A Case Study of Big Data Analytics in Enhancing Business Intelligence in the UAE

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[*1&2]Implications of Big Data Analytics on Business Intelligence- A Case Study in UAE

ABSTRACT

Organizations collect huge amount of data from many sources, social media is one such platform which results in collection of humongous data which should be used for business intelligence purposes. This study helped us to understand the role of big data analytics for business intelligence in context of UAE. As this is an exploratory research, data collection and analysis was done by qualitative approach. Semi structured questionnaire is developed and approximately 12 interviews were conducted with Senior Management, Business Mangers and IT professionals from retail and service industry. Data was analyzed by content analysis techniques. The study helps in understanding the role of Big Data Analytics on BI and have significant impact on processes and strategies to optimize the benefits for generating business value.

I.   INTRODUCTION

Firms doesn't just need to comprehend what happened, why it happened, additionally they also want to realize what is going on now and what may occur in future. Since associations yearn for these experiences and the reception of the World Wide Web, the era of information and accumulation speed has expanded exponentially (Padberg, 2015). Data is an asset to a company; they receive data in form of structured and unstructured. To use the collected data, it should be carefully analyzed, data should be refined for proper usage. Data is referred as crude oil, which to be refined to use it for different uses and get value out of it.

With the invent of computing and internet technologies made lives easier as it can process huge humongous data from various sources which creates new opportunities and challenges for Business Intelligence (Ram, et al., 2016). Data can indulge in unstructured and structured, easy and difficult information. For example, Walmart can do some billions of transactions per hour (Economist, 2010). Estimated 2.5 quintillion bytes of data is created every day in the form of structured and unstructured data which is about to grow enormously in future. As per Tien reported in 2015, Data is expected to reach 35 Zettabytes (Arunachalam, et al., 2017). Big Data helps the organization to understand current trend of business and create new opportunities by evolving business processes and decision making. Most of the data is collected in unstructured form, and Social media is one of the sources for unstructured data.

Social Media is the largest area where organization can find opportunities to gather customers' insights (Nair & Narayanan, 2013). As of March 2017, Facebook has more than 1.9 billion active users with 3 million posts every minute, an increment of 22% over a year. 42% of organizations says social media platform is important for their businesses (Zephoria, 2017). With more than 500 million active users more than 500 million tweets are posted every day (SMITH, 2016). 50% of the UAE population are active Social Media users (Anon., 2016). Rapid increase in usage of social sites YouTube, Twitter, Facebook etc., constitutes more than 90% of data available today. This unpredictable huge and complex data has risen to the BIG DATA theory (Sharma, et al., 2014).Big Data is an important tool in recent years. Data mined from both structured and unstructured sources for analytics provide useful insights not only from acquired data but also from which is available on internet.

 According IBM Tech Trend Report, Business Analytics is one of the major technology trends. As per the survey of TDWI in 2009, 38% of companies have practiced advanced analytics and 85% organizations are going to deploy in next 3 years. With the help of advanced analytics organizations can study present state of business and consumer behavior (Russom, 2011)(Ram, et al., 2016). Perceived benefits of Big Data Analytics motivate firms to advance their organizational and technical abilities (Arunachalam, et al., 2017) .

Business Intelligence: which facilitates the decision-making process by providing important information and insights based on data collected from internal and external sources (Ekavi Papachristodoulou & Kirkos, 2017) is an important tool for an organization to help in decision making. Survey carried out by Thomas in 2004 states that 81%

interviewed people said that BI helped in fast and accurate reporting. 78% improved decision making, 56% improved customer service and 49% rise in revenue (Xia & Gong, 2014). Business intelligence is efficiency of a company to make sensible use of data it collects during their daily business operations (Kimble & Milolidakis, 2015).Business intelligence can play an important role in increasing company's efficiency.BI helps in making decisions processes and many other benefits, by showing potential threats, exposing new insights (Xia & Gong, 2014). Now-a-days BI main concentration is on structures and internal data. That could result in biased making of decisions as most of the unstructured data is unattended.

The current research on the use of big data in Business Intelligence is focused on profits and challenges of Business Intelligence. Some other existing research are mainly focused on problems, solutions, methods for effective use of big data analytics for Business Intelligence. There's been lack of research on Implications of Big Data. The exploration means to basically assess role of big data in business intelligence. Moreover, research analyses the factors and challenges faced while implicating big data in business intelligence.

