commerce and financial institutions, analyse behaviour, find patterns and outliers, and create automated risk assessments of

transactions that are automatically applied [3]. This is more relevant than ever in a world where customers at B2C and B2B want to do everything in real time.

- **Advanced Analytics:** Advanced Analytics is the autonomous or semi-autonomous analysis of data or information utilizing advanced techniques and methods, usually outside those of conventional business intelligence (BI), in order to explore deeper perspectives, create forecasts or produce suggestions. Advanced computational methods include data / text mining, machine learning, pattern detection, modelling, visualization, semblance analysis, emotion analysis, network and cluster analysis, multivariate statistics, graph analysis, simulation, dynamic event processing, neural networks.

Note that Data has been expected to expand up to 50 times by 2020, and will in PB in 2025 [5]. Organizations have to keep up-to-date with the demands of large amounts of data so they do not get obsolete. Experts who are well versed in advanced analytics are also considered essential for companies to change their business models and to stay ahead of the competition. Data analytics reach in India includes police, banking, healthcare, fraud detection, e-commerce, energy, telecommunications and risk management companies.

**Scope of this work:** This work is more useful to researchers (or authors) to understand more about future with data analytics, advanced analytics, etc., i.e., making disruptive environment. This work has included several useful and cited articles published by renowned publishers for providing errorless information to its readers.

**Organisation of this work:** The remaining work can be organised here as: Section 2 describes the evolution of advanced analytics in detail. Section 3 describes the motivation behind the work. Section 4 describes the importance of advanced analytics in future. Section 5 describes the Future of Big Data: A Sequential Analysis of the Disruptive Technology's Scope. Section 6 tells about the advanced analytics with machine learning: A Way to Forward. Section 7 discusses about the Advanced Analytics with deep learning: A Way to Forward. Further, several tools and methods (algorithm) available for Advanced Analytics are discussed in Section 8. Open issues arises in Advanced Analytics are discussed in Section 9. Section 10 discuss about Opportunities in Making Disruptive World with Disruptive Technology. In last, section 11 concludes this work in brief.

## 2. Evolution

The word 'evolution' which means 'a change' in all terms. The evolution of advanced analytics or advanced data analytics began during 1960s and the evolutionary step was 'Data Collection'[6]. For example the business question which had arisen during this time was "What was my total revenue in last five years?" These data were stored in computers, tapes or disk and the main characteristics which can be seen during this time are retrospective and static data delivery. The next step was 'Data Access' which began in 1980s. An example is "What were unit sales in New England in last March?"