II.   RESEARCH AIMS AND OBJECTIVES

2.1 Research Aims
The exploration means to basically assess the role of big data in business intelligence. Moreover, research analyses the factors and challenges faced while implicating big data in business intelligence.

2.2 Objectives of the research
To analyze the role of big data in business intelligence
To evaluate the challenges faced while implicating big data in business intelligence
To recommended solutions for overcoming the challenges

2.3 Research Questions
What is the role of big data in business intelligence?
What are the challenges faced while implicating big data in business intelligence?
How challenges can be overcome while implicating big data in business intelligence?

2.4 Problem Statement
The data measure has been expanded in a big sum from gigabytes to petabytes. In this point of view, social database administration framework finds the way toward taking care of data exceptionally difficult keeping in mind the end goal to deal with immense data volumes (Grolinger et al. 2014). Along these lines, with a specific end goal to address this, social database administration framework merchants, for example, Oracle includes more focal handling units and in addition memory to the administration arrangement of database for scaling up vertically (Moniruzzaman and Hossain 2013). Then again, dominant part of data by and large accompanies semi-organized or unstructured configuration that are created from sound, writings, video and messages and in addition online networking. On opposite, the second issues related with the unstructured data are outside of domain of social database administration framework as this sort of databases can't arrange unstructured data. RBDMS is intended for organized data keeping in mind the end goal to suit such sorts of data like weblog sensor and additionally money related data.

Then again, Big Data is created at high speed; while social database administration framework has absence of high speed. Outline of RBDMS is made for consistent data maintenance as opposed to fast improvement. Consequently, there is powerlessness appeared by conventional social database sellers to deal with big data considered as one of the major progressing issues in database administration framework.
This research is very important as the research in this area is unexplored. This study contributes in many ways. The results will help managers and business owners for investments to use big data analytics for better understanding and decision making. How can the data collected from unstructured sources can be used for improving business productivity and services across UAE? This research helps in understanding how big data is being used by companies in the UAE.

2.5 Significance of the study
The research evaluates importance of big data analytics in business intelligence. At present days, business deals with huge volume of data. Business collect data from several sources like transaction of sales and social media as well as storing continuous data that is an issue in previous. On the other hand, big data technologies help in storing data in

easy way. In addition, velocity stands for getting real time data. Data is streamed real time that deals immediately. Moreover, there is a variety referring to different formats of data. Present research focuses on understanding the benefits lied in using big data analytics in the field of business intelligence. The primary data obtained from interview would be helpful to understand the market conditions and gain competitive advantages. However, security challenges faced for implementing data analytics in business intelligence. Thus, the research would be helpful for the managers of the business organizations and future researchers to understand the matter and take necessary steps.

2.6 Structure of the research

The present research is by and large isolated into five parts. In the primary section of the examination presentation of the exploration is talked about that incorporates foundation of the research, look into basis, and inquire about points and destinations and also theory of the exploration. In the writing audit part, exploring literary works from different articles is accomplished. Keeping in mind the end goal to lead the exploration in legitimate route, determination of reasonable and suitable research devices is essential that is accomplished in the examination technique section of the examination. Data are investigated from various sources from which conclusions and also suggestions are accommodated introduce look into.

III.   LITERATURE REVIEW

The purpose of literature review is get the overview of topics need for this thesis. We will discuss about Business Intelligence and Big Data. What is the role of big data in context with business intelligence and challenges it faces or it might face.

3.1 Business Intelligence

Business Intelligence often referred as BI, is the combination of tools, techniques and concepts to make business decision. In short term, it can be defined as the company's ability to use the available data in meaningful way to make better decisions. BI covers the wide area of knowledge regarding competitors, technology, product, economy, strategy (Kimble & Milolidakis, 2015). Organizations have always sought to obtain knowledge from data and make decisions to gain competitive advantage. It is a package of applications which supports different aspects of information needs (Mirabedini & Nouran, 2014). The main purpose of BI is collect the information and combine it and present it in appropriate way to management.

It's critical for an organization to access and analyze data as per user's need, where BI comes handy. BI helps in identifying any hidden information which might be helpful in decision making considering business environment (Rouhani, et al., 2012).

Research conducted by Matt and team on BI integration with business, BI integration in to business helps in improved in competitive advantage with performance measurement capabilities (Peters, et al., 2016)

Data Management, data analytics and knowledge discovery are the three basic features that Business Intelligence systems should have (Ying & Ziqiang, 2009). Data Management includes efficient storage of huge data and maintenance of that data. Data integration, data extraction and cleansing is part of Data Management. Being the stepping stone for BI systems - data management should be handled efficiently which also consumes lots of time and is the most stressing part (Marín-Ortega, et al., 2014). Knowledge discovery is extracting helpful and useful information from the databases where volumes of digital data rapidly gowning. These days many organizations are offering own solution but these solutions don't assure that the whole necessary solution will be available in business making process. As per the above-mentioned article, most of the vendors are focusing on the technical aspect rather than important information to build good and optimal solution, which doesn't satisfy the business need and drifting away the alignment between IT and business (Marín-Ortega, et al., 2014).A survey conducted by Thomas suggests that benefits of Business Intelligence are accurate reporting, increasing organization revenue, improved decision making and customer service (Ram, et al., 2016).

Despite its advantages, studies have found that BI adoption and usage remains low especially with small organizations and the one with resource constraints (Muriithi & Kotzé, 2013).

3.2 Big Data

Big data is classified into three major characteristics viz bulkiness, variety and velocity. The three Vs emphasizing huge data volume, data type variety and huge data manufacturing velocity (Russom, 2011).

Big Data has many definitions, but in general Big Data can be defined as the huge amount of complex data. Big Data contains the large volume of structured and unstructured data which is generally characterized by 3 Vs (Volume, Variety and Velocity). Volume refers to the magnitude of data which are reported in large volumes up to petabytes (Gandomi & Haider, 2014). The data circulation among organizations is rising by 200% a year and might increase to 800% over next five years (Kościelniak & Puto, 2015)

Organizations use different strategies to compete and have an advantage. This can be achieved by operational proficiency and value creation for clients. Big Data Analytics provides useful insights for an organization which helps them for better decision making. Big data will help in better understanding, enhancing features of product, review customer satisfaction, evaluate supply chain risk, generate competitive Intelligence, make important decisions and monitor price (Ram, et al., 2016). Data Analytics can also provide valuable insights which plays as key enablers in different scenarios such as; Improve Quality Warning, Reduce Customer Churn, Reputation Management (Lang, et al., 2008).

Thomas H Davenport in his report has stated different strategies that support internal business decision for different objectives like customer satisfaction, customer journeys, supply chain risk, competitive intelligence and pricing etc., (Davenport, 2014).

Business examination alludes to the aptitudes, advancements, applications and practices for persistent iterative research and examination of past business execution to give significant bits of knowledge. Business research concentrates on growing new bits of knowledge and comprehension of business execution considering data and measurable strategies. The term big data is utilized to describe detail indexes that are extensive, different and quickly changing, as observed by consistently expanding quantities of associations. Big data require database administration frameworks with capacities past those found in standard SQL-based frameworks.

One of the main advantage using BDA is innovation, a research conducted by IBM on how effectively Big Data Analytics used for innovations in an organization, 29% successfully innovate using BDA and 30% strive to innovate based on big data analytics (Marshall, et al., 2015). Organizations can benefit from Big Data in different areas like marketing, operations, customer insights and risk management. For example, customer analytics can help targeting customers based on purchasing pattern, Marketing Analytics can help in pricing optimization by utilizing information to evaluate demand sensitivity and optimize prices. With campaigns and promotions BDA can attract more customers by exposing their product in targeted area. For Customer opinion marketing intelligence, organizations can collect data from different sources like social media, surveys, transactions which helps to learn the customers purchasing pattern and provide optimal service (Fan, et al., 2014). Risk Analytics helps in real time fraud detection by analyzing data. As per research retailer can use big data to increase operating margins by 60% by exploiting customer data (Tankard, 2012).