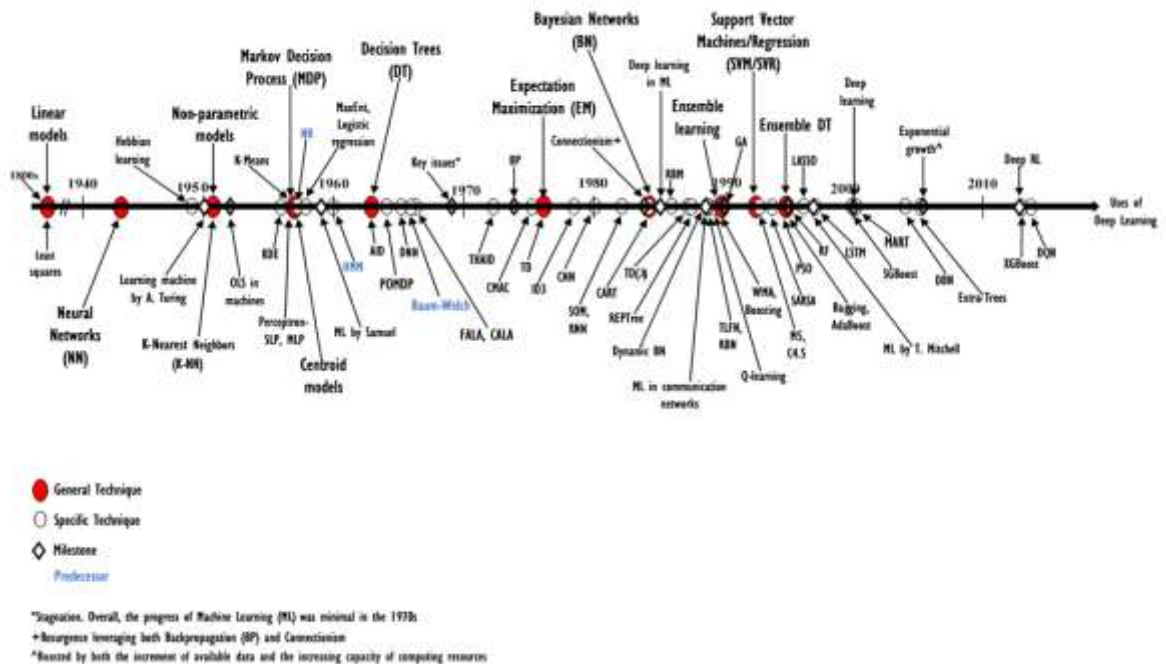


Figure 1: Evolution of Analytics Process/ Techniques/ Algorithms

We have used Relational Databases (RDBMS), Structured Query Languages (SQL) and the characteristics are retrospective and dynamic data delivery at record level. In the beginning of 1990s we can see Data Warehousing/ Decision Support and an example business question is “What were unit sales in New England in last March? Now ‘drill down’ to Boston?” The technologies were On-Line Analytical Processing (OLAP), dimensional databases, data warehouse. The characteristics were retrospective, dynamic data delivery at multiple levels. From 2000s we can see data mining and predictive analytics. An example business question is “What’s likely to happen to Boston unit sales next month? Why?” The technologies were advanced algorithms, parallel computing massive databases and the characteristics were prospective, proactive information delivery. Figure 1 gives the evolution of analytics process / techniques/ algorithms in detail. Now the advanced analytics is a concept for many analytical sub-fields that function collectively using predictive capabilities. Advanced analytics utilizes high-level approaches and software to project patterns[7], events and behaviours into the future. Advanced analytical techniques include data mining, text mining, pattern matching, machine learning, forecasting, visualisation, sentiment analysis, network and cluster analysis, multivariate statistics, graph analysis, complex event processing, simulation, neural networks.

Hence, this section discusses about evolution of advanced analytics since 19<sup>th</sup> century. Now, next section discusses our motivation behind writing article on Advanced Analytics.

### **3. Motivation**

The growing interest in applying the outcomes of advanced analytics to improve business. The rapid growth in available data, particularly new sources of data and the increasing requirements for higher data and decision velocity. Also, the limitation in the use and scaling of existing BI tools and the shortage of data science skills resulted in the upcoming of advanced analytics. It has open source platforms. Hence, this section discusses that future belongs to machine learning, deep learning and emerging technologies. Industries are shaping into a new structure and increase productivity, including more profits. Now, next section discusses about importance of Advanced Analytics or computer vision (or robotics) in many sectors like aerospace, defence, transportation, retails/ logistics, manufacturing, etc.

### **4. Importance of Advanced Analytics (or AI) in Many Sectors**

Today’s Analytics or computer vision (or robotics) used in many sectors like aerospace, defence, transportation, retails/ logistics, manufacturing, etc. In next level, automation can be added for analytics process[8] and productivity and profits could be increase together, or requirement can be fulfilled. Hence, AI importance can be noticed today in following sectors:

- AI for Cloud/ Fog Computing
  - In Agriculture
  - In Transportation
  - In Defence
  - In Automated Applications, for example, manufacturing
  - Logistics/ Supply Chain Management
  - Banking
  - And Multimedia Applications
- AI for Software Development
  - In Agriculture
  - In Transportation
  - In Defence
  - In Automated Applications, for example, manufacturing
  - Logistics/ Supply Chain Management
  - Banking
  - And Multimedia Applications
- AI for Cyber Security: Intrusion detection automatically by machine and artificial intelligence.
- AI – IoTs – Blockchain Integration Services for popular sectors like Healthcare, Banking, etc.
- AI for Industry 4.0: For Example, Machine Intelligence in Medical Imaging, Machine Learning and AI for Penetration Testing and Machine Learning in Chemical Sciences.
- AI for Data Science
- AI – IoTs Integration for Other sectors:
  - IoT is Higher Education systems
  - Impact of IoT is Education now and in future
  - A Learning Management System Enhanced with Internet of Things

The current COVID19 crisis has highlighted the value of running hundreds of simultaneous vaccine production and therapeutic research programmes. By using traditional statistical modelling techniques that are designed for small-scale experiments, it is almost difficult to absorb data and identify trends from all these diverse sources that often yield results with a high degree of uncertainty. For such a problem-solving on a planetary scale, AI techniques must be brought to bear.