There are some major advantages of using big data analytics as per Jiwat Ram and team
1. Provide more insights by making related data accessible
2. Collecting accurate data helps in performance improvement
3. Helpful in understanding the needs of customers by dividing the population.
4. It helps in the decision making with automated algorithms by providing useful insights.
5. Ability to make new business models, processes, products and services (Ram, et al., 2016).

As per researchers claim, knowledge creation is most important application of Big Data Analytics which helps in making new principles and economy. Big data analytics ease decision making process (Kościelniak & Puto, 2015). Proper use of big data depends on decision making process and there is a need to be proper data processing mechanism. Companies that wants to implement big data analytics should deal with great importance on reduction of equivocality and data variety. Big Data Analytics can play a key role in improving supply chain management from different views which includes procurement, collaboration, planning, marketing and sales/after-sales support, personalized service, inventory control and risk management (Wang & Alexander, 2015). Analyzing data in real time helps organization to manage supply chain risk and it also helps in understanding customers better (RSanders & Ganeshan, 2015). Big Data helps retail industry in understanding customers' behavior and pattern. Organizations can rely on different measures to evaluate the patterns and generate loyalty and value.

Traitorous among who makes decisions and data analyst increase the effective utilization of big data in making decision. Decisions are to be managed very carefully to infill the gaps (Buxmann & Kowalczyk, 2014). To take the advantage of this massive amount of data in form of both structured and unstructured data which constitutes about 95% of Big Data, proper tools and efficient analytic methods should be developed and used (Ram, et al., 2016). Organizations are interested in the usage of social media for product and service promotions, brand management and marketing ((Kevin)Chae, 2014).

In the present chapter of the research, overview of big data and its use in business intelligence has been presented. Understanding the role of big data would be helpful to apply it business intelligence. On the other hand, it is important to process business intelligence properly to gain competitive advantages. The theoretical framework would assist to understand the use of big data in business intelligence. In addition, importance of big data in business intelligence has been discussed in this chapter of research.

IV.   METHODOLOGY

This area clarifies the procedure of the examination. With respect to examine strategy is an essential methodology, which coordinates whole research on a very basic level. Likewise, examine strategy portrays the suitable structure of the examination. In addition, inquire about procedure depicts diverse sorts of vital thoughts and in addition considerations proper with this research think about. This part contains philosophy of research, approach of the examination (Flick 2015). Data collection procedure and sampling technique has moreover been depicted in the segment. Limitations of the research, ethical considerations research have been clarified in this piece of research. The authors do not have any competing interest in this manuscript.

4.1 Method outline
Research outline method can be included with clear research reason, deductive approach and in addition post positivism theory. On the other hand, essential has been accumulated by the analyst for separating the data in the quantitative approach. In this point of view, the analyst has chosen optional data from various relevant books, diaries and additionally online journals, locales et cetera. The aggregate angles have been acquainted in this part with give a concise depiction.

4.2 Research onion
Research onion, structure portrays the most ideal approach of the examination in the basic procedure. Additionally, investigate onion has six layers and each layer of this onion describes the correct method for the approach of the research. In any case layer of this examination onion gives ask about hypotheses. Second layer of this onion gives ask about approach et cetera.

For this research think about, post-positivism philosophy has been chosen remembering the ultimate objective to complete the whole research with suitable cross-checked data and data. This research point relies upon theoretical and moreover reasonable perspective of reality. Post-positivism theory has helped the analyst for dealing with the impelled contemplating the exploration. The analyst has had the ability to complete whole research with the help of bona fide and furthermore cross-checked data and sureness.

4.3 Research approach:
The exploration has two sorts, for example, Inductive and deductive approach of research (Gast and Ledford 2014). Deductive research approach has implied testing the past theories or models of the research consider. In any case, inductive research approach has wanted to make new theories as indicated by the assembled data.

The researcher has chosen deductive approach keeping in mind the end goal to lead the examination consider. This exploration examine has been fittingly lit up with past hypotheses and models of this field. Then again, deductive approach of the examination helped the scientist for coordinating whole research contemplates with real utilization of the past models and in addition hypotheses.

4.4 Research purpose:
It is important to consider reason has three sorts, for example, exploratory, descriptive and explanatory research reason. Moreover, investigating the reason gives a correct assistant reason that gives a fitting and furthermore

positive explanation behind the exploration. Distinctive sorts of purposes; behind an exploration encourages specialist to satisfy the goals of the examination.