Hence, this section discusses about importance of Advanced Analytics[9] in today's smart era. We find that Advanced analytics plays a vital role in many sectors like healthcare, manufacturing, retail, agriculture, etc. Now, next section discusses about the future of Big Data with considering positive benefits towards a sustainable environment.

## **5. The Future of Big Data: A Sequential Analysis of the Disruptive Technology's Scope**

As computerised social information have gotten progressively universal, many have directed their concentration toward bridling these monstrous informational indexes so as to create purportedly increasingly precise and complete understandings of social procedures and have given it a term of "Big Data". Information volumes will proceed to increment and relocate to the cloud. Billions of associated gadgets (Smart devices) and installed frameworks that make, gather and offer an abundance of IoT information examination consistently, everywhere throughout the world. As ventures gain the chance to store and dissect colossal volumes of information, they will get the chance to make and oversee 60% of enormous information sooner rather than later. Specialists accept that the capacity of computers using their cloud and various ways to gain information will improve extensively because of further developed unaided calculations, more profound personalization, and subjective administrations. We see noteworthy potential in large information as they have a multifaceted nature of social and spatial procedures. In the current world large information implies working with immense datasets that are regularly unstructured. The datasets being worked with will be a blend of restrictive in-house information, and freely accessible information. Working with these datasets will require devices that permit the unstructured information to be worked with, and can likewise deal with the huge volumes. Information security and protection have consistently been squeezing issues, demonstrating an enormous snowballing potential. Ever-developing information volumes make extra difficulties in shielding it from interruptions and cyberattacks, as the degrees of information insurance can't stay aware of the information development rates.

Only a couple of months before NASA has uncovered the Image of the dark opening, however there is an enormous play of information science behind the disclosure of Blackhole. Data sciences and information preparing are the key variables in the creation of streamlined self-governing vehicles that is self-driving vehicles[10]. To supplement this innovation further, dark data will advance and imprint the eventual fate of enormous information in the coming years or even months. Security gap which was brought about by an absence of instruction and preparing openings and the advancement of cyberattacks where the dangers are utilised by programmers are advancing and turn out to be progressively improving too.

Hence, this section discusses about future of Big data, and also includes several points for creating a suitable environment for betterment of society. Now, next section discusses about advanced analytics with machine learning and possible useful applications will be discussed in the same.

## **6. Advanced Analytics with Machine Learning: A Way to Forward**

Our main focus is to be at the front line of giving customized arrangements dependent on joining of machine Learning strategy, programming equipment elite processing, and preparing for a wide scope of information concentrated registering, information handling, and progressed examination for logical and business applications, utilizing both open source and in house R&D.

### **6.1 Importance of Machine Learning and Advanced Analytics in e-Healthcare Sector**

The triumphant use of information mining in incredibly apparent zones like exchange, trade, and e-business has coordinated to its application in another industry. The ailments are still information rich yet data low. There is a plenitude of data doable inside the clinical practices. All things considered, there is a deficiency of basic examination instruments to perceive concealed patterns and connections in information. Numerous analysts have applied Data Mining techniques for the forecast and determination of a few sicknesses. AI techniques have extensively used in the visualization of various illnesses toward the early phases. The ebb and flow decade has watched an anomalous improvement in the assortment and volume of electronic information related with the turn of events and examination, tolerant self-following, and wellbeing records together proposed to as Big Data[3].

One of the most basic interminable social insurance issues is diabetes. In Long run, this issue may prompts harm eyes, heart, kidneys and nerves of diabetes understanding if ill-advised prescription is done which additionally prompts demise. An extensive report is done on diabetes dataset with Random Forest (RF), SVM, KNN, CART and LDA calculations. The accomplished outcomes shows that RF is giving progressively exact expectations with contrasted with different calculations [11]. Feelings assume a critical job by the way we settle on a choice, arranging, thinking and other human mental states. The acknowledgment of these feelings is turning into an essential assignment for e-medicinal services frameworks. Utilizing bio-sensors, for example, Electroencephalogram (EEG) to perceive the psychological condition of patients that could require an uncommon consideration offers a significant criticism for Ambient Assisted Living (AAL)[12]. More recently, the COVID pandemic has been making the rounds. The discovery procedure was actualized on stomach Computed Tomography (CT) pictures. The master radiologists recognized from CT pictures that COVID-19 shows various practices from other viral pneumonia. Along these lines, the clinical specialists indicate that COVID-19 infection should be analyzed in beginning stage. For recognition of the COVID-19, four diverse datasets were shaped by taking patches estimated as 16x16, 32x32, 48x48, 64x64 from 150 CT pictures. The component extraction process was applied to patches to expand the characterization execution. We can use machine learning to detect how corona virus spreads in different bodies and how DNA strands get changed and can make comparisons from how it started to when it leaves the body. For example, IBM's Watson research group cooperated with the US Veterans Administration to build up a clinical thinking model known as the Electronic Medical Record Analyzer (EMRA). This primer innovation is intended to utilize AI methods to process patients' electronic clinical records and consequently distinguish and rank their most basic medical issues.

## **6.2 Importance of Machine Learning and Advanced Analytics in Other Sectors**

The blossoming time of large information is affecting the procedure businesses enormously, giving remarkable chances to accomplish shrewd assembling. This sort of assembling expects machines to not exclusively be fit for mitigating people from serious physical work, yet in addition be powerful in taking on scholarly work and in any event, creating advancements all alone. To accomplish this objective, information examination and AI are key. Advanced analytics is used to identify the failure in the industries and is used to reduce the possibilities of error and make it error free. The data from the past is collected and examined in a broad sense giving the creators an early idea of the possibilities of problem and how to rectify the same [4, 21]. We have the potential to modify the current worldview significantly. The traffic designs, endorser gear, and supporters' profiles are another sector where machine learning helps in controlling traffic types, remote gadgets, and endorsers differently dependent on the systems. Besides, the remote traffic load is becoming quicker than the limit, and the system administrators are confronting extreme difficulties to build arrange limit cost-successfully. While we're on the topic of traffic, the cars can be controlled without the presence of a driver being physically present, to make sense of the most equipped approach to cut the system and traffic, i.e., the quantity of cuts, parting traffic across cuts, and so forth., which rely upon the kind of traffic and how changes after some time and space [13]. Utilizing standards of cutting edge large information examination and AI ideas, producing organizations can catch sensor information from shop floor instruments and hardware to take an undeniably granular and venture wide way to deal with quality control. What's more, producers will likewise have the option to recognize abandons, reveals the main driver of issues, lessen the danger of transportation non-adjusting parts, empower designing upgrades and figure out which components, procedures, and work processes sway quality. Hence, this section discusses about the importance of machine learning and advanced analytics in industries and organisations, the advanced analytics is helpful for identifying the failures in the industry and it helps to reduce the error. Now, next section discusses about advanced analytics with deep learning and we will be seeing the importance of deep learning together with advanced analytics in various sectors. Some of the current cases are discussed here.

## **7. Advanced Analytics with Deep Learning: A Way to Forward**

Large Data can be bridled for your potential benefit with instruments like Advanced Analytics that use numerical and measurable calculations to cross data. Deep learning utilizes counterfeit neural systems that repeat the human cerebrum, to break down information and discover arrangements utilizing complex calculations. To make it basic, profound learning permits innovation to see, learn, dissect, close, and ideate simply like a human would yet with the computational capacities of a PC.

### **7.1 Importance of Deep Learning and Advanced Analytics in e-Healthcare Sector**

A large number of the business' profound learning features are right now identified with little scope pilots or examination ventures in their pre-marketed stages. In any case, profound learning is consistently discovering its way into creative apparatuses that have high-esteem applications in reality clinical condition. Probably the most encouraging utilize cases incorporate creative patient-confronting applications just as a couple of shockingly settled techniques for improving the wellbeing IT client experience. One kind of profound learning, known as Convolutional Neural Systems (CNNs), is especially appropriate to dissecting pictures, for example, MRI results or x-beams. In any event, when human clinicians were outfitted with foundation data on patients, for example, age, sex, and the body site of the speculate include, the CNN outflanked the dermatologists by almost 7 percent. The pictures use designs gained from genuine sweeps to make engineered adaptations of CT or MRI pictures. The information can be haphazardly produced and unendingly different, permitting analysts to get to huge volumes of vital information with no worries around quiet protection or assent. These reproduced pictures are precise to such an extent that they can help train future profound learning models to analyze clinical discoveries.