Exploratory research reason has been used as a piece of the whole deal methodology of an examination (Panneerselvam 2014). The reason has an association with making inductive approach of research. Inductive research approach interfaces a couple of musings for understanding the conditions and final products of the research think.

Descriptive research coordinates the whole research with more examination and furthermore illumination by putting more details data of the related research topic. An analyst can clear up and portray the whole research with additional data of the research topic.

The researcher has chosen descriptive purpose remembering the ultimate objective to clear up and moreover examine the research subject with additional data. Descriptive research has given the full and authentic photograph of the research think about by joining included data.

4.5 Strategy of this research
This examination is coordinated by the interview process. The research has used the methodology keeping in mind that to assemble the basic data while dismembering the accumulated data for looking at the whole research consider.

4.6 Data collection process
With an ultimate objective to coordinate a whole research process, a researcher needs to increase distinctive sorts of data. In addition, data is amazingly useful and the most basic part while coordinating an examination on a research point.

4.7 Sources of data
Source of data has two sorts; primary and secondary sources of data that have been utilized by the researcher (Silverman 2016). Furthermore, primary data has been gathered by the interviews. Essential data are assembled from various sorts of the unpublished sources.
On the other hand, secondary sources imply diverse sorts of dispersed data, like diaries, books and online journals and destinations. The researcher can accumulate a couple of sorts of optional data by watching or examining a book or journal.

For the present research, researcher has accumulated fundamental data from IT and business experts. The researcher has sent online questionnaire to the business experts of the diverse associations.

4.6 Data analysis techniques:
Data analysis strategy is two sorts, for example, quantitative and qualitative data analysis method (Taylor et al. 2015). For research reason, the researcher has chosen qualitative data examination framework for exploring the data collected from the IT experts.

4.8 Sampling method:
Sampling technique has two sorts like probability and non-probability sampling technique which are generally used by a researcher. For the exploration, the analyst gets help of Probability examining strategy keeping in mind the end goal to select business experts.

4.9 Sample size:
The researcher has chosen total 12 professionals of different organizations for gathering data. In this way, the researcher has set sample size as 12.

4.10 Limitations:
For this exploration, it was expected to stand up to a couple of issues while endeavoring to get to critical data for coordinating the whole research think about. The two main limitations of this studies are the number of people being interviewed for this research is limited and the other is geographical limitations as the interviews cannot be covered all the regions of United Arab Emirates. Since it is an exploratory research, and with above limitations, the

conclusions can be improved with more researches and more interviews in future study. The findings cannot be generalized to a larger population as data is collected from few individuals and not covering all industries.

4.11. Ethical consideration:
Ethics clearance was given for this project by Ethics university committee.

4.12 Data analysis and findings
Data collection will be mostly from primary data source i.e. Interviews. Data is collected from 12 interviews where the respondents shall be experts from different backgrounds. Interviewees were senior managers, Business development managers with business analytics experience, IT professionals and IT consultants. Interviews will be recorded and transcribed as same.

V.   FINDINGS AND ANALYSIS

Scope of Big Data
On asking what is the scope of big data analytics in the organization, responses received were: Big data helps to improve project based work, expand business through enabling effectively operations by departments, use of big data would be helpful for the organizations to expand its business operation overall and gain competitive advantages, helpful to advance core scientific as well as technological means of managing, analysing as well as visualizing. Thus, it helps to enhance performance of the organization, helpful in improving performance of the organization that can be helpful to manage IT applications.

View on not using big data in Business Intelligence but other applications. Respondents feel that for effective use of business analytics Big Data plays a major role, one of the companies moved to big data from relational database to overcome the issued faced by the later one. Whereas expert from another company says that *"Big data has several advantages for using big data in business intelligence. It is important to develop specific method for using the system"*. One of the respondents said that *"At present days, people are using big data technology for having several advantages. It helps to develop and implement the changes that can be suitable with the organization"*. Which would help other organization to consider implementing big data instead of other applications.

Requirements for implementing big data and what makes to consider implementing Big Data:
Many of the respondents informed, their organization would require data volume and velocity of change and moving from traditional analysis and database, big data costs less than the prior one and advantages of big data. One of the respondents answered as follows

"Big data implementation serves several advantages that fulfil various requirements of our organization such as it helps to process decision making process faster. In addition, it helps the organization to enhance the business process."

Is big data integrated or part of other business intelligence?
Many responses were that big data initiative and business intelligence were both separate initiatives with close coordination in respective organization, one of the responses were as follows

"Big data and business intelligence are considered as distinctive areas for processing broad data. When unstructured data is accessible and searchable are relevant to the content. An ECM system is used in our organization that allows harnessing the power of unstructured data to improve performance."

Type of data analyzed:
Different organizations use this tool to analyze different type of data, whereas most of the responses were on transactional content from business systems, analyze unstructured content from mail, documents, social media and sensor/machine data.

Technology used for Big Data applications: As per the IT professionals who were interviewed, their organizations uses Data Integration and Data Ware Housing tools, some of them has integrated with Business Intelligence tools and the technical areas adopted were Hadoop and Object-Oriented technologies. Responses were similar as follows,
"Our company implement Hadoop for big data implication"

"We focus on object oriented technology to be adopted for big data.**"**

Interviewees organizations uses different type of tools for unstructured depending on their needs, 4 out of 5 respondents said they feel NLP is right tool for unstructured data, which helps them to manage knowledge effectively and help them to develop effective system. Similar responses were
"NLP is used to translate link. It is important to develop machine translation technologies for translating words. The utilization of effective data set makes proper approach in dealing the issues and makes it compatible with the system."

Main concerns while implementing the big data:
As we talked about different challenges and concerns relating to big data in our literature review, 8 out of 12 respondents said that data privacy and security are the main concerns while one respondent said Operational risk is one of the concerns for implementing big data.

When asked for the companies what are the challenges, barriers they face and the requirements for implementing this technology, there were 3 general answers: Cost, right infrastructure and skill sets and they would require great data volume with equal velocity of data and right infrastructure as key requirements

As mentioned above skill set as one of the challenges, Work force working in their organization on Big Data or Business Intelligence, the company which uses big data has their own in-house experts where as other organizations uses external staff to support these technologies.
According to the interview, there are several opinions regarding opportunities of big data in business intelligence. IT head of one of the companies also supports the role of big data in business intelligence. In addition, to understand the opportunity for implementing big data in business intelligence, IT professionals of selected companies have given their opinion. Many IT professionals thinks that implementing big data assists extracting and analyzing technology. On the other hand, it could be helpful to expand business by enabling effective operation in specific departments. Business performance management using scoreboard as well as dashboards is helpful for analyzing and visualizing various performance metrics. According to IT Director of a famous group of companies, reinvention of electronics provides first signs of success to serve the purpose of organizing campaign and political participation. However, in the opinion of CEO of another Group, it assists to enhance performance of the enterprise.

Moreover, major business needs of the earlier generation business intelligence technologies and architecture make consideration for implementing big data. It is also important for the organizations to deploy big data in business. As data volume is considered as major needs, it is important to make changes effectively in terms of velocity and finding new scopes in the organization. In this regard, Professional in one of the companies stated that, analysis driven requires big data act that would play an effective role in the organization. Big Data deployment can serve various advantages, which would fulfil several needs of the enterprise. The organization needs to implement effective tools to handle unstructured data in natural languages. Dealing with unstructured data is difficult so that, integration of high performance programming language needs to be effectively used for handling those types of data. One of the major keys for managing unstructured data is the most effective way to solve issues in the system. It is also vital to handle data with the system for processing of the system. One of the companies mentioned that NLP is generally utilized for translating link. It is required to develop machine translation technologies for translation of words. Additionally, NLP programs are usually developed in organizations to manage knowledge effectively in such systems.

To specify data in analyzing data through big data, it is important for the organization to consider transactional content from the enterprise applications. On the other hand, big data helps in enhancing the process serving the purpose of Clickstream, so that the organization obtains competitive advantages. Unstructured content from email as well as office documents, big data can be helpful to enhance the process. In another group of companies, big intelligence has been deployed in the organization for processing of sensor data and machine data of the organization. Business development manager of one of the companies has stated that big data and business intelligence are considered as distinctive areas to take broad data and management activity. It is important for an organization to understand the requirements of the organization. Technical as well as business experts need to be independent survey for collecting data regarding essential things for the enterprise. According to the business development managers of selected organization, rational database is generally used. Big data has many advantages to use big data in business intelligence.