Profound learning in social insurance helps in revelation of prescriptions and their turn of events. The innovation examines the patient's clinical history and gives the best treatment to them. In addition, this innovation is picking up bits of knowledge from persistent side effects and tests. With prescient examination, it can foresee extortion asserts that are probably going to occur later on. Advancements in genomic research and processing of DNA have contributed to the growth of medicine precision or personalized. It includes a thorough understanding of the genome of a patient, illustrated by the study of genetic data petabytes. The field of genomics is growing rapidly as various branches of precision medicine are helping to develop the database[14]. Alzheimer is one of the critical difficulties that clinical industry faces. This learning method is utilized to distinguish Alzheimer's sickness at a beginning phase. Deep learning is used to assist patients having genome. Cellscope utilises deep learning procedure and causes guardians to screen the wellbeing of their kids through a brilliant gadget continuously, along these lines limiting incessant visits to the specialist. Deep learning in medicinal services can give specialists and patients bewildering applications, which will help specialists to improve clinical medicines. Deep learning has also adopted the method to create automated hearing and speech translation which is used to anticipate sound-related and discourse recognition. Using deep learning , it is used to alter audiology and hearing consideration experts get a better idea of how to handle patients individually and give them a better treatment which is particular to their disorder.

## **7.2 Importance of Deep Learning and Advanced Analytics in Other Sectors**

The first most improvised sector with deep learning are the self-driving cars in the automotive industry. Deep learning methods are used for perceiving people on foot in a camera picture since it exceeds expectations at arranging things inside a discretionary scene. While a walker in a camera picture is a perceptual example, there are additionally designs in dynamic and movement arranging—the correct conduct at a four way stop, or when taking a right hand turn on red, to name two models—to which profound learning can be applied. For self-sufficient vehicles, which should have the option to comprehend a huge range of various circumstances, the default approach taken by most organizations dealing with self-governing driving is to simply gather however much information as could reasonably be expected. The second sector comes under the defense department where resistance powers from various nations over the globe are installing AI into weapons and different frameworks utilized ashore, maritime, airborne, and space stages. For the most part used to distinguish objects from satellites that find zones of intrigue, and recognize sheltered or perilous zones for troops.

The next application used by deep learning is in the field of avoiding unrelated spam news on the feed of the feed. It adds a new level of sophistication and it adds a persons preference of the user using deep learning algorithms. It also detects fraud news detection where lots of false information spreads and causes a lot of ambiguity. Deep learning algorithms create classifiers that can distinguish phony or one-sided news and expel it from your channel and caution you of conceivable protection breaks. Addressing questions, language displaying, grouping text, twitter investigation, or feeling examination at a more extensive level are generally subsets of natural language processing which is linked with deep learning. Remote helpers such as Alexa, Siri and other google assistants find out about their subjects going from your eat out inclinations [15] to your most visited spots or your main tunes. They figure out how to comprehend your orders by assessing normal human language to execute them. Streaming programs like Netflix and Amazon Prime use deep learning to factor in crowd reaction and coordinate or player notoriety to accompany an increasingly precise model (else it would simply have features of the most expressive or forceful players). Deep learning algorithm has developed an algorithm where pictures can be arranged dependent on areas identified in photos, faces, a mix of individuals, or as per occasions, dates, and so forth. Neural networks use coloured images and convert them into black and white images without any complications [16]. Deep learning includes the age of new arrangement of penmanship styles for a given corpus of a word or expression. Using deep learning , images can be enhanced where the head of a current photograph – along these lines is recreated creating a reassembled dream. The

visualization will in general shift contingent on the kind of neural system and what it was presented to. Many other applications which can use advanced analytics including deep learning in near future are:

- Smart Grid;
- Healthcare System;
- Intelligent Transportation System
- IoT
- Data Center Networking
- Financial System
- Voting System
- Creation of Digital Currency.
- Creation of valuable decisions
- Communication Infrastructure
- Process Models
- Proof-of-Work Algorithm;
- Consensus Protocols;
- Security Attacks and Challenges;

The authors suggested readers to read/ to know more about deep learning and other computing platforms in [18, 22 and 23]. Hence, this section discusses about deep learning and advanced analytics. Deep learning networks can be used effectively for the exploration of information, application of knowledge, and knowledge-based prediction on advanced analytics. To put it another way, deep learning can be a strong tool to deliver actionable results. Now, next section discusses about the methods that are available for advanced analytics in 21<sup>st</sup> century.

## **8. Tools, Methods Available for Taking Place for Advanced Analytics in 21<sup>st</sup> Century**

The tools used for advanced analytics are used to extract or dig up data and give accurate insights and predictions based on it. Now, some of the different tools and methods are used in current century:

- a) **Data Mining:** It is the process of analysing a large amount of raw data to unearth relevant patterns and information. It is used for the extraction of data based on decisions such that accurate predictions can be made. It is largely used on big datasets so as to cluster information from previous experiences and extract only relevant data.
- b) **Machine Learning:** It is a branch of Artificial Intelligence that gives computers the capacity to consequently take in data and make predictions without being expressly customized. This revolves around the progression of programs that can access information and use it to learn for themselves. Machine learning comprises of supervised learning algorithms and unsupervised learning algorithms. Supervised learning algorithms use a training dataset through which it learns to make future predictions whereas unsupervised learning algorithms require no such training datasets to make predictions.
- c) **Cohort Analysis:** This is a method which is a branch of behavioural analytics. It involves the extraction of data which is divided into groups which are related for more personalized analysis. The groups have common characteristics thus making predictions relevant to a particular group or set of data. This ends up being significant in light of the fact that it assists with isolating user development measurements from measurements with respect to the engagement of users.
- d) **Cluster Analysis:** This is a class of procedures that are utilized to characterize cases into relative sets known as clusters. In this type of analysis, there is no earlier data regarding the group or the cluster a particular item belongs in. Cluster Analysis has been utilized for different purposes especially in the field of marketing. The division of customers based on the category and type of purchased items is a very important use case. It very well may be utilized to distinguish sets of people purchasing different products.
- e) **Complex Event Analysis:** This is a method used to deduce events based on other incidents and proceedings occurring in the surrounding. Such analysis requires constant monitoring of events and related data to be able to accurately predict other related incidents within a given time span. Deduction of an incident depends on extraction of exact data from events which are related. If the events are unrelated the time and accuracy of predictions cannot be relied on. On the other hand, for accurate predictions based on related events, there must be a constant feed of accurate data.

Hence, this section discusses briefly about the current advanced methods or tools used in analytics. Now, next section discusses about the issues in advanced analytics.

## **9. Open issues Arises in Advanced Analytics**

Advanced analytics work through complex methods to forecast the different trends or events that are possible in the future. Multinational Corporations and other organisations use these predictions to relay their business operations[17]. So, accuracy is extremely important for analytics to be used in the real world, thereby making it a challenging task. Understanding the criteria and the depth of the problem is instrumental in deciding the type of analytic tool to be used. Such tools are used to describe or predict information. Different methods and tools used for analytics give alternate points of view on information[16]. Thus, the accuracy and credibility of the tool depends on the type of task the organisation wishes to accomplish. Selecting the appropriate method is a huge challenge depending upon the space of the task. Analytics of data faces a problem in classifying large amounts of data as relevant and irrelevant. With the amount of available data ever increasing, large amounts of storage is required along with complex algorithms to filter the needless data. This is a big issue as the complexity, storage and computational resources required need to be up scaled. If the accuracy of data used is compromised, the entire process of analytics is in vain as the results will be far from precise. Scalability of such models is a big challenge with large amounts of data being available every day. The amount of data available exceeds the computational power of current CPU's which raises the question of processing even larger datasets in the near and fairly distant future.

Security of collected data is also an issue as organisations have to keep the information of their customers private and secure. Data which is valuable is prone to attacks from hackers. Since analytics is increasingly being linked with cloud services, privacy has been a major concern for organisations. Thus, data requires to be either encrypted or stored within secure data warehouses for efficient, private and secure analysis. Another issue with analytics of data is the complexity of the algorithms with respect to time and computational power. The challenge begins with extracting relevant data to analyse and offer predictions. While simple data mining algorithms complete the process of extraction in linear time, the more efficient machine learning algorithms take up much more time and computational power. Using such algorithms do not discard the uncertainty factor in analytic processes. If the data provided is not accurate or is too less, the accuracy and effectiveness of the predictions will be very low. A similar situation may arise if the relevant information is contradicting.