In the last decade, society has gone through a digital revolution, which has transformed business to a next level. Big data is integration of business strategy as well as data science. Business examination makes broad utilization of data, measurable and quantitative research, and illustrative and prescient demonstrating to help settle on significant choices and to enhance business operations. There are numerous sorts of business research, constant versus non-constant, key versus strategy, arranged versus spontaneous, and organized versus unstructured. Directors have utilized business examination to illuminate their basic leadership for a considerable length of time. Presently, they are utilizing business research in examining past execution as well as in distinguishing chances to enhance future execution. Business examination comprises of big data research, test research, web research, organize examination, and versatile examination, a significant number of which are unstructured and can't be broke down by social database administration apparatuses. There are three sorts of vocation classifications for graduates majoring in enormous data business research: top dock administration counselling, budgetary and hazard examiners, and data researchers. Utilizations of enormous data research in social insurance industry may start with data analysis since it is significantly more proper for human services chiefs and associations to make an interpretation of data and to have noteworthy knowledge considering current framework in the medicinal services frameworks

The market has an expanding requirement for experts with data administration learning, investigative capacity and critical thinking abilities. Stevens is one of a chosen few colleges worldwide to offer a graduate degree in this rising field. As of now, Stevens is the main college in the New York City region to offer a business insight and examination (BI&A) graduate degree expected to prepare understudies to fill the developing interest for big data experts. Stevens offers adaptable examination alternatives for both full-and low maintenance understudies intrigued by propelling their professions inside industry-particular investigative fields, for example, back, data innovation, broadcast communications and building. Knowledge, security, and open wellbeing organizations are assembling a lot of data from numerous sources, from criminal records of psychological oppression occurrences, and from digital security dangers to multilingual open-source insight. Organizations of various sizes are confronting the overwhelming assignment of safeguarding against cybers security dangers and ensuring their scholarly resources and framework. Handling and investigating security-related data, nonetheless, is progressively troublesome. A big test in security IT examines is the data stovepipe and over-burden coming about because of various data sources, numerous data configurations, and substantial data volumes. Ebb and flow consider on advances for cyber security, counter-fear mongering, and crime fighting applications does not have a steady structure for tending to these data challenges. Chosen BI&A advancements, for example, criminal affiliation govern mining and bunching, criminal system examination, spatial-fleeting research and representation, multilingual content examination, assessment and influence research, and digital assaults examination and attribution ought to be considered for security informatics inquire about.

There are several technologies used to implement big data. Data integration tools are used in one of the companies. However, several challenges and barriers are faced in implementing big data for business intelligence. Advanced analytics tools are generally based on big data technology in certain companies. Big data implementation tools are generally used in the organizations for utilizing big data in the field of business intelligence. Platforms are considered as one of the most important components in big data implication. As per the opinions of IT consultants of different selected organization some of the companies take external assistance and some others use internal resources in implementing big data in the organization.

VI.   DISCUSSIONS

RQ1: What is the role of big data in business intelligence?
Respondents of one of the organizations thinks that use of big data would assist in extraction as well as analysis of the technologies, which can be adopted in the organizations. The analysis techniques are usually utilized in such systems that work for expanding business operation. On the other hand, IT experts of another organization also supports to the role of big data in business intelligence. In addition, in order to understand the opportunity for implementing big data in business intelligence, Professionals of selected companies have given their opinion. IT head of one of the organizations thinks that implementing big data assists extracting and analyzing technology. On the other hand, it could be helpful to expand business by enabling effective operation in specific departments.

RQ2: What are the factors that are responsible for business development?

Major business needs of the earlier generation business intelligence technologies and architecture make consideration for implementing big data. It is also important for the organizations to deploy big data in business. As data volume is considered as major needs, it is important to make changes effectively in terms of velocity and finding new scopes in the organization. In this regard, IT Director of one of the organizations stated that, analysis driven requires big data act that would play an effective role in the organization. Big Data deployment can serve various advantages, which would fulfil several needs of the enterprise.