There have been various empirical approaches applied to business and physical and social sciences issues. Advanced analytical techniques, combined with Big Data, consisting of multiple data sets, and domain information, offer a way to solve complex issues. This section discusses about some issues raised in advanced analytics. Now, next section discusses about the opportunities in making disruptive world with disruptive technology.

## **10. Opportunities in Making Disruptive World with Disruptive Technology**

A large portion of us have known about these advances, yet would battle to have a conversation on what the execution and ramifications of every innovation resembles, let alone in mix. Mostly the test is understanding the looming changes and making or investigating the new connections between people, innovation, society, business, and government[18]. To go above and beyond with wellbeing, quality altering will assist with taking out infections before birth or during youth. Quality altering will make crops heartier and progressively gainful. Ranchers and purchasers will probably

be less worried about the likely contamination of their harvests because of the expansion in sustainable power source use. Advances in sustainable power source innovation and changes in purchaser inclinations will kill non-renewable energy source use, gas-controlled vehicles, and along these lines corner stores. Before sufficiently long, power will be free. These advances include: Self-sufficient vehicles, 3D printing Sustainable power source, vitality stockpiling, Propelled apply autonomy with faculties, aptitude, insight, Blockchain, Fast travel, Computerized reasoning and AI [19]. Occupations will be computerized out and will change in nature, however similarly new openings will be made that do not exist today. Labourers should be adaptable, team up, be fit for advanced route, handle high intricacy, react to a high number of solicitations or requests for consideration and reaction, oversee/ channel signals and commotion, and adjust themselves to work through abilities based not information based economies.

Without a doubt, there will be an expansion in IT related occupations, anyway they are bound to be in mix with different jobs and businesses as the lines obscure, IoT pushes us to interface everything, along these lines innovation and people become nearer and nearer. An inexorably associated condition requests a capacity to appreciate a greater picture, welcome more noteworthy complexities, and make and examine multifaceted reliant design: physical, scholarly, social, monetary, and virtual. There will be a requirement for competency to comprehend and envision the effect of a planned control or unexpected change in engineering or intricacy. What are the aptitudes required to make sense of the effect of a power framework blackout on a city that relies upon being interconnected by means of the web. As our economy, society, and work environments change, without a doubt there are some center abilities that will be fundamental to the future work populace. The effect of troublesome innovations will rely upon decisions executed by open and privately owned businesses to utilize



mechanization or not [20]. Organizations will probably organize robotization that improves profitability since it is to their greatest advantage to do as such. Further, most organizations today that inside around troublesome advances utilize an alternate plan of action, along these lines in the event that organizations today are not prepared to receive new plans of action, at that point their appropriation of problematic advances will be stagnated. Business is obviously administered, in this manner if strategy creators and the administration are not prepared to embrace advances and better approaches for getting things done, problematic innovation reception will be additionally impeded.

## 11. Conclusion

Our research focuses primarily on the early analysis aimed at defining the core problems in Disruptive Technology's potential investigation. Evidence from the case profile allows the company type to recognise opportunities and build innovative technologies proactively. The new research focuses on competition, including new consumer technologies, old consumer trends, markets based on environmental innovations etc. It is clear that if resource – limited, SMEs are to recognize such possibilities, a innovative approach to funding developments is required. Resource economy seems to be a common characteristic of technological technology, which is seen in businesses that focus their inventions on frugal engineering values. That is a crucial reason why disruptive innovations are well positioned for creativity in the world. By combining potential discovery with disruptive deployment and capital transfer, cash-trapped innovators are able to bring disruptive technology advancement to the consumer business, culture, and developing economies. Future research may involve moving from case examples to comparative case study review as a framework for the growth of businesses engaging in various forms of disruptive technologies in different markets. This will allow us to understand how emerging inventions are chosen for disruptive developments, and to compare business models that help innovators build opportunities.

## Author's Contribution

All authors have contributed in this work equally. Amit Kumar Tyagi has analysed, and approved this manuscript.

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## Conflict of Interest

The authors declare that they do not have any conflict of interest with respect to publication of this research work.

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