RQ 4: What are the challenges faced while implicating big data in business intelligence?
Several challenges and barriers are faced in implementing big data for business intelligence. Advanced analytics tools are generally based on business intelligence technology in one of the organizations Big data implementation tools are generally used in the organizations for utilizing big data in the field of business intelligence. Platforms are considered as one of the most important components in big data implication.

RQ3: How challenges can be overcome while implicating big data in business intelligence?
It is important to identify the factors that make issues in implicating big data for business intelligence. In recent years, web knowledge, web examination, web 2.0, and the capacity to mine unstructured client produced substance have introduced another and energizing time of BI&A 2.0 research, prompting remarkable insight on shopper assessment, client needs, and perceiving new business openings. Presently, in this time of Big Data, even while BI&A 2.0 is as yet developing, it is balanced at the very edge of BI&A 3.0, with all the orderly vulnerability that new and possibly progressive advancements bring. In addition, the procedures that would be helpful to mitigating the barriers in business intelligence are discussed in the recommendation part of the research.

VII.   FUTURE DIRECTIONS

This study can further be developed and study can be done on different industry to get the insights of that concentrated industry and unearth the patterns. More data can be collected by interviewing more respondents and IT professionals, senior management and Managers with big data and business intelligence background. Findings can be generalized with quantitative research follow up combining with the findings of qualitative research.

VIII.   CONCLUSION

Big Data helps organizations to generate meaningful insights from various sources and Business Intelligence provides an ability for organizations to use that data in meaningful way to make decisions. Big Data Analytics on Business Intelligence offers many advantages to companies' in decision making process. It provides valuable insights which helps organization in understanding the needs of customer, enhancing productivity and efficiency, developing new business processes and strategies and helps making better and faster decisions to sustain the competitive advantage. Big data analytics opens opportunities for firms to enhance their business productivity and business value. UAE being open trading hub, business have been growing exponentially and usage of social media and increasing online business in UAE promotes to find how data collected from unstructured sources can be utilized for enhancing business and generating value.

The new BI frameworks would not reduce the shortage of research experts, in any event sooner rather than later. The expanded consideration paid to information and its research will make the ability lack throughout the following couple of years significantly more intense than it is today. However, it is expected that by 2020 it will not occur because various new data science and business research projects and organizations building up their own in-house information examination preparing programs. Also, the democratization of BI will turn into a reality in many associations with BI cooperation rates coming to more than half of the representative populace. As information turns into the way to all business exercises and the pith of coordinated effort, workers will invest more energy with dashboards on their cell phones than they spend utilizing email. To wrap things up, the digitization of everything will make information and business insight the matter of endeavors in all enterprises and divisions of the economy.
The greatest business incline by 2020 will be the production of new organizations considering gathering, investigating, and conveying information. The business that up to this point has been left to BI sellers will turn into another wellspring of incomes for organizations from social insurance to horticulture to banks to makes to retailers. For all intents and purposes any firm in any industry will have the capacity to partake in the information driven economy and many will do only that by giving new items and administrations considering their unique business knowledge abilities. By 2020, all organizations will be advanced organizations. As zeros devour the world,

information will turn into the new item and business insight finding the needle in a sheaf will be the new procedure of development. The Internet of Things guarantees to enhance the inward operations of endeavors all around, cutting waste and enhancing efficiency in various exercises, from stock administration to production network coordination to client relations. Similarly, as with purchasers, in any case, endeavors won't profit by the genuine capability of expanded availability if their laborers are overpowered by information. If the information gathered and transmitted by the Internet of Things isn't applicable, on the off chance that it isn't given in an auspicious manner, if the research does not propose approaches to enhance a work movement or process, at that point ventures won't profit by the Internet of Things. If representatives, chiefs, and senior administrators in endeavors of all shapes and sizes, private and open, don't have positive encounters with this wealth of information, they won't exploit it.

By conducting interviews of several company personnel, it can be clearly stated that big data has analytics has an important role in business intelligence. It is expected that by 2020 it will not occur on account of various new data science and business research projects and organizations building up their own particular in-house information examination preparing programs. Also, the democratization of BI will turn into a reality in many associations with BI cooperation rates coming to more than half of the representative populace. It proves that proof of implicating null hypothesis in the study and rejection of alternate hypothesis in the research.

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